Wolf Creek
Nuclear Operating Corporation

Dustin T. Hamman
Director Nuclear and Regulatory Affairs

March 7, 2024
000346

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Docket No. 50-482: Wolf Creek Generating Station Changes to Technical Specification Bases – Revisions 93 and 94

Commissioners and Staff:

The Wolf Creek Generating Station (WCGS) Unit 1 Technical Specifications (TS), Section 5.5.14, "Technical Specifications (TS) Bases Control Program," provides the means for making changes to the Bases without prior Nuclear Regulatory Commission (NRC) approval. In addition, TS Section 5.5.14 requires that changes made without NRC approval be provided to the NRC on a frequency consistent with 10 CFR 50.71(e). The Enclosure provides those changes made to the WCGS TS Bases (Revisions 93 and 94) under the provisions to TS Section 5.5.14 and a List of Effective Pages. This submittal reflects changes from January 1, 2023, through December 31, 2023.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4204.

Sincerely,

Dustin T. Hamman

DTH/jkt

Enclosure: Wolf Creek Generating Station Changes to the Technical Specification Bases

cc: S. S. Lee (NRC), w/e
J. D. Monninger (NRC), w/e
G. E. Werner (NRC), w/e
Senior Resident Inspector (NRC), w/e
WC Licensing Correspondence, w/e – RA 24-000346

Enclosure to 000346

Wolf Creek Generating Station
Changes to the Technical Specification Bases

(58 pages)

TECHNICAL SPECIFICATION BASES

Wolf Creek Generating Station, Unit 1

Summary of Revision 93:

Released: DC10 02/02/2023

1) Revised TS Bases Section B 3.8.1 as part of implementation of License Amendment 234 which was issued on November 4, 2022. This amendment revised TS 3.8.1, "AC [alternating current] Sources – Operating," by removing the requirements associated with the Sharpe Station generator sets and extending the completion time in Required Action B.4.1 for one inoperable diesel generator from 72 hours to 14 days based upon the availability of a supplemental AC power source (i.e., station blackout diesel generator system). The amendment also deletes the license conditions associated with Amendment No. 163.

2) TS Bases pages B 3.8.4-3, B 3.8.4-5, and B 3.8.4-8 are revised to make corrections to specific references in the text of the TS 3.8.4 Bases. Amendment No. 227 dated April 8, 2021, approved the relocation of surveillance requirement frequencies to the licensee controlled Surveillance Frequency Control Program. Revision 89 to the TS Bases implemented changes based on Amendment No. 227. Reference 11 was deleted and References 12 and 13 were renumbered to References 11 and 12, respectively. The numerical reference changes were not reflected in the TS 3.8.4 Bases text.

3) TS Bases page B 3.8.8-5 is revised to reflect the implementation of the Surveillance Frequency Control Program approved via Amendment No. 227. With the issuance of Revision 89 to the TS Bases, the changes to SR 3.8.8.1 were inadvertently omitted.

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – Title Page Technical Specification			
Cover Page			
Title Page			
TAB – Table of Contents			
i	34	DRR 07-1057	7/10/07
ii	29	DRR 06-1984	10/17/06
iii	44	DRR 09-1744	10/28/09
TAB – B 2.0 SAFETY LIMITS (SLs)			
B 2.1.1-1	0	Amend. No. 123	12/18/99
B 2.1.1-2	14	DRR 03-0102	2/12/03
B 2.1.1-3	14	DRR 03-0102	2/12/03
B 2.1.1-4	0	Amend. No. 123	2/12/03
B 2.1.2-1	84	DRR 20-0400	08/18/20
B 2.1.2-2	84	DRR 20-0400	08/18/20
B 2.1.2-3	81	DRR 19-1027	10/28/19
TAB – B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILTY			
B 3.0-1	81	DRR 19-1027	10/28/19
B 3.0-2	0	Amend. No. 123	12/18/99
B 3.0-3	81	DRR 19-1027	10/28/19
B 3.0-4	81	DRR 19-1027	10/28/19
B 3.0-5	81	DRR 19-1027	10/28/19
B 3.0-6	81	DRR 19-1027	10/28/19
B 3.0-7	81	DRR 19-1027	10/28/19
B 3.0-8	81	DRR 19-1027	10/28/19
B 3.0-9	81	DRR 19-1027	10/28/19
B 3.0-10	81	DRR 19-1027	10/28/19
B 3.0-11	81	DRR 19-1027	10/28/19
B 3.0-12	81	DRR 19-1027	10/28/19
B 3.0-13	81	DRR 19-1027	10/28/19
B 3.0-14	81	DRR 19-1027	10/28/19
B 3.0-15	81	DRR 19-1027	10/28/19
B 3.0-16	81	DRR 19-1027	10/28/19
B 3.0-17	81	DRR 19-1027	10/28/19
TAB – B 3.1 REACTIVITY CONTROL SYSTEMS			
B 3.1.1-1	0	Amend. No. 123	12/18/99
B 3.1.1-2	0	Amend. No. 123	12/18/99
B 3.1.1-3	0	Amend. No. 123	12/18/99
B 3.1.1-4	81	DRR 19-1027	10/28/19
B 3.1.1-5	89	DRR 21-0966	7/7/21
B 3.1.2-1	0	Amend. No. 123	12/18/99
B 3.1.2-2	0	Amend. No. 123	12/18/99
B 3.1.2-3	0	Amend. No. 123	12/18/99
B 3.1.2-4	0	Amend. No. 123	12/18/99
B 3.1.2-5	89	DRR 21-0966	7/7/21
B 3.1.3-1	0	Amend. No. 123	12/18/99
B 3.1.3-2	0	Amend. No. 123	12/18/99
B 3.1.3-3	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.1 REACTIVITY CONTROL SYSTEMS (continued)			
B 3.1.3-4	0	Amend. No. 123	12/18/99
B 3.1.3-5	0	Amend. No. 123	12/18/99
B 3.1.3-6	0	Amend. No. 123	12/18/99
B 3.1.4-1	0	Amend. No. 123	12/18/99
B 3.1.4-2	0	Amend. No. 123	12/18/99
B 3.1.4-3	48	DRR 10-3740	12/28/10
B 3.1.4-4	0	Amend. No. 123	12/18/99
B 3.1.4-5	0	Amend. No. 123	12/18/99
B 3.1.4-6	48	DRR 10-3740	12/28/10
B 3.1.4-7	0	Amend. No. 123	12/18/99
B 3.1.4-8	89	DRR 21-0966	7/7/21
B 3.1.4-9	89	DRR 21-0966	7/7/21
B 3.1.5-1	0	Amend. No. 123	12/18/99
B 3.1.5-2	0	Amend. No. 123	12/18/99
B 3.1.5-3	0	Amend. No. 123	12/18/99
B 3.1.5-4	89	DRR 21-0966	7/7/21
B 3.1.6-1	0	Amend. No. 123	12/18/99
B 3.1.6-2	0	Amend. No. 123	12/18/99
B 3.1.6-3	0	Amend. No. 123	12/18/99
B 3.1.6-4	0	Amend. No. 123	12/18/99
B 3.1.6-5	89	DRR 21-0966	7/7/21
B 3.1.6-6	0	Amend. No. 123	12/18/99
B 3.1.7-1	0	Amend. No. 123	12/18/99
B 3.1.7-2	0	Amend. No. 123	12/18/99
B 3.1.7-3	48	DRR 10-3740	12/28/10
B 3.1.7-4	48	DRR 10-3740	12/28/10
B 3.1.7-5	48	DRR 10-3740	12/28/10
B 3.1.7-6	0	Amend. No. 123	12/18/99
B 3.1.8-1	0	Amend. No. 123	12/18/99
B 3.1.8-2	0	Amend. No. 123	12/18/99
B 3.1.8-3	15	DRR 03-0860	7/10/03
B 3.1.8-4	15	DRR 03-0860	7/10/03
B 3.1.8-5	89	DRR 21-0966	7/7/21
B 3.1.8-6	89	DRR 21-0966	7/7/21
B 3.1.9-1	84	DRR 20-0400	08/18/20
B 3.1.9-2	84	DRR 20-0400	08/18/20
B 3.1.9-3	84	DRR 20-0400	08/18/20
B 3.1.9-4	84	DRR 20-0400	08/18/20
B 3.1.9-5	89	DRR 21-0966	7/7/21
TAB – B 3.2 POWER DISTRIBUTION LIMITS			
B 3.2.1-1	48	DRR 10-3740	12/28/10
B 3.2.1-2	0	Amend. No. 123	12/18/99
B 3.2.1-3	48	DRR 10-3740	12/28/10
B 3.2.1-4	48	DRR 10-3740	12/28/10
B 3.2.1-5	48	DRR 10-3740	12/28/10
B 3.2.1-6	48	DRR 10-3740	12/28/10
B 3.2.1-7	48	DRR 10-3740	12/28/10
B 3.2.1-8	89	DRR 21-0966	7/7/21
B 3.2.1-9	89	DRR 21-0966	7/7/21
B 3.2.1-10	70	DRR 15-0944	4/28/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.2 POWER DISTRIBUTION LIMITS (continued)			
B 3.2.2-1	48	DRR 10-3740	12/28/10
B 3.2.2-2	0	Amend. No. 123	12/18/99
B 3.2.2-3	48	DRR 10-3740	12/28/10
B 3.2.2-4	48	DRR 10-3740	12/28/10
B 3.2.2-5	48	DRR 10-3740	12/28/10
B 3.2.2-6	89	DRR 21-0966	7/7/21
B 3.2.3-1	0	Amend. No. 123	12/18/99
B 3.2.3-2	0	Amend. No. 123	12/18/99
B 3.2.3-3	89	DRR 21-0966	7/7/21
B 3.2.4-1	0	Amend. No. 123	12/18/99
B 3.2.4-2	0	Amend. No. 123	12/18/99
B 3.2.4-3	48	DRR 10-3740	12/28/10
B 3.2.4-4	0	Amend. No. 123	12/18/99
B 3.2.4-5	48	DRR 10-3740	12/28/10
B 3.2.4-6	89	DRR 21-0966	7/7/21
B 3.2.4-7	89	DRR 21-0966	7/7/21
TAB – B 3.3 INSTRUMENTATION			
B 3.3.1-1	84	DRR 20-0400	08/18/20
B 3.3.1-2	0	Amend. No. 123	12/18/99
B 3.3.1-3	0	Amend. No. 123	12/18/99
B 3.3.1-4	0	Amend. No. 123	12/18/99
B 3.3.1-5	0	Amend. No. 123	12/18/99
B 3.3.1-6	0	Amend. No. 123	12/18/99
B 3.3.1-7	5	DRR 00-1427	10/12/00
B 3.3.1-8	0	Amend. No. 123	12/18/99
B 3.3.1-9	84	DRR 20-0400	08/18/20
B 3.3.1-10	84	DRR 20-0400	08/18/20
B 3.3.1-11	84	DRR 20-0400	08/18/20
B 3.3.1-12	84	DRR 20-0400	08/18/20
B 3.3.1-13	84	DRR 20-0400	08/18/20
B 3.3.1-14	84	DRR 20-0400	08/18/20
B 3.3.1-15	84	DRR 20-0400	08/18/20
B 3.3.1-16	84	DRR 20-0400	08/18/20
B 3.3.1-17	84	DRR 20-0400	08/18/20
B 3.3.1-18	84	DRR 20-0400	08/18/20
B 3.3.1-19	84	DRR 20-0400	08/18/20
B 3.3.1-20	84	DRR 20-0400	08/18/20
B 3.3.1-21	84	DRR 20-0400	08/18/20
B 3.3.1-22	84	DRR 20-0400	08/18/20
B 3.3.1-23	84	DRR 20-0400	08/18/20
B 3.3.1-24	84	DRR 20-0400	08/18/20
B 3.3.1-25	84	DRR 20-0400	08/18/20
B 3.3.1-26	84	DRR 20-0400	08/18/20
B 3.3.1-27	84	DRR 20-0400	08/18/20
B 3.3.1-28	84	DRR 20-0400	08/18/20
B 3.3.1-29	84	DRR 20-0400	08/18/20
B 3.3.1-30	84	DRR 20-0400	08/18/20
B 3.3.1-31	84	DRR 20-0400	08/18/20
B 3.3.1-32	84	DRR 20-0400	08/18/20
B 3.3.1-33	84	DRR 20-0400	08/18/20

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.1-34	84	DRR 20-0400	08/18/20
B 3.3.1-35	84	DRR 20-0400	08/18/20
B 3.3.1-36	84	DRR 20-0400	08/18/20
B 3.3.1-37	84	DRR 20-0400	08/18/20
B 3.3.1-38	84	DRR 20-0400	08/18/20
B 3.3.1-39	84	DRR 20-0400	08/18/20
B 3.3.1-40	84	DRR 20-0400	08/18/20
B 3.3.1-41	84	DRR 20-0400	08/18/20
B 3.3.1-42	84	DRR 20-0400	08/18/20
B 3.3.1-43	84	DRR 20-0400	08/18/20
B 3.3.1-44	84	DRR 20-0400	08/18/20
B 3.3.1-45	84	DRR 20-0400	08/18/20
B 3.3.1-46	84	DRR 20-0400	08/18/20
B 3.3.1-47	89	DRR 21-0966	7/7/21
B 3.3.1-48	89	DRR 21-0966	7/7/21
B 3.3.1-49	89	DRR 21-0966	7/7/21
B 3.3.1-50	89	DRR 21-0966	7/7/21
B 3.3.1-51	89	DRR 21-0966	7/7/21
B 3.3.1-52	89	DRR 21-0966	7/7/21
B 3.3.1-53	89	DRR 21-0966	7/7/21
B 3.3.1-54	89	DRR 21-0966	7/7/21
B 3.3.1-55	89	DRR 21-0966	7/7/21
B 3.3.1-56	89	DRR 21-0966	7/7/21
B 3.3.1-57	89	DRR 21-0966	7/7/21
B 3.3.1-58	89	DRR 21-0966	7/7/21
B 3.3.1-59	89	DRR 21-0966	7/7/21
B 3.3.1-60	89	DRR 21-0966	7/7/21
B 3.3.1-61	89	DRR 21-0966	7/7/21
B 3.3.2-1	84	DRR 20-0400	08/18/20
B 3.3.2-2	0	Amend. No. 123	12/18/99
B 3.3.2-3	0	Amend. No. 123	12/18/99
B 3.3.2-4	0	Amend. No. 123	12/18/99
B 3.3.2-5	0	Amend. No. 123	12/18/99
B 3.3.2-6	7	DRR 01-0474	5/1/01
B 3.3.2-7	0	Amend. No. 123	12/18/99
B 3.3.2-8	0	Amend. No. 123	12/18/99
B 3.3.2-9	0	Amend. No. 123	12/18/99
B 3.3.2-10	0	Amend. No. 123	12/18/99
B 3.3.2-11	0	Amend. No. 123	12/18/99
B 3.3.2-12	81	DRR 19-1027	10/28/19
B 3.3.2-13	0	Amend. No. 123	12/18/99
B 3.3.2-14	2	DRR 00-0147	4/24/00
B 3.3.2-15	0	Amend. No. 123	12/18/99
B 3.3.2-16	0	Amend. No. 123	12/18/99
B 3.3.2-17	0	Amend. No. 123	12/18/99
B 3.3.2-18	0	Amend. No. 123	12/18/99
B 3.3.2-19	37	DRR 08-0503	4/8/08
B 3.3.2-20	37	DRR 08-0503	4/8/08
B 3.3.2-21	37	DRR 08-0503	4/8/08
B 3.3.2-23	37	DRR 08-0503	4/8/08

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.2-24	39	DRR 08-1096	8/28/08
B 3.3.2-25	39	DRR 08-1096	8/28/08
B 3.3.2-26	39	DRR 08-1096	8/28/08
B 3.3.2-27	37	DRR 08-0503	4/8/08
B 3.3.2-28	84	DRR 20-0400	08/18/20
B 3.3.2-29	0	Amend. No. 123	12/18/99
B 3.3.2-30	0	Amend. No. 123	12/18/99
B 3.3.2-31	52	DRR 11-0724	4/11/11
B 3.3.2-32	52	DRR 11-0724	4/11/11
B 3.3.2-33	0	Amend. No. 123	12/18/99
B 3.3.2-34	0	Amend. No. 123	12/18/99
B 3.3.2-35	20	DRR 04-1533	2/16/05
B 3.3.2-36	20	DRR 04-1533	2/16/05
B 3.3.2-37	20	DRR 04-1533	2/16/05
B 3.3.2-38	20	DRR 04-1533	2/16/05
B 3.3.2-39	25	DRR 06-0800	5/18/06
B 3.3.2-40	20	DRR 04-1533	2/16/05
B 3.3.2-41	45	Amend. No. 187 (ETS)	3/5/10
B 3.3.2-42	45	Amend. No. 187 (ETS)	3/5/10
B 3.3.2-43	20	DRR 04-1533	2/16/05
B 3.3.2-44	20	DRR 04-1533	2/16/05
B 3.3.2-45	92	DRR 22-0767	11/3/22
B 3.3.2-46	89	DRR 21-0966	7/7/21
B 3.3.2-47	89	DRR 21-0966	7/7/21
B 3.3.2-48	89	DRR 21-0966	7/7/21
B 3.3.2-49	89	DRR 21-0966	7/7/21
B 3.3.2-50	89	DRR 21-0966	7/7/21
B 3.3.2-51	89	DRR 21-0966	7/7/21
B 3.3.2-52	89	DRR 21-0966	7/7/21
B 3.3.2-53	43	DRR 09-1416	9/2/09
B 3.3.2-54	43	DRR 09-1416	9/2/09
B 3.3.2-55	43	DRR 09-1416	9/2/09
B 3.3.2-56	43	DRR 09-1416	9/2/09
B 3.3.2-57	43	DRR 09-1416	9/2/09
B 3.3.3-1	0	Amend. No. 123	12/18/99
B 3.3.3-2	5	DRR 00-1427	10/12/00
B 3.3.3-3	0	Amend. No. 123	12/18/99
B 3.3.3-4	0	Amend. No. 123	12/18/99
B 3.3.3-5	0	Amend. No. 123	12/18/99
B 3.3.3-6	8	DRR 01-1235	9/19/01
B 3.3.3-7	21	DRR 05-0707	4/20/05
B 3.3.3-8	81	DRR 19-1027	10/28/19
B 3.3.3-9	8	DRR 01-1235	9/19/01
B 3.3.3-10	19	DRR 04-1414	10/12/04
B 3.3.3-11	19	DRR 04-1414	10/12/04
B 3.3.3-12	21	DRR 05-0707	4/20/05
B 3.3.3-13	89	DRR 21-0966	7/7/21
B 3.3.3-14	89	DRR 21-0966	7/7/21
B 3.3.3-15	8	DRR 01-1235	9/19/01
B 3.3.4-1	0	Amend. No. 123	12/18/99
B 3.3.4-2	9	DRR 02-1023	2/28/02

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.4-3	15	DRR 03-0860	7/10/03
B 3.3.4-4	19	DRR 04-1414	10/12/04
B 3.3.4-5	89	DRR 21-0966	7/7/21
B 3.3.4-6	89	DRR 21-0966	7/7/21
B 3.3.5-1	88	DRR 21-0591	4/28/21
B 3.3.5-2	88	DRR 21-0591	4/28/21
B 3.3.5-3	1	DRR 99-1624	12/18/99
B 3.3.5-4	1	DRR 99-1624	12/18/99
B 3.3.5-5	0	Amend. No. 123	12/18/99
B 3.3.5-6	89	DRR 21-0966	7/7/21
B 3.3.5-7	89	DRR 21-0966	7/7/21
B 3.3.6-1	81	DRR 19-1027	10/28/19
B 3.3.6-2	81	DRR 19-1027	10/28/19
B 3.3.6-3	0	Amend. No. 123	12/18/99
B 3.3.6-4	0	Amend. No. 123	12/18/99
B 3.3.6-5	89	DRR 21-0966	7/7/21
B 3.3.6-6	89	DRR 21-0966	7/7/21
B 3.3.6-7	89	DRR 21-0966	7/7/21
B 3.3.7-1	81	DRR 19-1027	10/28/19
B 3.3.7-2	81	DRR 19-1027	10/28/19
B 3.3.7-3	57	DRR 13-0006	1/16/13
B 3.3.7-4	0	Amend. No. 123	12/18/99
B 3.3.7-5	0	Amend. No. 123	12/18/99
B 3.3.7-6	89	DRR 21-0966	7/7/21
B 3.3.7-7	89	DRR 21-0966	7/7/21
B 3.3.7-8	89	DRR 21-0966	7/7/21
B 3.3.8-1	84	DRR 20-0400	8/18/20
B 3.3.8-2	0	Amend. No. 123	12/18/99
B 3.3.8-3	57	DRR 13-0006	1/16/13
B 3.3.8-4	57	DRR 13-0006	1/16/13
B 3.3.8-5	89	DRR 21-0966	7/7/21
B 3.3.8-6	89	DRR 21-0966	7/7/21
B 3.3.8-7	89	DRR 21-0966	7/7/21
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS)			
B 3.4.1-1	84	DRR 20-0400	08/18/20
B 3.4.1-2	84	DRR 20-0400	08/18/20
B 3.4.1-3	10	DRR 02-0411	4/5/02
B 3.4.1-4	0	Amend. No. 123	12/18/99
B 3.4.1-5	89	DRR 21-0966	7/7/21
B 3.4.1-6	89	DRR 21-0966	7/7/21
B 3.4.2-1	0	Amend. No. 123	12/18/99
B 3.4.2-2	0	Amend. No. 123	12/18/99
B 3.4.2-3	89	DRR 21-0966	7/7/21
B 3.4.3-1	67	DRR 15-0116	2/10/15
B 3.4.3-2	0	Amend. No. 123	12/18/99
B 3.4.3-3	0	Amend. No. 123	12/18/99
B 3.4.3-4	0	Amend. No. 123	12/18/99
B 3.4.3-5	0	Amend. No. 123	12/18/99
B 3.4.3-6	89	DRR 21-0966	7/7/21
B 3.4.3-7	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.4-1	0	Amend. No. 123	12/18/99
B 3.4.4-2	29	DRR 06-1984	10/17/06
B 3.4.4-3	89	DRR 21-0966	7/7/21
B 3.4.5-1	0	Amend. No. 123	12/18/99
B 3.4.5-2	53	DRR 11-1513	7/18/11
B 3.4.5-3	29	DRR 06-1984	10/17/06
B 3.4.5-4	0	Amend. No. 123	12/18/99
B 3.4.5-5	29	DRR 21-0966	7/7/21
B 3.4.5-6	89	DRR 21-0966	7/7/21
B 3.4.6-1	53	DRR 11-1513	7/18/11
B 3.4.6-2	72	DRR 15-1918	10/26/15
B 3.4.6-3	12	DRR 02-1062	9/26/02
B 3.4.6-4	89	DRR 21-0966	7/7/21
B 3.4.6-5	75	DRR 16-1909	10/26/16
B 3.4.6-6	89	DRR 21-0966	7/7/21
B 3.4.7-1	12	DRR 02-1062	9/26/02
B 3.4.7-2	17	DRR 04-0453	5/26/04
B 3.4.7-3	72	DRR 15-1918	10/26/15
B 3.4.7-4	89	DRR 21-0966	7/7/21
B 3.4.7-5	89	DRR 21-0966	7/7/21
B 3.4.7-6	89	DRR 21-0966	7/7/21
B 3.4.8-1	53	DRR 11-1513	7/18/11
B 3.4.8-2	72	DRR 15-1918	10/26/15
B 3.4.8-3	89	DRR 21-0966	7/7/21
B 3.4.8-4	89	DRR 21-0966	7/7/21
B 3.4.8-5	89	DRR 21-0966	7/7/21
B 3.4.9-1	0	Amend. No. 123	12/18/99
B 3.4.9-2	0	Amend. No. 123	12/18/99
B 3.4.9-3	0	Amend. No. 123	12/18/99
B 3.4.9-4	89	DRR 21-0966	7/7/21
B 3.4.10-1	5	DRR 00-1427	10/12/00
B 3.4.10-2	5	DRR 00-1427	10/12/00
B 3.4.10-3	0	Amend. No. 123	12/18/99
B 3.4.10-4	32	DRR 07-0139	2/7/07
B 3.4.11-1	0	Amend. No. 123	12/18/99
B 3.4.11-2	1	DRR 99-1624	12/18/99
B 3.4.11-3	19	DRR 04-1414	10/12/04
B 3.4.11-4	0	Amend. No. 123	12/18/99
B 3.4.11-5	1	DRR 99-1624	12/18/99
B 3.4.11-6	0	Amend. No. 123	12/18/99
B 3.4.11-7	89	DRR 21-0966	7/7/21
B 3.4.12-1	61	DRR 14-0346	2/27/14
B 3.4.12-2	61	DRR 14-0346	2/27/14
B 3.4.12-3	0	Amend. No. 123	12/18/99
B 3.4.12-4	61	DRR 14-0346	2/27/14
B 3.4.12-5	61	DRR 14-0346	2/27/14
B 3.4.12-6	56	DRR 12-1792	11/7/12
B 3.4.12-7	61	DRR 14-0346	2/27/14
B 3.4.12-8	1	DRR 99-1624	12/18/99
B 3.4.12-9	56	DRR 12-1792	11/7/12
B 3.4.12-10	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.12-11	61	DRR 14-0346	2/27/14
B 3.4.12-12	89	DRR 21-0966	7/7/21
B 3.4.12-13	89	DRR 21-0966	7/7/21
B 3.4.12-14	89	DRR 21-0966	7/7/21
B 3.4.13-1	0	Amend. No. 123	12/18/99
B 3.4.13-2	81	DRR 19-1027	10/28/19
B 3.4.13-3	29	DRR 06-1984	10/17/06
B 3.4.13-4	35	DRR 07-1553	9/28/07
B 3.4.13-5	89	DRR 21-0966	7/7/21
B 3.4.13-6	89	DRR 21-0966	7/7/21
B 3.4.14-1	0	Amend. No. 123	12/18/99
B 3.4.14-2	0	Amend. No. 123	12/18/99
B 3.4.14-3	0	Amend. No. 123	12/18/99
B 3.4.14-4	0	Amend. No. 123	12/18/99
B 3.4.14-5	89	DRR 21-0966	7/7/21
B 3.4.14-6	89	DRR 21-0966	7/7/21
B 3.4.15-1	31	DRR 06-2494	12/13/06
B 3.4.15-2	31	DRR 06-2494	12/13/06
B 3.4.15-3	33	DRR 07-0656	5/1/07
B 3.4.15-4	33	DRR 07-0656	5/1/07
B 3.4.15-5	65	DRR 14-2146	9/30/14
B 3.4.15-6	31	DRR 06-2494	12/13/06
B 3.4.15-7	89	DRR 21-0966	7/7/21
B 3.4.15-8	31	DRR 06-2494	12/13/06
B 3.4.16-1	81	DRR 19-1027	10/28/19
B 3.4.16-2	84	DRR 20-0400	08/18/20
B 3.4.16-3	31	DRR 06-2494	12/13/06
B 3.4.16-4	92	DRR 22-0767	11/3/22
B 3.4.16-5	92	DRR 22-0767	11/3/22
B 3.4.17-1	29	DRR 06-1984	10/17/06
B 3.4.17-2	81	DRR 19-1027	10/28/19
B 3.4.17-3	52	DRR 11-0724	4/11/11
B 3.4.17-4	81	DRR 19-1027	10/28/19
B 3.4.17-5	57	DRR 13-0006	1/16/13
B 3.4.17-6	57	DRR 13-0006	1/16/13
B 3.4.17-7	81	DRR 19-1027	10/28/19
TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)			
B 3.5.1-1	0	Amend. No. 123	12/18/99
B 3.5.1-2	0	Amend. No. 123	12/18/99
B 3.5.1-3	73	DRR 15-2135	11/17/15
B 3.5.1-4	73	DRR 15-2135	11/17/15
B 3.5.1-5	1	DRR 99-1624	12/18/99
B 3.5.1-6	89	DRR 21-0966	7/7/21
B 3.5.1-7	89	DRR 21-0966	7/7/21
B 3.5.1-8	1	DRR 99-1624	12/18/99
B 3.5.2-1	84	DRR 20-0400	08/18/20
B 3.5.2-2	0	Amend. No. 123	12/18/99
B 3.5.2-3	0	Amend. No. 123	12/18/99
B 3.5.2-4	0	Amend. No. 123	12/18/99
B 3.5.2-5	72	DRR 15-1918	10/26/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) (continued)			
B 3.5.2-6	42	DRR 09-1009	7/16/09
B 3.5.2-7	89	DRR 21-0966	7/7/21
B 3.5.2-8	89	DRR 21-0966	7/7/21
B 3.5.2-9	89	DRR 21-0966	7/7/21
B 3.5.2-10	89	DRR 21-0966	7/7/21
B 3.5.2-11	89	DRR 21-0966	7/7/21
B 3.5.2-12	72	DRR 15-1918	10/26/15
B 3.5.3-1	56	DRR 12-1792	11/7/12
B 3.5.3-2	72	DRR 15-1918	10/26/15
B 3.5.3-3	56	DRR 12-1792	11/7/12
B 3.5.3-4	56	DRR 12-1792	11/7/12
B 3.5.4-1	0	Amend. No. 123	12/18/99
B 3.5.4-2	0	Amend. No. 123	12/18/99
B 3.5.4-3	0	Amend. No. 123	12/18/99
B 3.5.4-4	0	Amend. No. 123	12/18/99
B 3.5.4-5	89	DRR 21-0966	7/7/21
B 3.5.4-6	89	DRR 21-0966	7/7/21
B 3.5.5-1	21	DRR 05-0707	4/20/05
B 3.5.5-2	21	DRR 05-0707	4/20/05
B 3.5.5-3	89	DRR 21-0966	7/7/21
B 3.5.5-4	21	DRR 05-0707	4/20/05
TAB – B 3.6 CONTAINMENT SYSTEMS			
B 3.6.1-1	0	Amend. No. 123	12/18/99
B 3.6.1-2	81	DRR 19-1027	10/28/19
B 3.6.1-3	0	Amend. No. 123	12/18/99
B 3.6.1-4	87	DRR 21-0359	3/25/21
B 3.6.2-1	81	DRR 19-1027	10/28/19
B 3.6.2-2	0	Amend. No. 123	12/18/99
B 3.6.2-3	0	Amend. No. 123	12/18/99
B 3.6.2-4	0	Amend. No. 123	12/18/99
B 3.6.2-5	0	Amend. No. 123	12/18/99
B 3.6.2-6	89	DRR 21-0966	7/7/21
B 3.6.2-7	89	DRR 21-0966	7/7/21
B 3.6.3-1	0	Amend. No. 123	12/18/99
B 3.6.3-2	84	DRR 20-0400	08/18/20
B 3.6.3-3	81	DRR 19-1027	10/28/19
B 3.6.3-4	49	DRR 11-0014	1/31/11
B 3.6.3-5	49	DRR 11-0014	1/31/11
B 3.6.3-6	49	DRR 11-0014	1/31/11
B 3.6.3-7	41	DRR 09-0288	3/20/09
B 3.6.3-8	36	DRR 08-0255	3/11/08
B 3.6.3-9	41	DRR 21-0966	7/7/21
B 3.6.3-10	89	DRR 21-0966	7/7/21
B 3.6.3-11	36	DRR 08-0255	3/11/08
B 3.6.3-12	89	DRR 21-0966	7/7/21
B 3.6.3-13	89	DRR 21-0966	7/7/21
B 3.6.3-14	36	DRR 08-0255	3/11/08
B 3.6.3-15	39	DRR 08-1096	8/28/08
B 3.6.3-16	39	DRR 08-1096	8/28/08
B 3.6.3-17	36	DRR 08-0255	3/11/08

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.6 CONTAINMENT SYSTEMS (continued)			
B 3.6.3-18	36	DRR 08-0255	3/11/08
B 3.6.3-19	36	DRR 08-0255	3/11/08
B 3.6.4-1	39	DRR 08-1096	8/28/08
B 3.6.4-2	0	Amend. No. 123	12/18/99
B 3.6.4-3	89	DRR 21-0966	7/7/21
B 3.6.5-1	0	Amend. No. 123	12/18/99
B 3.6.5-2	37	DRR 08-0503	4/8/08
B 3.6.5-3	89	DRR 21-0966	7/7/21
B 3.6.5-4	0	Amend. No. 123	12/18/99
B 3.6.6-1	81	DRR 19-1027	10/28/19
B 3.6.6-2	63	DRR 14-1572	7/1/14
B 3.6.6-3	37	DRR 08-0503	4/8/08
B 3.6.6-4	81	DRR 19-1027	10/28/19
B 3.6.6-5	0	Amend. No. 123	12/18/99
B 3.6.6-6	18	DRR 04-1018	9/1/04
B 3.6.6-7	89	DRR 21-0966	7/7/21
B 3.6.6-8	89	DRR 21-0966	7/7/21
B 3.6.6-9	72	DRR 15-1918	10/26/15
B 3.6.6-10	89	DRR 21-0966	7/7/21
B 3.6.6.11	80	DRR 19-0524	5/30/19
B 3.6.7-1	0	Amend. No. 123	12/18/99
B 3.6.7-2	81	DRR 19-1027	10/28/19
B 3.6.7-3	89	DRR 21-0966	7/7/21
B 3.6.7-4	89	DRR 21-0966	7/7/21
B 3.6.7-5	89	DRR 21-0966	7/7/21
TAB – B 3.7 PLANT SYSTEMS			
B 3.7.1-1	0	Amend. No. 123	12/18/99
B 3.7.1-2	84	DRR 20-0400	08/18/20
B 3.7.1-3	0	Amend. No. 123	12/18/99
B 3.7.1-4	84	DRR 20-0400	08/18/20
B 3.7.1-5	84	DRR 20-0400	08/18/20
B 3.7.1-6	84	DRR 20-0400	08/18/20
B 3.7.2-1	44	DRR 09-1744	10/28/09
B 3.7.2-2	44	DRR 09-1744	10/28/09
B 3.7.2-3	44	DRR 09-1744	10/28/09
B 3.7.2-4	81	DRR 19-1027	10/28/19
B 3.7.2-5	44	DRR 09-1744	10/28/09
B 3.7.2-6	44	DRR 09-1744	10/28/09
B 3.7.2-7	44	DRR 09-1744	10/28/09
B 3.7.2-8	44	DRR 09-1744	10/28/09
B 3.7.2-9	89	DRR 21-0966	7/7/21
B 3.7.2-10	81	DRR 19-1027	10/28/19
B 3.7.2-11	44	DRR 09-1744	10/28/09
B 3.7.3-1	37	DRR 08-0503	4/8/08
B 3.7.3-2	50	DRR 11-0449	3/9/11
B 3.7.3-3	37	DRR 08-0503	4/8/08
B 3.7.3-4	37	DRR 08-0503	4/8/08
B 3.7.3-5	37	DRR 08-0503	4/8/08
B 3.7.3-6	37	DRR 08-0503	4/8/08
B 3.7.3-7	37	DRR 08-0503	4/8/08

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.3-8	37	DRR 08-0503	4/8/08
B 3.7.3-9	66	DRR 14-2329	11/6/14
B 3.7.3-10	89	DRR 21-0966	7/7/21
B 3.7.3-11	37	DRR 08-0503	4/8/08
B 3.7.4-1	1	DRR 99-1624	12/18/99
B 3.7.4-2	84	DRR 20-0400	08/18/20
B 3.7.4-3	19	DRR 04-1414	10/12/04
B 3.7.4-4	19	DRR 04-1414	10/12/04
B 3.7.4-5	89	DRR 21-0966	7/7/21
B 3.7.5-1	54	DRR 11-2394	11/16/11
B 3.7.5-2	54	DRR 11-2394	11/16/11
B 3.7.5-3	0	Amend. No. 123	12/18/99
B 3.7.5-4	85	DRR 20-0988	10/24/20
B 3.7.5-5	76	DRR 17-0343	2/21/17
B 3.7.5-6	85	DRR 20-0988	10/24/20
B 3.7.5-7	89	DRR 21-0966	7/7/21
B 3.7.5-8	89	DRR 21-0966	7/7/21
B 3.7.5-9	89	DRR 21-0966	7/7/21
B 3.7.5-10	85	DRR 20-0988	10/24/20
B 3.7.6-1	0	Amend. No. 123	12/18/99
B 3.7.6-2	0	Amend. No. 123	12/18/99
B 3.7.6-3	89	DRR 21-0966	7/7/21
B 3.7.7-1	0	Amend. No. 123	12/18/99
B 3.7.7-2	0	Amend. No. 123	12/18/99
B 3.7.7-3	92	DRR 22-0767	11/3/22
B 3.7.7-4	89	DRR 21-0966	7/7/21
B 3.7.8-1	0	Amend. No. 123	12/18/99
B 3.7.8-2	0	Amend. No. 123	12/18/99
B 3.7.8-3	0	Amend. No. 123	12/18/99
B 3.7.8-4	89	DRR 21-0966	7/7/21
B 3.7.8-5	89	DRR 21-0966	7/7/21
B 3.7.9-1	3	Amend. No. 134	7/14/00
B 3.7.9-2	3	Amend. No. 134	7/14/00
B 3.7.9-3	89	DRR 21-0966	7/7/21
B 3.7.9-4	3	Amend. No. 134	7/14/00
B 3.7.10-1	64	DRR 14-1822	8/28/14
B 3.7.10-2	81	DRR 19-1027	10/28/19
B 3.7.10-3	81	DRR 19-1027	10/28/19
B 3.7.10-4	81	DRR 19-1027	10/28/19
B 3.7.10-5	81	DRR 19-1027	10/28/19
B 3.7.10-6	57	DRR 13-0006	1/16/13
B 3.7.10-7	89	DRR 21-0966	7/7/21
B 3.7.10-8	89	DRR 21-0966	7/7/21
B 3.7.10-9	81	DRR 19-1027	10/28/19
B 3.7.11-1	0	Amend. No. 123	12/18/99
B 3.7.11-2	57	DRR 13-0006	1/16/13
B 3.7.11-3	89	DRR 21-0966	7/7/21
B 3.7.11-4	63	DRR 14-1572	7/1/14
B 3.7.12-1	0	Amend. No. 123	12/18/99
B 3.7.13-1	24	DRR 06-0051	2/28/06
B 3.7.13-2	81	DRR 19-1027	10/28/19

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.13-3	81	DRR 19-1027	10/28/19
B 3.7.13-4	81	DRR 19-1027	10/28/19
B 3.7.13-5	89	DRR 21-0966	7/7/21
B 3.7.13-6	89	DRR 21-0966	7/7/21
B 3.7.13-7	89	DRR 21-0966	7/7/21
B 3.7.13-8	89	DRR 21-0966	7/7/21
B 3.7.14-1	0	Amend. No. 123	12/18/99
B 3.7.15-1	81	DRR 19-1027	10/28/19
B 3.7.15-2	89	DRR 21-0966	7/7/21
B 3.7.15-3	81	DRR 19-1027	10/28/19
B 3.7.16-1	5	DRR 00-1427	10/12/00
B 3.7.16-2	23	DRR 05-1995	9/28/05
B 3.7.16-3	89	DRR 21-0966	7/7/21
B 3.7.17-1	7	DRR 01-0474	5/1/01
B 3.7.17-2	7	DRR 01-0474	5/1/01
B 3.7.17-3	5	DRR 00-1427	10/12/00
B 3.7.18-1	81	DRR 19-1027	10/28/19
B 3.7.18-2	81	DRR 19-1027	10/28/19
B 3.7.18-3	89	DRR 21-0966	7/7/21
B 3.7.19-1	44	DRR 09-1744	10/28/09
B 3.7.19-2	54	DRR 11-2394	11/16/11
B 3.7.19-3	54	DRR 11-2394	11/16/11
B 3.7.19-4	61	DRR 14-0346	2/27/14
B 3.7.19-5	61	DRR 14-0346	2/27/14
B 3.7.19-6	89	DRR 21-0966	7/7/21
B 3.7.19-7	89	DRR 21-0966	7/7/21
B 3.7.20-1	79	DRR 18-1579	10/22/18
B 3.7.20-2	79	DRR 18-1579	10/22/18
B 3.7.20-3	85	DRR 20-0988	10/24/20
B 3.7.20-4	89	DRR 21-0966	7/7/21
B 3.7.20-5	89	DRR 21-0966	7/7/21
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.1-1	88	DRR 21-0591	4/28/21
B 3.8.1-2	93	DRR 22-1363	2/2/23
B 3.8.1-3	93	DRR 22-1363	2/2/23
B 3.8.1-4	93	DRR 22-1363	2/2/23
B 3.8.1-5	93	DRR 22-1363	2/2/23
B 3.8.1-6	93	DRR 22-1363	2/2/23
B 3.8.1-7	93	DRR 22-1363	2/2/23
B 3.8.1-8	93	DRR 22-1363	2/2/23
B 3.8.1-9	93	DRR 22-1363	2/2/23
B 3.8.1-10	93	DRR 22-1363	2/2/23
B 3.8.1-11	93	DRR 22-1363	2/2/23
B 3.8.1-12	93	DRR 22-1363	2/2/23
B 3.8.1-13	93	DRR 22-1363	2/2/23
B 3.8.1-14	93	DRR 22-1363	2/2/23
B 3.8.1-15	47	DRR 10-1089	6/16/10
B 3.8.1-16	26	DRR 06-1350	7/24/06
B 3.8.1-17	93	DRR 22-1363	2/2/23
B 3.8.1-18	59	DRR 13-1524	6/26/13

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.1-19	89	DRR 21-0966	7/7/21
B 3.8.1-20	89	DRR 21-0966	7/7/21
B 3.8.1-21	93	DRR 22-1363	2/2/23
B 3.8.1-22	89	DRR 21-0966	7/7/21
B 3.8.1-23	93	DRR 22-1363	2/2/23
B 3.8.1-24	74	DRR 16-1182	7/7/16
B 3.8.1-25	89	DRR 21-0966	7/7/21
B 3.8.1-26	89	DRR 21-0966	7/7/21
B 3.8.1-27	89	DRR 21-0966	7/7/21
B 3.8.1-28	93	DRR 22-1363	2/2/23
B 3.8.1-29	89	DRR 21-0966	7/7/21
B 3.8.1-30	89	DRR 21-0966	7/7/21
B 3.8.1-31	89	DRR 21-0966	7/7/21
B 3.8.1-32	89	DRR 21-0966	7/7/21
B 3.8.1-33	89	DRR 21-0966	7/7/21
B 3.8.1-34	93	DRR 22-1363	2/2/23
B 3.8.2-1	57	DRR 13-0006	1/16/13
B 3.8.2-2	0	Amend. No. 123	12/18/99
B 3.8.2-3	92	DRR 22-0767	11/3/22
B 3.8.2-4	92	DRR 22-0767	11/3/22
B 3.8.2-5	57	DRR 13-0006	1/16/13
B 3.8.2-6	57	DRR 13-0006	1/16/13
B 3.8.2-7	57	DRR 13-0006	1/16/13
B 3.8.3-1	1	DRR 99-1624	12/18/99
B 3.8.3-2	0	Amend. No. 123	12/18/99
B 3.8.3-3	0	Amend. No. 123	12/18/99
B 3.8.3-4	1	DRR 99-1624	12/18/99
B 3.8.3-5	0	Amend. No. 123	12/18/99
B 3.8.3-6	89	DRR 21-0966	7/7/21
B 3.8.3-7	12	DRR 02-1062	9/26/02
B 3.8.3-8	89	DRR 21-0966	7/7/21
B 3.8.3-9	0	Amend. No. 123	12/18/99
B 3.8.4-1	0	Amend. No. 123	12/18/99
B 3.8.4-2	0	Amend. No. 123	12/18/99
B 3.8.4-3	93	DRR 22-1363	2/2/23
B 3.8.4-4	0	Amend. No. 123	12/18/99
B 3.8.4-5	93	DRR 22-1363	2/2/23
B 3.8.4-6	89	DRR 21-0966	7/7/21
B 3.8.4-7	6	DRR 00-1541	3/13/01
B 3.8.4-8	93	DRR 22-1363	2/2/23
B 3.8.4-9	89	DRR 21-0966	7/7/21
B 3.8.5-1	57	DRR 13-0006	1/16/13
B 3.8.5-2	0	Amend. No. 123	12/18/99
B 3.8.5-3	57	DRR 13-0006	1/16/13
B 3.8.5-4	57	DRR 13-0006	1/16/13
B 3.8.5-5	57	DRR 13-0006	1/16/13
B 3.8.6-1	0	Amend. No. 123	12/18/99
B 3.8.6-2	0	Amend. No. 123	12/18/99
B 3.8.6-3	89	DRR 21-0966	7/7/21
B 3.8.6-4	89	DRR 21-0966	7/7/21
B 3.8.6-5	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.6-6	0	Amend. No. 123	12/18/99
B 3.8.7-1	69	DRR 15-0493	3/26/15
B 3.8.7-2	69	DRR 15-0493	3/26/15
B 3.8.7-3	89	DRR 21-0966	7/7/21
B 3.8.7-4	0	Amend. No. 123	12/18/99
B 3.8.8-1	57	DRR 13-0006	1/16/13
B 3.8.8-2	0	Amend. No. 123	12/18/99
B 3.8.8-3	69	DRR 15-0493	3/26/15
B 3.8.8-4	57	DRR 13-0006	1/16/13
B 3.8.8-5	93	DRR 22-1363	2/2/23
B 3.8.9-1	54	DRR 11-2394	11/16/11
B 3.8.9-2	69	DRR 15-0493	3/26/15
B 3.8.9-3	54	DRR 11-2394	11/16/11
B 3.8.9-4	0	Amend. No. 123	12/18/99
B 3.8.9-5	69	DRR 15-0493	3/26/15
B 3.8.9-6	0	Amend. No. 123	12/18/99
B 3.8.9-7	0	Amend. No. 123	12/18/99
B 3.8.9-8	89	DRR 21-0966	7/7/21
B 3.8.9-9	0	Amend. No. 123	12/18/99
B 3.8.10-1	57	DRR 13-0006	1/16/13
B 3.8.10-2	0	Amend. No. 123	12/18/99
B 3.8.10-3	0	Amend. No. 123	12/18/99
B 3.8.10-4	57	DRR 13-0006	1/16/13
B 3.8.10-5	57	DRR 13-0006	1/16/13
B 3.8.10-6	89	DRR 21-0966	7/7/21
TAB – B 3.9 REFUELING OPERATIONS			
B 3.9.1-1	0	Amend. No. 123	12/18/99
B 3.9.1-2	19	DRR 04-1414	10/12/04
B 3.9.1-3	19	DRR 04-1414	10/12/04
B 3.9.1-4	89	DRR 21-0966	7/7/21
B 3.9.2-1	0	Amend. No. 123	12/18/99
B 3.9.2-2	0	Amend. No. 123	12/18/99
B 3.9.2-3	89	DRR 21-0966	7/7/21
B 3.9.3-1	68	DRR 15-0248	2/26/15
B 3.9.3-2	68	DRR 15-0248	2/26/15
B 3.9.3-3	89	DRR 21-0966	7/7/21
B 3.9.3-4	89	DRR 21-0966	7/7/21
B 3.9.4-1	81	DRR 19-1027	10/28/19
B 3.9.4-2	13	DRR 02-1458	12/03/02
B 3.9.4-3	81	DRR 19-1027	10/28/19
B 3.9.4-4	23	DRR 05-1995	9/28/05
B 3.9.4-5	89	DRR 21-0966	7/7/21
B 3.9.4-6	89	DRR 21-0966	7/7/21
B 3.9.5-1	0	Amend. No. 123	12/18/99
B 3.9.5-2	72	DRR 15-1918	10/26/15
B 3.9.5-3	32	DRR 07-0139	2/7/07
B 3.9.5-4	89	DRR 21-0966	7/7/21
B 3.9.5-5	89	DRR 21-0966	7/7/21
B 3.9.6-1	0	Amend. No. 123	12/18/99
B 3.9.6-2	72	DRR 15-1918	10/26/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TSTAB – B 3.9 REFUELING OPERATIONS (continued)			
B 3.9.6-3	42	DRR 09-1009	7/16/09
B 3.9.6-4	89	DRR 21-0966	7/7/21
B 3.9.6-5	89	DRR 21-0966	7/7/21
B 3.9.7-1	81	DRR 19-1027	10/28/19
B 3.9.7-2	89	DRR 21-0966	7/7/21
B 3.9.7-3	81	DRR 19-1027	10/28/19

Note 1 The page number is listed on the center of the bottom of each page.

Note 2 The revision number is listed in the lower right hand corner of each page. The Revision number will be page specific.

Note 3 The change document will be the document requesting the change. Amendment No. 123 issued the improved Technical Specifications and associated Bases which affected each page. The NRC has indicated that Bases changes will not be issued with License Amendments. Therefore, the change document should be a DRR number in accordance with AP 26A-002.

Note 4 The date effective or implemented is the date the Bases pages are issued by Document Control.

BASES

BACKGROUND (continued)

Power (LOP) Diesel Generator (DG) Start Instrumentation." After the DG has started, it will automatically tie to its respective bus after offsite power is tripped as a consequence of ESF bus undervoltage or degraded voltage, independent of or coincident with an SI signal. The DGs will also start and operate in the standby mode without tying to the ESF bus on an SI signal alone. Following the trip of offsite power, a LSELS strips non-essential loads from the ESF bus. When the DG is tied to the ESF bus, essential loads are then sequentially connected to its respective ESF bus by the load sequencer. The sequencing logic controls the permissive and starting signals to motor breakers to prevent overloading the DG by automatic load application.

In the event of a loss of preferred power, the ESF electrical loads are automatically connected to the DGs in sufficient time to provide for safe reactor shutdown and to mitigate the consequences of a Design Basis Accident (DBA) such as a loss of coolant accident (LOCA).

Certain required unit loads are returned to service in a predetermined sequence in order to prevent overloading the DG in the process. Within 1 minute after the initiating signal is received, all loads needed to recover the unit or maintain it in a safe condition are returned to service.

Ratings for Train A and Train B DGs satisfy the requirements of Regulatory Guide 1.9 (Ref. 3). The continuous service rating of each DG is 6201 kW with 10% overload permissible for up to 2 hours in any 24 hour period. The ESF loads that are powered from the 4.16 kV ESF buses are listed in Reference 2.

The Station Blackout (SBO) DG System consists of three non-safety related DGs that are capable of supplying essential loads on ESF buses NB01 and NB02. The SBO DG System is made available to support extended Completion Times in the event of an inoperable DG. Only two SBO DGs are required to successfully start the minimum required safe shutdown loads. The SBO DGs are made available as a defense-in-depth supplemental source of AC power to mitigate a loss of offsite power event. The SBO DGs would remain disconnected from the Class 1E AC Distribution System unless required during a loss of offsite power or during a functional load test.

APPLICABLE SAFETY ANALYSES

The initial conditions of DBA and transient analyses in the USAR, Chapter 6 (Ref. 4) and Chapter 15 (Ref. 5), assume ESF systems are OPERABLE. The AC electrical power sources are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the fuel, Reactor Coolant System (RCS), and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2,

BASES

APPLICABLE SAFETY ANALYSES (continued)

Power Distribution Limits; Section 3.4, Reactor Coolant System (RCS); and Section 3.6, Containment Systems.

The OPERABILITY of the AC electrical power sources is consistent with the initial assumptions of the Accident analyses and is based upon meeting the design basis of the unit. This results in maintaining at least one train of the onsite or offsite AC sources OPERABLE during Accident conditions in the event of:

a. An assumed loss of all offsite power or all onsite AC power; and

b. A worst case single failure.

The AC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two qualified circuits between the offsite transmission network and the onsite Class 1E Electrical Power System, separate and independent DGs for each train, and redundant LSELS for each train ensure availability of the required power to shut down the reactor and maintain it in a safe shutdown condition after an anticipated operational occurrence (AOO) or a postulated DBA.

Each offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the ESF buses.

One offsite circuit consists of the #9/#11 transformers, fed from the 345 kV offsite transmission network, feeding power through breaker 13-49 to the ESF transformer XNB01, which, in turn powers the NB01 bus through its normal feeder breaker or the NB02 bus through its alternate feeder breaker. Transformer XNB01 may also be powered from the #8/#10 transformers, fed from the 345 kV offsite transmission network, feeding power through breaker 13-50.

When the main generator is on-line, the offsite circuit energizing NB01 is considered inoperable when NB01 is only energized from the transmission network through the 345-50 and 345-60 main generator breakers. For this configuration, switchyard breakers 345-120 and 345-80 are open.

Another offsite circuit consists of the startup transformer feeding through breaker PA0201 powering the ESF transformer XNB02, which, in turn powers the NB02 bus through its normal feeder breaker or the NB01 bus through its alternate feeder breaker.

BASES

LCO (continued)

Switchyard transformers #10 and #11 and ESF transformers XNB01 and XNB02 have automatic load tap changers (LTCs). For an ESF transformer to be OPERABLE, its LTC and, for XNB01, the LTC for the transformer feeding it, must be capable of meeting specified safety design functions identified in calculation XX-E-006.

Each DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective ESF bus on detection of bus undervoltage. This will be accomplished within 12 seconds. Each DG must also be capable of accepting required loads within the assumed loading sequence intervals and continue to operate until offsite power can be restored to the ESF buses. These capabilities are required to be met from a variety of initial conditions such as DG in standby with the engine hot and DG in standby with the engine at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillance, e.g., capability of the DG to revert to standby status on an ECCS signal while operating in parallel test mode.

Upon failure of the DG lube oil keep warm system when the DG is in the standby condition, the DG remains OPERABLE if lube oil temperature is ≥ 115 °F and engine lubrication (i.e., flow of lube oil to the DG engine) is maintained. Upon failure of the DG jacket water keep warm system, the DG remains OPERABLE as long as jacket water temperature is ≥ 105 °F (Ref. 13).

Initiating an EDG start upon a detected undervoltage or degraded voltage condition, tripping of nonessential loads, and proper sequencing of loads, is a required function of LSELS and required for DG OPERABILITY. In addition, the LSELS Automatic Test Indicator (ATI) is an installed testing aid and is not required to be OPERABLE to support the sequencer function. Absence of a functioning ATI does not render LSELS inoperable.

The AC sources in one train must be separate and independent of the AC sources in the other train. For the DGs, separation and independence are complete. For the offsite AC source, separation and independence are to the extent practical.

APPLICABILITY

The AC sources and LSELS are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs or abnormal transients; and

BASES

APPLICABILITY (continued)

b. Adequate core cooling is provided and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

The AC power requirements for MODES 5 and 6 are covered in LCO 3.8.2, "AC Sources - Shutdown."

ACTIONS

A Note prohibits the application of LCO 3.0.4b. to an inoperable DG. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable DG and the provisions of LCO 3.0.4b., which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

A.1

To ensure a highly reliable power source remains with one offsite circuit inoperable, it is necessary to verify the OPERABILITY of the remaining required offsite circuit on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action not met. However, if the second required circuit fails SR 3.8.1.1, the second offsite circuit is inoperable, and Condition D, for two offsite circuits inoperable, is entered.

A.2

Required Action A.2, which only applies if the train cannot be powered from an offsite source, is intended to provide assurance that an event coincident with a single failure of the associated DG will not result in a complete loss of safety function of critical redundant required features. These redundant required features are those that are assumed to function to mitigate an accident, coincident with a loss of offsite power, in the safety analyses, such as the Emergency Core Cooling System and Auxiliary Feedwater System. These redundant features do not include monitoring requirements, such as Post Accident Monitoring and Remote Shutdown. These features are powered from the redundant AC electrical power train. This includes motor driven auxiliary feedwater pumps and the turbine driven auxiliary feedwater pump which must be available for mitigation of a feedwater line break. Single train systems, other than the turbine driven auxiliary feedwater pump, are not included in this Condition. A Note is added to this Required Action stating that in MODES 1, 2, and 3, the turbine driven auxiliary feedwater pump is considered a required redundant feature. The reason for the Note is to confirm the

BASES

ACTIONS

A.2 (continued)

OPERABILITY of the turbine driven auxiliary feedwater pump in this Condition, since the remaining OPERABLE motor driven auxiliary feedwater pump is not by itself capable of providing 100% of the auxiliary feedwater flow assumed in the safety analysis.

The Completion Time for Required Action A.2 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. The train has no offsite power supplying its loads; and

b. A required feature on the other train is inoperable and not in the safeguards position.

If at any time during the existence of Condition A (one offsite circuit inoperable) a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering no offsite power to one train of the onsite Class 1E Electrical Power Distribution System coincident with one or more inoperable required support or supported features, or both, that are associated with the other train that has offsite power, results in starting the Completion Times for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to Train A and Train B of the onsite Class 1E Distribution System. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

A.3

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours. With one offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the unit safety systems. In this Condition,

BASES

ACTIONS

A.3 (continued)

however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System.

The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DG is inoperable and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 14 days. This could lead to a total of 17 days, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become inoperable and an additional 14 days allowed prior to complete restoration of the LCO. The 17 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. Although highly unlikely, this could continue indefinitely if not limited. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. This limits the time the plant can alternate between Conditions A, B, and E (see Completion Time Example 1.3-3). The "AND" connector between the 72 hour and 17 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

Tracking the 17 day Completion Time is a requirement for beginning the Completion Time "clock" that is in addition to the normal Completion Time requirements. With respect to the 17 day Completion Time, the "time zero" is specified as beginning at the time LCO 3.8.1 was initially not met, instead of at the time Condition A was entered. This results in the requirement, when in this Condition, to track the time elapsed from both the Condition A "time zero," and the "time zero" when LCO 3.8.1 was initially not met. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO portion of the Completion Time.

BASES

ACTIONS (continued)

B.1

To ensure a highly reliable power source remains with an inoperable DG, it is necessary to verify the availability of the offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions and Required Actions must then be entered.

B.2

In order to extend the Completion Time for an inoperable DG from 72 hours to 14 days, the required SBO DGs must be verified available within 1 hour upon entry into TS 3.8.1, Condition B, and every 8 hours thereafter. SBO DG availability requires that:

a. A start/loaded/unloaded test has been performed within 30 days of entry into the extended Completion Time. This portion of the Required Action evaluation is performed one time and is met with an administrative verification of this prior to a planned removal of a DG from service or after an emergent DG outage; and

b. Fuel oil tank level for each required SBO DG is verified locally to be ≥ 24 hour supply (SBO Mission Time Minimum Fuel Satisfied Light); and

c. Supporting system parameters for starting and operating each required SBO DG are verified to be within required limits for functional availability (e.g., battery state of charge).

Only two SBO DGs are required to successfully start the minimum required safe shutdown loads. The SBO DG System is not used to extend the Completion Time for more than one inoperable DG at any one time.

B.3

Required Action B.3 is intended to provide assurance that a loss of offsite power, during the period that a DG is inoperable, does not result in a complete loss of safety function of critical redundant required features. These redundant required features are those that are assumed to function to mitigate an accident, coincident with a loss of offsite power, in the safety analyses, such as the Emergency Core Cooling System and Auxiliary Feedwater System. These redundant features do not include

BASES

ACTIONS

B.3 (continued)

monitoring requirements, such as Post Accident Monitoring and Remote Shutdown. These features are powered from the redundant AC electrical power train. This includes motor driven auxiliary feedwater pumps. Single train systems, other than the turbine driven auxiliary feedwater pump, are not included in this Condition. A Note is added to this Required Action stating that in MODES 1, 2, and 3, the turbine driven auxiliary feedwater pump is considered a required redundant feature. The reason for the Note is to confirm the OPERABILITY of the turbine driven auxiliary feedwater pump in this Condition, since the remaining OPERABLE motor driven auxiliary feedwater pump is not by itself capable of providing 100% of the auxiliary feedwater flow assumed in the safety analysis. Redundant required feature failures consist of inoperable features associated with a train, redundant to the train that has an inoperable DG.

The Completion Time for Required Action B.3 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. An inoperable DG exists; and

b. A required feature on the other train (Train A or Train B) is inoperable and not in the safeguards position.

If at any time during the existence of this Condition (one DG inoperable) a required feature subsequently becomes inoperable, this Completion Time would begin to be tracked.

Discovering one required DG inoperable coincident with one or more inoperable required support or supported features, or both, that are associated with the OPERABLE DG, results in starting the Completion Time for the Required Action. Four hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

In this Condition, the remaining OPERABLE DG and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may have been lost; however, function has not been lost. The 4 hour Completion Time takes into account the OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

BASES

ACTIONS (continued)

B.4.1 and B.4.2

Required Action B.4.1 provides an allowance to avoid unnecessary testing of OPERABLE DG. If it can be determined that the cause of the inoperable DG does not exist on the OPERABLE DG, SR 3.8.1.2 does not have to be performed. If the cause of inoperability exists on the other DG, it would be declared inoperable upon discovery and Condition F of LCO 3.8.1 would be entered. Once the failure is repaired, the common cause failure no longer exists, and Required Action B.4.1 is satisfied. If the cause of the initial inoperable DG cannot be confirmed not to exist on the remaining DG, performance of SR 3.8.1.2 suffices to provide assurance of continued OPERABILITY of that DG. Required Action B.4.2 is modified by a Note stating that it is satisfied by the automatic start and sequence loading of the DG. The Note indicates that an additional start of the DG for test purposes only, is not required if the DG has automatically started and loaded following a loss of the offsite power source to its respective bus (Ref. 16).

In the event the inoperable DG is restored to OPERABLE status prior to completing either B.4.1 or B.4.2, the plant corrective action program will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition B.

According to Generic Letter 84-15 (Ref. 7), 24 hours is reasonable to confirm that the OPERABLE DG is not affected by the same problem as the inoperable DG.

B.5

In Condition B, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 14 day Completion Time takes into account the capacity and capability of the remaining AC sources (including the required SBO DGs), a reasonable time for repairs, and the low probability of a DBA occurring during this period.

When one DG is inoperable due to either preplanned maintenance (preventive or corrective) or unplanned corrective maintenance work, the Completion Time can be extended from 72 hours to 14 days if the required SBO DGs are verified available for backup operation in accordance with Required Action B.2. The 14 day Completion Time for an inoperable DG will be used no more than once in an 18-month period on a per DG basis to perform DG planned maintenance.

BASES

ACTIONS B.5 (continued)

The second Completion Time for Required Action B.5 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an offsite circuit is inoperable and that circuit is subsequently restored OPERABLE, the LCO may already have been not met for up to 14 days. This could lead to a total of 17 days, since initial failure to meet the LCO, to restore the DGs. At this time, an offsite circuit could again become inoperable, the DGs restored OPERABLE, and an additional 72 hours (for a total of 20 days) allowed prior to complete restoration of the LCO. The 17 day Completion Time provides a limit on time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. This limits the time the plant can alternate between Conditions A, B, and D (see Completion Time Example 1.3-3). The "AND" connector between the 14 day and 17 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

Tracking the 17 day Completion Time is a requirement for beginning the Completion Time "clock" that is in addition to the normal Completion Time requirements. With respect to the 17 day Completion Time, the "time zero" is specified as beginning at the time LCO 3.8.1 was initially not met, instead of at the time Condition B was entered. This results in the requirement, when in this Condition, to track the time elapsed from both the Condition B "time zero," and the "time zero" when LCO 3.8.1 was initially not met. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO portion of the Completion Time."

Administrative controls are required whenever Condition B is entered for a planned or unplanned DG outage that will extend beyond 72 hours. Administrative controls applied ensure or require that:

a. Weather conditions are conducive to an extended DG Completion Time.

BASES

ACTIONS

B.5 (continued)

b. The offsite power supply and switchyard condition are conducive to an extended DG Completion Time, which includes ensuring that switchyard access is restricted and no elective maintenance within the switchyard is performed that would challenge offsite power availability. Elective maintenance or testing that would challenge offsite power availability is that activity that could result in an electrical power distribution system (offsite circuit or transmission network) transient or make the offsite circuit(s) unavailable or inoperable (Reference 17). The operational risk assessment procedure provides a list of equipment that could challenge offsite power availability.

c. No equipment or systems assumed to be available for supporting the extended DG Completion Time are removed from service. The equipment or systems assumed to be available (including required support systems, i.e., associated room coolers, etc.) are as follows:

• Auxiliary Feedwater System (three trains)

• Component Cooling Water System (both trains and all four pumps)

• Essential Service Water System (both trains)

• Emergency Core Cooling System (two trains).

C.1, C.2, C.3 and C.4

If the required SBO DGs are or becomes unavailable with an inoperable DG, then action is required to restore the DG to OPERABLE status or restore the required SBO DGs to available status. Required Action C.1 requires restoring the DG to OPERABLE status within 72 hours from declaring the DG inoperable and Condition B entry. Required Action C.3 requires restoring the required SBO DG(s) to available status within 72 hours from declaring the DG inoperable and Condition B entry.

Required Action C.2 requires restoring the DG to OPERABLE status within 24 hours from Condition C entry. Required Action C.4 requires restoring the required SBO DGs to available status within 24 hours from Condition C entry. The Completion Times for Required Actions C.2 and C.4 are modified by a Note indicating that the 24 hours from Condition C entry is only allowed once within any given extended DG Completion Time. Utilization of Required Actions C.2 and C.4 are typically applicable

BASES

ACTIONS

C.1, C.2, C.3, and C.4 (continued)

72 hours after entry into Condition B (i.e., when the extended 14 day Completion Time is utilized). The total time to restore an inoperable DG cannot exceed 14 days (per the Completion Time of Required Action B.5).

The Completion Time of 72 hours is consistent with Regulatory Guide 1.93 (Ref. 6). The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and low probability of a DBA occurring during this period.

BASES

ACTIONS (continued)

D.1 and D.2

Required Action D.1, which applies when two offsite circuits are inoperable, is intended to provide assurance that an event with a coincident single failure will not result in a complete loss of redundant required features. These redundant required features are those that are assumed to function to mitigate an accident, coincident with a loss of offsite power, in the safety analyses, such as the Emergency Core Cooling System and Auxiliary Feedwater System. These redundant features do not include monitoring requirements, such as Post Accident Monitoring and Remote Shutdown. These features are powered from redundant AC safety trains. This includes motor driven auxiliary feedwater pumps and the turbine driven auxiliary feedwater pump which must be available for mitigation of a feedwater line break. Single train features, other than the turbine driven auxiliary feedwater pump, are not included in this Condition. The Completion Time for this failure of redundant required features is reduced to 12 hours from that allowed for one train without offsite power (Required Action A.2). The rationale for the reduction to 12 hours is that Regulatory Guide 1.93 (Ref. 6) allows a Completion Time of 24 hours for two required offsite circuits inoperable, based upon the assumption that two complete safety trains are OPERABLE. When a concurrent redundant required feature failure exists, this assumption is not the case, and a shorter Completion Time of 12 hours is appropriate. A Note is added to this Required Action stating that in MODES 1, 2, and 3, the turbine driven auxiliary feedwater pump is considered a required redundant feature. The reason for the Note is to confirm the OPERABILITY of the turbine driven auxiliary feedwater pump in this Condition, since the remaining OPERABLE motor driven auxiliary feedwater pump is not by itself capable of providing 100% of the auxiliary feedwater flow assumed in the safety analysis.

The Completion Time for Required Action D.1 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action the Completion Time only begins on discovery that both:

a. All required offsite circuits are inoperable; and

b. A required feature is inoperable and not in the safeguards position.

BASES

ACTIONS

F.1 (continued)

According to Reference 6, with both DGs inoperable, operation may continue for a period that should not exceed 2 hours.

G.1 and G.2

Required Action G.1 provides assurance that the appropriate Action is entered for the affected DG and offsite circuit if its associated LSELS becomes inoperable. An LSELS failure results in the inability of the EDG to start upon a loss of ESF bus voltage or degraded voltage condition. Additionally, LSELS trips the ESF bus normal and alternate feeder supplies and trips non-essential loads. A sequencer failure results in the inability to start all or part of the safety loads powered from the associated ESF bus and thus when an LSELS is inoperable it is appropriate to immediately enter the Conditions for an inoperable DG and offsite circuit. Because an inoperable LSELS affects all or part of the safety loads, an immediate Completion Time is appropriate.

The LSELS is an essential support system to both the offsite circuit and the DG associated with a given ESF bus. Furthermore, the sequencer is on the primary success path for most major AC electrically powered safety systems powered from the associated ESF bus. Therefore, loss of an ESF bus sequencer affects every major ESF system in the division. The 12 hour Completion Time of Required Action G.2 provides a period of time to correct the problem commensurate with the importance of maintaining sequencer OPERABILITY. This time period also ensures that the probability of an accident (requiring sequencer OPERABILITY) occurring during periods when the sequencer is inoperable is minimal.

H.1 and H.2

If the inoperable AC electric power sources or the load shedder and emergency load sequencer cannot be restored to OPERABLE status within the required Completion Time, or Required Actions B.1, B.3, B.4.1, B.4.2, and B.5 cannot be met within the required Completion Times, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.3 (continued)

provide standby power to the associated emergency buses. A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source. The DG shall be operated continuously for the 60 minute time period per the guidance of Regulatory Guide 1.9, Position 2.2.2 (Ref. 3).

Although no power factor requirements are established by this SR, the DG is normally operated at a power factor between 0.8 lagging and 1.0. The 0.8 value is the design rating of the machine, while the 1.0 is an operational limitation to ensure circulating currents are minimized. The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY.

The DG is considered OPERABLE during performance of the Surveillance, i.e., while it is paralleled to the offsite power source, consistent with the Technical Evaluation (i.e., Section 4.0) contained in the Safety Evaluation provided for Amendment No. 154 (Reference 15). This includes consideration of the potential challenges to the DG, its response to a LOCA and/or a loss of offsite power, and appropriate operator actions to restore the DG.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by four Notes. Note 1 indicates that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized. Note 2 states that momentary transients, because of changing bus loads, do not invalidate this test. Momentary power factor transients outside the normal range are acceptable during this surveillance since no power factor requirements are established by this SR. Note 3 indicates that this Surveillance should be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations. Note 4 stipulates a prerequisite requirement for performance of this SR. A successful DG start must precede this test to credit satisfactory performance.

SR 3.8.1.4

This SR provides verification that, with the DG in a standby condition, the fuel oil transfer pump starts on low level in the day tank standpipe and shuts down on high level in the day tank standpipe to automatically maintain the day tank fuel oil level above the DG fuel headers. The fuel

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.7

See SR 3.8.1.2.

SR 3.8.1.8

Not Used.

SR 3.8.1.9

Not Used.

SR 3.8.1.10

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide for DG damage protection. While the DG is not expected to experience this transient during an event and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

The DG is considered OPERABLE while it is paralleled to the offsite power source, consistent with the Technical Evaluation (i.e., Section 4.0) contained in the Safety Evaluation provided for Amendment No. 154 (Reference 15). This includes consideration of the potential challenges to the DG, its response to a LOCA and/or a loss of offsite power, and appropriate operator actions to restore the DG.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR has been modified by a Note. The Note ensures that the DG is tested under load conditions that are as close to design basis conditions as possible. When synchronized with offsite power, testing should be performed at a power factor of ≤ 0.9. This power factor is representative of the actual inductive loading a DG would see under design basis accident conditions. Under certain conditions, however, the Note allows

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.14 (continued)

The DG is considered OPERABLE during performance of the Surveillance, i.e., while it is paralleled to the offsite power source, consistent with the Technical Evaluation (i.e., Section 4.0) contained in the Safety Evaluation provided for Amendment No. 154 (Reference 15). This includes consideration of the potential challenges to the DG, its response to a LOCA and/or a loss of offsite power, and appropriate operator actions to restore the DG.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This Surveillance is modified by two Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. Similarly, momentary power factor transients outside the power factor range will not invalidate the test. Note 2 ensures that the DG is tested under load conditions that are as close to design basis conditions as possible. When synchronized with offsite power, testing should be performed at a power factor of ≤ 0.9. This power factor is representative of the actual inductive loading a DG would see under design basis accident conditions. Under certain conditions, however, Note 2 allows the Surveillance to be conducted at a power factor other than ≤ 0.9. These conditions occur when grid voltage is high, and the additional field excitation needed to get the power factor to ≤ 0.9 results in voltages on the emergency busses that are too high. Under these conditions, the power factor should be maintained as close as practicable to 0.9 while still maintaining acceptable voltage limits on the emergency busses. In other circumstances, the grid voltage may be such that the DG excitation levels needed to obtain a power factor of 0.9 may not cause unacceptable voltages on the emergency busses, but the excitation levels are in excess of those recommended for the DG. In such cases, the power factor shall be maintained as close as practicable to 0.9 without exceeding the DG excitation limits.

SR 3.8.1.15

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within 12 seconds. The 12 second time is derived from the requirements of the accident analysis to respond to a design basis large break LOCA. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

BASES

REFERENCES (continued)

11. ANSI C84.1-1982

12. IEEE Standard 308-1978.

13. Configuration Change Package (CCP) 08052, Revision 1, April 23, 1999.

14. Amendment No. 161, April 21, 2005.

15. Amendment No. 154, August 4, 2004.

16. Amendment No. 8, May 29, 1987.

17. Condition Report 15727.

BASES

LCO (continued) table below, and the corresponding control equipment and interconnecting cabling supplying power to the associated bus within the train, are required to be OPERABLE to ensure the availability of the required power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA.

TRAIN A		TRAIN B	
Bus NK01 energized from Battery NK11 and Charger NK21 or Spare Charger NK25 (powered from AC Load Center NG01)	Bus NK03 energized from Battery NK13 and Charger NK23 or Spare Charger NK25 (powered from AC Load Center NG01)	Bus NK02 energized from Battery NK12 and Charger NK22 or Spare Charger NK26 (powered from AC Load Center NG04)	Bus NK04 energized from Battery NK14 and Charger NK24 or Spare Charger NK26 (powered from AC Load Center NG04)

Loss of any train DC electrical power subsystem does not prevent the minimum safety function from being performed (Ref. 4).

An OPERABLE DC electrical power subsystem requires all required batteries and respective chargers, as shown in the table, to be operating and connected to the associated DC bus(es).

The spare charger is maintained energized (except during maintenance activities) when not in service to allow immediate (<2 hours) alignment to the battery bank and bus when the associated charger is inoperable. The preferred DC electrical source alignment consists of the normal chargers (NK21, NK22, NK23, and NK24) supplying the associated battery bank and bus. (Ref. 11)

APPLICABILITY The DC electrical power sources are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure safe unit operation and to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs or abnormal transients; and

b. Adequate core cooling is provided, and containment integrity and other vital functions are maintained in the event of a postulated DBA.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1 (continued)

charger is supplying the continuous charge required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. This SR applies only to those chargers connected to a battery bank and bus. (Ref. 11)

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each intercell, and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The visual inspection is to detect corrosion in cell post connection area; corrosion outside the connection area is not an OPERABILITY concern and would not require measuring resistance.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The presence of physical damage or deterioration does not necessarily represent a failure of this SR, provided an evaluation determines that the physical damage or deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function.)

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of connections provide an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anticorrosion material is used

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.8 (continued)

The manufacturer recommends that the battery be replaced if its capacity is below 80% of the manufacturer's rating. A capacity of 80% shows that the battery rate of deterioration is increasing, even if there is ample capacity to meet the load requirements. However, based on discussions with the NRC associated with the AT&T round cell batteries (Reference 12), the SR specifies a battery capacity of 85%. If battery capacity is below 85% of the manufacturer's rating, the battery is to be replaced. The battery capacity is determined using the manufacturer's minimum lifetime rating. Adverse trends in the battery capacity identified during the performance of this SR are evaluated in accordance with the corrective action program.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. If the battery shows degradation, or if the battery has reached 85% of its expected life and capacity is < 100% of the manufacturer's rating, the Surveillance Frequency is reduced to 18 months. However, if the battery shows no degradation but has reached 85% of its expected life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity $\geq$ 100% of the manufacturer's rating. Degradation is indicated, according to IEEE-450 (Ref. 9), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is $\geq$ 10% below the manufacturer's rating.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would perturb the electrical distribution system and challenge safety systems.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6, March 10, 1971.
3. IEEE-308-1978.
4. USAR, Chapter 8.
5. IEEE-485-1983, June 1983.
6. USAR, Chapter 6.
7. USAR, Chapter 15.
8. Regulatory Guide 1.93, December 1974.

BASES

ACTIONS A.1, A.2.1, A.2.2, A.2.3, and A.2.4 (continued)

margin to maintaining subcritical operation. Introduction of temperature changes, including temperature increases when operating with a positive MTC, must also be evaluated to ensure they do not result in a loss of required SDM.

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required inverters and to continue this action until restoration is accomplished in order to provide the necessary inverter power to the unit safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required inverters should be completed as quickly as possible in order to minimize the time the unit safety systems may be without power or powered from a bypass constant voltage transformer.

SURVEILLANCE REQUIREMENTS SR 3.8.8.1

This Surveillance verifies that the inverters are functioning properly with all required circuit breakers closed and AC vital buses energized from the inverter. The verification of proper voltage output ensures that the required power is readily available for the instrumentation connected to the AC vital buses. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES 1. USAR, Chapter 6.

2. USAR, Chapter 15.

TECHNICAL SPECIFICATION BASES

Wolf Creek Generating Station, Unit 1

Summary of Revision 94:

1) Revised TS Bases Section B 3.4.13 as part of implementation of License Amendment 236 which was issued on August 7, 2023. This amendment revised the TSs related to reactor coolant system operational leakage and the definition of the term "LEAKAGE" based on TSTF-554, Revision 1, "Revise Reactor Coolant Leakage Requirements," and the associated NRC staff safety evaluation.

Preparer	Jason Knust		8/28/2023
	(Print Name)	(Signature)	Date
Reviewer	Lisa Ketchum		9/18/2023
	(Print Name)	(Signature)	Date
Approver	Dustin Hamman		10/2/2023
	(Print Name)	(Signature)	Date

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – Title Page Technical Specification			
Cover Page			
Title Page			
TAB – Table of Contents			
i	34	DRR 07-1057	7/10/07
ii	29	DRR 06-1984	10/17/06
iii	44	DRR 09-1744	10/28/09
TAB – B 2.0 SAFETY LIMITS (SLs)			
B 2.1.1-1	0	Amend. No. 123	12/18/99
B 2.1.1-2	14	DRR 03-0102	2/12/03
B 2.1.1-3	14	DRR 03-0102	2/12/03
B 2.1.1-4	0	Amend. No. 123	2/12/03
B 2.1.2-1	84	DRR 20-0400	08/18/20
B 2.1.2-2	84	DRR 20-0400	08/18/20
B 2.1.2-3	81	DRR 19-1027	10/28/19
TAB – B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILTY			
B 3.0-1	81	DRR 19-1027	10/28/19
B 3.0-2	0	Amend. No. 123	12/18/99
B 3.0-3	81	DRR 19-1027	10/28/19
B 3.0-4	81	DRR 19-1027	10/28/19
B 3.0-5	81	DRR 19-1027	10/28/19
B 3.0-6	81	DRR 19-1027	10/28/19
B 3.0-7	81	DRR 19-1027	10/28/19
B 3.0-8	81	DRR 19-1027	10/28/19
B 3.0-9	81	DRR 19-1027	10/28/19
B 3.0-10	81	DRR 19-1027	10/28/19
B 3.0-11	81	DRR 19-1027	10/28/19
B 3.0-12	81	DRR 19-1027	10/28/19
B 3.0-13	81	DRR 19-1027	10/28/19
B 3.0-14	81	DRR 19-1027	10/28/19
B 3.0-15	81	DRR 19-1027	10/28/19
B 3.0-16	81	DRR 19-1027	10/28/19
B 3.0-17	81	DRR 19-1027	10/28/19
TAB – B 3.1 REACTIVITY CONTROL SYSTEMS			
B 3.1.1-1	0	Amend. No. 123	12/18/99
B 3.1.1-2	0	Amend. No. 123	12/18/99
B 3.1.1-3	0	Amend. No. 123	12/18/99
B 3.1.1-4	81	DRR 19-1027	10/28/19
B 3.1.1-5	89	DRR 21-0966	7/7/21
B 3.1.2-1	0	Amend. No. 123	12/18/99
B 3.1.2-2	0	Amend. No. 123	12/18/99
B 3.1.2-3	0	Amend. No. 123	12/18/99
B 3.1.2-4	0	Amend. No. 123	12/18/99
B 3.1.2-5	89	DRR 21-0966	7/7/21
B 3.1.3-1	0	Amend. No. 123	12/18/99
B 3.1.3-2	0	Amend. No. 123	12/18/99
B 3.1.3-3	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.1 REACTIVITY CONTROL SYSTEMS (continued)			
B 3.1.3-4	0	Amend. No. 123	12/18/99
B 3.1.3-5	0	Amend. No. 123	12/18/99
B 3.1.3-6	0	Amend. No. 123	12/18/99
B 3.1.4-1	0	Amend. No. 123	12/18/99
B 3.1.4-2	0	Amend. No. 123	12/18/99
B 3.1.4-3	48	DRR 10-3740	12/28/10
B 3.1.4-4	0	Amend. No. 123	12/18/99
B 3.1.4-5	0	Amend. No. 123	12/18/99
B 3.1.4-6	48	DRR 10-3740	12/28/10
B 3.1.4-7	0	Amend. No. 123	12/18/99
B 3.1.4-8	89	DRR 21-0966	7/7/21
B 3.1.4-9	89	DRR 21-0966	7/7/21
B 3.1.5-1	0	Amend. No. 123	12/18/99
B 3.1.5-2	0	Amend. No. 123	12/18/99
B 3.1.5-3	0	Amend. No. 123	12/18/99
B 3.1.5-4	89	DRR 21-0966	7/7/21
B 3.1.6-1	0	Amend. No. 123	12/18/99
B 3.1.6-2	0	Amend. No. 123	12/18/99
B 3.1.6-3	0	Amend. No. 123	12/18/99
B 3.1.6-4	0	Amend. No. 123	12/18/99
B 3.1.6-5	89	DRR 21-0966	7/7/21
B 3.1.6-6	0	Amend. No. 123	12/18/99
B 3.1.7-1	0	Amend. No. 123	12/18/99
B 3.1.7-2	0	Amend. No. 123	12/18/99
B 3.1.7-3	48	DRR 10-3740	12/28/10
B 3.1.7-4	48	DRR 10-3740	12/28/10
B 3.1.7-5	48	DRR 10-3740	12/28/10
B 3.1.7-6	0	Amend. No. 123	12/18/99
B 3.1.8-1	0	Amend. No. 123	12/18/99
B 3.1.8-2	0	Amend. No. 123	12/18/99
B 3.1.8-3	15	DRR 03-0860	7/10/03
B 3.1.8-4	15	DRR 03-0860	7/10/03
B 3.1.8-5	89	DRR 21-0966	7/7/21
B 3.1.8-6	89	DRR 21-0966	7/7/21
B 3.1.9-1	84	DRR 20-0400	08/18/20
B 3.1.9-2	84	DRR 20-0400	08/18/20
B 3.1.9-3	84	DRR 20-0400	08/18/20
B 3.1.9-4	84	DRR 20-0400	08/18/20
B 3.1.9-5	89	DRR 21-0966	7/7/21
TAB – B 3.2 POWER DISTRIBUTION LIMITS			
B 3.2.1-1	48	DRR 10-3740	12/28/10
B 3.2.1-2	0	Amend. No. 123	12/18/99
B 3.2.1-3	48	DRR 10-3740	12/28/10
B 3.2.1-4	48	DRR 10-3740	12/28/10
B 3.2.1-5	48	DRR 10-3740	12/28/10
B 3.2.1-6	48	DRR 10-3740	12/28/10
B 3.2.1-7	48	DRR 10-3740	12/28/10
B 3.2.1-8	89	DRR 21-0966	7/7/21
B 3.2.1-9	89	DRR 21-0966	7/7/21
B 3.2.1-10	70	DRR 15-0944	4/28/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.2 POWER DISTRIBUTION LIMITS (continued)			
B 3.2.2-1	48	DRR 10-3740	12/28/10
B 3.2.2-2	0	Amend. No. 123	12/18/99
B 3.2.2-3	48	DRR 10-3740	12/28/10
B 3.2.2-4	48	DRR 10-3740	12/28/10
B 3.2.2-5	48	DRR 10-3740	12/28/10
B 3.2.2-6	89	DRR 21-0966	7/7/21
B 3.2.3-1	0	Amend. No. 123	12/18/99
B 3.2.3-2	0	Amend. No. 123	12/18/99
B 3.2.3-3	89	DRR 21-0966	7/7/21
B 3.2.4-1	0	Amend. No. 123	12/18/99
B 3.2.4-2	0	Amend. No. 123	12/18/99
B 3.2.4-3	48	DRR 10-3740	12/28/10
B 3.2.4-4	0	Amend. No. 123	12/18/99
B 3.2.4-5	48	DRR 10-3740	12/28/10
B 3.2.4-6	89	DRR 21-0966	7/7/21
B 3.2.4-7	89	DRR 21-0966	7/7/21
TAB – B 3.3 INSTRUMENTATION			
B 3.3.1-1	84	DRR 20-0400	08/18/20
B 3.3.1-2	0	Amend. No. 123	12/18/99
B 3.3.1-3	0	Amend. No. 123	12/18/99
B 3.3.1-4	0	Amend. No. 123	12/18/99
B 3.3.1-5	0	Amend. No. 123	12/18/99
B 3.3.1-6	0	Amend. No. 123	12/18/99
B 3.3.1-7	5	DRR 00-1427	10/12/00
B 3.3.1-8	0	Amend. No. 123	12/18/99
B 3.3.1-9	84	DRR 20-0400	08/18/20
B 3.3.1-10	84	DRR 20-0400	08/18/20
B 3.3.1-11	84	DRR 20-0400	08/18/20
B 3.3.1-12	84	DRR 20-0400	08/18/20
B 3.3.1-13	84	DRR 20-0400	08/18/20
B 3.3.1-14	84	DRR 20-0400	08/18/20
B 3.3.1-15	84	DRR 20-0400	08/18/20
B 3.3.1-16	84	DRR 20-0400	08/18/20
B 3.3.1-17	84	DRR 20-0400	08/18/20
B 3.3.1-18	84	DRR 20-0400	08/18/20
B 3.3.1-19	84	DRR 20-0400	08/18/20
B 3.3.1-20	84	DRR 20-0400	08/18/20
B 3.3.1-21	84	DRR 20-0400	08/18/20
B 3.3.1-22	84	DRR 20-0400	08/18/20
B 3.3.1-23	84	DRR 20-0400	08/18/20
B 3.3.1-24	84	DRR 20-0400	08/18/20
B 3.3.1-25	84	DRR 20-0400	08/18/20
B 3.3.1-26	84	DRR 20-0400	08/18/20
B 3.3.1-27	84	DRR 20-0400	08/18/20
B 3.3.1-28	84	DRR 20-0400	08/18/20
B 3.3.1-29	84	DRR 20-0400	08/18/20
B 3.3.1-30	84	DRR 20-0400	08/18/20
B 3.3.1-31	84	DRR 20-0400	08/18/20
B 3.3.1-32	84	DRR 20-0400	08/18/20
B 3.3.1-33	84	DRR 20-0400	08/18/20

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.1-34	84	DRR 20-0400	08/18/20
B 3.3.1-35	84	DRR 20-0400	08/18/20
B 3.3.1-36	84	DRR 20-0400	08/18/20
B 3.3.1-37	84	DRR 20-0400	08/18/20
B 3.3.1-38	84	DRR 20-0400	08/18/20
B 3.3.1-39	84	DRR 20-0400	08/18/20
B 3.3.1-40	84	DRR 20-0400	08/18/20
B 3.3.1-41	84	DRR 20-0400	08/18/20
B 3.3.1-42	84	DRR 20-0400	08/18/20
B 3.3.1-43	84	DRR 20-0400	08/18/20
B 3.3.1-44	84	DRR 20-0400	08/18/20
B 3.3.1-45	84	DRR 20-0400	08/18/20
B 3.3.1-46	84	DRR 20-0400	08/18/20
B 3.3.1-47	89	DRR 21-0966	7/7/21
B 3.3.1-48	89	DRR 21-0966	7/7/21
B 3.3.1-49	89	DRR 21-0966	7/7/21
B 3.3.1-50	89	DRR 21-0966	7/7/21
B 3.3.1-51	89	DRR 21-0966	7/7/21
B 3.3.1-52	89	DRR 21-0966	7/7/21
B 3.3.1-53	89	DRR 21-0966	7/7/21
B 3.3.1-54	89	DRR 21-0966	7/7/21
B 3.3.1-55	89	DRR 21-0966	7/7/21
B 3.3.1-56	89	DRR 21-0966	7/7/21
B 3.3.1-57	89	DRR 21-0966	7/7/21
B 3.3.1-58	89	DRR 21-0966	7/7/21
B 3.3.1-59	89	DRR 21-0966	7/7/21
B 3.3.1-60	89	DRR 21-0966	7/7/21
B 3.3.1-61	89	DRR 21-0966	7/7/21
B 3.3.2-1	84	DRR 20-0400	08/18/20
B 3.3.2-2	0	Amend. No. 123	12/18/99
B 3.3.2-3	0	Amend. No. 123	12/18/99
B 3.3.2-4	0	Amend. No. 123	12/18/99
B 3.3.2-5	0	Amend. No. 123	12/18/99
B 3.3.2-6	7	DRR 01-0474	5/1/01
B 3.3.2-7	0	Amend. No. 123	12/18/99
B 3.3.2-8	0	Amend. No. 123	12/18/99
B 3.3.2-9	0	Amend. No. 123	12/18/99
B 3.3.2-10	0	Amend. No. 123	12/18/99
B 3.3.2-11	0	Amend. No. 123	12/18/99
B 3.3.2-12	81	DRR 19-1027	10/28/19
B 3.3.2-13	0	Amend. No. 123	12/18/99
B 3.3.2-14	2	DRR 00-0147	4/24/00
B 3.3.2-15	0	Amend. No. 123	12/18/99
B 3.3.2-16	0	Amend. No. 123	12/18/99
B 3.3.2-17	0	Amend. No. 123	12/18/99
B 3.3.2-18	0	Amend. No. 123	12/18/99
B 3.3.2-19	37	DRR 08-0503	4/8/08
B 3.3.2-20	37	DRR 08-0503	4/8/08
B 3.3.2-21	37	DRR 08-0503	4/8/08
B 3.3.2-23	37	DRR 08-0503	4/8/08

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.2-24	39	DRR 08-1096	8/28/08
B 3.3.2-25	39	DRR 08-1096	8/28/08
B 3.3.2-26	39	DRR 08-1096	8/28/08
B 3.3.2-27	37	DRR 08-0503	4/8/08
B 3.3.2-28	84	DRR 20-0400	08/18/20
B 3.3.2-29	0	Amend. No. 123	12/18/99
B 3.3.2-30	0	Amend. No. 123	12/18/99
B 3.3.2-31	52	DRR 11-0724	4/11/11
B 3.3.2-32	52	DRR 11-0724	4/11/11
B 3.3.2-33	0	Amend. No. 123	12/18/99
B 3.3.2-34	0	Amend. No. 123	12/18/99
B 3.3.2-35	20	DRR 04-1533	2/16/05
B 3.3.2-36	20	DRR 04-1533	2/16/05
B 3.3.2-37	20	DRR 04-1533	2/16/05
B 3.3.2-38	20	DRR 04-1533	2/16/05
B 3.3.2-39	25	DRR 06-0800	5/18/06
B 3.3.2-40	20	DRR 04-1533	2/16/05
B 3.3.2-41	45	Amend. No. 187 (ETS)	3/5/10
B 3.3.2-42	45	Amend. No. 187 (ETS)	3/5/10
B 3.3.2-43	20	DRR 04-1533	2/16/05
B 3.3.2-44	20	DRR 04-1533	2/16/05
B 3.3.2-45	92	DRR 22-0767	11/3/22
B 3.3.2-46	89	DRR 21-0966	7/7/21
B 3.3.2-47	89	DRR 21-0966	7/7/21
B 3.3.2-48	89	DRR 21-0966	7/7/21
B 3.3.2-49	89	DRR 21-0966	7/7/21
B 3.3.2-50	89	DRR 21-0966	7/7/21
B 3.3.2-51	89	DRR 21-0966	7/7/21
B 3.3.2-52	89	DRR 21-0966	7/7/21
B 3.3.2-53	43	DRR 09-1416	9/2/09
B 3.3.2-54	43	DRR 09-1416	9/2/09
B 3.3.2-55	43	DRR 09-1416	9/2/09
B 3.3.2-56	43	DRR 09-1416	9/2/09
B 3.3.2-57	43	DRR 09-1416	9/2/09
B 3.3.3-1	0	Amend. No. 123	12/18/99
B 3.3.3-2	5	DRR 00-1427	10/12/00
B 3.3.3-3	0	Amend. No. 123	12/18/99
B 3.3.3-4	0	Amend. No. 123	12/18/99
B 3.3.3-5	0	Amend. No. 123	12/18/99
B 3.3.3-6	8	DRR 01-1235	9/19/01
B 3.3.3-7	21	DRR 05-0707	4/20/05
B 3.3.3-8	81	DRR 19-1027	10/28/19
B 3.3.3-9	8	DRR 01-1235	9/19/01
B 3.3.3-10	19	DRR 04-1414	10/12/04
B 3.3.3-11	19	DRR 04-1414	10/12/04
B 3.3.3-12	21	DRR 05-0707	4/20/05
B 3.3.3-13	89	DRR 21-0966	7/7/21
B 3.3.3-14	89	DRR 21-0966	7/7/21
B 3.3.3-15	8	DRR 01-1235	9/19/01
B 3.3.4-1	0	Amend. No. 123	12/18/99
B 3.3.4-2	9	DRR 02-1023	2/28/02

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.4-3	15	DRR 03-0860	7/10/03
B 3.3.4-4	19	DRR 04-1414	10/12/04
B 3.3.4-5	89	DRR 21-0966	7/7/21
B 3.3.4-6	89	DRR 21-0966	7/7/21
B 3.3.5-1	88	DRR 21-0591	4/28/21
B 3.3.5-2	88	DRR 21-0591	4/28/21
B 3.3.5-3	1	DRR 99-1624	12/18/99
B 3.3.5-4	1	DRR 99-1624	12/18/99
B 3.3.5-5	0	Amend. No. 123	12/18/99
B 3.3.5-6	89	DRR 21-0966	7/7/21
B 3.3.5-7	89	DRR 21-0966	7/7/21
B 3.3.6-1	81	DRR 19-1027	10/28/19
B 3.3.6-2	81	DRR 19-1027	10/28/19
B 3.3.6-3	0	Amend. No. 123	12/18/99
B 3.3.6-4	0	Amend. No. 123	12/18/99
B 3.3.6-5	89	DRR 21-0966	7/7/21
B 3.3.6-6	89	DRR 21-0966	7/7/21
B 3.3.6-7	89	DRR 21-0966	7/7/21
B 3.3.7-1	81	DRR 19-1027	10/28/19
B 3.3.7-2	81	DRR 19-1027	10/28/19
B 3.3.7-3	57	DRR 13-0006	1/16/13
B 3.3.7-4	0	Amend. No. 123	12/18/99
B 3.3.7-5	0	Amend. No. 123	12/18/99
B 3.3.7-6	89	DRR 21-0966	7/7/21
B 3.3.7-7	89	DRR 21-0966	7/7/21
B 3.3.7-8	89	DRR 21-0966	7/7/21
B 3.3.8-1	84	DRR 20-0400	8/18/20
B 3.3.8-2	0	Amend. No. 123	12/18/99
B 3.3.8-3	57	DRR 13-0006	1/16/13
B 3.3.8-4	57	DRR 13-0006	1/16/13
B 3.3.8-5	89	DRR 21-0966	7/7/21
B 3.3.8-6	89	DRR 21-0966	7/7/21
B 3.3.8-7	89	DRR 21-0966	7/7/21
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS)			
B 3.4.1-1	84	DRR 20-0400	08/18/20
B 3.4.1-2	84	DRR 20-0400	08/18/20
B 3.4.1-3	10	DRR 02-0411	4/5/02
B 3.4.1-4	0	Amend. No. 123	12/18/99
B 3.4.1-5	89	DRR 21-0966	7/7/21
B 3.4.1-6	89	DRR 21-0966	7/7/21
B 3.4.2-1	0	Amend. No. 123	12/18/99
B 3.4.2-2	0	Amend. No. 123	12/18/99
B 3.4.2-3	89	DRR 21-0966	7/7/21
B 3.4.3-1	67	DRR 15-0116	2/10/15
B 3.4.3-2	0	Amend. No. 123	12/18/99
B 3.4.3-3	0	Amend. No. 123	12/18/99
B 3.4.3-4	0	Amend. No. 123	12/18/99
B 3.4.3-5	0	Amend. No. 123	12/18/99
B 3.4.3-6	89	DRR 21-0966	7/7/21
B 3.4.3-7	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.4-1	0	Amend. No. 123	12/18/99
B 3.4.4-2	29	DRR 06-1984	10/17/06
B 3.4.4-3	89	DRR 21-0966	7/7/21
B 3.4.5-1	0	Amend. No. 123	12/18/99
B 3.4.5-2	53	DRR 11-1513	7/18/11
B 3.4.5-3	29	DRR 06-1984	10/17/06
B 3.4.5-4	0	Amend. No. 123	12/18/99
B 3.4.5-5	29	DRR 21-0966	7/7/21
B 3.4.5-6	89	DRR 21-0966	7/7/21
B 3.4.6-1	53	DRR 11-1513	7/18/11
B 3.4.6-2	72	DRR 15-1918	10/26/15
B 3.4.6-3	12	DRR 02-1062	9/26/02
B 3.4.6-4	89	DRR 21-0966	7/7/21
B 3.4.6-5	75	DRR 16-1909	10/26/16
B 3.4.6-6	89	DRR 21-0966	7/7/21
B 3.4.7-1	12	DRR 02-1062	9/26/02
B 3.4.7-2	17	DRR 04-0453	5/26/04
B 3.4.7-3	72	DRR 15-1918	10/26/15
B 3.4.7-4	89	DRR 21-0966	7/7/21
B 3.4.7-5	89	DRR 21-0966	7/7/21
B 3.4.7-6	89	DRR 21-0966	7/7/21
B 3.4.8-1	53	DRR 11-1513	7/18/11
B 3.4.8-2	72	DRR 15-1918	10/26/15
B 3.4.8-3	89	DRR 21-0966	7/7/21
B 3.4.8-4	89	DRR 21-0966	7/7/21
B 3.4.8-5	89	DRR 21-0966	7/7/21
B 3.4.9-1	0	Amend. No. 123	12/18/99
B 3.4.9-2	0	Amend. No. 123	12/18/99
B 3.4.9-3	0	Amend. No. 123	12/18/99
B 3.4.9-4	89	DRR 21-0966	7/7/21
B 3.4.10-1	5	DRR 00-1427	10/12/00
B 3.4.10-2	5	DRR 00-1427	10/12/00
B 3.4.10-3	0	Amend. No. 123	12/18/99
B 3.4.10-4	32	DRR 07-0139	2/7/07
B 3.4.11-1	0	Amend. No. 123	12/18/99
B 3.4.11-2	1	DRR 99-1624	12/18/99
B 3.4.11-3	19	DRR 04-1414	10/12/04
B 3.4.11-4	0	Amend. No. 123	12/18/99
B 3.4.11-5	1	DRR 99-1624	12/18/99
B 3.4.11-6	0	Amend. No. 123	12/18/99
B 3.4.11-7	89	DRR 21-0966	7/7/21
B 3.4.12-1	61	DRR 14-0346	2/27/14
B 3.4.12-2	61	DRR 14-0346	2/27/14
B 3.4.12-3	0	Amend. No. 123	12/18/99
B 3.4.12-4	61	DRR 14-0346	2/27/14
B 3.4.12-5	61	DRR 14-0346	2/27/14
B 3.4.12-6	56	DRR 12-1792	11/7/12
B 3.4.12-7	61	DRR 14-0346	2/27/14
B 3.4.12-8	1	DRR 99-1624	12/18/99
B 3.4.12-9	56	DRR 12-1792	11/7/12
B 3.4.12-10	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.12-11	61	DRR 14-0346	2/27/14
B 3.4.12-12	89	DRR 21-0966	7/7/21
B 3.4.12-13	89	DRR 21-0966	7/7/21
B 3.4.12-14	89	DRR 21-0966	7/7/21
B 3.4.13-1	0	Amend. No. 123	12/18/99
B 3.4.13-2	94	N/A	10/6/23
B 3.4.13-3	94	N/A	10/6/23
B 3.4.13-4	94	N/A	10/6/23
B 3.4.13-5	94	N/A	10/6/23
B 3.4.13-6	89	DRR 21-0966	7/7/21
B 3.4.14-1	0	Amend. No. 123	12/18/99
B 3.4.14-2	0	Amend. No. 123	12/18/99
B 3.4.14-3	0	Amend. No. 123	12/18/99
B 3.4.14-4	0	Amend. No. 123	12/18/99
B 3.4.14-5	89	DRR 21-0966	7/7/21
B 3.4.14-6	89	DRR 21-0966	7/7/21
B 3.4.15-1	31	DRR 06-2494	12/13/06
B 3.4.15-2	31	DRR 06-2494	12/13/06
B 3.4.15-3	33	DRR 07-0656	5/1/07
B 3.4.15-4	33	DRR 07-0656	5/1/07
B 3.4.15-5	65	DRR 14-2146	9/30/14
B 3.4.15-6	31	DRR 06-2494	12/13/06
B 3.4.15-7	89	DRR 21-0966	7/7/21
B 3.4.15-8	31	DRR 06-2494	12/13/06
B 3.4.16-1	81	DRR 19-1027	10/28/19
B 3.4.16-2	84	DRR 20-0400	08/18/20
B 3.4.16-3	31	DRR 06-2494	12/13/06
B 3.4.16-4	92	DRR 22-0767	11/3/22
B 3.4.16-5	92	DRR 22-0767	11/3/22
B 3.4.17-1	29	DRR 06-1984	10/17/06
B 3.4.17-2	81	DRR 19-1027	10/28/19
B 3.4.17-3	52	DRR 11-0724	4/11/11
B 3.4.17-4	81	DRR 19-1027	10/28/19
B 3.4.17-5	57	DRR 13-0006	1/16/13
B 3.4.17-6	57	DRR 13-0006	1/16/13
B 3.4.17-7	81	DRR 19-1027	10/28/19
TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)			
B 3.5.1-1	0	Amend. No. 123	12/18/99
B 3.5.1-2	0	Amend. No. 123	12/18/99
B 3.5.1-3	73	DRR 15-2135	11/17/15
B 3.5.1-4	73	DRR 15-2135	11/17/15
B 3.5.1-5	1	DRR 99-1624	12/18/99
B 3.5.1-6	89	DRR 21-0966	7/7/21
B 3.5.1-7	89	DRR 21-0966	7/7/21
B 3.5.1-8	1	DRR 99-1624	12/18/99
B 3.5.2-1	84	DRR 20-0400	08/18/20
B 3.5.2-2	0	Amend. No. 123	12/18/99
B 3.5.2-3	0	Amend. No. 123	12/18/99
B 3.5.2-4	0	Amend. No. 123	12/18/99
B 3.5.2-5	72	DRR 15-1918	10/26/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) (continued)			
B 3.5.2-6	42	DRR 09-1009	7/16/09
B 3.5.2-7	89	DRR 21-0966	7/7/21
B 3.5.2-8	89	DRR 21-0966	7/7/21
B 3.5.2-9	89	DRR 21-0966	7/7/21
B 3.5.2-10	89	DRR 21-0966	7/7/21
B 3.5.2-11	89	DRR 21-0966	7/7/21
B 3.5.2-12	72	DRR 15-1918	10/26/15
B 3.5.3-1	56	DRR 12-1792	11/7/12
B 3.5.3-2	72	DRR 15-1918	10/26/15
B 3.5.3-3	56	DRR 12-1792	11/7/12
B 3.5.3-4	56	DRR 12-1792	11/7/12
B 3.5.4-1	0	Amend. No. 123	12/18/99
B 3.5.4-2	0	Amend. No. 123	12/18/99
B 3.5.4-3	0	Amend. No. 123	12/18/99
B 3.5.4-4	0	Amend. No. 123	12/18/99
B 3.5.4-5	89	DRR 21-0966	7/7/21
B 3.5.4-6	89	DRR 21-0966	7/7/21
B 3.5.5-1	21	DRR 05-0707	4/20/05
B 3.5.5-2	21	DRR 05-0707	4/20/05
B 3.5.5-3	89	DRR 21-0966	7/7/21
B 3.5.5-4	21	DRR 05-0707	4/20/05
TAB – B 3.6 CONTAINMENT SYSTEMS			
B 3.6.1-1	0	Amend. No. 123	12/18/99
B 3.6.1-2	81	DRR 19-1027	10/28/19
B 3.6.1-3	0	Amend. No. 123	12/18/99
B 3.6.1-4	87	DRR 21-0359	3/25/21
B 3.6.2-1	81	DRR 19-1027	10/28/19
B 3.6.2-2	0	Amend. No. 123	12/18/99
B 3.6.2-3	0	Amend. No. 123	12/18/99
B 3.6.2-4	0	Amend. No. 123	12/18/99
B 3.6.2-5	0	Amend. No. 123	12/18/99
B 3.6.2-6	89	DRR 21-0966	7/7/21
B 3.6.2-7	89	DRR 21-0966	7/7/21
B 3.6.3-1	0	Amend. No. 123	12/18/99
B 3.6.3-2	84	DRR 20-0400	08/18/20
B 3.6.3-3	81	DRR 19-1027	10/28/19
B 3.6.3-4	49	DRR 11-0014	1/31/11
B 3.6.3-5	49	DRR 11-0014	1/31/11
B 3.6.3-6	49	DRR 11-0014	1/31/11
B 3.6.3-7	41	DRR 09-0288	3/20/09
B 3.6.3-8	36	DRR 08-0255	3/11/08
B 3.6.3-9	41	DRR 21-0966	7/7/21
B 3.6.3-10	89	DRR 21-0966	7/7/21
B 3.6.3-11	36	DRR 08-0255	3/11/08
B 3.6.3-12	89	DRR 21-0966	7/7/21
B 3.6.3-13	89	DRR 21-0966	7/7/21
B 3.6.3-14	36	DRR 08-0255	3/11/08
B 3.6.3-15	39	DRR 08-1096	8/28/08
B 3.6.3-16	39	DRR 08-1096	8/28/08
B 3.6.3-17	36	DRR 08-0255	3/11/08

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.6 CONTAINMENT SYSTEMS (continued)			
B 3.6.3-18	36	DRR 08-0255	3/11/08
B 3.6.3-19	36	DRR 08-0255	3/11/08
B 3.6.4-1	39	DRR 08-1096	8/28/08
B 3.6.4-2	0	Amend. No. 123	12/18/99
B 3.6.4-3	89	DRR 21-0966	7/7/21
B 3.6.5-1	0	Amend. No. 123	12/18/99
B 3.6.5-2	37	DRR 08-0503	4/8/08
B 3.6.5-3	89	DRR 21-0966	7/7/21
B 3.6.5-4	0	Amend. No. 123	12/18/99
B 3.6.6-1	81	DRR 19-1027	10/28/19
B 3.6.6-2	63	DRR 14-1572	7/1/14
B 3.6.6-3	37	DRR 08-0503	4/8/08
B 3.6.6-4	81	DRR 19-1027	10/28/19
B 3.6.6-5	0	Amend. No. 123	12/18/99
B 3.6.6-6	18	DRR 04-1018	9/1/04
B 3.6.6-7	89	DRR 21-0966	7/7/21
B 3.6.6-8	89	DRR 21-0966	7/7/21
B 3.6.6-9	72	DRR 15-1918	10/26/15
B 3.6.6-10	89	DRR 21-0966	7/7/21
B 3.6.6.11	80	DRR 19-0524	5/30/19
B 3.6.7-1	0	Amend. No. 123	12/18/99
B 3.6.7-2	81	DRR 19-1027	10/28/19
B 3.6.7-3	89	DRR 21-0966	7/7/21
B 3.6.7-4	89	DRR 21-0966	7/7/21
B 3.6.7-5	89	DRR 21-0966	7/7/21
TAB – B 3.7 PLANT SYSTEMS			
B 3.7.1-1	0	Amend. No. 123	12/18/99
B 3.7.1-2	84	DRR 20-0400	08/18/20
B 3.7.1-3	0	Amend. No. 123	12/18/99
B 3.7.1-4	84	DRR 20-0400	08/18/20
B 3.7.1-5	84	DRR 20-0400	08/18/20
B 3.7.1-6	84	DRR 20-0400	08/18/20
B 3.7.2-1	44	DRR 09-1744	10/28/09
B 3.7.2-2	44	DRR 09-1744	10/28/09
B 3.7.2-3	44	DRR 09-1744	10/28/09
B 3.7.2-4	81	DRR 19-1027	10/28/19
B 3.7.2-5	44	DRR 09-1744	10/28/09
B 3.7.2-6	44	DRR 09-1744	10/28/09
B 3.7.2-7	44	DRR 09-1744	10/28/09
B 3.7.2-8	44	DRR 09-1744	10/28/09
B 3.7.2-9	89	DRR 21-0966	7/7/21
B 3.7.2-10	81	DRR 19-1027	10/28/19
B 3.7.2-11	44	DRR 09-1744	10/28/09
B 3.7.3-1	37	DRR 08-0503	4/8/08
B 3.7.3-2	50	DRR 11-0449	3/9/11
B 3.7.3-3	37	DRR 08-0503	4/8/08
B 3.7.3-4	37	DRR 08-0503	4/8/08
B 3.7.3-5	37	DRR 08-0503	4/8/08
B 3.7.3-6	37	DRR 08-0503	4/8/08
B 3.7.3-7	37	DRR 08-0503	4/8/08

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.3-8	37	DRR 08-0503	4/8/08
B 3.7.3-9	66	DRR 14-2329	11/6/14
B 3.7.3-10	89	DRR 21-0966	7/7/21
B 3.7.3-11	37	DRR 08-0503	4/8/08
B 3.7.4-1	1	DRR 99-1624	12/18/99
B 3.7.4-2	84	DRR 20-0400	08/18/20
B 3.7.4-3	19	DRR 04-1414	10/12/04
B 3.7.4-4	19	DRR 04-1414	10/12/04
B 3.7.4-5	89	DRR 21-0966	7/7/21
B 3.7.5-1	54	DRR 11-2394	11/16/11
B 3.7.5-2	54	DRR 11-2394	11/16/11
B 3.7.5-3	0	Amend. No. 123	12/18/99
B 3.7.5-4	85	DRR 20-0988	10/24/20
B 3.7.5-5	76	DRR 17-0343	2/21/17
B 3.7.5-6	85	DRR 20-0988	10/24/20
B 3.7.5-7	89	DRR 21-0966	7/7/21
B 3.7.5-8	89	DRR 21-0966	7/7/21
B 3.7.5-9	89	DRR 21-0966	7/7/21
B 3.7.5-10	85	DRR 20-0988	10/24/20
B 3.7.6-1	0	Amend. No. 123	12/18/99
B 3.7.6-2	0	Amend. No. 123	12/18/99
B 3.7.6-3	89	DRR 21-0966	7/7/21
B 3.7.7-1	0	Amend. No. 123	12/18/99
B 3.7.7-2	0	Amend. No. 123	12/18/99
B 3.7.7-3	92	DRR 22-0767	11/3/22
B 3.7.7-4	89	DRR 21-0966	7/7/21
B 3.7.8-1	0	Amend. No. 123	12/18/99
B 3.7.8-2	0	Amend. No. 123	12/18/99
B 3.7.8-3	0	Amend. No. 123	12/18/99
B 3.7.8-4	89	DRR 21-0966	7/7/21
B 3.7.8-5	89	DRR 21-0966	7/7/21
B 3.7.9-1	3	Amend. No. 134	7/14/00
B 3.7.9-2	3	Amend. No. 134	7/14/00
B 3.7.9-3	89	DRR 21-0966	7/7/21
B 3.7.9-4	3	Amend. No. 134	7/14/00
B 3.7.10-1	64	DRR 14-1822	8/28/14
B 3.7.10-2	81	DRR 19-1027	10/28/19
B 3.7.10-3	81	DRR 19-1027	10/28/19
B 3.7.10-4	81	DRR 19-1027	10/28/19
B 3.7.10-5	81	DRR 19-1027	10/28/19
B 3.7.10-6	57	DRR 13-0006	1/16/13
B 3.7.10-7	89	DRR 21-0966	7/7/21
B 3.7.10-8	89	DRR 21-0966	7/7/21
B 3.7.10-9	81	DRR 19-1027	10/28/19
B 3.7.11-1	0	Amend. No. 123	12/18/99
B 3.7.11-2	57	DRR 13-0006	1/16/13
B 3.7.11-3	89	DRR 21-0966	7/7/21
B 3.7.11-4	63	DRR 14-1572	7/1/14
B 3.7.12-1	0	Amend. No. 123	12/18/99
B 3.7.13-1	24	DRR 06-0051	2/28/06
B 3.7.13-2	81	DRR 19-1027	10/28/19

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.13-3	81	DRR 19-1027	10/28/19
B 3.7.13-4	81	DRR 19-1027	10/28/19
B 3.7.13-5	89	DRR 21-0966	7/7/21
B 3.7.13-6	89	DRR 21-0966	7/7/21
B 3.7.13-7	89	DRR 21-0966	7/7/21
B 3.7.13-8	89	DRR 21-0966	7/7/21
B 3.7.14-1	0	Amend. No. 123	12/18/99
B 3.7.15-1	81	DRR 19-1027	10/28/19
B 3.7.15-2	89	DRR 21-0966	7/7/21
B 3.7.15-3	81	DRR 19-1027	10/28/19
B 3.7.16-1	5	DRR 00-1427	10/12/00
B 3.7.16-2	23	DRR 05-1995	9/28/05
B 3.7.16-3	89	DRR 21-0966	7/7/21
B 3.7.17-1	7	DRR 01-0474	5/1/01
B 3.7.17-2	7	DRR 01-0474	5/1/01
B 3.7.17-3	5	DRR 00-1427	10/12/00
B 3.7.18-1	81	DRR 19-1027	10/28/19
B 3.7.18-2	81	DRR 19-1027	10/28/19
B 3.7.18-3	89	DRR 21-0966	7/7/21
B 3.7.19-1	44	DRR 09-1744	10/28/09
B 3.7.19-2	54	DRR 11-2394	11/16/11
B 3.7.19-3	54	DRR 11-2394	11/16/11
B 3.7.19-4	61	DRR 14-0346	2/27/14
B 3.7.19-5	61	DRR 14-0346	2/27/14
B 3.7.19-6	89	DRR 21-0966	7/7/21
B 3.7.19-7	89	DRR 21-0966	7/7/21
B 3.7.20-1	79	DRR 18-1579	10/22/18
B 3.7.20-2	79	DRR 18-1579	10/22/18
B 3.7.20-3	85	DRR 20-0988	10/24/20
B 3.7.20-4	89	DRR 21-0966	7/7/21
B 3.7.20-5	89	DRR 21-0966	7/7/21
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.1-1	88	DRR 21-0591	4/28/21
B 3.8.1-2	93	DRR 22-1363	2/2/23
B 3.8.1-3	93	DRR 22-1363	2/2/23
B 3.8.1-4	93	DRR 22-1363	2/2/23
B 3.8.1-5	93	DRR 22-1363	2/2/23
B 3.8.1-6	93	DRR 22-1363	2/2/23
B 3.8.1-7	93	DRR 22-1363	2/2/23
B 3.8.1-8	93	DRR 22-1363	2/2/23
B 3.8.1-9	93	DRR 22-1363	2/2/23
B 3.8.1-10	93	DRR 22-1363	2/2/23
B 3.8.1-11	93	DRR 22-1363	2/2/23
B 3.8.1-12	93	DRR 22-1363	2/2/23
B 3.8.1-13	93	DRR 22-1363	2/2/23
B 3.8.1-14	93	DRR 22-1363	2/2/23
B 3.8.1-15	47	DRR 10-1089	6/16/10
B 3.8.1-16	26	DRR 06-1350	7/24/06
B 3.8.1-17	93	DRR 22-1363	2/2/23
B 3.8.1-18	59	DRR 13-1524	6/26/13

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.1-19	89	DRR 21-0966	7/7/21
B 3.8.1-20	89	DRR 21-0966	7/7/21
B 3.8.1-21	93	DRR 22-1363	2/2/23
B 3.8.1-22	89	DRR 21-0966	7/7/21
B 3.8.1-23	93	DRR 22-1363	2/2/23
B 3.8.1-24	74	DRR 16-1182	7/7/16
B 3.8.1-25	89	DRR 21-0966	7/7/21
B 3.8.1-26	89	DRR 21-0966	7/7/21
B 3.8.1-27	89	DRR 21-0966	7/7/21
B 3.8.1-28	93	DRR 22-1363	2/2/23
B 3.8.1-29	89	DRR 21-0966	7/7/21
B 3.8.1-30	89	DRR 21-0966	7/7/21
B 3.8.1-31	89	DRR 21-0966	7/7/21
B 3.8.1-32	89	DRR 21-0966	7/7/21
B 3.8.1-33	89	DRR 21-0966	7/7/21
B 3.8.1-34	93	DRR 22-1363	2/2/23
B 3.8.2-1	57	DRR 13-0006	1/16/13
B 3.8.2-2	0	Amend. No. 123	12/18/99
B 3.8.2-3	92	DRR 22-0767	11/3/22
B 3.8.2-4	92	DRR 22-0767	11/3/22
B 3.8.2-5	57	DRR 13-0006	1/16/13
B 3.8.2-6	57	DRR 13-0006	1/16/13
B 3.8.2-7	57	DRR 13-0006	1/16/13
B 3.8.3-1	1	DRR 99-1624	12/18/99
B 3.8.3-2	0	Amend. No. 123	12/18/99
B 3.8.3-3	0	Amend. No. 123	12/18/99
B 3.8.3-4	1	DRR 99-1624	12/18/99
B 3.8.3-5	0	Amend. No. 123	12/18/99
B 3.8.3-6	89	DRR 21-0966	7/7/21
B 3.8.3-7	12	DRR 02-1062	9/26/02
B 3.8.3-8	89	DRR 21-0966	7/7/21
B 3.8.3-9	0	Amend. No. 123	12/18/99
B 3.8.4-1	0	Amend. No. 123	12/18/99
B 3.8.4-2	0	Amend. No. 123	12/18/99
B 3.8.4-3	93	DRR 22-1363	2/2/23
B 3.8.4-4	0	Amend. No. 123	12/18/99
B 3.8.4-5	93	DRR 22-1363	2/2/23
B 3.8.4-6	89	DRR 21-0966	7/7/21
B 3.8.4-7	6	DRR 00-1541	3/13/01
B 3.8.4-8	93	DRR 22-1363	2/2/23
B 3.8.4-9	89	DRR 21-0966	7/7/21
B 3.8.5-1	57	DRR 13-0006	1/16/13
B 3.8.5-2	0	Amend. No. 123	12/18/99
B 3.8.5-3	57	DRR 13-0006	1/16/13
B 3.8.5-4	57	DRR 13-0006	1/16/13
B 3.8.5-5	57	DRR 13-0006	1/16/13
B 3.8.6-1	0	Amend. No. 123	12/18/99
B 3.8.6-2	0	Amend. No. 123	12/18/99
B 3.8.6-3	89	DRR 21-0966	7/7/21
B 3.8.6-4	89	DRR 21-0966	7/7/21
B 3.8.6-5	0	Amend. No. 123	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.6-6	0	Amend. No. 123	12/18/99
B 3.8.7-1	69	DRR 15-0493	3/26/15
B 3.8.7-2	69	DRR 15-0493	3/26/15
B 3.8.7-3	89	DRR 21-0966	7/7/21
B 3.8.7-4	0	Amend. No. 123	12/18/99
B 3.8.8-1	57	DRR 13-0006	1/16/13
B 3.8.8-2	0	Amend. No. 123	12/18/99
B 3.8.8-3	69	DRR 15-0493	3/26/15
B 3.8.8-4	57	DRR 13-0006	1/16/13
B 3.8.8-5	93	DRR 22-1363	2/2/23
B 3.8.9-1	54	DRR 11-2394	11/16/11
B 3.8.9-2	69	DRR 15-0493	3/26/15
B 3.8.9-3	54	DRR 11-2394	11/16/11
B 3.8.9-4	0	Amend. No. 123	12/18/99
B 3.8.9-5	69	DRR 15-0493	3/26/15
B 3.8.9-6	0	Amend. No. 123	12/18/99
B 3.8.9-7	0	Amend. No. 123	12/18/99
B 3.8.9-8	89	DRR 21-0966	7/7/21
B 3.8.9-9	0	Amend. No. 123	12/18/99
B 3.8.10-1	57	DRR 13-0006	1/16/13
B 3.8.10-2	0	Amend. No. 123	12/18/99
B 3.8.10-3	0	Amend. No. 123	12/18/99
B 3.8.10-4	57	DRR 13-0006	1/16/13
B 3.8.10-5	57	DRR 13-0006	1/16/13
B 3.8.10-6	89	DRR 21-0966	7/7/21
TAB – B 3.9 REFUELING OPERATIONS			
B 3.9.1-1	0	Amend. No. 123	12/18/99
B 3.9.1-2	19	DRR 04-1414	10/12/04
B 3.9.1-3	19	DRR 04-1414	10/12/04
B 3.9.1-4	89	DRR 21-0966	7/7/21
B 3.9.2-1	0	Amend. No. 123	12/18/99
B 3.9.2-2	0	Amend. No. 123	12/18/99
B 3.9.2-3	89	DRR 21-0966	7/7/21
B 3.9.3-1	68	DRR 15-0248	2/26/15
B 3.9.3-2	68	DRR 15-0248	2/26/15
B 3.9.3-3	89	DRR 21-0966	7/7/21
B 3.9.3-4	89	DRR 21-0966	7/7/21
B 3.9.4-1	81	DRR 19-1027	10/28/19
B 3.9.4-2	13	DRR 02-1458	12/03/02
B 3.9.4-3	81	DRR 19-1027	10/28/19
B 3.9.4-4	23	DRR 05-1995	9/28/05
B 3.9.4-5	89	DRR 21-0966	7/7/21
B 3.9.4-6	89	DRR 21-0966	7/7/21
B 3.9.5-1	0	Amend. No. 123	12/18/99
B 3.9.5-2	72	DRR 15-1918	10/26/15
B 3.9.5-3	32	DRR 07-0139	2/7/07
B 3.9.5-4	89	DRR 21-0966	7/7/21
B 3.9.5-5	89	DRR 21-0966	7/7/21
B 3.9.6-1	0	Amend. No. 123	12/18/99
B 3.9.6-2	72	DRR 15-1918	10/26/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.9 REFUELING OPERATIONS (continued)			
B 3.9.6-3	42	DRR 09-1009	7/16/09
B 3.9.6-4	89	DRR 21-0966	7/7/21
B 3.9.6-5	89	DRR 21-0966	7/7/21
B 3.9.7-1	81	DRR 19-1027	10/28/19
B 3.9.7-2	89	DRR 21-0966	7/7/21
B 3.9.7-3	81	DRR 19-1027	10/28/19

Note 1 The page number is listed on the center of the bottom of each page.

Note 2 The revision number is listed in the lower right hand corner of each page. The Revision number will be page specific.

Note 3 The change document will be the document requesting the change. Amendment No. 123 issued the improved Technical Specifications and associated Bases which affected each page. The NRC has indicated that Bases changes will not be issued with License Amendments. As of Revision 94, the TS Bases is no longer controlled in PMAC. Therefore, starting with Revision 94, the DRR number will be N/A.

Note 4 The date effective or implemented is the date the Bases pages are issued by Document Control.

BASES

APPLICABLE SAFETY ANALYSES

Except for primary to secondary LEAKAGE, the safety analyses do not address RCS operational LEAKAGE. However, the other forms of operational LEAKAGE are related to the safety analyses for LOCA; the amount of leakage can affect the probability of such an event. The safety analyses for events resulting in steam discharge to the atmosphere assume that primary to secondary LEAKAGE from all steam generators (SGs) is one gallon per minute as a result of accident induced conditions. The LCO requirement to limit primary to secondary LEAKAGE through any one SG to less than or equal to 150 gallons per day is significantly less than the conditions assumed in the safety analysis.

Primary to secondary LEAKAGE is a factor in the dose releases outside containment resulting from a steam line break (SLB) accident. Other accidents or transients involving secondary steam release to the atmosphere, include the steam generator tube rupture (SGTR). The leakage contaminates the secondary fluid.

The USAR (Ref. 3) analysis for SGTR assumes some of the contaminated secondary fluid is released via atmospheric relief valves.

The safety analysis for the SLB accident assumes the entire 1 gpm primary to secondary LEAKAGE is through the affected generator as an initial condition. The dose consequences resulting from the SLB and accidents involving secondary steam release to the atmosphere are within the limits defined in 10 CFR 50.67 (Ref. 5) and the Standard Review Plan (Ref. 8).

The safety analysis for RCS main loop piping for GDC-4 (Ref. 1) assumes 1 gpm unidentified leakage and monitoring per Regulatory Guide 1.45 (Ref. 2) are maintained (Ref. 4).

The RCS operational LEAKAGE satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

LCO

RCS operational LEAKAGE shall be limited to:

a. Pressure Boundary LEAKAGE

Pressure boundary LEAKAGE is prohibited as the leak itself could cause further RCPB deterioration, resulting in higher LEAKAGE.

b. Unidentified LEAKAGE

One gallon per minute (gpm) of unidentified LEAKAGE is allowed as a reasonable minimum detectable amount that the containment air monitoring and containment sump level monitoring equipment can detect within a reasonable time period. Separating the sources of leakage (i.e., leakage from an identified source versus leakage

BASES

LCO

b. Unidentified LEAKAGE (continued)

from an unidentified source) is necessary for prompt identification of potentially adverse conditions, assessment of the safety significance, and corrective action.

c. Identified LEAKAGE

Up to 10 gpm of identified LEAKAGE is considered allowable because LEAKAGE is from known sources that do not interfere with detection of unidentified LEAKAGE and is well within the capability of the RCS Makeup System. Identified LEAKAGE includes LEAKAGE to the containment from specifically known and located sources, but does not include controlled reactor coolant pump (RCP) seal leakoff (a normal function not considered LEAKAGE).

d. Primary to Secondary LEAKAGE Through Any One SG

The limit of 150 gallons per day per SG is based on the operational LEAKAGE performance criterion in NEI 97-06, “Steam Generator Program Guidelines,” (Ref. 6). The Steam Generator Program operational LEAKAGE performance criterion in NEI 97-06 states, “The RCS operational primary to secondary leakage through any one SG shall be limited to 150 gallons per day.” The limit is based on operating experience with SG tube degradation mechanisms that result in tube leakage. The operational LEAKAGE rate criterion in conjunction with the implementation of the Steam Generator Program is an effective measure for minimizing the frequency of steam generator tube ruptures.

APPLICABILITY

In MODES 1, 2, 3, and 4, the potential for RCS operational LEAKAGE is greatest when the RCS is pressurized.

In MODES 5 and 6, RCS operational LEAKAGE limits are not required because the reactor coolant pressure is far lower, resulting in lower stresses and reduced potentials for LEAKAGE.

LCO 3.4.14, "RCS Pressure Isolation Valve (PIV) Leakage," measures leakage through each individual PIV and can impact this LCO. Of the two PIVs in series in each isolated line, leakage measured through one PIV does not result in RCS LEAKAGE when the other is leak tight. If both valves leak and result in a loss of mass from the RCS, the loss must be included in the allowable identified LEAKAGE.

BASES

ACTIONS

A.1

If pressure boundary LEAKAGE exists, the affected component, pipe, or vessel must be isolated from the RCS by a closed manual valve, closed and de-activated automatic valve, blind flange, or check valve within 4 hours. While in this condition, structural integrity of the system should be considered because the structural integrity of the part of the system within the isolation boundary must be maintained under all licensing basis conditions, including consideration of the potential for further degradation of the isolated location. Normal LEAKAGE past the isolation device is acceptable as it will limit RCS LEAKAGE and is included in identified or unidentified LEAKAGE. This action is necessary to prevent further deterioration of the RCPB.

B.1

Unidentified LEAKAGE or identified LEAKAGE in excess of the LCO limits must be reduced to within limits within 4 hours. This Completion Time allows time to verify leakage rates and either identify unidentified LEAKAGE or reduce LEAKAGE to within limits before the reactor must be shut down. This action is necessary to prevent further deterioration of the RCPB.

C.1 and C.2

If primary to secondary LEAKAGE is not within limit, or if any of the Required Actions and associated Completion Times cannot be met, the reactor must be brought to lower pressure conditions to reduce the severity of the LEAKAGE and its potential consequences. The reactor must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. This action reduces the LEAKAGE and also reduces the factors that tend to degrade the pressure boundary.

The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. In MODE 5, the pressure stresses acting on the RCPB are much lower, and further deterioration is much less likely.

SURVEILLANCE REQUIREMENTS

SR 3.4.13.1

Verifying RCS operational LEAKAGE to be within the LCO limits ensures the integrity of the RCPB is maintained. Pressure boundary LEAKAGE would at first appear as unidentified LEAKAGE and can only be positively identified by inspection.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.13.1 (continued)

Unidentified LEAKAGE and identified LEAKAGE are determined by performance of an RCS water inventory balance.

The RCS water inventory balance must be met with the reactor at steady state operating conditions (stable temperature, power level, pressurizer and makeup tank levels, makeup and letdown, and RCP seal injection and return flows). The Surveillance is modified by two Notes. Note 1 states that this SR is not required to be performed until 12 hours after establishing steady state operation. The 12 hour allowance provides sufficient time to collect and process all necessary data after stable plant conditions are established.

Steady state operation is preferred when performing a proper inventory balance since calculations during non-steady state conditions must account for the changing parameters. For RCS operational LEAKAGE determination by water inventory balance, steady state is defined as stable RCS pressure, temperature, power level, pressurizer and makeup tank levels, makeup and letdown, and RCP seal injection and return flows. An early warning of pressure boundary LEAKAGE or unidentified LEAKAGE is provided by the automatic systems that monitor the containment atmosphere radioactivity and the containment sump level. These leakage detection systems are specified in LCO 3.4.15, "RCS Leakage Detection Instrumentation."

Note 2 states that this SR is not applicable to primary to secondary LEAKAGE because LEAKAGE of 150 gallons per day cannot be measured accurately by an RCS water inventory balance. Primary to secondary LEAKAGE is determined by SR 3.4.13.2 and is not determined by an RCS water inventory balance. For determining identified LEAKAGE, identified LEAKAGE includes primary to secondary LEAKAGE as defined in Section 1.1, “Definitions.”

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.4.13.2

This SR verifies that primary to secondary LEAKAGE is less or equal to 150 gallons per day through any one SG. Satisfying the primary to