

## Chapter 9 From Revision 2 to Revision 3 Change List

Item	Location	Description of Change
1.	S9.1, 1-4 para.	Revised for clarity and Additional information provided
2.	S9.1 5 <sup>th</sup> para. 2 <sup>nd</sup> sent. from last	Revised for clarity to state reactor building storage area is for minimum of 154 fuel assemblies.
3.	S9.1.1.1, Mechanical and Structural Design, 4 <sup>th</sup> para.	Deletion of reference to Subsection 9.1.2.1.3 for additional information
4.	S9.1.2.3, 1 <sup>st</sup> para.	Revised for clarity to state reactor building storage area is for a minimum of 154 fuel assemblies.

Item	Location	Description of Change
5.	S9.1.2.4, 6 <sup>th</sup> para.	<p>Revised bullets From:</p> <ul style="list-style-type: none"> <li>• Thermal loads—the uniform thermal expansion caused by pool temperature changes or abnormal conditions,.</li> <li>• Seismic forces</li> <li>• Accidental drop of fuel assembly from maximum possible height</li> <li>• Postulated stuck fuel assembly causing an upward force</li> <li>• Live loads</li> <li>• Dead loads plus SSE</li> <li>• Dead loads plus fuel drop</li> </ul> <p>TO:</p> <ul style="list-style-type: none"> <li>• Thermal loads—effects caused by pool temperature changes occurring as a result of normal operating or abnormal conditions, as applicable.</li> <li>• Seismic loads</li> <li>• Fuel drop load-effect of an accidental drop of the heaviest fuel assembly or bundle from the maximum possible height</li> <li>• Stuck fuel load-upward force on the rack caused by a postulated stuck fuel assembly</li> <li>• The load combinations considered in the rack design are as follows: <ul style="list-style-type: none"> <li>• Dead plus live loads</li> <li>• Dead plus live plus thermal loads</li> <li>• Dead plus live plus thermal plus stuck fuel loads</li> </ul> </li> </ul> <p>Added New Bullets:</p> <ul style="list-style-type: none"> <li>• Dead plus live plus thermal plus seismic loads</li> <li>• Dead plus live plus fuel drop loads</li> </ul> <p>Per RAI 3.8-69 S1</p>
6.	S9.1.2.5, 1 <sup>st</sup> sent.	Revised for clarity
7.	S9.1.2.5, 3 <sup>rd</sup> para.	Additional information provided.
8.	S9.1.2.7, 2 <sup>nd</sup> para.	Revised for clarity
9.	S9.1.2.7, 4 <sup>th</sup> para.	Revised for clarity. Added statement that design conditions are associated with 20 years of fuel storage and a full core off load.
10.	S9.1.2.8, 4 <sup>th</sup> bullet	Revised for clarity
11.	S9.1.3.2, 1 <sup>st</sup> para.	Added “physically separated” and revised for clarity.
12.	S9.1.3.2, 3 <sup>rd</sup> para., 3 <sup>rd</sup> bullet	Added “(LPCI)”

Item	Location	Description of Change
13.	S9.1.3.2, Detailed System Description, 2 <sup>nd</sup> paragraph before bulleted list	Replaced "Anti-siphoning devices are used to prevent unintended drainage of the pools. The anti-siphoning holes in the suppression pool suction line are at the elevation of minimum water level to prevent complete draining of the pool in case of a suction line break at a lower elevation." with "Anti-siphoning devices are used on all submerged FAPCS piping to prevent unintended drainage of the pools. The anti-siphoning holes for all FAPCS discharge lines are located at the elevation of normal water level to prevent significant draining of the pool in case of a suction line break at a lower elevation. The anti-siphoning holes in the suction piping of the Suppression Pool, GDCS Pools, and IC/PCCS C/C subsystem are located at the elevation of minimum water level to prevent significant draining of the pool in case of a suction line break at a lower elevation." (Incorporated in response to RAI 9.1-11)
14.	S9.1.3.2, 5 <sup>th</sup> para.	Inserted a new paragraph "Redundancy and physical..."
15.	S9.1.3.2, 6 <sup>th</sup> para., last sent.	New sentence "The water treatment units can be bypassed when necessary, and will be bypassed automatically on a high temperature signal downstream of the heat exchangers."
16.	S9.1.3.2, 7 <sup>th</sup> para.	Changed "10" to "20"
17.	S9.1.3.2, 10 <sup>th</sup> para.	Inserted a new paragraph "The FAPCS is designed..."
18.	S9.1.3.2, 11 <sup>th</sup> para., last sent.	Revised sentence and add "..., except for containment isolation valves on the suppression pool supply and return lines, which fail as-is." as part of engineering review.
19.	S9.1.3.2, 14 <sup>th</sup> para., new last sent.	Added sentence "A Seismic I classification is required for all safety-related functions listed above. A Seismic II classification is sufficient for the remaining Nonsafety-Related piping and components that support accident recovery functions. This classification satisfies the requirements of SRP 9.1.3 Section I.1." as part of engineering review.
20.	S9.1.3.2, 15 <sup>th</sup> para.	Inserted "Is physically separated and" as well as an "a" before the words "prefilter" and "demineralizer"
21.	S9.1.3.2, 20 <sup>th</sup> para.	Added details about parallel flow paths for LPCI and SPC related components .
22.	S9.1.3.2, 23 <sup>rd</sup> & 24 <sup>th</sup> para.	Major revisions related to containment isolation for suppression pool suction and return line. All text supporting the use of only one CIV outside containment deleted. Description of revised CIV arrangement added.
23.	S9.1.3.2, 27 <sup>th</sup> para.	Inserted new paragraph "The spent fuel pool is..."
24.	S9.1.3.2, 28 <sup>th</sup> para. second to last sent.	Revised sentence from "Pneumatic power assisted containment isolation valves are designed to close upon loss of its electric power or pneumatic (air or nitrogen) supply" to "Pneumatic power assisted containment isolation valves on the suppression pool supply and return lines are designed to fail as-is upon loss of its electric power or pneumatic (air or nitrogen) supply."

Item	Location	Description of Change
25.	S9.1.3.2, 28 <sup>th</sup> para. new last sent.	Added last sentence “All other containment isolation valves are designed to fail closed”
26.	S9.1.3.2, 31 <sup>st</sup> para. last sent.	Revised Category “I” to Category “II” to be consistent with correct requirements for this portion of the FAPCS.
27.	S9.1.3.2, “System Operation”, second to last sent.	Revised sentence from “...penetrating the containment are automatically isolated upon...” to “...penetrating the containment that do not have a post-accident recovery function are automatically isolated upon...”
28.	S9.1.3.3, 2 <sup>nd</sup> para.	Deleted “(the ultimate heat sink) “
29.	S9.1.3.3, 4 <sup>th</sup> para. through 6 <sup>th</sup> para.	Deleted large amount of text related to justification for a single CIV on the suppression pool suction line. Added text describing a multiple-valve arrangement for containment isolation on the suppression pool suction line.
30.	S9.1.3.4, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Added requirement “GDC 45”.
31.	S9.1.3.5, “Instrumentation and Control”, Para 9.	Revised suppression pool and drywell spray line valve logic upon receipt of a containment isolation signal from the Leak Detection and Isolation System.
32.	T9.1-3, item 10	Added “, and all piping and components associated with pool liner leak detection”.
33.	F9.1-1	Revised figure to added parallel valves in several locations
34.	S9.1.4, 1 <sup>st</sup> sent.	Additional information provided
35.	S9.1.4.1	Revised for clarity
36.	S9.1.4.1	Grammar correction. Deleted "are identified" in third paragraph.
37.	S9.1.4.2, 2 <sup>nd</sup> para.	Revised for clarity “heavy to “light”
38.	S9.1.4.4, 1 <sup>st</sup> para.	Additional information provided
39.	S9.1.4.4, 4 <sup>th</sup> para.	Additional information provided
40.	S9.1.4.6, 6 <sup>th</sup> para., 1 <sup>st</sup> sent.	Revised from “Working loads of the platform structures...” to “Working loads of the refueling machine and fuel handling machines structures...” for clarification.
41.	S9.1.4.8, “Reactor Vessel Servicing Equipment-Head Support Pedestal”	Provided additional details regarding pedestal design.
42.	S9.1.4.8, “Reactor Vessel Servicing Equipment-Dryer and Chimney Head / Separator Strongback”	Provided additional details regarding strongback requirements. Revised strongback rating per technical change
43.	S9.1.4.8, 3 <sup>rd</sup> to last para.	Added title for ANSI-14.6 “Standard for Special Lifting Devices”
44.		

Item	Location	Description of Change
45.	S9.1.4.15, Chimney Head / Separator Removal 3 <sup>rd</sup> para.	Deletion of Paragraph "The COL licensee shall perform load testing required by ANSI-14.6 of the chimney head/separator strongback. See Section 9.1.6 for COL licensing information. The COL licensee shall also perform random magnetic particle testing of welds after load tests to ensure structural integrity"
46.	S9.1.4.18, 1 <sup>st</sup> sent.	Revision of Subsection numbering
47.	S9.1.4.18	Deletion of the last sentence not being applicable to this subsection. "The safety evaluation of the new and spent fuel storage is presented in Subsections 9.1.1.3."
48.	S9.1.5.5, "Fuel Building Crane", 1 <sup>st</sup> para., 3 <sup>rd</sup> sent.	Revised Fuel Building crane main hook capacity
49.	S9.1.5.5, Reactor Building Crane, 2 <sup>nd</sup> para	Rewritten for clarity and additional information provided
50.	S9.1.5.6	Changed references to "Subsection 9.1.5" to refer to "Subsections 9.1.5.2 and 9.1.5.3" in four locations.
51.	S9.1.6, "COL Information", 2 <sup>nd</sup> para.	Provided COL item that will not be required if analysis is complete.
52.	S9.1.6, "COL Information", 3 <sup>rd</sup> para	Provided additional COL holder item as required by Criticality Control.
53.	S9.1.6, "COL Information", 5 <sup>th</sup> para	Provided additional requirements for handling heavy loads per NUREG-0612.
54.	S9.1.6, "Handling of Light Loads"	Addition of Section
55.	S9.1.6, Handling of Heavy Loads	Deletion from last Sentence "For Strongbacks used to handle heavy loads in conjunction with the overhead crane, testing programs shall be developed for compliance with ANSI-14.6" as excessive detail.
56.	T9.1-3	Revised components 2, 5, 10, 12, and 14 per Specification 26A6560 Rev 3.
57.	S9.2.1.1, "Safety (10 CFR 50.2) Design Bases"	Paragraphs 2 and 6 added in response to RAI 9.2-7; Paragraph 3 added in response to RAI 9.2-12; Paragraph 4 and 5 added to address SRP 9.2.1 requirements.
58.	S9.2.1.1, "Power Generation Design Bases", 1 <sup>st</sup> Sent.	Editorial change.
59.	S9.2.1.1, "Power Generation Design Bases", 2 <sup>nd</sup> Para, New Last Sent.	Clarification to define how success is achieved despite single active/passive failure.
60.	S9.2.1.1, last para.	Revised to provide basis for use of plate and frame type heat exchangers.

Item	Location	Description of Change
61.	S9.2.1.2, “Summary Description”, 1 <sup>st</sup> para.	Revised to clarify those normal or auxiliary power heat sinks can be used.
62.	S9.2.1.2, “Detailed System Description”, 2 <sup>nd</sup> para.	Revised to allow flexible PSWS train operation.
63.	S9.2.1.2, “Detailed System Description”, 3 <sup>rd</sup> para.	Added to describe how minimum water level would be monitored to ensure NPSH to PSWS pumps per RAI 9.2-10.
64.	S9.2.1.2, “Detailed System Description”, 5 <sup>th</sup> para.	Editorial change.
65.	S9.2.1.2, “Detailed System Description”, 6 <sup>th</sup> para.	Deleted former 1 <sup>st</sup> sentence “The PSWS cooling towers and PSWS basins are located inside the plant security protected area.”
66.	S9.2.1.2, “Detailed System Description”, 6 <sup>th</sup> para.	Editorial changes; Added full-flow bypass for ease of cold weather start; New cross-reference to the Station Water System.
67.	S9.2.1.2, “Detailed System Description”, 6 <sup>th</sup> para., new last sent.	Added in response to RAI 9.2-9 S01.
68.	S9.2.1.2, “Detailed System Description”, 7 <sup>th</sup> para.	Deleted former 7 <sup>th</sup> paragraph, “Blowdown from the PSWS basins is by gravity into the main cooling tower basin or directly to the plant waste effluent system.”
69.	S9.2.1.2, “Detailed System Description”, 7 <sup>th</sup> and 8 <sup>th</sup> para.	These paragraphs were relocated to this location for continuity.
70.	S9.2.1.2, “Detailed System Description”, last para.	New paragraph to state the design considerations for mitigation of water hammer in response to RAI 9.2-11.
71.	S9.2.1.2, “Operation”, 1 <sup>st</sup> para.	New paragraph to define operating modes of PSWS.
72.	S9.2.1.2, “Operation”, 2 <sup>nd</sup> para.	New paragraph to define the operation of PSWS.
73.	S9.2.1.2, “Operation”, 3 <sup>rd</sup> para.	Deleted the requirement for using cooling tower makeup pumps.
74.	S9.2.1.4, “Testing and Inspection Requirements”, 2 <sup>nd</sup> para.	New second paragraph to provide additional testing requirements.
75.	S9.2.1.5, “Instrumentation Requirements”, 2 <sup>nd</sup> para.	Redefined the when the PSW pump standby pump will start.

Item	Location	Description of Change
76.	S9.2.1.5, "Instrumentation Requirements", 3 <sup>rd</sup> para.	Clarification of PSW pump start and flow path interlock.
77.	S9.2.1.5, "Instrumentation Requirements", 4 <sup>th</sup> para.	Revised use of flow elements and transmitters to detect system leakage.
78.	S9.2.1.5, "Instrumentation Requirements", New 6 <sup>th</sup> para.	Added paragraph in response to RAI 9.2-10.
79.	S9.2.1.5, "Instrumentation Requirements", last para.	New. Paragraph added to specify GDC 13 requirements per RAI 7.7-1, S01.
80.	S9.2.1.6, "COL Unit-Specific Information"	Deleted all former text and added new sentence "The COL Applicant will determine material selection and provide provisions to preclude long-term corrosion and fouling of the PSWS based on site water quality analysis".
81.	S9.2.2.1, "Safety (10 CFR 50.2) Design Bases"	Paragraphs 2 and 6 added in response to RAI 9.2-7; Paragraph 3 added in response to RAI 9.2-12; Paragraph 4 and 5 added to address SRP 9.2.1 requirements.
82.	S9.2.2.1, "Power Generation Design Bases", 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised sentence from "The RCCWS is designed to provide cooling water to plant auxiliary equipment during normal power operation, plant cooldown, and shutdown operations." to "The RCCWS provides cooling water to plant auxiliary equipment during start-up, normal power operation, hot standby, and plant cooldown." for clarity.
83.	S9.2.2.1, "Power Generation Design Bases", 1 <sup>st</sup> para., last sent.	This sentence was the former 4 <sup>th</sup> paragraph of this subheading and was moved here for clarity.
84.	S9.2.2.2, "Summary Description", 1 <sup>st</sup> para.	Editorial change from "leakage of radioactive contamination" to just "radioactive contamination".
85.	S9.2.2.2, "Summary Description", 2 <sup>nd</sup> para.	Specified RCCWS as "closed loop".
86.		
87.	S9.2.2.2, "Detailed System Description", 2 <sup>nd</sup> para.	Defined heat loads in Table 9.2-3 as "ESBWR Standard Plant" heat loads.
88.	S9.2.2.2, "Detailed System Description", 5 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Revised sentence from "...provided up and downstream ..." to "...provided upstream and downstream ..." and revised location of cross-ties from "Radwaste Building" to "Diesel Generators".

Item	Location	Description of Change
89.	S9.2.2.2, “Detailed System Description”, 6 <sup>th</sup> para.	Removed “Radwaste Building Equipment” as major user.
90.	S9.2.2.2, “Detailed System Description”, 10 <sup>th</sup> para., 3 <sup>rd</sup> sent.	Revised sentence from “RCCWS or PSWS will drain to” to “...RCCWS or PSWS drains to...”.
91.	S9.2.2.2, “Detailed System Description”, 10 <sup>th</sup> para., 4 <sup>th</sup> sent.	Editorial and revision to last sentence to define that the design mitigates cross-contamination.
92.	S9.2.2.2, “System Operation”, 1 <sup>st</sup> para.	Revise plant conditions for RCCW to be consistent with standard terminology.
93.	S9.2.2.5, “Instrumentation Requirements”, 4 <sup>th</sup> para.	Editorial “monitors are provided”.
94.	S9.2.2.5, “Instrumentation Requirements”, last para.	New. Paragraph added to specify GDC 13 requirements per RAI 7.7-1, S01.
95.	S9.2.2.6, “COL Unit-Specific Information”	Revised to specify “None”
96.	S9.2.3.1, “Safety (10 CFR 50.2) Design Bases”, 2nd para., next to last sent.	Clarification by adding “or any abnormal event”.
97.	S9.2.3.1, “Safety (10 CFR 50.2) Design Bases”, 1st para.	New. Added to address SRP 9.2.3 requirements.
98.	S9.2.3.1, “Power Generation Design Bases”, 2 <sup>nd</sup> para.	Entire paragraph revised to specify design functions rather than system configuration. (RFI # 25161-000-GRI-GEX-00025).
99.	S9.2.3.2, “System Description”, 1 <sup>st</sup> para., last sent.	Revised to state temporary subsystem is used as “supplemental water” rather than “in place of permanent fixtures”.
100	S9.2.3.2, “Demineralization Subsystem”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised to state that water is “drawn from Station Water Storage Tank” rather than “provided by the Station Water System” (RFI # 25161-000-GRI-GEX-00025)
101	S9.2.3.3, Safety Evaluation”, 1 <sup>st</sup> para., 3 <sup>rd</sup> sent.	Clarification by adding “or any abnormal event”
102	S9.2.3.5, “Instrumentation Requirements”, last para.	New. Paragraph added to address GDC 13 requirements in response to RAI 7.7-1, S01



Item	Location	Description of Change
103.	S9.2.3.6, "COL Unit-Specific Information"	Revised to specify "None"
104.	S9.2.4, "Potable and Sanitary Water Systems", 1 <sup>st</sup> para.	New. Added to address SRP 9.2.4 requirements.
105.	S9.2.4, "Potable and Sanitary Water Systems", last para.	Deleted "cooling system tower blowdown"
106.	S9.2.5, "Ultimate Heat Sink", 1 <sup>st</sup> para.	Revised entire paragraph for editorial, clarifications, and in response to RAI 7.7-1 S01.
107.	S9.2.5, "Ultimate Heat Sink", 2 <sup>nd</sup> through 6 <sup>th</sup> para.	Added paragraphs 2 through 6 to address requirements of SRP 9.2.5.
108.	S9.2.5, "Ultimate Heat Sink", 7 <sup>th</sup> para.	Deleted the former 7 <sup>th</sup> paragraph, "If one individual IC or PCCS pool compartment is not available, the remaining IC/PCCS compartments and expansion pools have reserve capacity for 72 hours of passive heat removal without makeup. External resources, through safety-related emergency makeup water piping, provide makeup water for long-term heat removal. Sufficient reserve capacity is maintained on-site to extend the safe shutdown state from 72 hours through 7 days. The external connection and emergency makeup water piping are part of the Fuel and Auxiliary Pools Cooling System. Subsection 9.1.3.2 provides a description of this piping."
109.	S9.2.5, "Ultimate Heat Sink", 8 <sup>th</sup> and 9 <sup>th</sup> para.	Added to provide more detail pertaining to the how the decay heat removal with external sources and reserve capacity are met post-72 hours.
110.	S9.2.5.1, "COL Unit-Specific Information", 1 <sup>st</sup> para.	Revised to specify COL requirements to meet post-72 hour cooling to the UHS.
111.	S9.2.6.1, "Safety (10 CFR 50.2) Design Bases", 2 <sup>nd</sup> para.	Added to address the requirements of GDC 2 in response to RAI 9.2-12.
112.	S9.2.6.1, "Safety (10 CFR 50.2) Design Bases", 3 <sup>rd</sup> to 7 <sup>th</sup> para.	Added paragraphs 3 through 7 to address the requirements of SRP 9.2.6.
113.	S9.2.6.1, "Power Generation Design Bases", new last bullet	Added to specify the seismic requirements of CS&TS in response to RAI 9.2-12.
114.	S9.2.6.2, "Condensate Storage Tank", last para. 1 <sup>st</sup> sent.	Deleted "Freeze protection is provided for the CST if required". Freeze protection is not part of ESBWR Standard Design per Subsection 1.2.2.12.16.

Item	Location	Description of Change
115.	S9.2.6.2, “Condensate Storage Tank”, last para. last sent.	Revised for clarification.
116.	S9.2.6.5, “Instrumentation Requirements”, last para.	New. Paragraph added to address GDC 13 requirements in response to RAI 7.7-1, S01
117.	S9.2.7.1, “Safety (10 CFR 50.2) Design Bases”, 2 <sup>nd</sup> and 3 <sup>rd</sup> para.	Added to specify the seismic requirements of CS&TS in response to RAI 9.2-12.
118.	S9.2.7.2, “System Description”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Editorial, deleted “but interconnected”.
119.	S9.2.7.2, “Detailed NICWS Description”, 1 <sup>st</sup> para., 2 <sup>nd</sup> and 3 <sup>rd</sup> sent.	Editorial changes to describe the system layout and components.
120.	S9.2.7.2, “Summary Description”, 1 <sup>st</sup> para. last sentence.	Deleted reference to 4 chiller units. Change per Spec 26A6642AY Rev 1.
121.	S9.2.7.2, “Detailed NICWS Description”, 2 <sup>nd</sup> para., last bullet	New. Added “Electrical Building HVAC air handling units”
122.	S9.2.7.2, “Detailed NICWS Description”, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent.	Editorial. Revised “chiller” to “chillers”.
123.	S9.2.7.2, “Detailed BOPCWS Description”, 1 <sup>st</sup> para., 2 <sup>nd</sup> sent.	Deleted cross connect valve position requirement per Spec 26A6642AY Rev 1
124.	S9.2.7.2, “Detailed BOPCWS Description”, 1 <sup>st</sup> para., 3 <sup>rd</sup> sent.	Revised statement to require “parallel” components. The number of components could be site specific depending on ambient temperatures.
125.	S9.2.7.2, “Detailed BOPCWS Description”, 1 <sup>st</sup> para., 5 <sup>th</sup> sent.	Deleted “Each BOPCWS water chiller unit is powered from a separate bus”
126.	S9.2.7.2, “Detailed BOPCWS Description”, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent.	Editorial. Changed “two dual” to “dual”
127.	S9.2.7.2, “Detailed BOPCWS Description”, 4 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Revised the requirement for specific number of heat exchangers and pumps by deleting “two”.
128.	S9.2.7.2, “System Operation”, 7 <sup>th</sup> bullet	Revised by deleting “and BOPCWS loop”

Item	Location	Description of Change
129.	S9.2.7.2, “System Operation”, 8 <sup>th</sup> bullet	Deleted “Any other event in the BOPCWS loop that compromises the NICWS loops operability, or vice versa. A loop malfunction is detected by high chilled water flow signal in the other loops”
130.	S9.2.7.3, “Safety Evaluation”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Deleted incorrect use of acronym “RCPB”
131.	9.2.7.5, “Instrumentation Requirements”, last para.	New. Paragraph added to address GDC 13 requirements in response to RAI 7.7-1, S01
132.	S9.2.7.6, “COL Unit-Specific Information”	Revised to “None”
133.	S9.2.8.1, “Safety (10 CFR 50.2) Design Bases”, 3 <sup>rd</sup> and 4 <sup>th</sup> para.	New paragraphs 3 and 4 added in response to RAI 9.2-12.
134.	S9.2.8.1, “Safety (10 CFR 50.2) Design Bases”, 5 <sup>th</sup> para	New paragraph 5 added in response to RAI 9.2-7.
135.	S9.2.8.1, “Power Generation Design Bases”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised “corrosion-inhibited, demineralized cooling water” to state “cooling water”
136.	S9.2.8.1, “Power Generation Design Bases”, 6 <sup>th</sup> para.,	Revised paragraph to state the plate and frame type heat exchangers, “mitigate cross-contamination” of systems.
137.	S9.2.8.2, “Summary Description”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised number of pumps and heat exchangers by deleting “two”.
138.	S9.2.8.2, “Detailed Description”, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent. And 2 <sup>nd</sup> sent.	Deleted specifying the TCCWS pumps as “100% capacity each” and the number of pumps as “two”
139.	S9.2.8.2, “Detailed Description”, 4 <sup>th</sup> para.	Deleted specifying the TCCWS heat exchangers as “100% capacity each”.
140.	S9.2.8.2, “Detailed Description”, 5 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Added “level transmitters” as means to control makeup.
141.	S9.2.8.2, “System Operation”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Editorial.
142.	S9.2.8.2, “System Operation”, 2 <sup>nd</sup> para., last sent.	Editorial

Item	Location	Description of Change
143.	S9.2.8.2, “System Operation”, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent.	Deleted “the electro-hydraulic control coolers”.
144.	S9.2.8.2, “System Operation”, 4 <sup>th</sup> para.	Deleted entire paragraph, “Individual throttling valves located on the cooling water outlet from each unit manually regulate the flow rate of cooling water to all of the other coolers.”
145.	S9.2.8.2, “System Operation”, New 4 <sup>th</sup> para.	Added to specify how system balancing achieved.
146.	S9.2.8.2, “System Operation”, 5 <sup>th</sup> para., 1 <sup>st</sup> sent.	Revised from “for small amounts of leakage” to “for leakage”
147.	S9.2.8.2, “System Operation”, 5 <sup>th</sup> para., last sent.	Deleted acronym “NPSH” and defined it as “net positive suction head”
148.	S9.2.8.2, “System Operation”, 6 <sup>th</sup> para., 1 <sup>st</sup> sent.	Editorial revision to state level transmitters are used to actuate control valve.
149.	S9.2.8.4, “Tests and Inspections”, new 3 <sup>rd</sup> paragraph	Added to cross-reference additional testing details.
150.	S 9.2.8.5, “Instrumentation Requirements”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised “temperature indicators” to “temperature transmitters”
151.	S9.2.8.5, “Instrumentation Requirements”, New 5 <sup>th</sup> para.	Paragraph added to address GDC 13 requirements in response to RAI 7.7-1, S01
152.	S9.2.8.6, “COL Unit-Specific Information”	Revised to “None”
153.	S9.2.10, “Station Water System”	New section in its entirety.
154.	T9.2-1	Revised RCCWS heat loads for Normal Operation and Cooldown. Revised Single and Both Train heat loads for LOPP Operation.
155.	T9.2-2	TDH and Motor Size will be determined during detailed design. Added new line item for the PSW System flow. Revised heat load for CT’s
156.	T9.2-3	All RCCWS heat loads revised except for RWCU/SDC and Diesel Generators A&B.

Item	Location	Description of Change
157.	T9.2-4	Revised Pump Type (deleted req't for split case, single stage), Pump Capacity, TDH and Motor Size. RCCWS Flow through each heat exchanger revised.
158.	T9.2-5	Total Cooling Water Flow for all modes revised.
159.	T9.2-7	Deleted Line Item for Dissolved Oxygen (PPB as O2). Revised all System Design Parameters except for Silica, pH, and Organic Impurities.
160.	T9.2-8	Deleted Line Item for Dissolved Oxygen (PPB as O2).
161.	T9.2-11	Revised all capacities, flow, temperatures and power values.
162.	T9.2-12	Provided note stating site specific water quality will determine heat exchanger materials.
163.	F9.2-1	Major revision by adding valves and defining Normal Power Heat Sink as alternate path.
164.	F9.2-2	Revised RCCWS Figure per Spec 26A6399 Rev 1.
165.	F9.2-3	Revised Inlet and Outlet cross-ties to both NI Chillers and BOP Chillers. Moved EB load from BOP to NI side.
166.	F9.2-4	Revised number of TCCWS pumps and heat exchangers
167.	S9.3.2.1, "Safety (10 CFR 50.2) Design Bases", 1 <sup>st</sup> para., 2 <sup>nd</sup> sent.	Replaced "The Post Accident Sampling System is a subsystem of the Containment Monitoring System and is described in Subsection 7.5.2." with "The post-accident monitoring program uses sample point parameters and key sample locations as described in this Subsection and Subsections 7.5.1 and 7.5.2." per engineering review.
168.	S9.3.2.1, "Safety (10 CFR 50.2) Design Bases", New 2 <sup>nd</sup> and 3 <sup>rd</sup> para.	Added to address the requirements of SRP 9.3.2.II in response to RAI 11.5-24
169.	S9.3.2.2, "Summary Description", new last para.	Revised "Table 9.3-1 provides a list of the sample points and analyzed parameters." to "Table 9.3-1 provides a list of the sample points and analyzed parameters and identifies parameters required to be assessed as part of the post accident sampling program per SRP 9.3.2." in response to engineering review.
170.	S9.3.2.2, "Detailed System Description", 1 <sup>st</sup> para., new last sent.	Added "ALARA is considered in station layout and design." In response to RAI 11.5-24.
171.	S9.3.2.6, "COL Information", new 1 <sup>st</sup> para.	Replaced "The COL applicant shall determine the locations of the actual sample points and the process measurements based on site conditions and actual equipment. The COL applicant shall determine the actual location for conditioning and analysis of the main steam sample." with "The COL applicant shall develop a post accident sampling program to monitor, as a minimum, the parameters delineated in Table 9.3-1 and SRP 9.3.2."

Item	Location	Description of Change
172.	S9.3.2.7, "References"	Added to the list of references 9.3.2-1 through 9.3.2-9 in response to engineering review.
173.	S9.3.3.1, "Safety (10 CFR 50.2) Design Bases", new 2 <sup>nd</sup> , 3 <sup>rd</sup> , and 4 <sup>th</sup> para.	Added to address the requirements of SRP 9.3.3.
174.	S9.3.3.1, "Power Generation Design Bases", 2 <sup>nd</sup> para., new last sent.	Added in response to RAI 9.3-29.
175.	S9.3.3.2, "Summary Description", 3 <sup>rd</sup> para., 4 <sup>th</sup> sent.	Revised "drywell drain" to "drywell drain LCW sump pump discharge".
176.	S9.3.3.2, "Summary Description", 4 <sup>th</sup> para., 4 <sup>th</sup> sent.	Revised "drywell drain" to "HCW sump pump discharge".
177.	S9.3.3.2, "Summary Description", 8 <sup>th</sup> para., 1 <sup>st</sup> sent.	Revised to add "Control Building"
178.	S9.3.3.2, "Summary Description", 8 <sup>th</sup> para., 1 <sup>st</sup> sent.	Revised from "...sump in the Reactor Building." To "...sump in the Reactor Building and the Control Building."
179.	S9.3.3.2, "Summary Description", 8 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Revised from "...a normally open isolation valve, which is automatically...", to "...a normally closed manual valve, ..."
180.	S9.3.3.2, "Summary Description", new last para.	Added in response to RAI 9.3-29.
181.	S9.3.3.2, "Detailed System Description", 2 <sup>nd</sup> para., 1 <sup>st</sup> sent.	Revised sentence from "...piping, designated safety area drain line isolation valves, and limit switches are classified as safety-related" to "...containment isolation valves and piping are classified as safety-related.
182.	S9.3.3.2, "System Operation", 2 <sup>nd</sup> sent.	Relocated to last sentence in paragraph for clarity.
183.	S9.3.3.3, "Safety Evaluation", 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised sentence from "other than containment and designated safety division isolation functions" to "other than containment isolation functions"
184.	S9.3.3.5, "Instrumentation Requirements", 3 <sup>rd</sup> para., last sent.	Deleted "Components within the safety divisions are provided with level switches to close the drain line isolation valves to preclude flooding of compartments not affected by the flood. Manual switches in the MCR can also close these valves. Closure of an isolation valve annunciates an alarm in the MCR" per RAI 9.3-29.

Item	Location	Description of Change
185.	S9.3.5, entire section	Acronym change, “SLCS” to “SLC”. (Editorial)
186.	S9.3.5.1, 7 <sup>th</sup> para.	Revised paragraph to enhance clarity. (Editorial)
187.	S9.3.5.2, 6 <sup>th</sup> para., 1 <sup>st</sup> para.	Added “(neutron absorber)”. (Editorial)
188.	S9.3.5.2, 8 <sup>th</sup> para., 1 <sup>st</sup> sent.	Added “boron”. (Editorial)
189.	S9.3.5.2, 9 <sup>th</sup> para., 1 <sup>st</sup> sent.	Deleted “neutron absorber”. (Editorial)
190.	S9.3.5.2, 9 <sup>th</sup> para., 3 <sup>rd</sup> sent.	Deleted “neutron absorber” and “by the SLC system”. Added “the boron solution”. (Editorial)
191.	S9.3.5.2, 13 <sup>th</sup> para.	Moved paragraph to Section 9.3.5.2, 16 <sup>th</sup> paragraph, 1 <sup>st</sup> sentence. (Editorial)
192.	S9.3.5.2, 14 <sup>th</sup> para.	Deleted paragraph. <b>Basis:</b> (26A6466 Rev1*(RMCN0977, Draft)), <b>Comment:</b> Change driven by RAI 6.2-58 S01
193.	S9.3.5.2, 15 <sup>th</sup> para.	Deleted paragraph. <b>Basis:</b> (26A6466 Rev1*(RMCN0977, Draft)), <b>Comment:</b> Change driven by RAI 6.2-58 S01
194.	S9.3.5.2, 17 <sup>th</sup> para.	Additional details are provided in response to RAI 9.3-20 S01. (eDRF Section #0000-0064-2142)
195.	S9.3.5.2, 19 <sup>th</sup> para.	Created new paragraph. <b>Basis:</b> (26A6466 Rev1*(RMCN0977, Draft)), <b>Comment:</b> Change driven by RAI 6.2-58 S01
196.	S9.3.5.3, 2 <sup>nd</sup> para., 5 <sup>th</sup> sent.	Moved sentence to Section 9.3.5.3, 10 <sup>th</sup> paragraph, 4 <sup>th</sup> sentence. (Editorial)
197.	S9.3.5.3, 5 <sup>th</sup> para., 4 <sup>th</sup> sent.	Replaced “neutron absorber” with “boron”. (Editorial)
198.	S9.3.5.3, 6 <sup>th</sup> para., 3 <sup>rd</sup> para.	Replaced “neutron absorber” with “boron”. (Editorial)
199.	S9.3.5.3, 8 <sup>th</sup> para., 1 <sup>st</sup> sent.	Replaced “neutron absorber” with “boron”. (Editorial)
200.	S9.3.5.3, 9 <sup>th</sup> para., 1 <sup>st</sup> sent.	Deleted “and 250 VDC”. Reference DCD Section 8.3.1.1.3 for an editorial change.
201.	S9.3.5.3, 10 <sup>th</sup> para., 1 <sup>st</sup> sent.	Added “boron”. (Editorial)
202.	S9.3.5.3, 10 <sup>th</sup> para.	Added 2 <sup>nd</sup> and 3 <sup>rd</sup> sentences. Basis: (26A6466 Rev1*(RMCN0977, Draft)), Comment: Change driven by RAI 6.2-58 S01
203.	S9.3.5.3, 11 <sup>th</sup> para.	Deleted paragraph. Basis: (26A6466 Rev1*(RMCN0977, Draft)), Comment: Change driven by RAI 6.2-58 S01

Item	Location	Description of Change
204.	S9.3.5.3, 18 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Deleted “a defense-in-depth beyond design basis shutdown system and” due to RAI 9.3-13 S01. (eDRF Section #0000-0064-2142)
205.	S9.3.5.3, 20 <sup>th</sup> para., 1 <sup>st</sup> sent.	Changed subheading "ASB 3-1 and MEB 3-1" to "SRP Branch Technical Positions SPLB 3-1 and EMEB 3-1" to be consistent with the latest drafts of SRPs 3.6.1 and 3.6.2.
206.	S9.3.5.4, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent.	Added “redundant”. Basis: (26A6466 Rev1*(RMCN0977, Draft)), Comment: Change driven by RAI 6.2-58 S01
207.	S9.3.5.4, 3 <sup>rd</sup> para., 2 <sup>nd</sup> sent.	Deleted “initiation”. (Editorial)
208.	F9.3-1	Changed motor-operated valves to air-operated valves (eDRF Section #0000-0064-0580.)
209.	F9.3-1	Added an additional shut-off valve for redundancy. Basis: (26A6466 Rev1*(RMCN0977, Draft)), Comment: Change driven by RAI 6.2-58 S01
210.	F9.3-1a	Added an additional shut-off valve for redundancy. Basis: (26A6466 Rev1*(RMCN0977, Draft)), Comment: Change driven by RAI 6.2-58 S01
211.	F9.3-1a, 5 <sup>th</sup> note	Additional details are provided in response to RAI 9.3-35 S01. (eDRF Section #0000-0064-2142)
212.	T9.3-4, 1 <sup>st</sup> bullet	Deleted “250 VDC and”. Reference DCD Section 8.3.1.1.3 for an editorial change.
213.	S9.3.6.1, “Safety (10 CFR 50.2) Design Bases”, new para’s 2 <sup>nd</sup> thru 5 <sup>th</sup>	Added to address the requirements of SRP 9.3.1
214.	S9.3.6.2, “System Description”, 5 <sup>th</sup> para., 1 <sup>st</sup> sent.	Revised sentence from “...backed up by the Service Air System (SAS) during failure of both IAS air compressors” to “...backed up by the Service Air System (SAS) upon low system pressure”.
215.	S9.3.6.2, “System Description”, 6 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Revised sentence from “Two air receivers service both air compressor” to “An air receiver services each air compressor.”
216.	S9.3.6.2, “System Description”, 6 <sup>th</sup> para., last sent.	Deleted sentence “The IAS can serve as a manual backup to the containment users through the HPNSS piping.”
217.	S9.3.6.4, “Inspection and Testing Requirements”, new 2 <sup>nd</sup>	Added “Additional testing details of IAS are described in Subsection 14.2.8.1.19.” to provide clarity.
218.	S9.3.6.5, “Instrumentation Application”, new last para.	Added paragraph in response to RAI 7.7-1 S01.



Item	Location	Description of Change
219.	S9.3.6.7, “References”	Added new reference “ISA Standard 7.0.01, Quality Standard for Instrument Air (see Table 1.9-22)”.
220.	S9.3.7.1, “Safety (10 CFR 50.2) Design Bases”, new para’s 2 <sup>nd</sup> thru 5 <sup>th</sup> .	Added to address the requirements of SRP 9.3.1
221.	S9.3.7.2, “System Description”, 10 <sup>th</sup> para., last sent.	Added “, Turbine Building, Radwaste Building, and Hot Machine Shop.”
222.	S9.3.7.2, “System Description”, 13 <sup>th</sup> para.	Revised “outages” to “periods”.
223.	S9.3.7.3, “Safety Evaluation”, 1 <sup>st</sup> sent.	Revised sentence from “The SAS is not a safety-related system, however, the SAS incorporates features to ensure its operation over the full range of normal plant operations.” to “The SAS does not have any safety-related functions, except for containment isolation. The SAS incorporates features to ensure its operation over the full range of normal plant operations.”
224.	9.3.7.4, “ Inspection and Testing Requirements”, new 2 <sup>nd</sup> para.,	Added “Additional testing details of SAS are described in Subsection 14.2.8.1.19.” for clarity.
225.	S9.3.7.5, “Instrumentation Application”, last para.	Added paragraph in response to RAI 7.7-1 S01.
226.	S9.3.8.2, 3 <sup>rd</sup> para., 2 <sup>nd</sup> sent.	Revised motor-operated valve to air-operated valve in response to engineering review.
227.	S9.3.9.1, 3 <sup>rd</sup> para.	Deleted “(Reference 9.3.9 1)”.
228.	S9.3.9.2, 1 <sup>st</sup> para., 2 <sup>nd</sup> sent.	Revised sentence from “The hydrogen and oxygen supply systems are site dependent and shall be defined by the COL Applicant/Holder at the time of deployment.” to “The hydrogen and oxygen demand requirements and supply systems are site dependent and shall be defined by the COL Applicant/Holder at the time of deployment, if implemented.”
229.	S9.3.9.2, 1 <sup>st</sup> para., last sent.	Revised “Subsection 10.2.2.2” to “Subsection 10.2.2.2.8”
230.	S9.3.9.3, 1 <sup>st</sup> para., last sent.	Deleted “(Reference 9.3.9 2)”.

Item	Location	Description of Change
231.	S9.3.9.6	<p>Revised section by deleting “None, until COL Applicant/Holder decides to implement a Hydrogen Water Chemistry System per Subsection 9.3.9.1.” and adding:</p> <p>“COL Holder will determine Oxygen and Hydrogen demand requirements and supply system, if HWC is implemented.</p> <p>COL Holder will furnish necessary information Test and Inspection when vendor information becomes available.</p>
232.	S9.3.10.6	<p>Revised “None” to “The COL applicant shall define site storage requirements.”</p>
233.	S9.3.12.2, 2 <sup>nd</sup> para.	<p>Revised the following:</p> <p>“Two 100% packaged auxiliary boilers” to “One (1)100% packaged firetube Auxiliary Boiler composed of two (2) 50% fuel oil boilers”</p> <p>“Two 100% Auxiliary Boiler Feedwater Pumps” to “Three (3) 50% Auxiliary Boiler Feedwater Pumps”</p> <p>“Two 100% Continuous Blowdown Flash Tank” to “Two (2) 50% Continuous Blowdown Flash Tank”</p> <p>“Two 100% Steam Separators to “Two (2) 50% Steam Separators”</p> <p>Deleted the following bullet:</p> <p>“Two 100% Auxiliary Boiler recirculation pumps”</p> <p>Added New bullets:</p> <p>“Two (2) complete firing systems including fuel-oil burners and fans”</p> <p>“Two (2) 100% fuel-oil pumps”</p> <p>“Instrumentation and controls”</p> <p>“One (1) 100% Auxiliary Boiler Drain Tank”</p> <p>“One (1) 100% Deaerator with integral storage tank”</p>
234.	S9.3.12.2, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent.	<p>Added “burn fuel oil to”.</p>
235.	S9.3.12.2, 3 <sup>rd</sup> para., last two sent.	<p>Added new sentences to provide additional description of the fuel oil pumps.</p>
236.	S9.3.12.2, 5 <sup>th</sup> para.	<p>Deleted the former fifth paragraph “The Auxiliary Boiler feedwater recirculation pumps maintain a high circulating feedwater temperature when the ABS remains on hot standby.</p>

Item	Location	Description of Change
237.	T9.3-1	Deleted “** Actual sample points will be determined by the COL applicant based on site conditions and specific equipment (refer to Subsection 9.3.2.6)” and added “** These sample parameters are required to be monitored as part of the post accident sampling program per SRP 9.3.2.”.
238.	T9.3-2	Under “Clean Drain Subsystem” revised “non-essential” to “nonsafety-related”
239.	T9.3-4, 1 <sup>st</sup> bullet	Deleted “250 VDC and”. Reference DCD Section 8.3.1.1.3 for an editorial change.
240.	T9.3-5, 2 <sup>nd</sup> Row	Additional information “per train” provided
241.	F9.3-1	Replacement of Figure per RAI 14.3-83.
242.	F9.3-1	Changed motor-operated valves to air-operated valves based on engineering review.
243.	F9.3-1a, 5 <sup>th</sup> note	Additional details are provided in response to RAI 9.3-35 S01.
244.	F9.3-2	Revised to add loads for HPNSS, Fuel Building and Control Building.
245.	F9.3-3	Revised to add loads for breathing air to Radwaste, Turbine, and Hot Machine Shop building headers.
246.	F9.3-4	Changed outside containment isolation valves from motor-operated to air-operated valves per engineering review.

Item	Location	Description of Change
247.	S9.4.1	<p>This subsection is re-written to incorporate changes per RAIs and the replacement of the EBAS and CRHAVS re-design per engineering review.</p> <p>The major changes include revised and additional system function description, component level detail (by reference to Subsection 9.4.10), references to applicable codes and standards (Table 9.4-17), additional description of compliance with applicable GDC/Generic Issues/TMI Action plan, and relocation of toxic gas detection from the generic design to the COL phase; the elimination of the EBAS and addition of a set of safety-related Emergency Filter Units to provide control room habitability/re-design of the CRHAVS per engineering review. All reference to the EBAS is deleted and replaced with a description of the EFU portion of the CRHAVS in reference to emergency operation and control room habitability per engineering review.</p> <p>Table 9.4-1 was revised to add the non-coincident wet bulb design outdoor temperature from the Composite Design Specification and to reflect the EBAS replacement.</p> <p>Table 9.4-2 was revised to reflect the EBAS replacement, denote the listed heating and cooling loads as approximates, remove fan static pressure listings, and to add component level detail.</p> <p>Figure 9.4-1 and 9.4-2 are replaced to reflect the EBAS elimination and the CRHAVS re-design.</p> <p>RAIs applicable to this revision are as follows:</p> <p>3.9-27, Seismic qualification of ductwork and dampers  6.4-1 thru 6.4-4, affects parts of 9.4.1 for the CRHAVS  7.7-1 S01, affects Subsection 9.4.1 for compliance with GDC 13  9.4-5, affects References, New Table T9.4-17  9.4-6, info for filtration units, Table T9.4-11&amp; Table 9.4.2  9.4-8, component descriptions, by reference to 9.4.10  9.4-9, RG compliance descriptions  9.4-11, definition of slightly positive and slightly negative  9.4-12, affects Subsection 9.4.1 (EBAS)  9.4-13, affects Subsection 9.4.1 title  9.4-14, ASME N509/N510 clarification  9.4-15, GDC compliance discussion  9.4-16, removal annotation marker  9.4-17, CRHA temperature and humidity discussion  9.5-11 S01, smoke control and smoke removal</p>
248.	S9.4.2	<p>The text is revised to describe satisfaction of GDCs 2, 5, 60, and 61 in response to RAI 9.4-18.</p>

Item	Location	Description of Change
249.	S9.4.2.2	Added reference to 9.4.10 for component information, added “air conditioning” to FBGAVS and FBFPVS definitions, noted electric unit heaters are “as required”, deleted redundant use of “subsystem” after acronyms, deleted specific filter types from text – this information is moved to Table 9.4-5, added reference to the HWS for heating.
250.	S9.4.2.5	Added loss of control power or instrument air to FB damper isolations, added variable speed drive fan option for pressure control.
251.	S9.4.1.5, S9.4.2.5, S9.4.3.5, S9.4.4.5, S9.4.6.5, S9.4.7.5, S9.4.8.5, S9.4.9.5	Added text: “This instrumentation conforms with GDC 13. Refer to subsection 3.1.2 for a general discussion of the GDC.” RAI 7.7-1 S01
252.	S9.4.1.7, S9.4.2.7, S9.4.3.7, S9.4.4.7, S9.4.6.7, S9.4.7.7, S9.4.8.7, S9.4.9.7	Deleted references and added to see table 9.4-17 for applicable HVAC codes and standards.
253.	9.4.2.1 9.4.3.1 9.4.4.2 9.4.6.1 9.4.7.1	DCD Tier 2, Subsections 9.4.2.1, Fuel Building HVAC System; 9.4.3.1 Radwaste Building Heating, Ventilation and Air Conditioning System (General Area), RWGAVS; 9.4.4.2 Turbine Building Ventilation System; and 9.4.6.1 Reactor Building HVAC System; revised to define either “Slightly Positive Pressure” or “Slightly Negative Pressure” as: ““Slightly Positive Pressure” is a range from greater than zero to +0.75” wg.” “Slightly negative pressure is a range from less than zero to -0.75” wg” RAI 9.4-11
254.	S9.4.3	The text is revised to describe satisfaction of GDCs 2, 5, and 60 in response to RAI 9.4-19.
255.	S9.4.3.2	Moved component details to Table 9.4-7, added reference to Table 9.4-6 and Subsection 9.4.10.
256.	S9.4.3.2, 1 <sup>st</sup> para., 2 <sup>nd</sup> to last sent.	Revised sentence from “Each air-handling unit contains prefilters, high efficiency filters, a humidifier,...” to “Each AHU contains filters, a humidifier,...”
257.	S9.4.3.2, 3 <sup>rd</sup> para., 1 <sup>st</sup> sent.	Added “...and ventilation...” for clarity.
258.	S9.4.3.2, 3 <sup>rd</sup> para., last sent.	Revised sentence from “Each air-handling unit contains prefilters, high efficiency filters, a chilled water cooling coil, a hot water heating coil, a humidifier, a centrifugal fan, and an automatic damper.” to “Each AHU contains filters, cooling and heating coils, a humidifier, a fan, and dampers.”
259.	S9.4.3.2, 4 <sup>th</sup> para., 1 <sup>st</sup> sent.	Removed requirement for “a medium efficiency” prefilter.

Item	Location	Description of Change
260.	S9.4.3.2, 6th para.	Revised from “The RWVS simplified system diagram is provided in Figure 9.4-7. The system includes the Major Equipment listed in Table 9.4-7” to “The RWVS simplified system diagram is provided in Figure 9.4-7. The system has Design Conditions in Table 9.4-6, Major Equipment listed in Table 9.4-7, and Component Information described in Subsection 9.4.10.”
261.	S9.4.1.1, S9.4.2.1, S9.4.3.1, S9.4.4.1, S9.4.6.1, S9.4.7.1	Added Fire Protection changes in response to RAI 9.5-11, S01.
262.	S9.4.3.5	Added text to reflect the optional use of variable speed drives for fan flow control.
263.	S9.4.3.6	Deleted Col unit specific information.
264.	S9.4.4	The text is revised to describe satisfaction of GDCs 2, 5, and 60 in response to RAI 9.4-21
265.	S9.4.4.1, S9.4.4.2, S9.4.4.6	Added: “Chiller mechanical equipment rooms meet ASHRAE-15, Safety Standard for Refrigeration Systems. They are equipped with a dedicated ventilation system and leak detectors with alarms.” S9.4.4.2, added reference to Table 9.4-15 and 9.4-10, added text to describe the option of variable speed drive fan control, deleted detailed filter information from text – information moved to Table 9.4-15, added text to describe redundant unit coolers per URD requirements. S9.4.4.6, revised COL information
266.	S9.4.5	Revised to reflect CRHAVS EFUs for CRHA radiological protection.
267.	S9.4.6	The text is revised to describe satisfaction of GDCs 2, 5, and 60 in response to RAI 9.4-23 and 9.4-24.
268.	S9.4.6.1	Add the following text to 9.4.6.1: The RBVS has nonsafety-related Reactor Building Purge Exhaust Filter units for mitigating and controlling gaseous effluents from the Reactor or Fuel buildings RAI 11.5-25
269.	S9.4.6.1	Change section 9.4.6.1 to state: Maintains the hydrogen concentration levels in the battery rooms below 2% (versus 1% ) by volume per RG 1.128. RAI 14.3-57 and RG 1.128 have 2% requirement
270.	S9.4.6.1	Added note to see Table 9.4-8 for area pressurization to bullets two and three. Added definition for Slightly Negative Pressure to bullet number four.

Item	Location	Description of Change
271.	S9.4.6.2	Add the following text to 9.4.6.2: The RB purge exhaust filter units are equipped with pre-filters, HEPA filters and Carbon filters for mitigating and controlling gaseous effluents from the Reactor or Fuel buildings RAI 11.5-25; 9.4-24
272.	S9.4.6.2	Add the following additional description text to 9.4.6.2: The RB purge exhaust filter units are equipped with pre-filters, HEPA filters and carbon filters for mitigating and controlling gaseous effluents from the Reactor or Fuel buildings.
273.	S9.4.6.2	Deleted “low and medium efficiency” filters and added: Reference to Subsection 9.4.10 component information.
274.	S9.4.6.2	Add section headings for CONAVS, REPAVS, and CLAVS
275.	S9.4.7	The text is revised to describe satisfaction of GDCs 2, 4, 5, 19 and 60 in response to RAI 9.4-25 and RAI 9.4-26
276.	S9.4.6.5	Added text: This meets the URD requirement for local control of the RBVS
277.	S9.4.6.5	Added descriptive text: “fan speed that modulates” to more accurately describe the fan controller.
278.	S9.4.6.5	Added text: This instrumentation conforms with GDC 13. Refer to Subsection 3.1.2 for a general discussion of GDC 13
279.	S9.4.6.6	Deleted COL Unit Specific Information: The major equipment data and system design parameters are site dependent and are shown in Table 9.4-15.
280.	S9.4.7.1	Text added pertaining to TSCVS filter units in response to RAI 9.4-27
281.	S9.4.7.2	Added text “in accordance with RG 1.128” under EERVS section to denote the basis for the 2% hydrogen concentration and compliance with RG 1.128. RAI 14.3-57 and RG 1.128 have 2% requirement Removed reference to toxic gas detection. Added reference to Table 9.4-16 for major components and Subsection 9.4.10 for component information.
282.	S9.4.7.3	Add the following text to 9.4.7.3: Filter efficiencies meet or exceed the guidance of RG 1.140. RAI 9.4-27
283.	S9.4.7.5	Added radiation and smoke detection in the TSCVS outside air intake to the instrumentation requirements for clarification of the TSCVS isolation signals required.
284.	S9.4.7.6	Added Toxic Gas responsibility to COL RAI 9.4-25

Item	Location	Description of Change
285.	S9.4.8	The text is revised to describe satisfaction of GDCs 2, 5, and 60 in response to RAI 9.4-28
286.	S9.4.8.2	Added reference to Subsection 9.4.10 Component information.
287.	S9.4.8.5	Added comment: This instrumentation conforms with GDC 13. Refer to Subsection 3.1.2 for a general discussion of the GDC
288.	S9.4.8.7	Deleted reference Regulatory Guide 1.29 and added statement: The applicable HVAC codes and standards are shown in Table 9.4-17.
289.	S9.4.9.1 / 9.4.9.2	Remove “Slightly” before positive pressure and added reference to 9.4.10 for component description to S9.4.9.2. RAI 9.4-11
290.	New S9.4.10  S9.4.10.6	Added new section 9.4.10 HVAC Component Information which includes defining filter efficiencies, Ref. RAI 9.4-8; 11.5-25 Added text “The structural requirements for HVAC Ducts and HVAC Duct Supports are specified in Subsection 3.8.4.1.7.” Per RAI 3.9-27
291.	T9.4-1	Table 9.4-1 was revised to add the non-coincident wet bulb design outdoor temperature from the Composite Design Specification and to reflect the EBAS replacement.
292.	T9.4-2	Table 9.4-2 was revised to reflect the EBAS replacement, denote the listed heating and cooling loads as approximates, remove fan static pressure listings, and to add component level detail.
293.	T9.4-2; T9.4-4, T9.4-5, T9.4-7; T9.4-11; T9.4-15	Added filtration efficiencies to the existing Major Equipment Tables for CB, FB, RW, RB, and TB systems RAI 9.4-6
294.	T9.4-4	Added additional supply and exhaust fan details: “axial”, “with variable speed” and “approximately”.
295.	T9.4-4 and T9.4-5	Added “approximately” to cooling / heating capacity for the supply air handling units.
296.	T9.4-5	Added additional supply and exhaust fan details: “axial”, “with variable speed” and “approximately”.
297.	T9.4-5	Deleted unknown detail “Static Pressure” from AHU Supply and Exhaust Fans
298.	T9.4-5	Deleted unknown detail “Type” from Building Supply and Exhaust Isolation Damper



Item	Location	Description of Change
299.	T 9.4-7	Change Table 9.4-7 RWGAVS Exhaust Filtration Units type to state: Medium efficiency prefilter and HEPA filter RAI 11.5-25 Change Table 9.4-7 in response to RAI 9.4-11
300.	T9.4-8, T9.4-3 and T9.4-15	Change the values to be consistent with DCD Tier 1 data. Add: 37.8°C dry bulb/26.1°C wet bulb (coincident), 27.8°C wb (non-coincident) Col item 855 and 856
301.	T9.4-8	Change: CLAVS Pressurization (battery rooms) from “-62 Pa” to “Slightly Negative”. CLAVS Pressurization (other CLAVS rooms) from “31 Pa” to “Slightly Positive”.
302.	T9.4-9, T9.4-10 and T9.4-11	Added “approximately” to cooling / heating capacity for the supply air handling units.
303.	T9.4-9, T9.4-10 and T9.4-11, T9.4-15	Added additional supply and exhaust fan details: “axial”, “with variable speed” and “approximately”.
304.	T9.4-9, T9.4-10 and T9.4-11	Deleted unknown detail “Static Pressure” from AHU Supply, Exhaust and AHU Fans
305.	T9.4-11	Add “Charcoal” to Purge Exhaust Filter Unit type in Table 9.4-11. RAI 11.5-25
306.	T9.4-11	Added Purge Exhaust Filter Unit Details. RAI 9.4-6
307.	T9.4-14	Deleted parenthesis around heat load values.
308.	T9.4-15	Added filter efficiencies to table and changed “To be established” to “Established” for TBCE and TBLOE Subsystems.
309.	T9.4-16	Revised Summer outdoor design conditions to match System Design Specification and Composite Design Specification, and added filter unit component information RAIs 9.4-26, 9.4-27
310.	New T9.4-17	Added new Table 9.4-17 HVAC Codes and Standards RAI 9.4-5
311.	F9.4-1 & F9.4-2	Figure 9.4-1 and 9.4-2 are replaced to reflect the EBAS elimination and the CRHAVS re-design.
312.	F9.4-8	Revised to show bypasses around TBLOE, TBDRE, and TBCE exhaust fans

Item	Location	Description of Change
313.	F9.4-10	Revised to show carbon filters in the RB purge exhaust filter units.
314.	S9.5.1.1, "Safety (10 CFR 50.2) Design Bases", 1 <sup>st</sup> para, 2 <sup>nd</sup> sent.	Revised 2 <sup>nd</sup> sentence from "There is no interface with any safety-related component." to "The FPS connects to the safety-related portion of the Fuel and Auxiliary Pools Cooling System (FAPCS)."
315.	S9.5.1.1, "Power Generation Design Bases", 3 <sup>rd</sup> para, 1 <sup>st</sup> sent	Used acronym for Fire Protection System.
316.	S9.5.1.1, "Power Generation Design Bases", 3 <sup>rd</sup> para, 6 <sup>th</sup> bullet	Revised "fire water" to "firewater" 3 places.
317.	S9.5.1.1, "Power Generation Design Bases", 3 <sup>rd</sup> para., 7 <sup>th</sup> bullet	Revised "fire water" to "firewater" 2 places.
318.	S9.5.1.4, "Water Source", 1 <sup>st</sup> para.	Added the following sentences: (2 <sup>nd</sup> ) - The primary source shall be two dedicated, Seismic Category I, firewater storage tanks. (4 <sup>th</sup> ) - The secondary source may be a second firewater storage tank, a cooling tower water basin, or a large body of water, with the minimum capacity to meet the total water demand for a period of 120 minutes. (6 <sup>th</sup> ) - The COL applicant will provide final quantity and capacity of secondary firewater storage. Revised the following sentences: (3 <sup>rd</sup> ) - Revised "two hours" to "120 minutes" (5 <sup>th</sup> ) - Revised "water" to "firewater"
319.	S9.5.1.4, "Water Source", 3 <sup>rd</sup> para.	Added new 3 <sup>rd</sup> paragraph in its entirety.
320.	S9.5.1.4, "Fire Pumps", 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised the following: "Each of the three 50% capacity firewater pumps provides " to "Two primary fire pumps each provide"; Replaced "or" with "and"; and revised "balance of plant" to "Turbine Building".
321.	S9.5.1.4, "Fire Pumps", 1 <sup>st</sup> para., new 2 <sup>nd</sup> sent.	Added, "Two secondary fire pumps each provide 50% of the firewater demand for the worst-case fire in the TB and 100% of the firewater demand for the worst-case fire in the remainder of the balance of plant (BOP)."
322.	S9.5.1.4, "Fire Pumps", 1 <sup>st</sup> para., 4 <sup>th</sup> sent.	Revised "Two of the three pumps are..." to "The two primary fire pumps are..."
323.	S9.5.1.4, "Fire Pumps", 1 <sup>st</sup> para., 5 <sup>th</sup> sent.	Revised "The third pump is ..." to "The two secondary fire pumps are..."

Item	Location	Description of Change
324.	S9.5.1.4, "Fire Pumps", 1 <sup>st</sup> para., new last sent.	Added, "The COL applicant shall provide the final secondary fire pump flow rate and pump head."
325.	S9.5.1.4, "Fire Pumps", 2 <sup>nd</sup> para.	Revised paragraph from "For the two nuclear island fire pumps, the lead pump is motor-driven and the backup pump is diesel-driven. The backup pump provides firewater in the event of failure of the motor-driven pump or loss of preferred power (LOPP). A motor-driven jockey pump maintains the system pressure to minimize the cycling of the main fire pumps due to minor pressure losses." To "For the two primary nuclear island fire pumps, the lead fire pump is motor-driven and the backup is a Seismic Category I diesel driven fire pump. The backup diesel-driven fire pump provides firewater in the event of failure of the motor-driven fire pump or loss of preferred power (LOPP)."
326.	S9.5.1.4, "Fire Pumps", 3 <sup>rd</sup> para.	Revised paragraph from "The main diesel-driven fire pump, including its suction and discharge piping, meets the requirements of ASME B31.1 and remains functional after an SSE. The diesel-driven fire pump is located in a separate fire-rated compartment from the motor-driven fire pump. The second diesel-driven fire pump provides a back up to the other two pumps. This back-up diesel-driven fire pump may be new or existing and is connected to the main yard piping loop" To "For the two secondary fire pumps, the lead fire pump shall be motor-driven and the backup fire pump shall be Non-Seismic (NS) diesel-driven. The secondary diesel-driven fire pump provides firewater in the event of failure of the motor-driven fire pump."
327.	S9.5.1.4, "Fire Pumps", New 4 <sup>th</sup> and 5 <sup>th</sup> para.	Added paragraphs.
328.	S9.5.1.4, "Fire Pumps", last para.	Revised "8 hours" to "96 hours"
329.	S9.5.1.5, "Firewater Supply Piping, Yard Piping, and Yard Hydrants", 1 <sup>st</sup> para.	First paragraph revised in its entirety.

Item	Location	Description of Change
330.	S9.5.1.5, “Firewater Supply Piping, Yard Piping, and Yard Hydrants”, 2 <sup>nd</sup> para.	Revised paragraph from “The yard piping main loop consists of buried Class 200, High-Density Polyethylene (HDPE) piping, FM approved for fire main service, with concrete thrust blocks or cement-lined ductile iron piping (site specific), in accordance with NFPA 24. Locked open sectionalizing and isolating post-indicator valves installed in the fire yard main permit isolation of any part of the main without completely removing the system from service. Sectionalizing valves between connections separate individual fire pump connections from the yard main. The COL applicant shall determine the design characteristics of the yard piping main loop as listed in.” to “The yard main loop consists of code compliant material, FM (Factory Mutual) approved for fire main service, with concrete thrust blocks or cement-lined ductile iron piping, in accordance with NFPA 24. Locked open sectionalizing post-indicator valves installed in the yard main loop permit isolation of any part of the main without completely removing the system from service. Valves between connections separate individual fire pump connections from the yard main. The COL applicant will determine the design characteristics of the yard main loop as listed in Table 9.5-4.”
331.	S9.5.1.5, “Firewater Supply Piping, Yard Piping, and Yard Hydrants”, 3 <sup>rd</sup> para.	Added new paragraph.
332.	S9.5.1.5, “Firewater Supply Piping, Yard Piping, and Yard Hydrants”, 4 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Deleted word “generally”
333.	S9.5.1.5, “Firewater Supply Piping, Yard Piping, and Yard Hydrants”, 5 <sup>th</sup> para.	Revised sentence from “The fire hydrants are protected against damage from freezing or vehicles. To “Fire hydrants are protected against freezing and damage from vehicles.”
334.	S9.5.1.5, “Firewater Supply Piping, Yard Piping, and Yard Hydrants”, 6 <sup>th</sup> para.	Added new paragraph.
335.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 1 <sup>st</sup> para., 1 <sup>st</sup> sent.	Revised from “Building standpipes and hose stations...”, to Standpipes and hose stations...”
336.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 1 <sup>st</sup> para., 2 <sup>nd</sup> sent.	Deleted word “at”

Item	Location	Description of Change
337.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 6 <sup>th</sup> para., 1 <sup>st</sup> sent.	Revised from “For area containing equipment for safe shutdown”, to “Areas containing equipment required for safe shutdown”
338.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 6 <sup>th</sup> para., 2 <sup>nd</sup> sent.	Added, “Provisions are made to supply water to at least two standpipes and hose connections for manual firefighting in areas containing equipment required for safe plant shutdown in the event of an SSE. The piping system serving such hose stations is analyzed for SSE loading and is provided with supports to ensure system pressure integrity. The piping and valves for the portion of the hose standpipe system affected by this functional requirement, as a minimum, satisfy ASME B31.1 requirements.
339.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 6 <sup>th</sup> para., last sent.	Deleted, “The piping system serving these hose stations is analyzed for SSE loading. The piping and valves satisfy ASME B31.1 requirements.
340.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 12 <sup>th</sup> para, 2 <sup>nd</sup> set.	Changed “The water” to Water”
341.	S9.5.1.6, “Standpipe and Hose Systems (Wet)”, 12 <sup>th</sup> para, 3 <sup>rd</sup> sent.	Changed “fire water” to “firewater”
342.	S9.5.1.10, “Fire Barriers”, 1 <sup>st</sup> para, 2 <sup>nd</sup> sent.	Added “that could adversely affect a safe shutdown function” after ... “damage”
343.	S9.5.1.10, “Fire Barriers”, 1 <sup>st</sup> para, 4 <sup>th</sup> sent.	Added, “Electrical circuits (safety-related and nonsafety-related) whose fire-induced failure could cause a spurious actuation that could adversely affect a safe shutdown function.”
344.	S9.5.1.10, “Fire Barriers”, 3 <sup>rd</sup> and 4 <sup>th</sup> para.	<p>Added “Fire barrier separation of electrical circuits (safety-related and nonsafety-related) whose fire-induced failure could cause a spurious actuation that could prevent safe shutdown per NRC Regulatory Guides 1.75 and 1.189, GDC 17 and 18, and IEEE Standard 384 is described in detail in DCD Tier 2 Subsection 8.3.1.4.1.” in response to RAI 14.3-7 S01.</p> <p>The COL applicant shall provide specific design and certification testing details for fire barriers and electrical raceway fire barrier systems in accordance with applicable sections of NFPA 251, ASTM E-119 and guidance in Regulatory Guide 1.189.” in response to response to RAI 9.5-24 S01</p>
345.	S9.5.1.11, “Building Ventilation”, 1 <sup>st</sup> para., deleted 1 <sup>st</sup> sent.	Deleted former first sentence “Smoke control in accordance with NFPA 92A is provided for unsprinklered areas where the Fire Hazards Analysis identifies a potential for heavy smoke or heat conditions”.

Item	Location	Description of Change
346.	S9.5.1.11 “Smoke Removal”, new 2 <sup>nd</sup> and 3 <sup>rd</sup> para.	Added, “Smoke control in accordance with NFPA 92A guidelines is provided for unsprinklered areas where the FHA identifies a potential for heavy smoke or heat conditions. Additionally, safe egress and safe smoke refuge areas during a fire incident are provided in accordance with NFPA 92A guidelines for building occupants and the fire brigade. NFPA 101 guidelines are utilized for the design and labeling of safe egress routes. Smoke removal meets NFPA 804 with exception to NFPA 804 Sections 8.4.3 (3) and 8.4.3.2. Automatic sprinkler protection is provided for the high density cable tunnels, fuel oil tank rooms, diesel-generator rooms and a significant portion of the turbine building to limit heat and smoke generation. The COL Applicant will establish provisions for manual smoke control by manual actions of the fire brigade for all plant areas in accordance with NFPA 804 guidelines.”
347.	S9.5.1.12 “Safety Evaluation”, 17 <sup>th</sup> para, last sentence.	Inserted “fire hazards analysis in Appendix 9A.” deleted “9.5.1.2.9”
348.	S9.5.1.12.1.2 “No Automatic Fire Suppression in Office Areas of Main Control Room Complex”, 4 <sup>th</sup> para, 6 <sup>th</sup> sent.	Changed “fire water” to “firewater”
349.	S9.5.1.12.1.2 “No Automatic Fire Suppression in Office Areas of Main Control Room Complex”, 4 <sup>th</sup> para, 7 <sup>th</sup> sent.	Changed “fire water” to “firewater”
350.	S9.5.1.12.1.6 “No Automatic Fire Suppression in Safety-Related Computer Rooms, 6 <sup>th</sup> para, 4 <sup>th</sup> sent.	Changed “fire water” to “firewater”
351.	S9.5.1.12.1.6 “No Automatic Fire Suppression in Safety-Related Computer Rooms, 6 <sup>th</sup> para, 5 <sup>th</sup> sent.	Changed “fire water” to “firewater”
352.	S9.5.1.12.1.6 “No Automatic Fire Suppression in Safety-Related Computer Rooms”, 5 <sup>th</sup> para, 3 <sup>rd</sup> sent.	Changed “fire water” to “firewater”

Item	Location	Description of Change
353.	S9.5.1.12.1.6 “No Automatic Fire Suppression in Safety-Related Computer Rooms”, 5 <sup>th</sup> para, 4 <sup>rd</sup> sent.	Changed “fire water” to “firewater”
354.	S9.5.1.14 “Instrumentation Requirements”, 1 <sup>st</sup> para, 2 <sup>nd</sup> sent.	Changed “fire water” to “firewater”
355.	S9.5.1.14 “Instrumentation supporting firewater delivery”	Changed “fire water” to “firewater” in subsection title.
356.	S9.5.1.14 “Instrumentation supporting firewater delivery” 1 <sup>st</sup> para, 1 <sup>st</sup> sent.	Changed “fire water” to “firewater” twice, replaced “level” with “tank”, replaced ‘jockey pump status’ with “primary and secondary jockey pump status”, replaced main fire pump status with ‘primary and secondary fire pump status’
357.	S9.5.1.14, “Instrumentation supporting firewater delivery”, 3 <sup>rd</sup> para.	Deleted paragraph, “When a portion of the firewater system activates, the motor-driven fire pump automatically starts on low-pressure. If the motor-driven pump fails to start or cannot maintain pressure, the main diesel-driven pump starts from a different pressure switch. The second diesel-driven pump is designed to start last if the two main pumps fail to start or cannot maintain the required system pressure. All pumps are stopped manually. Any pump can be started manually from the MFAP in the MCR or locally.” inserted “Pressure instrumentation is used to automatically start and stop the primary and secondary motor-driven jockey pumps”
358.	S9.5.1.14, “Instrumentation supporting firewater delivery”, last para.	Deleted “A pressure switch is used to automatically start and stop the motor-driven jockey pump.”
359.	S9.5.1.15, New section	Section and its subsections all added in their entirety.
360.	S9.5.1.16, New section	Section added in its entirety. Bullet 7 was added in response to RAI 9.5-11 S01. Last Bullet added in response to RAI 9.5-24 S01.
361.	S9.5.1.17, New section	Section added in its entirety.
362.	S9.5.2, 1st para., 7th bullet	New bullet added with following text “Completely independent radio subsystem for security purposes as described in Section 13.6”
363.	S9.5.2.1, “Safety (10CFR 50.2) Design Bases	Added statement that the communication system serves no safety-related function and thus has no safety design basis.

Item	Location	Description of Change
364.	S9.5.2.2, Emergency Communications Systems	Rewritten for clarity and additional details provided
365.	S9.5.2.5	Deletion of section for clarity
366.	S9.5.2.5.1	Technical addition and edit
367.	S9.5.2.5.2	Addition to identify COL action to provide a voice communication link availability with the grid transmission operator in response to RAI 9.5-28.
368.	S9.5.2.6	Reference 9.5.2-11 “NUREG 0696, Functional Criteria for Emergency Response Facilities” added for clarity
369.	S9.5.3.4, 4th para 5 <sup>th</sup> sent	Editorial deletion of sentence for clarity
370.	S9.5.3.6	Security Lighting is not site specific but ESBWR standard design.
371.	S9.5.3.7	Reference 9.5.3-2 Editorial deletion
372.	S9.5.4.1	Added: Fuel oil storage and transfer details to section.
373.	S9.5.4.1	Added the following section bullets: <ul style="list-style-type: none"> <li>• Diesel Fuel tanks will be designed in accordance with State and Federal regulations for required berm holding requirements</li> <li>• The Diesel Fuel tanks will provide fuel to the Auxiliary Boiler system</li> </ul>
374.	S9.5.4.1	Add: The diesel engine is designed to be compatible with the use of low and ultra-low sulfur diesel fuel. Industry direction and Operating Experience
375.	S9.5.4.1	The Diesel Fuel tanks will provide fuel to the Auxiliary Boiler system As stated in 09.03.12.02 (per SDS 26A6421 R01;5.3.4)
376.	S9.5.4.1	The use of the Diesel Generators for peaking service will not challenge the 7 day fuel oil supply reserves for diesel generator operation relative to plant investment protection or RTNSS functions.  RAI 9.5-33 S01
377.	S9.5.4.2	Added text:  The system is designed and supplied per a Diesel Generator equipment specification. The DG fuel oil system from the fuel oil day tank to the engine equipment is manufacturer provided. (See Subsection 9.5.4.6 for COL information)  And  The DG fuel oil system has piping connections to supply fuel to the Auxiliary Boiler system.



Item	Location	Description of Change
378.	S9.5.4.2	DCD section 9.5.4.2 updated to add: The underground piping portions is designed and constructed in accordance with the latest industry standards for buried pipe including provisions for corrosion protection. Industry OE
379.	S9.5.4.2	Deleted reference to cathodic protection in accordance with Reg Guide 1.137. ESBWR is not committed to RG 1.137.
380.	S9.5.4.2	DCD section 9.5.4.2 revised to have the installation of a fuel oil purifier for storage tank cleanup. Industry OE
381.	S9.5.4.2	The suction strainer, duplex filter was removed from summary description excessive detail for typical configuration.
382.	S9.5.4.2	Added new paragraph to describe DG fuel oil piping connection to the auxiliary boiler. As stated in 09.03.12.02 (per SDS 26A6421 R01;5.3.4)
383.	S9.5.4.2	Deleted references Reg Guide 1.137, ANS 59.51 and ASME Section XI which are not applicable to this design.
384.	S9.5.4.2	Added: The underground piping portions is will be designed and constructed in accordance with the latest industry standards for buried pipe including provisions for corrosion protection.
385.	S9.5.4.7	References, item 9.5.4-2 after ASME Section VIII – should read “Rules for Construction of Pressure Vessels” NOT “Rules for Construction of Nuclear Power Plant Components.” COL comment.
386.	S9.5.4	Clarified the writeup to read properly in accordance with typical diesel engine designs. Various diesel engine details, in the sections 9.5.4 thru 9.5.8, not specific to all engine manufacturers were removed. The associated subsystem section references to the figures (drawings) were revised to state: <i>This drawing is a representation of a typical Diesel generator auxiliary system not specific to the Diesel Generator selected for the ESBWR.</i> COL Comment
387.	S9.5.4.6	DCD section 9.5.4.6 changed to state “COL applicant has responsibility to establish procedural controls to ensure a minimum fuel oil capacity is maintained on site at all times.” RAI 14.2-58
388.	S9.5.5	Clarified the writeup to read properly in accordance with typical diesel engine designs. Various diesel engine details, in the sections 9.5.4 thru 9.5.8, not specific to all engine manufacturers were removed. The associated subsystem section references to the figures (drawings) were revised to state: <i>This drawing is a representation of a typical Diesel generator auxiliary system not specific to the Diesel Generator selected for the ESBWR.</i> COL Comment

Item	Location	Description of Change
389.	S9.5.6.2	Change “If a start attempt is unsuccessful, after a manufacturer specified period of time, the control system automatically detects the failure, alarms to alert the operator, and allows for a start re-attempt.” To “If a start attempt is unsuccessful after a manufacturer specified period of time, the control system automatically detects the failure, activates an alarm to alert the operator, and allows for a restart attempt.” RAI 9.5-40
390.	S9.5.6	Subsection 9.5.6, was revised to specify the diesel generator starting air system receiver capacity and discharge time for each start attempt. RAI 9.5-40
391.	S9.5.6	Clarified the writeup to read properly in accordance with typical diesel engine designs. Various diesel engine details, in the sections 9.5.4 thru 9.5.8, not specific to all engine manufacturers were removed. The associated subsystem section references to the figures (drawings) were revised to state: <i>This drawing is a representation of a typical Diesel generator auxiliary system not specific to the Diesel Generator selected for the ESBWR.</i> COL Comment
392.	S9.5.6.5	Section revised to state:  The starting air receivers are designed to store sufficient amount of compressed air to ensure three engine start attempts. An air receiver low-pressure alarm is provided to alert the MCR operator of low starting air pressure with a setpoint established, to ensure that multiple engine starts are still available. A failed start attempt alarms if the engine fails to start within a manufacturer specified amount of time.  RAI 9.5-41, 9.5-40
393.	S9.5.6-1	References, item 9.5.6-1 after ASME Section VIII – should read “Rules for Construction of Pressure Vessels” NOT “Rules for Construction of Nuclear Power Plant Components.”  COL comments.
394.	S9.5.7	Clarified the writeup to read properly in accordance with typical diesel engine designs. Various diesel engine details, in the sections 9.5.4 thru 9.5.8, not specific to all engine manufacturers were removed. The associated subsystem section references to the figures (drawings) were revised to state: <i>This drawing is a representation of a typical Diesel generator auxiliary system not specific to the Diesel Generator selected for the ESBWR.</i> COL Comment
395.	S9.5.7-2	References, item 9.5.7-2 after ASME Section VIII – should read “Rules for Construction of Pressure Vessels” NOT “Rules for Construction of Nuclear Power Plant Components.”  COL comments.

Item	Location	Description of Change
396.	S9.5.7.2	The diesel generator manufacturer supplies the lubrication system as part of the engine design. RAI 9.5-42
397.	S9.5.8	Clarified the writeup to read properly in accordance with typical diesel engine designs. Various diesel engine details, in the sections 9.5.4 thru 9.5.8, not specific to all engine manufacturers were removed. The associated subsystem section references to the figures (drawings) were revised to state: <i>This drawing is a representation of a typical Diesel generator auxiliary system not specific to the Diesel Generator selected for the ESBWR.</i> COL Comment
398.	T9.5-1	Added to the List of Applicable Codes: IEEE 1202                      NFPA 1962 NFPA 214                      10 CFR 50, Appendix A, GDC 5 NFPA 241                      10 CFR 50, Appendix A, GDC 19 NFPA 600                      10 CFR 50, Appendix A, GDC 23 NFPA 701                      NUREG-0800, Standard Review Plan (SRP) 9.1.3 NFPA 780                      NUREG-1552 NFPA 801                      Regulatory Guide 1.13 NFPA 1404                      Regulatory Guide 1.39 NFPA 1451 NFPA 1500
399.	T9.5-1	Deleted from the List of Applicable Codes: NFPA 24, Standard for the Installation of Private Fire Service Mains and their Appurtenances.
400.	T9.5-1	Revised Titles on the List of Applicable Codes: NFPA 92A, "Recommended Practice for Smoke Control Systems" to "Standard for Smoke Control Systems Utilizing Barriers and Pressure Differences" 29 CFR 1910, "Safety and Health Regulations for General Industry" to "Occupational Safety and Health Standards".
401.	T9.5-2	Revised "Motor-driven" to "Primary motor-driven"
402.	T9.5-2	Added as new Line Item: Secondary motor-driven fire pump*      454.2 m3/hr (2,000 gpm) ***
403.	T9.5-2	Revised "Motor-driven jockey pump" to "Primary motor-driven jockey pump" and its characteristic from "68.8 kPa (10 psi)" to "34.4 kPa (5 psi)"

Item	Location	Description of Change
404.	T9.5-2	Added as new Line Item: Secondary motor-driven jockey pump 4.54 m <sup>3</sup> /hr (20 gpm) minimum as required to maintain the yard main loop pressure 34.4 kPa (5 psi) above the start pressure of the fire pumps
405.	F9.5-1	Revised as shown.