

ESBWR DCD Tier 2 Chapter 5
26A6642AR Revision 7 to Revision 8 Change List

Item	Location	Description of Change
1.	Entire Chapter	Header changed from Rev 7 to Rev 8.
2.	F5.1-3	Added restricting orifice and rearranged valves on ICS lower header vent line per response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).
3.	S5.2.1.1, 2 nd bullet, Note	Eliminated Tier 2* designation from note to allow design and construction flexibility. (Reference MFN 10-290).
4.	S5.2.1.1, last paragraph	Deleted asterisked paragraph since Tier 2* designation eliminated. (Reference MFN 10-290).
5.	S5.2.5.5, 3 rd paragraph, 2 nd sentence	Added “within one hour” to rate-of-change alarm setpoint for clarification and consistency with subsection 5.2.5.4 in response to a June 22, 2010 ACRS comment. (Reference MFN 10-187).
6.	S5.4.6.1.1, 2 nd paragraph, 1 st sentence	Sentence broken into two for readability. See response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).
7.	S5.4.6.1.1, 4 th paragraph, new 2 nd and 3 rd sentences	Added new 2 nd and 3 rd sentences: “Upon the opening of any two DPVs, the ICS isolation valves are automatically signaled to close. Closing the ICS isolation valves when the RPV is depressurized mitigates the accumulation of radiolytic hydrogen and oxygen (see Reference 5.4-3).” Both in response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).
8.	S5.4.6.1.1, 6 th paragraph, 1 st sentence	Changed phrase in response to RAI 6.2-202 S01 from: “...with occasional venting to the suppression pool of radiolytically generated noncondensable gases beginning four hours after isolation.” To: “...with automatic and continuous venting of radiolytically generated noncondensable gases from the lower header to the suppression pool beginning six hours after isolation.” (Reference MFN 10-044 Supplement 3).
9.	S5.4.6.1.1, 6 th paragraph, 2 nd sentence	Added “and” for readability. See response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).

Item	Location	Description of Change
10.	S5.4.6.2.2, 4 th paragraph, 1 st bullet, including new 4 th sentence and new last sentence	<p>Reworded bullet information in response to RAI 6.2-202 S01 from:</p> <p>“Two normally closed, fail-closed, solenoid-operated lower header vent valves are located in the vent line from the lower headers. They can be actuated both automatically (when RPV pressure is high and either of condensate return valves is open) and manually by the control room operator. There is a bypass line around the lower header vent valves, which contains one relief valve and one normally closed, fail-open solenoid valve. The valves are designed to open automatically (with or without power) at a pressure set point higher than that of the primary lower header vent valves and at a lower pressure than what is needed to lift the SRVs.”</p> <p>To:</p> <p>“Two parallel, normally closed, fail-open, solenoid-operated lower header vent valves are located in the vent line from the lower headers. They are actuated automatically (when RPV pressure is high and either of the condensate return valves is open or six hours after either of the condensate return valves is opened). They can also be opened manually by the control room operator. The lower header vent valves are energized-to-close, and therefore will fail open on loss of power. There is a bypass line around the lower header vent valves, which contains one relief valve in series with one normally closed, fail-open solenoid valve. The valves are designed to open automatically (with or without power) at a pressure set point higher than that of the primary lower header vent valves and at a lower pressure than what is needed to lift the SRVs. The bypass flow path for the lower header vent does not contain a flow restricting orifice.”</p> <p>(Reference MFN 10-044 Supplement 3).</p>

Item	Location	Description of Change
11.	S5.4.6.2.3, 5 th paragraph, 2 nd thru last sentences	<p>Reworded in response to RAI 6.2-202 S01 from: “If, during isolation condenser operation and after the initial transient, the RPV pressure increases above 7.516 Mpa gauge (1090 psig), the bottom vent valves automatically open; and when the RPV pressure decreases below 7.447 MPa gauge (1080 psig) (reset value) and after a time delay to avoid too many cycles, these valves close. If the pressure increases above 7.929 MPa gauge (1150 psig), the lower header vent bypass valves automatically open.”</p> <p>To: “After a six-hour time delay following initiation, the lower header vent valves (F009 and F0101) automatically open to prevent the accumulation of radiolytically generated hydrogen and oxygen (see Reference 5.4-3). If the pressure increases above 7.929 MPa gauge (1150 psig), the lower header vent bypass valves (F011 and F012) automatically open.”</p> <p>(Reference MFN 10-044 Supplement 3).</p>
12.	S5.4.6.2.3, former 9 th paragraph	Deleted paragraph in response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).
13.	S5.4.6.2.3, former 10 th paragraph (new 9 th paragraph), new 4 th and 5 th sentences	Sentences added in response to RAI 6.2-202 S01 to describe ICS isolation valve closure. (Reference MFN 10-044 Supplement 3).
14.	S5.4.6.5, new 10 th paragraph	Paragraph added in response to RAI 6.2-202 S01 to describe nonsafety-related temperature sensors on the lower header of the ICS condenser. (Reference MFN 10-044 Supplement 3).
15.	S5.4.8.2.2, System Operation	Reworded per NRC reviewer request for consistency with DCD Tier 2 Table 19.2-3. (Reference MFN 08-344 Supplement 5).
16.	S5.4.8.2.2, Normal Plant Shutdown, 1 st paragraph, 4 th sentence	Deleted sentence per NRC reviewer request for consistency with DCD Tier 2 Table 19.2-3. (Reference MFN 08-344 Supplement 5).
17.	S5.4.8.2.2, Normal Plant Shutdown, 10 th paragraph, last sentence	Corrected spelling of intrusion.

Item	Location	Description of Change
18.	S5.4.16, Reference 5.4-3	Updated title and revision level of NEDE-33572P and NEDO-33572 in response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).
19.	T5.4-1, Component/ Subsystem "Isolation condenser sizing"	Deleted word "occasional" in "Control(s)" column in response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).
20.	Figure 5.4-4b	Added restricting orifice and rearranged valves on ICS lower header vent line per response to RAI 6.2-202 S01. (Reference MFN 10-044 Supplement 3).