

ESBWR DCD Chapter 4 – Reactor

22A6642AP Revision 0 to Revision 1 Change List

| Item | Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure) | Description of Change |
|-------------|--|---|
| 1 | Cover Sheet | Deleted the Conditional Release statement. |
| 2 | Abbreviations and Acronyms List | Deleted the parenthetical “(non-seismic Category I)” in the definition of the term NS (Non-Seismic). |
| 3 | Subsection 4.1.2.1, 5 th bullet, 2 nd sentence | Changed from “single control rod fully withdrawn” to “single control rod, or rod pair, fully withdrawn”. |
| 4 | Section 4.2 – all subsections | Section 4.2 has been rewritten to include more detailed information pertaining to the Fuel System Design per NRC request. |
| 5 | Section 4.3 – all subsections | Section 4.3 has been rewritten and rearranged to include more detailed information pertaining to the Nuclear Design per NRC request. |
| 6 | Section 4.4 | Revised as described in MFN 05-115. |
| 7 | Subsection 4.4.1 | Revised as described in MFN 05-115. |
| 8 | Subsection 4.4.2 | Revised as described in MFN 05-115. |
| 9 | Subsection 4.4.3 | Revised as described in MFN 05-115. The original contents of 4.4.3 are now 4.4.4 |
| 10 | Subsection 4.4.4.5 | Since load following is discussed in DCD Chapter 7, this subsection was added. |
| 11 | Subsection 4.4.5 | The original contents of this subsection were moved to 4.4.1 through 4.4.3. The contents of 4.4.5 were the original contents of 4.4.4. |
| 12 | Subsection 4.4.7 | Revised to clarify the COL requirements. |
| 13 | Subsection 4.4.8 | Reference 4.4-9 was corrected to the ESBWR specific TRACG LTR. Reference 4-4-10 through 4.4-14 was added as required with the changes to 4.4.1 through 4.4.3. |
| 14 | Table 4.4-1a | Changed the maximum inlet velocity for ABWR from “26.7” to “2.29” meter/sec. |
| 15 | Table 4.4-1a/b | The 91.6 core maximum exit voids (%) and the 0.32 average void fraction was not representative of ESBWR. These values were replaced with core simulator values of 90.0 and 0.53 respectively. |

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| 16 | Table 4.4-2a/b, 4.4-3a/b | The core average value was not representative of ESBWR. This value was removed. The axial location of the nodes was added. |
| 17 | Table 4.4-4a/b | The axial power shapes were renormalized and a note was added to explain the nodal power basis. The axial location of the nodes was added. |
| 18 | Table 4.4-5 | This table was added to represent the channel with the highest void fraction as predicted by the PANACEA core simulator. This table is referenced in section 4.4.3.2. |
| 19 | Subsection 4.5.3.1 | Added reference to Subsection 4.5.1.2.1 for COL discussion of CRD inspection program. |
| 20 | Subsections 4.6.2.1.4 and 4.6.6.1 | Moved the detailed COL discussion from Subsection 4.6.6.1. to Subsection 4.6.2.1.4. |
| 21 | Subsection 4A.1 | Deleted reference to the Technical Specifications. |
| 22 | Section 4B.3, 6 th paragraph, 2 nd sentence | Changed from “most reactive control rod in its full-out position” to “most reactive control rod, or rod pair, in the full-out position”. |
| 23 | Subsections 4D.1.4.3 and 4D.3 | Moved the detailed COL discussion from Subsection 4D.3 to Subsection 4D.1.4.3. |
| 24 | Subsection 4D.1.5, 5 th paragraph, 1 st sentence | Changed from “447°K” to “447 K”. |
| 25 | Subsection 4D.1.6, both sentences | Changed from “Section 15.5.4” to “Subsection 15.5.4”. |
| 26 | Subsection 4D.2 | Revised to clarify reference to Dodewaard operating experience. |
| 27 | Subsection 4D.2.2.2, 4 th paragraph, 1 st sentence | Changed from “around 40°K to less than 10°K” to “around 40 K to less than 10 K”. |