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Subject: **Transmittal of ESBWR DCD Tier 2 Chapter 6 Markups Related to Engineered Safety Features**

The purpose of this letter is to submit ESBWR DCD, Tier 2 Chapter 6 markups that are being incorporated into Revision 7. The changes reflected by the markups that are boxed or within clouds are corrections identified by GEH that have not otherwise been transmitted to the NRC. Where LTR references are updated, the DCD has been reviewed against the LTR changes and no further changes to the DCD are necessary. The markup pages and a list of changes to Chapter 6 are contained in Enclosure 1. The change list identifies the letter that transmitted each identified change to the NRC.

If you have any questions or require additional information, please contact me.

Sincerely,

FOR

Richard E. Kingston
Vice President, ESBWR Licensing

Enclosure:

1. MFN 10-076 Transmittal of ESBWR DCD Tier 2 Chapter 6 Markups Related to Engineered Safety Features – Markups and Change List

cc:	AE Cubbage	USNRC (with enclosures)
	JG Head	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	SC Moen	GEH/Wilmington (with enclosures)
	eDRFSection	0000-0114-7299

Enclosure 1

MFN 10-076

Transmittal of ESBWR DCD Tier 2 Chapter 6 Markups

Related to Engineered Safety Features

Markups and Change List

A loss of all power generation buses is not the limiting assumption and the effects of continued feedwater injection is more limiting, as it can potentially add water to the wetwell and compress the wetwell air space. The ESBWR design incorporates features that mitigate this challenge by isolating reactor inventory sources outside of containment and provides a method of GDCS initiation based on LOCA condition detection. These features ensure that containment remains within design pressure for the entire 72-hour event duration. These features also ensure acceptable performance for the full spectrum of LOCA events within containment, with or without the assumption of loss of external injection capability. Additionally, although power generation buses are considered available to add feedwater or High Pressure Control Rod Drive (HP CRD) injection, no credit is given for heat removal systems powered by these buses. Table 6.2-7h shows the sequence of events for the Main Steam Line Break with failure of one SRV and with offsite power available. Figures 6.2-14j1 through 6.2-14m3 show the pressure, temperature, DW and GDCS airspace pressure responses and PCCS heat removal for this analysis. The noncondensable mass and the void fraction in the DW and GDCS are presented in Figures 6.2-14n1 through 6.2-14o3. The detailed discussion on the chronology of progression is given in Appendix 6E.5. The cases analyzed without offsite power and water addition assume higher initial pressure, and result in higher pressure as shown in Table 6.2-5. The highest value of Maximum DW Pressure in Table 6.2-5 is the calculated peak containment internal pressure for the design basis loss of coolant accident.

6.2.1.1.3.5.1 Post-LOCA Containment Cooling and Recovery Analysis

For post-LOCA containment cooling and recovery, ~~the~~ Main Steam Line Break scenarios selected are one SRV failure and one DPV failure~~with failure of one DPV is selected~~. The analysis with PARs and 4 of the 6 PCCS vent fans uses the failure with one SRV and the analysis with RWCU/SDC in suppression pool cooling mode followed by shutdown cooling mode uses the failure with one DPV. The analysis results are not sensitive to the event selection (failure of one DPV versus one SRV) due to the fact that these two cases are nearly the same in transient responses up to 72 hours and the containment pressure and temperature are rapidly reduced upon the activation of the nonsafety-related Structure, System, or Components (SSC).

After the first 72 hours of the accident, the following nonsafety-related SSCs are utilized to keep the reactor at safe stable shutdown conditions, to rapidly reduce containment pressure and temperature to a level where there is acceptable margin, and then to maintain these conditions indefinitely:

(1) SSCs to refill the IC/PCCS pools;

(2) PCCS Vent Fans;

(3) Passive Autocatalytic Recombiner System (PARS); and

(4) Power supplies to the PCCS Vent Fans and the IC/PCCS pool refill pumps.

Once a state of safe, stable reactor shutdown is reached, containment pressure and temperature are maintained with sufficient margin to containment design limits for a long period of time. Figure 6.2-14e1 through Figure 6.2-14e10a show key parameters for the ~~long~~ term pressure reduction and maintenance phase. PARS function at 72 hrs and 4 of 6 PCCS vent fans are credited in the calculation. A containment system performance acceptance criteria ("Analytical

6.2.6.5 (Deleted)

6.2.7 Fracture Prevention of Containment Pressure Boundary

The reactor containment system includes the functional capability of enclosing the reactor system and of providing a final barrier against the release of radioactive fission products attendant postulated accidents.

Fracture prevention of the containment pressure boundary is assured. The ESBWR meets the relevant requirements of the following regulations:

- General Design Criterion 1 (as it relates to the quality standards for design and fabrication) - See Subsection 3.1.1.1.
- General Design Criterion 16 (as it relates to the prevention of the release of radioactivity to the environment) - See Subsection 3.1.2.7.
- General Design Criterion 51 (as it relates to the reactor containment pressure boundary design) - See Subsection 3.1.5.2.

To meet the requirements of GDC 1, 16 and 51, the ferritic containment pressure boundary materials meet the fracture toughness criteria for ASME Section III Class 2 components. These criteria provide for a uniform review, consistent with the safety function of the containment pressure boundary within the context of RG 1.26, which assigns correspondence of Group B Quality Standards to ASME Code Section III Class 2.

6.2.8 COL Information

6.2-1-H (Deleted)

6.2.9 References

6.2-1 GE Nuclear Energy, “TRACG Application for ESBWR,” NEDC-33083P-A, Class III, (Proprietary), March 2005, and NEDO-33083-A, Class I (Non-proprietary), October 2005.

6.2-2 Galletly, G.D., “A Simple Design Equation for Preventing Buckling in Fabricated Torispherical Shells under Internal Pressure,” ASME Journal of Pressure Vessel Technology, Vol.108, November 1986.

6.2-3 GE letter from David H. Hinds to U.S. Regulatory Commission, TRACG LOCA SER Confirmatory Items (TAC # MC 8168), Enclosure 2, Reactor Pressure Vessel (RPV) Level Response for the Long Term PCCS Period, Phenomena Identification and Ranking Table, and Major Design Changes from Pre-Application Review Design to DCD Design, MFN 05-105, October 6, 2005.

6.2-4 GE letter from David H. Hinds to U.S. Regulatory Commission, Revised Response – GE Response to Results of NRC Acceptance Review for ESBWR Design Certification Application – Item 2, MFN 06-094, March 28, 2006.

6.2-5 Moody, F.J., “Maximum Flow Rate of a Single Component, Two-Phase Mixture,” Journal of Heat Transfer, Trans. ASME, Series C, Vol. 87, P 134, February 1965.

6.2-6 (Deleted)

6.2-7 GE Hitachi Nuclear Energy, "ESBWR Feedwater Temperature Operating Domain Transient and Accident Analysis," NEDO-33338, Revision 1, Class I (Non-proprietary), May 2009.

6.2-8 Moody, F.J. "Maximum Discharge Rate of Liquid-Vapor Mixtures from Vessels," General Electric Company, Report No. NEDO-21052-A, May 1979.

6.2-9 GE Hitachi Nuclear Energy, "ESBWR Scaling Report," NEDC-33082P, Revision 2, Class III (Proprietary), April 2008; NEDO-33082, Revision 2, Class I (Non-proprietary), April 2008.

6.2-10 TRACG Qualification for Simplified Boiling Water Reactor (SBWR), NEDC-32725P, Rev. 1, Vol. 1 and 2, August 2002.

6.2-11 GE Hitachi Nuclear Energy "ESBWR Safety Analysis - Additional Information," NEDE-33440P, Revision 1, Class III (Proprietary), June 2009; NEDO-33440, Revision 1, Class I (Non-proprietary), June 2009.

6.2-12 Idel'chik, I.E., Barouch, A. "Handbook of hydraulic resistance: coefficients of local resistance and of friction," National Technical Information Service, 1960.

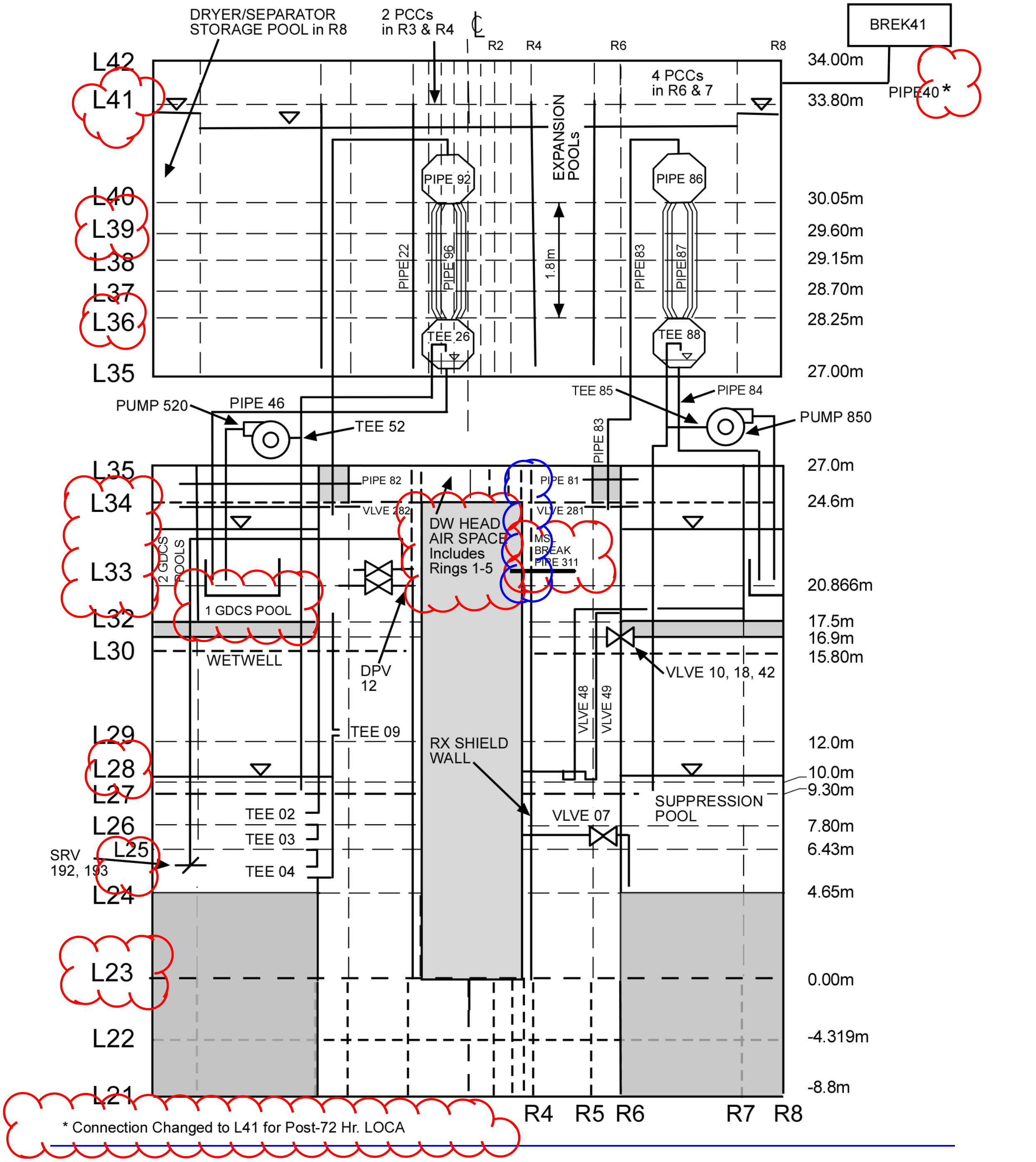
6.2-13 SMSAB-02-04, "CONTAIN Code Qualification Report/User Guide for Auditing Subcompartment Analysis Calculations," Office of Nuclear Regulatory Research, September 2002 (ADAMS Accession Number ML023220288).

Table 6.2-49

PCCS Vent Fan Minimum Performance Requirements[1, 2]

Normalized Fan Head $\Delta P/\rho$ m^2/s^2 (ft^2/s^2)	Flow m^3/s (CFM)
2,410 (25,900)	0.071 (150)
2,380 (25,600)	0.141 (300)
2,290 (24,600)	0.283 (600)
2,050 (22,100)	0.472 (1,000)
1,880 (20,200)	0.566 (1,200)
1,390 (15,000)	0.741 (1,570)

1. The inlet losses for the PCCS are described in Table 6.2-8, Item 4. The outlet losses shall not exceed a k/A^2 value of 1500 m^{-4} (174,000 ft^{-4}).
2. The range of fluid densities associated with values in the Table is 1.81 kg/m^3 to 3.81 kg/m^3


DRYER/SEPARATOR STORAGE POOL in R8
2 PCCs in R3 & R4
BREK41
R2 R4 R6 R8
L42
L41
4 PCCs in R6 & 7
PIPE40 *
34.00m
33.80m
PIPE 92
PIPE 86
EXPANSION POOLs
L40
L39
L38
L37
L36
L35
30.05m
29.60m
29.15m
28.70m
28.25m
27.00m
PIPE 22
PIPE 96
1.8 m
PIPE 83
PIPE 87
TEE 26
TEE 88
PUMP 520
PIPE 46
TEE 52
TEE 85
PIPE 84
PUMP 850
PIPE 83
L35
L34
L33
L32
L30
27.0m
24.6m
20.866m
17.5m
16.9m
15.80m
PIPE 82
VLVE 282
PIPE 81
VLVE 281
DW HEAD AIR SPACE Includes Rings 1-5
MS BREAK PIPE 311
2 GDCS POOLS
1 GDCS POOL
WETWELL
DPV 12
VLVE 10, 18, 42
VLVE 48
VLVE 49
TEE 09
RX SHIELD WALL
L29
L28
L27
L26
L25
L24
12.0m
10.0m
9.30m
7.80m
6.43m
4.65m
SUPPRESSION POOL
VLVE 07
TEE 02
TEE 03
TEE 04
SRV 192, 193
L23
L22
L21
0.00m
-4.319m
-8.8m
R4 R5 R6 R7 R8
* Connection Changed to L41 for Post-72 Hr. LOCA

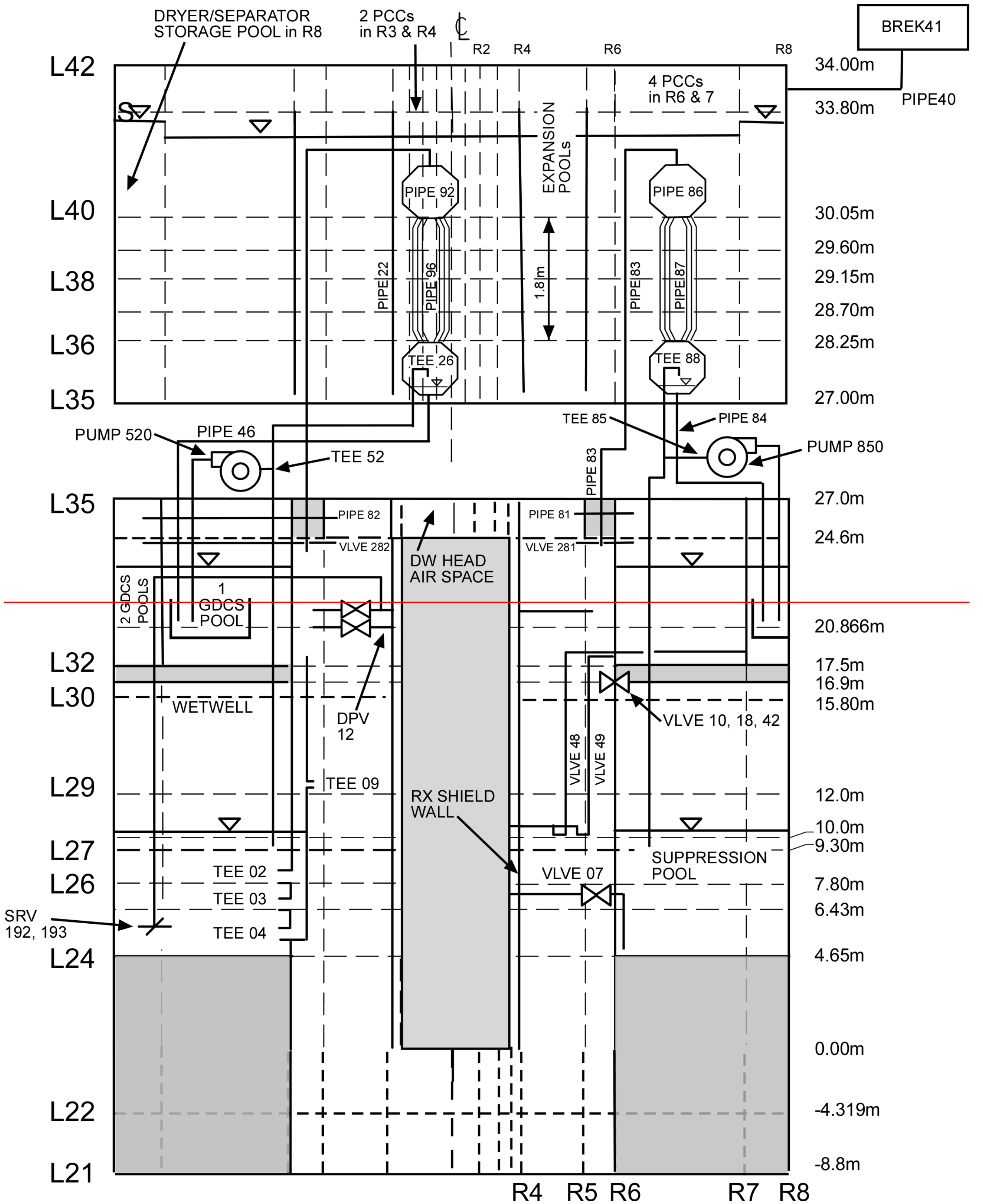


Figure 6.2-7. TRACG Nodalization of the ESBWR Containment

- The failure rates of the individual components in the system; and
- The schedule of periodic tests (simultaneous versus uniformly staggered versus randomly staggered).

All ECCS safety-related valves are tested during plant initial power ascension per RG 1.68, Appendix A, except that the mechanical components of the ECCS squib type valves are fully tested by the manufacturer prior to delivery to the site.

All SRVs, which include those used for ADS, and DPVs are bench tested to establish lift settings in compliance with ASME Code Section XI.

Testing of the initiating instrumentation and controls portion of the ECCS is discussed in Subsection 7.3.1. The emergency power system, which supplies electrical power to the ECCS is tested as described in Subsection 8.3.1. The frequency of testing is specified in the Technical Specifications. Components inside the DW can be visually inspected only during periods of access to the DW.

6.3.5 Instrumentation Requirements

Design details including redundancy and logic of the ECCS instrumentation are discussed in Subsection 7.3.1.

All instrumentation required for automatic and manual initiation of the GDCS and ADS is discussed in Subsection 7.3.1, and is designed to meet the requirements of IEEE-~~279~~603 and other applicable regulatory requirements. The GDCS and ADS can be manually initiated from the control room.

The ECCS initiating signals are shown in Table 6.3-1.

6.3.6 COL Information

6.3-1-H ECCS Testing Requirements (Deleted)

6.3-2-H Limiting Break Results (Deleted)

6.3.7 References

6.3-1 (Deleted)

6.3-2 GE Nuclear Energy, "TRACG Application for ESBWR," NEDC-33083P-A, Class III (Proprietary), March 2005 and NEDO-33083-A, Class I (Non-proprietary), October 2005.

6.3-3 GE Hitachi Nuclear Energy, "ESBWR Feedwater Temperature Operating Domain Transient and Accident Analysis," NEDO-33338, Revision 1, Class I (Non-proprietayr), May 2009.

6.3-4 GE Hitachi Nuclear Energy, "ESBWR Scaling Report," NEDC-33082P, Revision 2, Class III (Proprietary), April 2008; NEDO-33082, Revision 2, Class I (Non-proprietary), April 2008.

DW, and eventually to the WW. The current TRACG nodalization of the ESBWR Containment includes these changes as seen in Figure 6.2-7. These changes result in a MSLB DW pressure increase of about 1% when compared to a single pipe and a pressure margin reduction from 19% to about 14% for the FWLB.

The difference in the effect on DW pressure between these two events is attributed to their corresponding scenarios. During the initial part of the FWLB, the lower DW accumulates more water, displacing the noncondensable gases and forcing them to migrate faster to the WW area than during the MSLB; as seen in Figure 6.2-13d4 and Figure 6.2-14d4. During this period some amount of noncondensable gases migrate and hide in the GDCS drained volume by a greater amount and at a faster rate than during the MSLB, due to earlier and greater inventory drainage from the GDCS pool to the RPV. At the same time this hideout is minimized by the carry over of noncondensable gases to the WW, thereby increasing the containment pressure, as seen in Figure 6.2-13d5, Figure 6.2-14d5, Table 6.2-7e and Table 6.2-7d.

These two main scenarios contribute to their different noncondensable gases migration pattern, such that the difference in noncondensable gases migration patterns is attributed mainly to different system event responses and not to nodalization changes.

Even though these two scenarios have a different noncondensable gas migration, the two-pipe nodalization stated above and the assumption that all DW noncondensable gases migrate to the WW airspace at 72 hours adds sufficient conservatism to their DW pressure. The addition of two pipes promotes migration of noncondensable gases from the DW to the WW resulting in a conservatively high DW pressure increase. Furthermore this migration enhancement is maximized when all the containment noncondensable gases, including those added to the containment from pneumatic supplies are assumed to relocate to the WW, see Appendix 6E.2.

Table 6B-2 provides a summary of differences from the ESBWR description given in Reference 6B.1-2 and the ESBWR design in the DCD.

6B.1 References

6B.1-1 GE Nuclear Energy, "TRACG Application for ESBWR," NEDC-33083P-A, Class III, (Proprietary), March 2005, and NEDO-33083-A, Class I (Non-proprietary), October 2005.

6B.1-2 GE Nuclear Energy, "TRACG Model Description," NEDE-32176P, Revision 4, Class III, (Proprietary), ~~April 2006~~January 2008; NEDO-32176, Revision 4, Class I (Non-proprietary), January 2008.

6G.3 References

6G-1 MFN 05-105, "TRACG LOCA SER confirmatory Items (TAC#MC8168)," October 6, 2005.

6G-2 NEDC-33079P, Rev. 1, "ESBWR Test and Analysis Program Description," March 2005; NEDO-333079, Revision 1, Class I (Non-proprietary), November 2005.

ESBWR DCD Tier 2 Chapter 6

26A6642AT Revision 6 to Revision 7 Change List

Item	Location	Description of Change
1.	Entire Chapter	Global chapter editorial changes to correct misspelling and grammar, spell out or integrate acronyms where appropriate..
2.	T6.1-1, PCCS subheading	Changed material type for PCCS tubes from "SA 213 TP 304L" to "SA 213 XM-19" in response to RAI 6.2-202 (MFN 10-044).
3.	S6.2.1.1.2, 3rd para., 5th and 6th sentences	Information added in response to RAI 9.1-128 (09-697).
4.	S6.2.1.1.2, 3rd para.	Added "which is treated as a mechanical component" and "for corrosion resistance" to 5th sentence, and added "and provides a 360° structural barrier to prevent leakage from the reactor cavity into the DW" to 6th sentence, in response to RAI 9.1-128 S01 (MFN 10-040).
5.	S6.2.1.1.2	Added section titled "Refueling Cavity Bellows Seal" in response to RAI 9.1-128 S01 (MFN 10-040).
6.	S6.2.1.1.3, 4th new para.	Added paragraph in response to RAI 6.2-64. DCD changes reflecting this change were submitted in MFN 10-003.
7.	S6.2.1.1.3, 5th new para.	Added paragraph in response to RAI 6.2-65. DCD changes reflecting this change were submitted in MFN 10-003.
8.	S 6.2.1.1.3.5.1, 1st para., 1st and 2nd sent.	Added correction for cases that are used in the post-72 hours analyses presented in the subsection. Changes were submitted in MFN 10-076.
9.	S 6.2.1.1.3.5.1, 1st para, 3rd sent.	Added "post 72 hours" in response to RAI 6.2-140 S06. DCD changes reflecting this change were submitted in MFN 09-023 Supplement 4.
10.	S 6.2.1.1.3.5.1, 3rd para & 4th para.	Deleted last sentence of 3rd paragraph and added 1st sentence of 4th paragraph. These changes supersede changes provided in response to RAI 6.2-140 in MFN 09-23 Supplement 3 by response to RAI 6.2-140 S06 in MFN 09-023 Supplement 4.
11.	S6.2.1.2.3, 2nd new para.	Added paragraph in response to RAI 6.2-13 S01. Values are replaced with those given in response to RAI 6.2-23 S02. DCD changes reflecting this change were submitted in MFN 10-003.
12.	S6.2.2, 1st para.	Added "10 CFR 50.46(b)(5), 10 CFR 52.47(a)(2)(iv), and GDC 19 of 10 CFR 50 Appendix A" in response to RAI 6.2-202 (MFN 10-044).
13.	S6.2.2, 1st para., new 4th and 5th bullets	Added in response to to RAI 6.2-202 (MFN 10-044).
14.	S6.2.2.2.2, 8th para.	Added paragraph in response to RAI 6.2-202 (MFN 10-044).
15.	S6.2.2.2.2, 9th para., 7th sent.	Revised vent fan discharge parameters in response to RAI 6.2-140 S05 (MFN 09-023 Supplement 3).
16.	S6.2.2.2.2, 9th para., last sent.	Added sentence in response to RAI 6.2-202 (MFN 10-044).
17.	S6.2.3, 4th para., 2nd sent., new 5th through 9th sent.	Added description of RB HVAC Accident Exhaust Filter unit dose consequence analysis performed in response to RAI 9.4-53 S01 Revised Response (MFN 09-627, Rev 1).

26A6642AT Revision 6 to Revision 7 Change List

Item	Location	Description of Change
18.	S6.2.5.1, new last para.	Added paragraph in response to RAI 6.2-202 (MFN 10-044).
19.	S6.2.5.4.1, 4th paragraph	Added paragraph in response to RAI 6.2-202 (MFN 10-044).
20.	S6.2-9, Reference 6.2-10	Corrected reference to add "Vol. 1 and 2," since report has two volumes. DCD changes reflecting this reference update were submitted in MFN 10-076.
21.	T6.2-49	Added sixth row in response to RAI 6.2-140 S05 (MFN 09-023 Supplement 3). The following corrections evolved from ACRS comments. Text has been added to the existing footnote to specify the range of fluid densities associated with the pressure drop vs. flow rate values in this Table. The fluid density range is obtained for the fan from the same TRACG output that provided the values in this Table, (MFN-10-076).
22.	F6.2-7	The following corrections evolved from ACRS comments. a) The MSL (Main Steamline) break pipe location in the drywell is displayed correctly in the Figure (PIPE 311 connected to Level 34, Ring 5). b) A label is included in the Figure to indicate that the Drywell (DW) Head air space includes Rings 1 through 5. c) Labels for L23, L25, L28, L33, L34, L37, L39, and L41 that were missing from the Figure, have been included. d) An open flow area (FA) between Ring 4 and Ring 5 at Level 34, which was erroneously displayed as a solid line previously, is correctly shown as a dashed line. This open flow area allows flow from the DW Head to enter the Upper DW (without going all the way down the RPV annulus). e) The "1 GDCS Pool" label is correctly located in the GDCS pool (previously incorrectly located inside the PCC fan discharge tray). f) A footnote is added to the Figure to indicate that the connection PIPE40 to VSSL is changed to Level 41 for the post-72 hour LOCA phase. PIPE40 sets the PCCS pool overflow level, (MFN-10-076).
23.	F6.2-14e1, F6.2-14e2, F6.2-14e3, F6.2-14e4, F6.2-14e5, F6.2-14e6, F6.2-14e7, F6.2-14e8, F6.2-14e9, F6.2-14e9a, F6.2-14e10, F6.2-14e10a	Revised figures in response to RAI RAI 6.2-140 S06 (MFN 09-023 Supplement 4). The revised figures supersede changes provided in RAI 6.2-140 S05 (MFN 09-023 Supplement 3).
24.	F6.2-35	Added in response to RAI 9.1-128 S01 (MFN 10-040).
25.	S6.3.2.7.2, 1st new paragraph	Added minimum slope requirements in response to RAI 6.3-89 (MFN 09-750).

ESBWR DCD Tier 2 Chapter 6

26A6642AT Revision 6 to Revision 7 Change List

Item	Location	Description of Change
26.	S6.3.2.7.4, 6th new paragraph, 7th paragraph	Added pre-operational testing requirement for GDCS squib valves in response to RAI 6.3-89 (MFN 09-750).
27.	S6.3.5, 2nd para., 1st sent.	Revised reference to reflect that IEEE 279 has been withdrawn and replaced by IEEE 603 (MFN 10-079).
28.	S6.4, 6th para., new 6th sent.	Added new sentence on “variable orifice relief device” per RAI 6.4-23 (MFN 09-759).
29.	S6.4.2; 3rd para., 1st sentence	Added “variable orifice relief device” per RAI 6.4-23 (MFN 09-759).
30.	S6.4.2; 3rd para., new 3rd sent.	Added new sentence stating: *“The EFU delivered supply air is distributed in the MCR area of the CRHA”* per RAI 9.4-29 S04 (MFN 09-767).
31.	S6.4.2; new 4th paragraph	Added new paragraph defining “occupied zone” and “short cycling” per RAI 9.4-29 S04 (MFN 09-767).
32.	S6.4.3, Component Description, 1st para.,5th and 6th sent.	Added new sentences describing the “variable orifice relief device” per RAI 6.4-23 (MFN 09-759).
33.	S6.4.3, Component Description, 1st para., 3rd bullet	Added “(including variable orifice relief device)” to <u>Isolation Dampers and Valves</u> per RAI 6.4-23 (MFN 09-759).
34.	S6.4.3, Leak Tightness, 2nd para., 1st sent.	Added “components” to 1st sentence per RAI 6.4-23 (MFN 09-759).
35.	S6.4.3, Leak Tightness, 2nd para., 6th Item f	Added “variable orifice relief device” per RAI 6.4-23 (MFN 09-759).
36.	S6.4.4, 1st para., 1st and 2nd sentences	Added text to the first sentence and new second sentence per RAI 6.4-23 (MFN 09-759).
37.	S6.4.4, Emergency Mode, 2nd para., 5th and 6th sentences	Added new 5th and 6th sentences per RAI 6.4-23 (MFN 09-759).
38.	S6.4.4. Airflow in Emergency Mode, new 1st through 5th paras.	Added new paragraphs per RAI 9.4-29 S04 (MFN 09-767).
39.	S6.4.4, Airflow in Emergency Mode, 8th para.	Updated paragraph in response to RAI 6.4-24 S01 Part 1 (MFN 09-776 Supplement 1).
40.	S6.4.5, 4th para., 4th sent.	Added new sentence reference to Table 3H-14 per RAI 9.4-57 (MFN 09-767).

Item	Location	Description of Change
41.	S6.4.7, Testing and Inspection, 1st para., 4th and 5th sentences.	Added new 4th and 5th sentences per RAI 9.4-57 (MFN 09-767).
42.	S6.4.7, Preoperational Inspection and Testing, 1st para., 2nd sent.	Added new sentence describing the variable orifice relief device per RAI 6.4-23 (MFN 09-759).
43.	S6.4.7, Inservice Testing, 2nd para.	Added new paragraph to Inservice Testing per RAI 6.4-22 (MFN 09-759).
44.	S6.4.7, Inservice Testing, new last paragraph	Modified new last paragraph under Inservice Testing per RAI 6.4-22 S01 (MFN 09-759 Supplement 1).
45.	S6.4.9, 6.4-1-A; Last sent.	Added "including statements under 6.4.7" to last sentence per RAI 6.4-22 (MFN 09-759).
46.	S6.4.10, Reference 6.4-5	Replaced Reference 6.4-5 in response to RAI 6.4-24 S01 (MFN 09-776 Supplement 1).
47.	F6.4-2	Added new Figure 6.4-2 per RAI 9.4-29 S04 (MFN 09-767).
48.	S6E.2	Clarify the role of radiolysis versus radiation per RAI 21.6-103 S01 (MFN 09-224 Supplement 2).
49.	S6E.4	Clarify the role of radiolysis versus radiation per RAI 21.6-103 S01 (MFN 09-224 Supplement 2).
50.	S6E.5	Clarify the role of radiolysis versus radiation per RAI 21.6-103 S01 (MFN 09-224 Supplement 2).
51.	Appendix B, Reference 6B.1-2	Reference for NEDE-32176P was updated to indicate latest revision submitted in MFN 08-072. In addition, added non-proprietary version of report to reference. DCD changes reflecting this reference update were submitted in MFN 10-076.
52.	Appendix G, Reference 6G-2	Added non-proprietary version of report to reference. DCD changes reflecting this reference update were submitted in MFN 10-076.