Chapter 16 Changes From Revision 2 to Revision 3

Item	Location	Description of Change
1	16.00 Cover Page	Revised "GE Nuclear Energy" to "GE Energy Nuclear" as an editorial change.
2	16.00	Subsection titled "Combined License Information" revised to reflect standard DCD wording and specific numbering: "COL Information Item 16.0-1"
3	16.00	Clarifying information provided regarding "Reviewer's Notes" for COL Items; specifically the intent that they be deleted on completion of the COL Information Item
4	16.00	New subsection header added for "{DCD Open Items}"; with additional information stating: "These items will be completed and the brackets, as well as this subsection, removed in subsequent DCD revision(s)."
5	16.00	An additional listing of DCD Open Items is added for open issues not presented in the remainder of Chapters 16 or 16B. These items are provided as an information aide.
6	16.00 TOC	All Specifications revised to Revision 3 with the exception of 1.0, 3.0, 3.1.1, 3.1.2, 3.1.3, 3.1.6, 3.1.7, 3.3.1.2, 3.3.1.3, 3.3.1.5, 3.3.1.6, 3.3.5.1, 3.3.5.2, 3.3.6.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5, 3.6.1.2, 3.6.1.4, 3.6.1.5, 3.6.1.7, 3.6.2.1, 3.6.2.2, 3.7.3, 3.7.5, 3.8.4, 3.8.6, 3.9.1, 3.9.2, 3.9.3, 3.9.4, 3.9.5, 3.9.6, 3.9.7, 3.10.2, 3.10.3, 3.10.4, 3.10.6, 3.10.7, and 3.10.8, which remain at previous Revisions.
7	16.00 TOC 3.3.7.1	Revised from 'Emergency Breathing Air System (EBAS) Instrumentation' to 'Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS) Instrumentation' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
8	16.00 TOC 3.3.7.2	Revised from 'Emergency Breathing Air System (EBAS) Actuation' to 'Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS) Actuation' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.

Item	Location	Description of Change
9	16.00 TOC 3.7.2	Revised from 'Emergency Breathing Air System (EBAS)' to 'Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS)' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
10	16.00 TOC 3.7.6	New Specification for Selected Control Rod Run-In (SCRRI) Function, including the new Selected Rod Insertion (SRI) Function added to the ESBWR design in Revision 3 of the Design Control Document, per the commitment in the response to RAI 16.0-1.
11	16.02.01.01.01	Revised metric units from "MPa gauge" to "MPaG" as an editorial change.
12	16.02.01.01.02	Revised metric units from "MPa gauge" to "MPaG" as an editorial change.
13	16.02.01.02	Revised metric units from "MPa gauge" to "MPaG" as an editorial change.
14	16.03.01.03, SR 3.1.3.5	No changes were made to the SR 3.1.3.5 Frequency as previously committed in the response to RAI 16.2-104. Coupling check when rod is full withdrawn is not required because ESBWR design includes redundant instrumentation that provide immediate indication of uncoupled rod.
15	16.03.01.04, SR 3.1.4.2	Revised Frequency of SR 3.1.4.2 to "200 days cumulative operation in MODE 1" consistent with TSTF-460, Rev. 0, and response to RAI 4.6-33.
16	16.03.01.04, Table 3.1.4-1	Revised title of Table 3.1.4-1 from "Scram Times" to "Scram Time Limits" because it is more descriptive.
17	16.03.01.04, Table 3.1.4-1, SRs	Revised Table 3.1.4-1, SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3 and SR 3.1.4.4 to indicate that scram time limits are based on reactor vessel bottom pressure (versus steam dome pressure) and revised specified pressures to 7.481 MPaG (1085 psig) and 8.618 MPaG (1250 psig). Removed associated brackets. Use of vessel bottom pressures at these values is consistent with DCD Tables 15.2-2 and 15.2-3.
18	16.03.01.05, Actions	Revised Condition A to delete "or more" from 'One or more control rod accumulators" because this condition is redundant to Condition B. Bases are already correct.
19	16.03.02.01, Actions	Removed brackets from limit of 25% RTP for monitoring LHGR. Removal of brackets based on results of ESBWR Minimum Power for Thermal Limit Monitoring Design Study.

Item	Location	Description of Change
20	16.03.02.01, Applicability	Removed brackets from Applicability limit of 25% RTP for monitoring LHGR. Removal of brackets based on results of ESBWR Minimum Power for Thermal Limit Monitoring Design Study.
21	16.03.02.01, SRs	Removed brackets from limit of 25% RTP for monitoring LHGR. Removal of brackets based on results of ESBWR Minimum Power for Thermal Limit Monitoring Design Study.
22	16.03.02.02, Actions	Removed brackets from limit of 25% RTP for monitoring MCPR. Removal of brackets based on results of ESBWR Minimum Power for Thermal Limit Monitoring Design Study.
23	16.03.02.02, Applicability	Removed brackets from Applicability limit of 25% RTP for monitoring MCPR. Removal of brackets based on results of ESBWR Minimum Power for Thermal Limit Monitoring Design Study.
24	16.03.02.02, SRs	Removed brackets from limit of 25% RTP for monitoring MCPR. Removal of brackets based on results of ESBWR Minimum Power for Thermal Limit Monitoring Design Study.
25	16.03.03.01.01, Condition C	Revised Condition C to add "of Condition A or B" for consistency with ITS presentation. Editorial change.
26	16.03.03.01.01, Table 03.03.01.01-01, Function 13	Replaced "Loss of Power Generation Bus" with "Power Generation Bus Loss" for consistency with DCD, Chapter 7.
27	16.03.03.01.04, Condition C	Revised Condition C to add "of Condition A or B" for consistency with ITS presentation. Editorial change.
28	16.03.03.02.01 Condition D	Replaced 'Channels' with 'channels' as an editorial change.
29	16.03.03.03.01 LCO	Revised to add the statement 'associated with the DC and Uninterruptible AC Electrical Power Distribution Divisions required by LCO 3.8.6, "Distribution Systems - Operating,"' to ensure the required instrumentation is supplied by the operable electrical power divisions.
30	16.03.03.03.01 SR 3.3.3.1.1	Revised to add the statement 'on each required channel' to ensure the instrumentation supplied by the operable electrical power divisions is the instrumentation that is surveillance tested.
31	16.03.03.03.01 SR 3.3.3.1.2	Revised to add the statement 'on each required channel' to ensure the instrumentation supplied by the operable electrical power divisions is the instrumentation that is surveillance tested.

Item	Location	Description of Change
32	16.03.03.03.02 LCO	Revised to add the statement 'associated with the DC and Uninterruptible AC Electrical Power Distribution Divisions required by LCO 3.8.6, "Distribution Systems - Operating,"' to ensure the instrumentation is supplied by the operable electrical power divisions.
33	16.03.03.03.02 SR 3.3.3.2.3	Revised to add the statement 'on each required channel' to ensure the instrumentation supplied by the operable electrical power divisions is the instrumentation that is surveillance tested.
34	16.03.03.04.01, Condition E	Revised Condition E to delete "of Condition A, B, C, or D" for consistency with ITS presentation. Editorial change.
35	16.03.03.05.03, Table 03.03.05.03-01, Function 2	Revised the Applicability of Function 2 from "1,2,3[(a)],4[(a)]" to "1,2,3,4,5" for consistency with the Applicability of TS 3.5.4 and TS 3.5.5. This changes also removes footnote (a) stating " When < 2 hours since reactor was critical," from the Applicability of Function 2.
36	16.03.03.05.03, Table 03.03.05.03-01, Function 3	Revised the Applicability of Function 3 from "1,2,3[(a)],4[(a)]" to "1,2,3,4,5" for consistency with the Applicability of TS 3.5.4 and TS 3.5.5. This changes also removes footnote (a) stating " When < 2 hours since reactor was critical," from the Applicability of Function 3.
37	16.03.03.05.03, Table 03.03.05.03-01, Function 5	Replaced "Loss of Power Generation Bus" with "Power Generation Bus Loss" for consistency with DCD, Chapter 7.
38	16.03.03.05.04, Applicability	Revised Applicability from " MODES 1 and 2, MODES 3 and 4 when < 2 hours since reactor was critical," to state "MODES 1, 2, 3, 4, and 5," for consistency with the Applicability of TS 3.5.4 and TS 3.5.5.
39	16.03.03.06.02, Condition C	Revised Condition C to delete "of Condition A or B" for consistency with ITS presentation. Editorial change.
40	16.03.03.06.03	Revised the Actions and Table 3.3.6.3-1 to incorporate the RWCU/SDC System Differential Flow – High isolation function of the reactor coolant pressure boundary in MODES 5 and 6 and the Reactor Vessel Water Level - Low, Level 2 isolation function for RWCU/SDC in MODES 5 and 6, for consistency with DCD Chapter 7 and Chapter 15. This is a change from the commitment provided in response to NRC RAI 16.2-45.
41	16.03.03.06.03	Revised the Actions and Table 3.3.6.3-1 to incorporate the Feedwater Line Differential Pressure – High function for isolation of feedwater flow, for consistency with DCD Chapter 7 and Chapter 15.

Item	Location	Description of Change
42	16.03.03.06.03, Condition C	Required Action C.1 has been revised from "Isolate affected penetration flowpath(s)," with a Completion time of 1 hour to " Enter the Condition(s) referenced in Table 3.3.6.3-1 for the associated Function," with a Completion Time of "Immediately." This change was required as a result of incorporation of the RWCU/SDC System Differential Flow – High and Feedwater Line Differential Pressure – High isolation function. These new Functions are not the typical Containment Isolation Functions and require different actions than Containment Isolation Valves.
43	16.03.03.06.03, Condition D	The Revision 2 Condition E has been revised as the Revision 3 Condition D.
44	16.03.03.06.03, Condition E	The Revision 2 Condition D has been revised as the Revision 3 Condition E. In addition, the Condition has been revised from "Required Action and associated Completion Time of Condition C not met for Function 4," to "As required by Required Action C.1 and referenced in Table 3.3.6.3-1." Table 3.3.6.3-1, Function 4, refers to Condition E, resulting in no technical change.
45	16.03.03.06.03, Condition F	Condition F has been added to provide appropriate Required Action and Completion Time to address inoperability of the Feedwater Line Differential Pressure – High isolation function.
46	16.03.03.06.03, Condition G	Condition G has been added to provide the appropriate default Required Actions in the event the Required Action and associated Completion Time of Condition F are not met.
47	16.03.03.06.03, Condition H	Condition H has been added to provide appropriate Required Action and Completion Time to address inoperability of the RWCU/SDC System Differential Flow – High isolation function in MODES 5 and 6. This is a change from the commitment provided in response to NRC RAI 16.2-45.
48	16.03.03.06.03, Table 03.03.06.03-01	Table has been revised to include a column for "Conditions Referenced from Required Action C.1." This change was required as a result of incorporation of the RWCU/SDC System Differential Flow – High and Feedwater Line Differential Pressure – High isolation function. These new Functions are not the typical Containment Isolation Functions and require different actions than Containment Isolation Valves. Each Function in the table has a reference to the appropriate Condition.

Item	Location	Description of Change
49	16.03.03.06.03, Table 03.03.06.03-01, Function 1	Added Applicability for MODEs 5 and 6, Reference to Condition H, applicable SRs and the Setting Basis for the Reactor Vessel Water Level - Low, Level 2 isolation function for RWCU/SDC in MODES 5 and 6. This is a change from the commitment provided in response to NRC RAI 16.2-45.
50	16.03.03.06.03, Table 03.03.06.03-01, Function 13	Added Function 13, " Feedwater Line Differential Pressure – High," Applicability, Reference to Condition F, applicable SRs and the Setting Basis as bracketed items. This is a placeholder pending additional design work.
51	16.03.03.06.03, Table 03.03.06.03-01, Function 9	Replaced "RWCU/SDC System Differential Flow - High (Per RWCU/SDC subsystem)" with "{RWCU/SDC System Differential Flow - High (Per RWCU/SDC subsystem)}" to denote that the final Function name is still to be determined.
52	16.03.03.06.03, Table 03.03.06.03-01, Function 9	Added Applicability for MODEs 5 and 6, Reference to Condition H, applicable SRs and the Setting Basis for the RWCU/SDC System Differential Flow – High isolation function for RWCU/SDC in MODES 5 and 6. This is a change from the commitment provided in response to NRC RAI 16.2-45.
53	16.03.03.06.04	Revised the Actions, SRs, and Table 3.3.6.4-1 to incorporate the RWCU/SDC isolation Function in MODES 5 and 6. This is a change from the commitment provided in response to NRC RAI 16.2-45.
54	16.03.03.06.04	Revised the Actions, SRs, and Table 3.3.6.4-1 to incorporate the Feedwater Isolation Valve isolation Function and the Feedwater Pump Breaker trip Function for consistency with DCD Chapter 7 and Chapter 15.
55	16.03.03.06.04, Applicability	Revised Applicability from "MODES 1, 2, 3 and 4" to "According to Table 3.3.6.4-1," to allow incorporation of MODE 5 and 6 requirements for RWCU/SDC isolation actuation Function.
56	16.03.03.06.04, Condition C	Revised RA C.1 from "Isolate affected penetration flowpath(s)" with a Completion Time of "I hour" to state "Enter the applicable Condition(s) referenced in Table 3.3.6.4-1 for the associated Function" with a Completion Time of "Immediately" to allow incorporation of actions for RWCU/SDC Function in MODES 5 and 6, Feedwater Isolation Valve, and Feedwater Pump Breaker Functions.

Item	Location	Description of Change
57	16.03.03.06.04, Condition D	Revised Condition D from "Required Action and associated Completion Time of Condition C not met" with "As required by Required Action C.1 and referenced in Table 3.3.6.4-1," to allow incorporation of actions for RWCU/SDC Function in MODES 5 and 6, Feedwater Isolation Valve, and Feedwater Pump Breaker Functions.
58	16.03.03.06.04, Condition E	Condition E has been added to provide appropriate Required Action and Completion Time to address inoperability of the Feedwater Isolation Valve Function.
59	16.03.03.06.04, Condition F	Condition F has been added to provide appropriate Required Action and Completion Time to address inoperability of the Feedwater Pump Breaker Function.
60	16.03.03.06.04, Condition G	Condition G has been added to provide appropriate default Required Actions in the event the Required Action and associated Completion Time of Conditions E or F are not met.
61	16.03.03.06.04, Condition H	Condition H has been added to provide appropriate Required Action and Completion Time to address inoperability of the RWCU/SDC Function in MODES 5 and 6.
62	16.03.03.06.04, SR 03.03.06.04.03	Added SR 3.4.6.4.3 to "Perform a system functional test" every 24 months to allow incorporation of RWCU/SDC Function in MODES 5 and 6, Feedwater Isolation Valve, and Feedwater Pump Breaker Functions.
63	16.03.03.06.04, SR Table	Added a Note to the Table stating "Refer to Table 3.3.6.4-1 to determine which SRs shall be performed for each isolation Function," to allow incorporation of RWCU/SDC Function in MODES 5 and 6, Feedwater Isolation Valve, and Feedwater Pump Breaker Functions.
64	16.03.03.06.04, Table 03.03.06.04-01	Table format has been revised to include columns for "Applicable Modes or Other Specified Conditions," "Conditions Referenced From Required Action C.1," and "Surveillance Requirements, to allow incorporation of RWCU/SDC Function in MODES 5 and 6, Feedwater Isolation Valve, and Feedwater Pump Breaker Functions.
65	16.03.03.06.04, Table 03.03.06.04-01, Function 14	The Feedwater Isolation Valve Function has been added to the isolation actuation Functions for consistency with DCD Chapter 7 and Chapter 15.
66	16.03.03.06.04, Table 03.03.06.04-01, Function 15	The Feedwater Breaker Trip Function has been added to the isolation actuation Functions for consistency with DCD Chapter 7 and Chapter 15.

Item	Location	Description of Change
67	16.03.03.06.04, Table 03.03.06.04-01, Function 2	Function 2 has been revised to require the RWCU/SDC isolation function to be Operable in MODES 5 and 6. In these Modes, RWCU/SDC isolation Function isolates the reactor coolant pressure boundary during a postulated break in the RWCU/SDC system. This is a change from the commitment provided in response to NRC RAI 16.2-45.
68	16.03.03.07.01 LCO Required Actions NOTE Condition B Required Action B.1 Required Action C.2 SURVEILLANCE REQUIREMENTS NOTE	Replaced 'EBAS' with 'CRHAVS' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
69	16.03.03.07.01 Required Action C.1.1	Replaced 'envelope' with 'boundary' consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
70	16.03.03.07.01 Required Action C.1.2	Revised wording of this action consistent with CRHAVS design, equivalent action in Technical Specification 3.7.2, Required Action E.1, and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
71	16.03.03.07.01 Table 3.3.7.1-1 Footnote (a)	Deleted Footnote (a), which stated 'During movement of {recently} irradiated fuel assemblies in the reactor building or fuel building,' and renumbered Footnote (b) as Footnote (a), as a result of the current CRHA dose analysis that does not credit CRHAVS for mitigating the consequences of a Fuel Handling Accident (FHA).
72	16.03.03.07.01 Table 3.3.7.1-1 Item 2	Added new Extended Loss of AC Power (per train) Function, including applicable modes, Surveillance Requirements, and bracketed entry for setting basis requirements, consistent with the design of the CRHAVS.
73	16.03.03.07.01 Table 3.3.7.1-1 Item 5	Revised Function from ' Control Room Habitability Area (CRHA) Envelope Isolation Signal to EBAS (per CRHA isolation damper' to ' Control Room Habitability Area (CRHA) Temperature - High', added requirements for SR 3.3.7.1.1 and SR 3.3.7.1.2, and provided bracketed entry for setting basis requirements, consistent with the design of the CRHAVS.

Item	Location	Description of Change
74	16.03.03.07.01 Table 3.3.7.1-1 Title	Revised from 'Emergency Breathing Air System' to 'Control Room Habitability Area Heating, Ventilation, and Air Conditioning Subsystem (CRHAVS)' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
75	16.03.03.07.01 Title	Revised from 'Emergency Breathing Air System (EBAS)' to 'Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS)' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
76	16.03.03.07.02 Applicability	Deleted 'During movement of {recently} irradiated fuel assemblies in the reactor building or fuel building' as a result of the current CRHA dose analysis that does not credit CRHAVS for mitigating the consequences of a Fuel Handling Accident (FHA).
77	16.03.03.07.02 LCO Condition B Required Action B.1 Required Action C.2	Replaced 'EBAS' with 'CRHAVS' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
78	16.03.03.07.02 Required Action C.1.2	Revised wording of this action consistent with CRHAVS design, equivalent action in Technical Specification 3.7.2, Required Action E.1, and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
79	16.03.03.07.02 Title	Revised from 'Emergency Breathing Air System (EBAS)' to 'Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS)' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
80	16.03.04.01, Condition C	Deleted "or more" from the Condition statement because there are only two SRVs required by the LCO.
81	16.03.04.01, LCO	Revised required number of SRVs from "four" to "two," consistent with the results of the overpressure analysis in DCD Chapter 5, with an additional SRV for single failure considerations.

Item	Location	Description of Change
82	16.03.04.01, SR 03.04.01.01	Revised SR from " Verify the safety function lift setpoints of the required SRVs are within ± {0.8}% of the established limits. Following testing, lift settings shall be within ± {0.8}% of the established limits," to state " Verify the safety function lift setpoints of the required SRVs are within 8.367 ± 0.251 MpaG (1213.6 ± 36.4 psig). Following testing, lift settings shall be within ± 1%," for consistency with changes incorporated in DCD Chapter 5, Revision 2.
83	16.03.05.01	Removed brackets from Actions A through E. ECCS Required Actions and Completion Times will be based on ECCS N-2 Topical Report, which is tracked by Bases Reference to ECCS Topical Report.
84	16.03.05.01	Revised Condition E to correct typographical error that failed to include applicability of the Condition to Required Actions A and B.
85	16.03.05.01	Revised SR 3.5.1.2 to "Verify continuity of required firing circuits in squib-actuated valves" to adopt nomenclature consistent with DCD Chapter 7, to clarify requirements consistent with N-2 design change, and to make SR consistent for LCO 3.5.1, 3.5.2 and 3.5.3.
86	16.03.05.02	Removed brackets from Actions A through E. ECCS Required Actions and Completion Times will be based on ECCS N-2 Topical Report, which is tracked by Bases Reference to ECCS Topical Report.
87	16.03.05.02	Revised SR 3.5.2.2 to "Verify continuity of required firing circuits in squib-actuated valves" to adopt nomenclature consistent with DCD Chapter 7, to clarify requirements consistent with N-2 design change, and to make SR consistent for LCO 3.5.1, 3.5.2 and 3.5.3.
88	16.03.05.02	Revised Condition E to correct typographical error that failed to include applicability of the Condition to Required Actions A and B.
89	16.03.05.03	Deleted "of Condition A or B" from Condition C. Editorial
90	16.03.05.03	Revised SR 3.5.3.2 to "Verify continuity of required firing circuits in squib-actuated valves" to adopt nomenclature consistent with DCD Chapter 7, to clarify requirements consistent with N-2 design change, and to make SR consistent for LCO 3.5.1, 3.5.2 and 3.5.3.

Item	Location	Description of Change
91	16.03.05.04	Added SR 3.5.4.5 to require verification every 24 months on a staggered test basis that the heat removal capability of each IC train satisfies design requirements specified DCD Chapter 5. This change is consistent the response to RAI 16.2-42. The Frequency of every 24 months on a staggered test basis specified in RAI 16.2-42 will replace the test frequency of once per 60 months specified in RAI 5.4-52 and DCD 5.4.6.4.
92	16.03.05.04	Deleted the word "inoperable" from Required Actions A.1, B.1, and C.1. Editorial.
93	16.03.05.05	Revised applicability from ">" to "≥".
94	16.03.05.05	Revised SR 3.5.5.4 to delete reference to MODE 6 in the Note because LCO is not applicable in MODE 6.
95	16.03.06.01.01, SR 03.06.01.01.02	The existing Revision 2 SR 3.6.1.1.2, "Verify drywell to wetwell bypass leakage is < 1 cm^2 (A/√K)," every 24 months is replaced with a requirement to "Verify the combined leakage rate through all vacuum breaker lines is ≤ {1 cm^2 (1.0 x 10^{-4} ft^2) (A/√K)} when tested at ≥ { kPaD (psid)}," every 24 months, and renumbered as SR 3.6.1.1.3. Due to the small leakage rate, an ILRT overall leakage test is deemed not practical since the variability of test conditions could be on the order of magnitude of the acceptance criteria. Therefore, a LLRT of the vacuum breaker valves is a deemed more prudent test.
96	16.03.06.01.01, SR 03.06.01.01.02	The existing Revision 2 SR 3.6.1.1.2 has been replaced by a different requirement and renumbered as SR 3.6.1.1.3. A new SR 3.6.1.1.2 has been incorporated. The new SR 3.6.1.1.2 states: " Verify feedwater isolation valve inleakage is < { lpm (gpm)} when tested at ≥ { kPad (psid)}," once per 24 months. This SR ensures that leakge through the feedwater isolation valves into the containment during a postulated feedwater line break requiring feedwater line isolation is within analytical limits.
97	16.03.06.01.03, Condition A	Revised 2nd Completion Time for Required Action A.2 to delete ", 3," as it is not possible to enter MODE 3 directly from MODE 5. Editorial correction.
98	16.03.06.01.03, Condition C	Placed { } around Condition C, pending confirmation of design details.
99	16.03.06.01.03, Condition E	Deleted "in MODE 1, 2, 3, or 4" from Condition as an editorial change. Applicability of LCO 3.6.1.3 is MODEs 1, 2, 3, and 4; therefore, this statement in the Condition is redundant.

Item	Location	Description of Change
100	16.03.06.01.03, Condition F	Deleted "in MODE 1, 2, 3, or 4" from Condition as an editorial change. Applicability of LCO 3.6.1.3 is MODEs 1, 2, 3, and 4; therefore, this statement in the Condition is redundant.
101	16.03.06.01.03, SR 03.06.01.03.03	Revised Frequency to delete ", 3," as it is not possible to enter MODE 3 directly from MODE 5. Editorial correction.
102	16.03.06.01.03, SR 03.06.01.03.08	Revised SR from "Verify the leakage rate through each MSIV is ≤ 0.326 m^3/hour (11.5 scfh)} when tested at ≥ {200 kPa gauge (29 psig)}" to read " Verify combined leakage rate through all four main steam lines is ≤ {3.74 m^3/hour (200 scfh)} when tested at ≥ {200 kPaG (29 psig)}" for consistency with NUREG-1434, Revision 3.1, and to incorporate changes to DCD Chapter 15.
103	16.03.06.01.06, SR 03.06.01.06.03	Replaced " Verify each vacuum breaker fully opens at ≤ 3.45 kPaD (0.5 psid)" with " Verify each vacuum breaker fully opens at ≤ {3.07 kPaD (0.445 psid)}" for consistency with changes incorporated in DCD Chapter 6.
104	16.03.06.03.01, Condition D	Deleted "of Condition A, B, or C" from Condition for editorial consistency with Writer's Guide.
105	16.03.07.01, Required Action A.1	Changed "pool" to "pools.' Editorial
106	16.03.07.01, SR 3.7.1.4	New SR added to require verification every 24 months that each manual isolation valve between the IC/PCC expansion pool partitions is locked open. Re-numbered existing SRs 3.7.1.4 and SR 3.7.1.5.
107	16.03.07.01, SR 3.7.1.5	Revised to require that the reactor well-to-dryer/separator pool gate must be 'not installed' and to delete the options that "each isolation valve between the reactor well and the dryer/separator pool is locked open or opens on an actual or simulated automatic initiation signal."
108	16.03.07.01, SR 3.7.1.6	Removed brackets from for the requirement to "verify each isolation valve between the IC/PCC expansion pools and the dryer/separator pool opens on an actual or simulated automatic initiation signal."
109	16.03.07.01, SR 3.7.1.6	Revised to change "valve opens" to "valve actuates" for the actuation test of the isolation valve between the IC/PCC expansion pools and the dryer/separator pool.
110	16.03.07.01, SR 3.7.1.6	Revised to add Note that "Valve actuation may be excluded" from the actuation test of the isolation valve between the IC/PCC expansion pools and the dryer/separator pool.

Item	Location	Description of Change
111	16.03.07.01, SRs 3.7.1.2, 3.7.1.5 and 3.7.1.6	Removed brackets from SR Notes "Not required to be met in MODES 3 and 4." This note allows reduced IC/PCC pool inventory when the reactor is shutdown in recognition of decreased decay heat load.
112	16.03.07.02 Actions A	Added new Condition A, Required Action A.1, and Completion Time to address CRHA not within the initial condition temperature assumed in the safety analysis, per the commitment in the response to RAI 16.2-30.
113	16.03.07.02 Actions B, C and D	Revised to replace 'EBAS' with 'CRHAVS', and revised Conditions, Required Actions, and Completion Times consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54. As a result of this change, Condition D was renumbered and revised to reflect renumbering as a result of adding the new Conditions A and C.
114	16.03.07.02 Actions E and G	Revised to delete the phrase 'movement of {recently} irradiated fuel assemblies in the RB or FB' in two places and deleted NOTE as a result of the current CRHA dose analysis that does not credit CRHAVS for mitigating the consequences of a FHA.
115	16.03.07.02 Actions F	Revised to replace 'EBAS' with 'CRHAVS' and deleted 'or more', and added new requirement to eventually enter MODE 5 if two CRHAVS trains remain inoperable, as a result of plant modification to eliminate the EBAS and modify the CRHAVS.
116	16.03.07.02 Applicability	Deleted 'During movement of {recently} irradiated fuel assemblies in the Reactor Building (RB) or Fuel Building (FB),' as a result of the current CRHA dose analysis that does not credit CRHAVS for mitigating the consequences of a Fuel Handling Accident (FHA).
117	16.03.07.02 LCO	Revised from 'Three EBAS' to 'Two CRHAVS' as a result of plant modification to eliminate the EBAS and modify the CRHAVS.
118	16.03.07.02 LCO	Revised to add the statement 'associated with the DC and Uninterruptible AC Electrical Power Distribution Divisions required by LCO 3.8.6, "Distribution Systems - Operating," and LCO 3.8.7, "Distribution Systems – Shutdown,"' to ensure the required CRHAVS trains are supplied by the operable electrical power divisions.
119	16.03.07.02 LCO NOTE	Deleted 'envelope' consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.

Item	Location	Description of Change
120	16.03.07.02 SR 3.7.2.1	Added new Surveillance Requirement (SR) to require verification of the CRHA initial condition temperature as assumed in the safety analysis, per the commitment in the response to RAI 16.2-30.
121	16.03.07.02 SR 3.7.2.2	Deleted original SR 3.7.2.1, and added new SR to operate each CRHAVS train for ≥ 15 minutes as a result of plant modification to eliminate the EBAS and modify the CRHAVS, and consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
122	16.03.07.02 SR 3.7.2.3	Deleted original SR 3.7.2.2, and added new SR to perform required CRHAVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP) as a result of plant modification to eliminate the EBAS and modify the CRHAVS, and consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
123	16.03.07.02 SR 3.7.2.4	Revised original SR 3.7.2.3 to replace 'EBAS automatic valves' with 'each CRHAVS train', and replaced 'actuation' with 'initiation', as a result of plant modification to eliminate the EBAS and modify the CRHAVS, and consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
124	16.03.07.02 SR 3.7.2.5	Added new SR to verify de-energization of the main control room Nonsafety-Related Distributed Control and Instrumentation System (N-DCIS) electrical loads on an actual or simulated initiation signal, consistent with CRHAVS design.
125	16.03.07.02 SR 3.7.2.6	Deleted original SR 3.7.2.4, and added new SR to perform required CRHA unfiltered air inleakage testing in accordance with the Control Room Habitability Area (CRHA) Boundary Program as a result of plant modification to eliminate the EBAS and modify the CRHAVS, and consistent with CRHAVS design and TSTF-448, Revision 3, per the commitment in the response to RAI 16.2-54.
126	16.03.07.02 Title	Revised from 'Emergency Breathing Air System (EBAS)' to 'Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS)' as a result of plant modification to eliminate the EBAS and modify the CRHAVS to isolate and provide filtered makeup air to the CRHA.
127	16.03.07.04 Applicability	Removed curly brackets from '25% RTP' based on verification of this value.

Item	Location	Description of Change
128	16.03.07.04 Required Action B.1	Removed curly brackets from '25% RTP' based on verification of this value.
129	16.03.07.06	New Specification for Selected Control Rod Run-In (SCRRI) Function, including the new Selected Rod Insertion (SRI) Function added to the ESBWR design in Revision 3 of the Design Control Document, per the commitment in the response to RAI 16.0-1.
130	16.03.08.01; Conditions B and C	The failure to meet Required Action A.2 (i.e., battery "returned to fully charged condition") is moved from Action B to Action C. Action B would have allowed an additional 24 hours to restore, while Action C imposes the more appropriate actions for unit shutdown.
131	16.03.08.01, Required Action A.2	Replaced "float current $\leq$ {2} amps" with "returned to fully charged condition" reflecting optional means to establish when a battery has been returned to full charge condition, which are detailed in the Bases.
132	16.03.08.01, Required Action A.2	Completion Time revised from "12" hours to "24" hours in accordance with NUREG-1434 Bases Reviewer's Note; consistent with the ESBWR battery charger design to fully recharge a discharged battery in 24 hours.
133	16.03.08.01, SR 3.8.1.1	The requirement to monitor battery float voltage is revised to include appropriate acceptance criteria for "temperature-compensated float voltage." Surveillances related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
134	16.03.08.01, SR 3.8.1.1	Surveillance Frequency is revised from "7 days" to "31 days" consistent with IEEE-1188.
135	16.03.08.01, SR 3.8.1.3	The Note allowing a modified performance discharge test to be performed in lieu of a battery service test has been bracketed as a DCD Open Item pending further supporting information from the battery manufacturer.
136	16.03.08.02, Applicability	The requirements for safety-related electrical power to support active credited functions during handling irradiated fuel are deleted from the Applicability and Required Actions. This issue is added to 16.0, Introduction, as a DCD Open Item.
137	16.03.08.02, Required Action A.2.2	The requirements for safety-related electrical power to support active credited functions during handling irradiated fuel are deleted from the Applicability and Required Actions. This issue is added to 16.0, Introduction, as a DCD Open Item.

Item	Location	Description of Change
138	16.03.08.03, Action A	Minimum open circuit cell voltage is revised from "2.07" to "2.14" and retained as a DCD Open Item pending further supporting information from the battery manufacturer to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
139	16.03.08.03, Action B	Minimum open circuit cell voltage is revised from "2.07" to "2.14" and retained as a DCD Open Item pending further supporting information from the battery manufacturer to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
140	16.03.08.03, Action B.2	Revise Completion Time from 12 hours to 24 hours for consistency with LCO 3.8.1, Required Action A.2. This is also consistent with NUREG-1434 Reviewer's Note in the Bases for LCO 3.8.6, Action B for chargers with a 24-hour recharge design basis.
141	16.03.08.03, Action C	Action C concerning battery electrolyte level is deleted. Conditions related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
142	16.03.08.03, Action C	New Action C is proposed to address battery charger voltage greater than the maximum established temperature-compensated design limit. Conditions related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
143	16.03.08.03, Action D	Requirements for pilot cell temperature below minimum established design limits is replaced with requirements for battery temperature above maximum established design limit. The specific temperature measurement location is a DCD Open Item (i.e., "{room}"). Conditions related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries. This change provides a portion of the response to RAI 16.2-87.
144	16.03.08.03, Action F	Minimum open circuit cell voltage is revised from "2.07" to "2.14" and retained as a DCD Open Item pending further supporting information from the battery manufacturer to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
145	16.03.08.03, Required Action E.1	Editorial addition: "in all but one required division" consistent with the Bases and intent of NUREG-1434 for this action.

Item	Location	Description of Change
146	16.03.08.03, SR 3.8.3.1	Revised Frequency of verification of battery float current from "7" days to "31" days, consistent with IEEE-1188 to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
147	16.03.08.03, SR 3.8.3.2 & SR 3.8.3.5	Minimum open circuit cell voltage is revised from "2.07" to "2.14" and retained as a DCD Open Item pending further supporting information from the battery manufacturer to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
148	16.03.08.03, SR 3.8.3.3	Surveillance concerning battery electrolyte level is deleted. Conditions related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
149	16.03.08.03, SR 3.8.3.3	New SR 3.8.3.3 is proposed to ensure battery charger voltage is less or equal to the maximum established temperature-compensated design limit. Conditions related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
150	16.03.08.03, SR 3.8.3.4	Requirements to monitor battery cell temperature to be greater than the minimum established design limits is replaced with requirements to monitor battery temperature to be less than or equal to the maximum established design limit. The specific temperature measurement location is a DCD Open Item (i.e., "{room}"). Conditions related to battery monitoring are revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries.
151	16.03.08.03, SR 3.8.3.6	Battery performance discharge test Frequency is revised from being applicable to vented lead-acid batteries to reflect the revised design incorporating valve-regulated lead-acid (VRLA) batteries as specified in IEEE-1188. Provision for a "modified performance discharge test" has been bracketed as a DCD Open Item pending further supporting information from the battery manufacturer.
152	16.03.08.05; Applicability	The requirements for safety-related electrical power to support active credited functions during handling irradiated fuel are deleted from the Applicability and Required Actions. This issue is added to 16.0, Introduction, as a DCD Open Item.

Item	Location	Description of Change
153	16.03.08.05, Required Action A.2.2	The requirements for safety-related electrical power to support active credited functions during handling irradiated fuel are deleted from the Applicability and Required Actions. This issue is added to 16.0, Introduction, as a DCD Open Item.
154	16.03.08.07; Applicability	The requirements for safety-related electrical power to support active credited functions during handling irradiated fuel are deleted from the Applicability and Required Actions. This issue is added to 16.0, Introduction, as a DCD Open Item.
155	16.03.08.07, Required Action A.2.2	The requirements for safety-related electrical power to support active credited functions during handling irradiated fuel are deleted from the Applicability and Required Actions. This issue is added to 16.0, Introduction, as a DCD Open Item.
156	16.03.10.01 Actions	Deleted Required Action A.1 and Note per commitment in response to RAI 16.2-65, Supplement 1.
157	16.03.10.01 LCO	Revised LCO 3.10.5 (b) to "All other control rods in a {five-by-five} array centered on the withdrawn control rod(s) are disarmed" to mach wording in the LCO and NUREG-1434.
158	16.04.01	Added reviewers note for bracketed requirement that the applicant must provide the plant specific description of plant location. This change is consistent with the response to RAI 16.0-2.
159	16.04.03	TS 4.3.1.1.c: Deleted Note that "Spent fuel storage rack information is to be provided by the COL applicant. Information provided here is typical." As indicated by the brackets, fuel rack design details will be included in the DCD for certification.
160	16.04.03	TS 4.3.2.1.b: Added clarification that Section 9.1 referred to the 'Final Safety Analysis Report.'
161	16.04.03	TS 4.3.1.1: Removed brackets from statement "with a neutron poison material between storage spaces, in the high density storage racks" because high density fuel racks will be used as described in DCD 12.3.4.3 and RAI 9.1-3.
162	16.05.01.02	Deleted Reviewer's Note and removed brackets surrounding "Shift Supervisor (SS)" and "SS." Note at top of Section 5.1 states plant specific titles are to be provided in FSAR. Generic titles are appropriate in 5.1.2.

Item	Location	Description of Change
163	16.05.05.02	Revised program description to replace "Passive Containment Cooling System, the Isolation Condenser System, the Reactor Water Cleanup System/Shutdown Cooling, the Main Steam System, the Fuel and Auxiliary Pool Cooling System, the Containment Inerting System, and the Equipment and Floor Drainage System (Lower Drywell Sumps)" with { } pending finalization of ESBWR design.
164	16.05.05.05 paragraph b	Revised Inservice Testing Program to incorporate TSTF-497. See the response to NRC RAI 16.2-69.
165	16.05.05.06	Replaced 5.5.6 title “Explosive Gas Monitoring Program” with “Explosive Gas [and Storage Tank] Radioactivity Monitoring Program.” NRC RAI 16.2-111 requested change in the title to correspond to NUREG 1434 titling. Brackets were added in the title for consistency of presentation with changes requested in NRC RAIs 16.2-70 and 16.2-71 that were incorporated in DCD Chapter 16, Revision 2. This change provides the response to RAI 16.2-111.
166	16.05.05.09	Revised the program to refer to "Containment" instead of "Primary Containment" for consistency with other sections of the DCD.
167	16.05.05.09, paragraph d.1	Revised containment leakage rate acceptance criteria from "≤ 1.0 L_a" to state "{≤ 0.98 L_a for leakage from Containment into the Reactor Building and ≤ 0.02 L_a for leakage through the Passive Containment Cooling System (PCCS)}".
168	16.05.05.10	Removed curly brackets and replaced reference to 'IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead Acid Batteries for Stationary Applications,"' with a reference to 'IEEE Standard 1188-2005, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications,"' for consistency with DCD Chapter 8 incorporation of VRLA batteries in the ESBWR design. This change provides the response to RAI 16.2-89.
169	16.05.05.10, paragraph a	Removed curly brackets around float voltage and replaced "2.13 V" with "2.18 V" as stated in Absolyte XL I&O Manual, Section 11.7.2, for consistency with DCD Chapter 8 incorporation of VRLA batteries in the ESBWR design.

Item	Location	Description of Change
170	16.05.05.10, paragraph b	Replaced actions to "equalize and test battery cells that had been discovered with electrolyte level below the top of the plates" with actions to "determine the cause and correct when cell temperatures deviate more than 3°C (5°F) from each other," as stated in IEEE-1185 (2005), Section 5.3.2, for consistency with DCD Chapter 8 incorporation of VRLA batteries in the ESBWR design.
171	16.05.05.11, paragraph a	Revised Item 7 from " Specification 3.3.7.1, “Emergency Breathing Air System (EBAS) Instrumentation," to read " Specification 3.3.7.1, “Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS) Instrumentation," for consistency with changes made to Specification 3.3.7.1, Revision 3.
172	16.05.05.12	Incorporated a "Control Room Habitability Area (CRHA) Boundary Program" consistent with TSTF-448, Revision 3, to the extent applicable to the ESBWR design, as requested in NRC RAI 16.2-54.
173	16.05.05.13	Incorporated a "Ventilation Filter Testing Program (VFTP)," consistent with NUREG 1434, 5.5.8, to the extent applicable to the ESBWR design to provide appropriate ventilation filter testing requirements for the Control Room Habitability Area (CRHA) Heating, Ventilation, and Air Conditioning (HVAC) Subsystem (CRHAVS) incorporated in the ESBWR design in DCD Revision 3.
174	16.05.06.04	Deleted Reviewer's Note #3 and renumbered subsequent Notes. The ESBWR design does not incorporate a Low Temperature Overpressure (LTOP) System for the power-operated relief valves (PORVs) and does not contain PORVs.