

Chapter 5

List Of Changes From Revision 0 to Revision 1

Item	Location	Description of Change
1	General – Header of all pages	Replaced “26A6642AR Rev. 00 “ to “26A6642AR Rev. 01
2	S5.1, 4th Para, 4th sent.	Added “by actuation of the depressurization valves (DPVs)”.
3	S5.2.1.2, pg 5.2-2	Deleted a blank extra line at the end of Sec 5.2.1.2
4	S5.2.2, 2nd Para, 1st sent.	Added “in compliance with ASME B&PV Code Section III and is”.
5	S5.2.2, last Para, pg 5.2-3	Added “The spring-loaded valves are designed and constructed in accordance with ASME Code, Section III, NB 7640, as safety valves with auxiliary actuating devices”.
6	S5.2.2, pg 5.2-3	Deleted a blank extra line at the end of Sec 5.2.2.
7	S5.2.2.1, pg 5.2-4.	Deleted a blank extra line at the end of Sec 5.2.2.1.
8	S5.2.2.2.2, 11 th Para, pg 5.2-6	Replaced “pneumatic fluid ” with “nitrogen”.
9	S5.2.2.2.2, 11 th Para, pg 5.2-6	Added “or the solenoid valve is closed”.
10	S5.2.2.2.2, 14 th Para, pg 5.2-6	Deleted “The spring-loaded valves are designed and constructed in accordance with ASME Code, Section III, NB 7540, as safety valves with auxiliary actuating devices.”
11	S5.2.2.2.2, 18 th Para, pg 5.2-6	Deleted first two sentences, “The SRV discharge piping is designed to limit valve outlet pressure to approximately 40% of maximum valve inlet pressure with the valve wide open. Water in the line more than a few feet above suppression pool water level would cause excessive pressure at the valve discharge when the valve is again opened.” 3 rd Sentence, Deleted “For this reason,” Added “minimize initial rise of water in discharge piping and”
12	S5.2.2.2.2, 19 th Para, pg 5.2-6	1 st Sentence, Added “which consists of SRVs and DPVs,” 2 nd Sentence, Replaced “6.3” to “6.3.2.8.2”.

13	S5.2.2.2.2, 21 st Para, pg 5.2-7	Deleted “ and Safety Valve ” from title and Deleted extra space before degree sign two places.
14	S5.2.2.3.2, 2 nd Para, 2 nd bullet	Replaced “≤” with “≤”
15	S5.2.2.3.2, 2 nd Para, 3 rd bullet	Replaced “8757 Tm/hr” with “2433 kg/s”.
16	S5.2.2.3.2, Last Para, 3 rd Sent	Deleted sentence related to SRV setpoints
17	S5.2.2.3.3, 2 nd Para	Revised the vessel bottom pressure from “8.81 Mpa at 38s” to “8.71 Mpa gauge”.
18	S5.2.2.3.3, 2 nd Para	Revised the peak dome pressure from “8.72 Mpa at 38s” to “8.62 Mpa gauge at 38s”.
19	S5.2.2.3.3, 3rd Para	Added paragraph related to statistical evaluation of MSIV closure event with flux scram.
20	S5.2.2.4, Last Bullet, 3 rd sent	Revised the sentence
21	S5.2.2.5, pg 5.2-10	Deleted a blank extra line at the end of Sec 5.2.2.5.
22	S5.2.3.2.2, pg 5.2-13	Deleted a blank extra line before the Title “ Sources of impurities ”.
23	S5.2.3.2.2, pg 5.2-14, Last Para starting with Iron	Deleted last three sentences.
24	S5.2.3.2.2, pg 5.2-15, Last heading starting with Main Steamline Radiation Level	Third Para, First sentence, corrected to read “To support water quality specifications flow assisted corrosion resistant low alloy steels are to be used.....”
25	S5.2.3.2.2, pg 5.2-16, heading starting with Main Steamline Radiation Level	Last Para, 2 nd sentence, Added space between tube and sheet.
26	S5.2.3.4.1	Added reference to Generic Letter 88-01.
27	S5.2.3.4.2, pg 5.2-20	Deleted a blank extra line before title Regulatory Guide 1.34.
28	S5.2.4, pg 5.2-21	Deleted a blank extra line before Sec 5.2.4.
29	S5.2.4, 2 nd Para, 3 rd and 4 th Sent	Deleted two sentences regarding inservice inspection plan.
30	S5.2.4.2, 1st Para, 2 nd Sent	Replaced “applicant” with “holder”.
31	S5.2.4, pg 5.2-23	Deleted a blank extra line before Reactor Pressure Vessel Access.
32	S5.2.4.3.1, 1 st Para, 1 st Sent	Replaced “applicant” with “holder”.

33	S5.2.4.3.2, 1 st Para, Last Sent,	Replaced “applicant” with “holder”.
34	S5.2.4.7	Added, “Complete list will be provided in the plant-specific preservice inspection and inservice inspection program submitted by the Combined License applicant.”
35	S5.2.4.7	Deleted a blank extra line before Sec 5.2.5.
36	S5.2.5.1.1, 4 th Para, 2 nd Sent.	Replaced ‘114’ with ‘95’ and ‘30’ with ‘25’
37	S5.2.5.2.1, 2 nd Para, 3 rd Sent.	Replaced ‘114’ with ‘95’ and ‘30’ with ‘25’. Revised the sentence for clarification as follows: “The same parameters are monitored and alarmed and the alarm setpoint has an adjustable range up to 95 liters/min (25 gpm).”
38	S5.2.5.2.1, 11 th Para, last Sent.	Deleted ‘two’
39	S5.2.5.2.2, 6 th Para, last Sent.	Deleted ‘the’
40	S5.2.5.2.2, 8 th Para, first Sent.	Replaced ‘two’ with ‘one’
41	S5.2.5.2.2, 9 th Para, first Sent.	Revised to read, “The pressure in the main condenser is monitored for low vacuum to prevent overpressure of condenser upon loss of vacuum”.
42	S5.2.5.4, 2 nd Sent.	Replaced ‘114’ with ‘95’ and ‘30’ with ‘25’. Also revised the sentence to clarify that alarm annunciation is established at “less than or equal to” versus “at”.
43	S5.2.5.8, Last Para, 1 st Sent.	Replaced ‘114’ with ‘95’ and ‘30’ with ‘25’. Also revised the sentence to clarify that alarm annunciation is established at “less than or equal to” versus “at”.
44	S5.2.5	Deleted a blank extra line at the end of Sec 5.2.5.
45	S5.2.6	Added Preservice and Inservice inspection Program Plan details
46	S5.2.7, Ref 5.2-5	Added “.” at two places
47	S5.2.7, Ref 5.2-9	Deleted.
48	Table 5.2-4, Pg 5.2-42	Revised the title to delete “ Valves, Safety Valves ”
49	S5.3.1, pg 5.3-1	Deleted a blank extra line at the end of Sec 5.3.1.
50	S5.3.1.1, 2 nd Para, 1 st Sent.	Deleted extra space between “Section III,” and “and”

51	S5.3.1.3, 1 st Sent.	Deleted extra period at the end of the sentence.
52	S5.3.1.4, 1 st Para, 2 nd Sent.	Added “Consistent with Generic Letter 88-01 and NUREG-0313 Revision 2, control of weld filler metal ferrite content is described in Paragraph 5.2.3.4.1.”
53	S5.3.1.4, 4 th Para, last Sent.	Added “As more completely described in Paragraph 5.2.3.4.1, these controls conform to the guidance of Generic Letter 88-01 and NUREG-0313 Revision 2.”
54	S5.3.1.4, 5 th Para, last Sent.	Replaced ‘are’ with ‘is’
55	S5.3.1.5, 1 st Para, first Sent.	Deleted “reactor”.
56	S5.3.1.5, 2 nd Para, 4 th Bullet, first Sent.	Deleted extra period at the end of the sentence.
57	S5.3.1.5, 2 nd Para, 6 th Bullet, first Sent.	Corrected typos for ‘including’ and ‘occurrences’.
58	S5.3.1.6.1, 3 rd Para, 2 nd Sent.	Replaced “E-185” with “E 185” six places within the section.
59	S5.3.1.6.6, last Sent.	Replaced “E-813” with “E 813”.
60	S5.3.1.6.6, 1 st Para, 1 st Sent.	Deleted ‘,’ and added “of”.
61	S5.3.1.7, 4 th Para, 3 rd and 4 th Sent.	Replaced “ASTM A-388” with “ASME SA-388”.
62	S5.3.2, 2 nd Para, 3 rd and 4 th sub paragraph, first Sent.	Deleted the word ‘for’ from first sentence.
63	S5.3.2.1, pg 5.3-10	Deleted a blank extra line at the end of Sec 5.3.2 and before 5.3.2.1.
64	S5.3.2.1, 2 nd Para, 2 nd Sent.	Added hard hyphen between “G” and “2120”.
65	S5.3.2.1, 2 nd Para, 3 rd Sent.	Added space between “through” and “wall”.
66	S5.3.2.1, 3 rd Para.	Deleted extra period at the end of the sentence.
67	S5.3.3, 1 st Para, 1 st Sent	Replaced “5.3.5” with “5.3.3”.
68	S5.3.3, 1 st Para, 1 st Sent	Replaced “Rev.” with “Revision”.
69	S5.3.3, 3 rd Para, 1 st Sent	Replaced “Appendixc” with “Appendix”.
70	S5.3.3, 8 th Para, last Sent	Deleted “,” between mechanics and that.
71	S5.3.3.2.2, 4 th Para, last Sent	Added, “NB for the pressure boundary portion of the housing and in accordance with ASME Section III, Subsection NG for the non pressure boundary portion.”

72	S5.3.3.2.2, 9 th Para, last Sent	Replaced “are” with “is”
73	S5.3.3.3, 3 rd Para, Title	Replaced “Fabrication Methods” with “ Fabrication Methods ”
74	S5.3.3.3, 3 rd Para, 3 rd Sent	Added “or plates”
75	S5.3.3.3, 4 th Para, 2 nd Sent	Replaced “employed for structural welds” with “used except for cladding”.
76	S5.3.4, 1 st Para, 1 st Sent	Replaced “applicant” with “holder”.
77	S5.3.4, 1 st Para, 2 nd Sent	Replaced “applicant” with “holder”.
78	S5.4.6 - General For complete Section	Changed “IC loop” to “IC train”
79	S5.4.6, 1 st paragraph, 2 nd sentence	Replaced “it’s “ to “its”.
80	S5.4.6(C)	Removed “underline” format under letters for AOOs
81	S5.4.6(G)	Removed “underline” format under letters for SBO
82	S5.4.6, end of the section	Added “The ESBWR passive decay heat removal systems (Isolation Condensers) are capable of achieving and maintaining safe stable conditions for at least 72 hours without operator action following non-LOCA events. Operator action is credited after 72 hours to refill Isolation Condenser pools or initiate non-safety shutdown cooling”.
83	S5.4.6.1, 2nd paragraph	Added “Loss of Coolant Accident (LOCA)” to list to operational transients
84	S5.4.6.1, 3rd paragraph, 2nd sentence	Added word “other”
85	S5.4.6.1, 4th paragraph	Added complete paragraph describing ICS roles following LOCA
86	S5.4.6.2.2, 1st paragraph, 1 st sentence	Revised the Figure No from “5.4-3” to “5.1-3”
87	S5.4.6.2.2, 5th bullet, 4th sentence	Revised verbiage to indicate that either condensate return OR condensate return bypass valve opening will start ICS into operation.
88	S5.4.6.2.2, 5th bullet, 5 th sentence	Deleted reference to “250V”.
89	S5.4.6.2.2, 5 th bullet, 5th sentence	Deleted “or on reactor water level signal (below Level 2).” Since this is duplication of information provided in section 5.4.6.2.3

90	S5.4.6.2.2, 7 th bullet, 1 st sentence	Revised the sentence to begin as “A loop seal at the RPV condensate return nozzle assures.....”
91	S5.4.6.2.2, 4th paragraph, 1 st sentence	Deleted word “any”.
92	S5.4.6.2.2, 4th paragraph, 1 st bullet	Added “.” At the end of the sentence.
93	S5.4.6.2.3, 4th bullet under “Isolation Condenser Operation”	Changed Level initiation from “Level 1” to “Level 1.5”
94	S5.4.6.2.3, 5th bullet under “Isolation Condenser Operation”	Added additional initiation on “loss of power generation busses”
95	S5.4.6.2.3, last paragraph	Added additional paragraph with verbiage regarding ICS role during a LOCA
96	S5.4.6.3, 1st paragraph, 2nd sentence	Added a word “other” in second sentence
97	S5.4.6.3, 1st paragraph, 3rd sentence	Replaced “these” with “other” and Deleted “, but it is not an Engineered Safety Feature”
98	S5.4.6.5, 1st paragraph, 1 st and 3 rd sentence	Revised the Figure No. from “5.4-3” to “5.1-3”
99	S5.4.6.5, 1st paragraph, 1 st sentence	Deleted 1 st Sentence.
100	S5.4.7, 1 st Para, 1 st Sent	Replaced “ <u>Residual Heat Removal</u> ” with “Residual Heat Removal”.
101	S5.4.7, 1 st Para, 3 rd Sent	Replaced “System” with “system”.
102	S5.4.8, 1 st Para, 1 st Sent	Replaced “R3” with “Revision 3”.
103	S5.4.8. (A)	Replaced “RWCS” with “RWCU”
104	S5.4.8. (B)	Replaced “RWCS” with “RWCU”
105	S5.4.8. (D)	Replaced “RWCS” with “RWCU”
106	S5.4.8. (E)	Replaced “RWCS” with “RWCU”
107	S5.4.8. 2 nd Para 1 st Sent	Replaced “System” with “system”.
108	S5.4.8.1.2, 5 th Para	Deleted a blank extra line in the subparagraph “Pumps”
109	S5.4.8.2.2, 1st Para 1 st & 2 nd Sent	Combined the two sentences for clarity.
110	Table 5.4-1, 1 st line, Page 5.4-30	Added “The throat diameter is ≤ 355 mm.” under Controls
111	Table 5.4-1, 8 th line, Page 5.4-30	Replaced “3.0-5” with “3.0-5.0” under Controls

112	Table 5.4-1, 5 th line, Page 5.4-31	Replaced “5” with “5.0” under Controls
113	Table 5.4-1, 7 th line, Page 5.4-31	Added “MSIV combined leakage” under Component/ Subsystem
114	Table 5.4-1, 7 th line, Page 5.4-31	Added “Combined leakage through the MSIVs for all four MSLs is less than or equal to 66.1 liters per minute at standard temperature of 20°C (68°F) and pressure (one atmosphere absolute pressure) with the differential pressure across the MSIV equal to or greater than 0.269 MpaD (40 psid).” under Controls .
115	Table 5.4-1, last line, Page 5.4-32	Added “Combined main steam line volume” under Component/ Subsystem
116	Table 5.4-1, last line, Page 5.4-32	Added “Combined volume from RPV to the turbine stop valves and steam bypass valves is greater than or equal to 135 m ³ .” under Controls
117	Table 5.4-3, last line, Page 5.4-36	Added “49°C (120°F)” under left column
118	Table 5.4-3, last line, Page 5.4-36	Added “96 hours” under right column