Wolf Creek
Nuclear Operating Corporation

Ron Benham
Director Nuclear and Regulatory Affairs

March 11, 2021
RA 21-0025

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

Subject: Docket No. 50-482: Wolf Creek Generating Station Changes to Technical Specification Bases – Revisions 82, 83, 84, and 85

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 82, 83, 84, and 85) under the provisions to TS Section 5.5.14 and a List of Effective Pages. This submittal reflects changes from January 1, 2020, through December 31, 2020.

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

Sincerely,

Ron Benham

Ron Benham

RDB/rlt

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

cc: S. S. Lee (NRC), w/e
S. A. Morris (NRC), w/e
N. O'Keefe (NRC), w/e
Senior Resident Inspector (NRC), w/e

Enclosure to RA 21-0025

Wolf Creek Generating Station
Changes to the Technical Specification Bases

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B 2.1.2-1	81	DRR 19-1027	10/28/19
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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	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
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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	0	Amend. No. 123	12/18/99
B 3.1.6-6	0	Amend. No. 123	12/18/99
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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
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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	0	Amend. No. 123	12/18/99
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B 3.1.9-1	81	DRR 19-1027	10/28/19
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B 3.2.1-3	48	DRR 10-3740	12/28/10
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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	48	DRR 10-3740	12/28/10
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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	70	DRR 15-0944	4/28/15
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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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	0	Amend. No. 123	12/18/99
B 3.3.1-10	29	DRR 06-1984	10/17/06
B 3.3.1-11	0	Amend. No. 123	12/18/99
B 3.3.1-12	0	Amend. No. 123	12/18/99
B 3.3.1-13	0	Amend. No. 123	12/18/99
B 3.3.1-14	0	Amend. No. 123	12/18/99
B 3.3.1-15	0	Amend. No. 123	12/18/99
B 3.3.1-16	0	Amend. No. 123	12/18/99
B 3.3.1-17	0	Amend. No. 123	12/18/99
B 3.3.1-18	0	Amend. No. 123	12/18/99
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B 3.3.1-20	66	DRR 14-2329	11/6/14
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B 3.3.1-22	0	Amend. No. 123	12/18/99
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B 3.3.1-25	78	DRR 18-0443	5/8/18
B 3.3.1-26	78	DRR 18-0443	5/8/18
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B 3.3.1-28	2	DRR 00-0147	4/24/00
B 3.3.1-29	1	DRR 99-1624	12/18/99
B 3.3.1-30	1	DRR 99-1624	12/18/99
B 3.3.1-31	0	Amend. No. 123	12/18/99
B 3.3.1-32	20	DRR 04-1533	2/16/05
B 3.3.1-33	48	DRR 10-3740	12/28/10
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B 3.3.1-41	20	DRR 04-1533	2/16/05
B 3.3.1-42	20	DRR 04-1533	2/16/05
B 3.3.1-43	20	DRR 04-1533	2/16/05
B 3.3.1-44	20	DRR 04-1533	2/16/05
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B 3.3.1-46	48	DRR 10-3740	12/28/10
B 3.3.1-47	20	DRR 04-1533	2/16/05
B 3.3.1-48	48	DRR 10-3740	12/28/10
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B 3.3.1-50	20	DRR 04-1533	2/16/05
B 3.3.1-51	21	DRR 05-0707	4/20/05
B 3.3.1-52	20	DRR 04-1533	2/16/05
B 3.3.1-53	20	DRR 04-1533	2/16/05
B 3.3.1-54	20	DRR 04-1533	2/16/05
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B 3.3.1-58	29	DRR 06-1984	10/17/06
B 3.3.1-59	20	DRR 04-1533	2/16/05
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B 3.3.2-12	81	DRR 19-1027	10/28/19
B 3.3.2-13	0	Amend. No. 123	12/18/99
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B 3.3.2-15	0	Amend. No. 123	12/18/99
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B 3.3.2-18	0	Amend. No. 123	12/18/99
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B 3.3.2-22	37	DRR 08-0503	4/8/08
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B 3.3.2-38	20	DRR 04-1533	2/16/05
B 3.3.2-39	25	DRR 06-0800	5/18/06
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B 3.3.2-45	20	DRR 04-1533	2/16/05
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B 3.3.2-47	43	DRR 09-1416	9/2/09
B 3.3.2-48	37	DRR 08-0503	4/8/08
B 3.3.2-49	20	DRR 04-1533	2/16/05
B 3.3.2-50	20	DRR 04-1533	2/16/05
B 3.3.2-51	43	DRR 09-1416	9/2/09
B 3.3.2-52	43	DRR 09-1416	9/2/09
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
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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
B 3.3.4-3	15	DRR 03-0860	7/10/03
B 3.3.4-4	19	DRR 04-1414	10/12/04
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TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.4-6	9	DRR 02-0123	2/28/02
B 3.3.5-1	0	Amend. No. 123	12/18/99
B 3.3.5-2	1	DRR 99-1624	12/18/99
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	22	DRR 05-1375	6/28/05
B 3.3.5-7	22	DRR 05-1375	6/28/05
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	0	Amend. No. 123	12/18/99
B 3.3.6-6	0	Amend. No. 123	12/18/99
B 3.3.6-7	81	DRR 19-1027	10/28/19
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	57	DRR 13-0006	1/16/13
B 3.3.7-7	0	Amend. No. 123	12/18/99
B 3.3.7-8	81	DRR 19-1027	10/28/19
B 3.3.8-1	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.3.8-6	24	DRR 06-0051	2/28/06
B 3.3.8-7	81	DRR 19-1027	10/28/19
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS)			
B 3.4.1-1	0	Amend. No. 123	12/18/99
B 3.4.1-2	10	DRR 02-0411	4/5/02
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	0	Amend. No. 123	12/18/99
B 3.4.1-6	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.4.3-7	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
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	12	DRR 02-1062	9/26/02
B 3.4.5-6	12	DRR 02-1062	9/26/02
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	72	DRR 15-1918	10/26/15
B 3.4.6-5	75	DRR 16-1909	10/26/16
B 3.4.6-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.7-5	72	DRR 15-1918	10/26/15
B 3.4.7-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.8-4	75	DRR 16-1909	10/26/16
B 3.4.8-5	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
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	32	DRR 07-0139	2/7/07
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
B 3.4.12-11	61	DRR 14-0346	2/27/14
B 3.4.12-12	32	DRR 07-0139	2/7/07
B 3.4.12-13	0	Amend. No. 123	12/18/99

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.12-14	32	DRR 07-0139	2/7/07
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	35	DRR 07-1553	9/28/07
B 3.4.13-6	81	DRR 19-1027	10/28/19
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	32	DRR 07-0139	2/7/07
B 3.4.14-6	32	DRR 07-0139	2/7/07
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	31	DRR 06-2494	12/13/06
B 3.4.15-8	31	DRR 06-2494	12/13/06
B 3.4.16-1	82	DRR 20-0077	1/30/20
B 3.4.16-2	82	DRR 20-0077	1/30/20
B 3.4.16-3	82	DRR 20-0077	1/30/20
B 3.4.16-4	82	DRR 20-0077	1/30/20
B 3.4.16-5	82	DRR 20-0077	1/30/20
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	1	DRR 99-1624	12/18/99
B 3.5.1-7	71	DRR 15-1528	7/30/15
B 3.5.1-8	1	DRR 99-1624	12/18/99
B 3.5.2-1	0	Amend. No. 123	12/18/99
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
B 3.5.2-6	42	DRR 09-1009	7/16/09
B 3.5.2-7	42	DRR 09-1009	7/16/09
B 3.5.2-8	72	DRR 15-1918	10/26/15

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TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) (continued)			
B 3.5.2-9	75	DRR 16-1909	10/26/16
B 3.5.2-10	80	DRR 19-0524	5/30/19
B 3.5.2-11	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
B 3.5.4-6	26	DRR 06-1350	7/24/06
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	2	Amend. No. 132	4/24/00
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	17	DRR 04-0453	5/26/04
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	0	Amend. No. 123	12/18/99
B 3.6.2-7	0	Amend. No. 123	12/18/99
B 3.6.3-1	0	Amend. No. 123	12/18/99
B 3.6.3-2	81	DRR 19-1027	10/28/19
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	36	DRR 08-0255	3/11/08
B 3.6.3-10	8	DRR 01-1235	9/19/01
B 3.6.3-11	36	DRR 08-0255	3/11/08
B 3.6.3-12	36	DRR 08-0255	3/11/08
B 3.6.3-13	50	DRR 11-0449	3/9/11
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
B 3.6.3-18	36	DRR 08-0255	3/11/08
B 3.6.3-19	82	DRR 20-0077	1/30/20
B 3.6.4-1	39	DRR 08-1096	8/28/08

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TAB – B 3.6 CONTAINMENT SYSTEMS (continued)			
B 3.6.4-2	0	Amend. No. 123	12/18/99
B 3.6.4-3	0	Amend. No. 123	12/18/99
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	13	DRR 02-1458	12/03/02
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	72	DRR 15-1918	10/26/15
B 3.6.6-8	80	DRR 19-0524	5/30/19
B 3.6.6-9	72	DRR 15-1918	10/26/15
B 3.6.6-10	75	DRR 16-1909	10/26/16
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	81	DRR 19-1027	10/28/19
B 3.6.7-4	81	DRR 19-1027	10/28/19
B 3.6.7-5	42	DRR 09-1009	7/16/09
TAB – B 3.7 PLANT SYSTEMS			
B 3.7.1-1	0	Amend. No. 123	12/18/99
B 3.7.1-2	0	Amend. No. 123	12/18/99
B 3.7.1-3	0	Amend. No. 123	12/18/99
B 3.7.1-4	0	Amend. No. 123	12/18/99
B 3.7.1-5	32	DRR 07-0139	2/7/07
B 3.7.1-6	32	DRR 07-0139	2/7/07
B 3.7.2-1	44	DRR 09-1744	10/28/09
B 3.7.2-2	82	DRR 20-0077	1/30/20
B 3.7.2-3	82	DRR 20-0077	1/30/20
B 3.7.2-4	81	DRR 19-1027	10/28/19
B 3.7.2-5	82	DRR 20-0077	1/30/20
B 3.7.2-6	82	DRR 20-0077	1/30/20
B 3.7.2-7	82	DRR 20-0077	1/30/20
B 3.7.2-8	82	DRR 20-0077	1/30/20
B 3.7.2-9	82	DRR 20-0077	1/30/20
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
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	66	DRR 14-2329	11/6/14

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TAB – B 3.7 PLANT SYSTEMS (continued)			
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	81	DRR 19-1027	10/28/19
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	1	DRR 99-1624	12/18/99
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	76	DRR 17-0343	2/21/17
B 3.7.5-5	76	DRR 17-0343	2/21/17
B 3.7.5-6	76	DRR 17-0343	2/21/17
B 3.7.5-7	76	DRR 17-0343	2/21/17
B 3.7.5-8	76	DRR 17-0343	2/21/17
B 3.7.5-9	76	DRR 17-0343	2/21/17
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.7-4	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.8-5	0	Amend. No. 123	12/18/99
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	3	Amend. No. 134	7/14/00
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	64	DRR 14-1822	8/28/14
B 3.7.10-8	81	DRR 19-1027	10/28/19
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	63	DRR 14-1572	7/1/14
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
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	81	DRR 19-1027	10/28/19
B 3.7.13-6	81	DRR 19-1027	10/28/19

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TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.13-7	81	DRR 19-1027	10/28/19
B 3.7.13-8	81	DRR 19-1027	10/28/19
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	81	DRR 19-1027	10/28/19
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	5	DRR 00-1427	10/12/00
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	81	DRR 19-1027	10/28/19
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	54	DRR 11-2394	11/16/11
B 3.7.19-7	54	DRR 11-2394	11/16/11
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	79	DRR 18-1579	10/22/18
B 3.7.20-4	79	DRR 18-1579	10/22/18
B 3.7.20-5	79	DRR 18-1579	10/22/18
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.1-1	54	DRR 11-2394	11/16/11
B 3.8.1-2	0	Amend. No. 123	12/18/99
B 3.8.1-3	75	DRR 16-1909	10/26/16
B 3.8.1-4	71	DRR 15-1528	7/30/15
B 3.8.1-5	59	DRR 13-1524	6/26/13
B 3.8.1-6	25	DRR 06-0800	5/18/06
B 3.8.1-7	26	DRR 06-1350	7/24/06
B 3.8.1-8	35	DRR 07-1553	9/28/07
B 3.8.1-9	42	DRR 09-1009	7/16/09
B 3.8.1-10	39	DRR 08-1096	8/28/08
B 3.8.1-11	36	DRR 08-0255	3/11/08
B 3.8.1-12	75	DRR 16-1909	10/26/16
B 3.8.1-13	47	DRR 10-1089	6/16/10
B 3.8.1-14	47	DRR 10-1089	6/16/10
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	26	DRR 06-1350	7/24/06
B 3.8.1-18	59	DRR 13-1524	6/26/13
B 3.8.1-19	26	DRR 06-1350	7/24/06
B 3.8.1-20	26	DRR 06-1350	7/24/06
B 3.8.1-21	33	DRR 07-0656	5/1/07
B 3.8.1-22	33	DRR 07-0656	5/1/07

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TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.1-23	74	DRR 16-1182	7/7/16
B 3.8.1-24	74	DRR 16-1182	7/7/16
B 3.8.1-25	74	DRR 16-1182	7/7/16
B 3.8.1-26	74	DRR 16-1182	7/7/16
B 3.8.1-27	74	DRR 16-1182	7/7/16
B 3.8.1-28	74	DRR 16-1182	7/7/16
B 3.8.1-29	74	DRR 16-1182	7/7/16
B 3.8.1-30	74	DRR 16-1182	7/7/16
B 3.8.1-31	74	DRR 16-1182	7/7/16
B 3.8.1-32	74	DRR 16-1182	7/7/16
B 3.8.1-33	74	DRR 16-1182	7/7/16
B 3.8.1-34	74	DRR 16-1182	7/7/16
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	80	DRR 19-0524	5/30/19
B 3.8.2-4	57	DRR 13-0006	1/16/13
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	0	Amend. No. 123	12/18/99
B 3.8.3-7	12	DRR 02-1062	9/26/02
B 3.8.3-8	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.8.4-4	0	Amend. No. 123	12/18/99
B 3.8.4-5	50	DRR 11-0449	3/9/11
B 3.8.4-6	50	DRR 11-0449	3/9/11
B 3.8.4-7	6	DRR 00-1541	3/13/01
B 3.8.4-8	0	Amend. No. 123	12/18/99
B 3.8.4-9	2	DRR 00-0147	4/24/00
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	0	Amend. No. 123	12/18/99
B 3.8.6-4	0	Amend. No. 123	12/18/99
B 3.8.6-5	0	Amend. No. 123	12/18/99
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	69	DRR 15-0493	3/26/15

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
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	69	DRR 15-0493	3/26/15
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	1	DRR 99-1624	12/18/99
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	57	DRR 13-0006	1/16/13
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	19	DRR 04-1414	10/12/04
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	0	Amend. No. 123	12/18/99
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	51	DRR 11-0664	3/21/11
B 3.9.3-4	68	DRR 15-0248	2/26/15
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	33	DRR 07-0656	5/1/07
B 3.9.4-6	23	DRR 05-1995	9/28/05
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	75	DRR 16-1909	10/26/16
B 3.9.5-5	75	DRR 16-1909	10/26/16
B 3.9.6-1	0	Amend. No. 123	12/18/99
B 3.9.6-2	72	DRR 15-1918	10/26/15
B 3.9.6-3	42	DRR 09-1009	7/16/09
B 3.9.6-4	72	DRR 15-1918	10/26/15
B 3.9.6-5	75	DRR 16-1909	10/26/16
B 3.9.7-1	81	DRR 19-1027	10/28/19

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TAB – B 3.9 REFUELING OPERATIONS (continued)			
B 3.9.7-2	81	DRR 19-1027	10/28/19
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.

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.16 RCS Specific Activity

BASES

BACKGROUND

The maximum dose that an individual at the exclusion area boundary can receive for any 2 hours following an accident, or at the low population zone outer boundary for the radiological release duration, is specified in 10 CFR 50.67 (Ref. 1). Doses to control room operators must be limited per GDC 19. The limits on specific activity ensure that the offsite and control room doses are appropriately limited during analyzed transients and accidents.

The RCS specific activity LCO limits the allowable concentration level of radionuclides in the reactor coolant. The LCO limits are established to minimize the dose consequences in the event of a steam line break (SLB) or steam generator tube rupture (SGTR) accident.

The LCO contains specific activity limits for both DOSE EQUIVALENT I-131 and DOSE EQUIVALENT XE-133. The allowable levels are intended to ensure that offsite and control room doses meet the appropriate acceptance criteria in the Standard Review Plan (Ref. 2).

APPLICABLE SAFETY ANALYSES

The LCO limits on the specific activity of the reactor coolant ensure that the resulting offsite and control room doses meet the appropriate Standard Review Plan acceptance criteria following a SLB or SGTR accident. The safety analyses (Refs. 3 and 4) assume the specific activity of the reactor coolant is at or more conservative than the LCO limits, and a reactor coolant steam generator (SG) tube leakage rate of 1 gpm exists or results from accident induced conditions. The safety analyses assume the specific activity of the secondary coolant is at its limit of 0.1 μCi/gm DOSE EQUIVALENT I-131 from LCO 3.7.18, “Secondary Specific Activity.”

The analyses for the SLB and SGTR accidents establish the acceptance limits for RCS specific activity. Reference to these analyses is used to assess changes to the unit that could affect RCS specific activity, as they relate to the acceptance limits.

The analyses consider two cases of reactor coolant specific activity. One case assumes specific activity at 1.0 μCi/gm DOSE EQUIVALENT I-131 with a concurrent large iodine spike that increases, by a factor of 500 for SLB and 335 for SGTR, the rate of release of iodine from the fuel rods containing cladding defects to the primary coolant immediately after a SLB or SGTR. The second case assumes the initial reactor coolant iodine activity at 60 μCi/gm DOSE EQUIVALENT I-131 due to a pre-accident

BASES

APPLICABLE SAFETY ANALYSES (continued)

iodine spike caused by an RCS transient. In both cases, the noble gas activity is assumed to be equal to 500 μCi/gm DOSE EQUIVALENT XE-133.

The SGTR analysis also assumes a loss of offsite power at the same time as the reactor trip. The SGTR causes a reduction in reactor coolant inventory. The reduction initiates a reactor trip from an Overtemperature ΔT signal.

The loss of offsite power causes the steam dump valves to close to protect the condenser. The rise in pressure in the ruptured SG discharges radioactively contaminated steam to the atmosphere through the SG atmospheric relief valves. The unaffected SGs remove core decay heat by venting steam to the atmosphere until the cooldown ends and the Residual Heat Removal (RHR) System is placed into service.

The SLB radiological analysis assumes that offsite power is lost at the same time as the pipe break occurs outside containment. Reactor trip occurs after the generation of an SI signal on low steamline pressure. The affected SG blows down completely and steam is vented directly to the atmosphere. The unaffected SGs remove core decay heat by venting steam to the atmosphere until the cooldown ends and the RHR System is placed in service.

Operation with iodine specific activity levels greater than the LCO limit is permissible if the activity levels do not exceed 60 μCi/gm for more than 48 hours.

The limits on RCS specific activity are also used for establishing standardization in radiation shielding and plant personnel radiation protection practices.

RCS specific activity satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

BASES

LCO

The iodine specific activity in the reactor coolant is limited to 1.0 μCi/gm DOSE EQUIVALENT I-131, and the noble gas specific activity in the reactor coolant is limited to 500 μCi/gm DOSE EQUIVALENT XE-133. The limits on specific activity ensure that offsite and control room doses will meet the appropriate SRP acceptance criteria (Ref. 2).

The SLB and SGTR accident analyses (Refs. 3 and 4) show that the calculated doses are within acceptable limits. Violation of the LCO may result in reactor coolant radioactivity levels that could, in the event of an SLB or SGTR, lead to doses that exceed the SRP acceptance criteria (Ref. 2).

APPLICABILITY

In MODES 1, 2, 3, and 4, operation within the LCO limits for DOSE EQUIVALENT I-131 and DOSE EQUIVALENT XE-133 is necessary to limit the potential consequences of an SLB or SGTR to within the SRP acceptance criteria (Ref. 2).

In MODES 5 and 6, the steam generators are not being used for decay heat removal, the RCS and steam generators are depressurized, and primary to secondary LEAKAGE is minimal. Therefore, the monitoring of RCS specific activity is not required.

ACTIONS

A.1 and A.2

With the DOSE EQUIVALENT I-131 greater than the LCO limit, samples at intervals of 4 hours must be taken to demonstrate that the specific activity is $\leq$ 60 μCi/gm. The Completion Time of 4 hours is required to obtain and analyze a sample. Sampling is done to continue to provide a trend.

The DOSE EQUIVALENT I-131 must be restored to within limits within 48 hours. The Completion Time of 48 hours is acceptable since it is expected that, if there were an iodine spike, the normal coolant iodine concentration would be restored within this time period. Also, there is a low probability of an SLB or SGTR occurring during this time period.

A Note permits the use of the provisions of LCO 3.0.4c. This allowance permits entry into the applicable MODE(s), relying on Required Actions A.1 and A.2 while the DOSE EQUIVALENT I-131 LCO limit is not met. This allowance is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at,or proceeds to power operation.

BASES

ACTIONS (continued)

B.1

With the DOSE EQUIVALENT XE-133 in excess of the allowed limit, DOSE EQUIVALENT XE-133 must be restored to within limits within 48 hours. The allowed Completion Time of 48 hours is acceptable since it is expected that, if there were a noble gas spike, the normal coolant noble gas concentration would be restored within this time period. Also, there is a low probability of an SLB or SGTR occurring during this time period.

A Note permits the use of the provisions of LCO 3.0.4c. This allowance permits entry into the applicable MODE(s), relying on Required Action B.1 while the DOSE EQUIVALENT XE-133 LCO limit is not met. This allowance is acceptable due to the significant conservatism incorporated into the specific activity limit, and the ability to restore transient-specific activity excursions while the plant remains at, or proceeds to, power operation.

C.1 and C.2

If the Required Action and associated Completion Time of Condition A or B is not met, or if the DOSE EQUIVALENT I-131 is $>$ 60 μCi/gm, the reactor must be brought to MODE 3 within 6 hours and MODE 5 within 36 hours. The 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.

SURVEILLANCE REQUIREMENTS

SR 3.4.16.1

SR 3.4.16.1 requires performing a gamma isotopic analysis as a measure of the noble gas specific activity of the reactor coolant at least once every 7 days. This measurement is the sum of the degassed gamma activities and the gaseous gamma activities in the sample taken. This Surveillance provides an indication of any increase in the noble gas specific activity.

Trending the results of this Surveillance allows proper remedial action to be taken before reaching the LCO limit under normal operating conditions. The 7-day Frequency considers the unlikelihood of a gross fuel failure during this time.

If a specific noble gas nuclide listed in the definition of DOSE EQUIVALENT XE-133 in Specification 1.1, “Definitions,” is not detected, it should be assumed to be present at the minimum detectable activity.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.16.1 (continued)

The Note modifies this SR to allow entry into and operating in MODE 4, MODE 3, and MODE 2 prior to performing the SR. This allows the Surveillance to be performed in those MODES, prior to entering MODE 1.

SR 3.4.16.2

This Surveillance is performed to ensure iodine specific activity remains within the LCO limit during normal operation and following fast power changes when iodine spiking is more apt to occur. The 14-day Frequency is adequate to trend changes in the iodine activity level, considering noble gas activity is monitored every 7 days. The Frequency, between 2 and 6 hours after a power change $\geq$ 15% RTP within a 1-hour period, is established because the iodine levels peak during this time following iodine spiking information; samples at other times would provide inaccurate results.

The Note modifies this SR to allow entry into and operation in MODE 4, MODE 3, and MODE 2 prior to performing the SR. This allows the Surveillance to be performed in those MODES, prior to entering MODE 1.

REFERENCES

1. 10 CFR 50.67.
2. Standard Review Plan (SRP), Section 15.0.1.
3. USAR Section 15.1.5.
4. USAR, Section 15.6.3.

TABLE B 3.6.3-1
(Page 6 of 6)

CONTAINMENT ISOLATION VALVES – COMPLETION TIMES

VALVE	PENETRATION NO.	CATEGORY/COMPLETION TIME	
KAFV-29	P-30	Category 7	7 days
KAV-039	P-63	Category 7	7 days
KAV-118	P-63	Category 7	7 days
KAV-163	P-63	Category 7	7 days
KAV-204	P-30	Category 7	7 days
KAV-218	P-30	Category 7	7 days
KBV-001	P-98	Category 7	7 days
KBV-002	P-98	Category 7	7 days
KCHV-253	P-67	Category 7	7 days
KCV-431	P-67	Category 7	7 days
KCV-478	P-67	Category 7	7 days
LFFV-95	P-32	Category 7	7 days
LFFV-96	P-32	Category 7	7 days
LFV-093	P-32	Category 7	7 days
SJHV-12	P-69	Category 4	24 hours
SJHV-127	P-93	Category 7	7 days
SJHV-128	P-64	Category 3	12 hours
SJHV-129	P-64	Category 7	7 days
SJHV-13	P-69	Category 4	24 hours
SJHV-130	P-64	Category 7	7 days
SJHV-18	P-95	Category 7	7 days
SJHV-19	P-95	Category 7	7 days
SJHV-5	P-93	Category 5	48 hours
SJHV-6	P-93	Category 5	48 hours
SJV-066	P-95	Category 7	7 days
SJV-069	P-93	Category 7	7 days
SJV-071	P-69	Category 7	7 days
SJV-106	P-64	Category 7	7 days

BASES

APPLICABLE SAFETY ANALYSES (continued)

affected by the accident analysis of the SLB events presented in the USAR, Section 15.1.5 (Ref. 3). The design precludes the blowdown of more than one steam generator, assuming a single active component failure (e.g., the failure of one MSIV or MSIV bypass valve to close on demand).

The limiting case for the containment analysis is the SLB inside containment, with a loss of offsite power following turbine trip, and failure of the MSIV on the affected steam generator to close. At lower powers, the steam generator inventory and temperature are at their maximum, maximizing the analyzed mass and energy release to the containment. Due to reverse flow and failure of the MSIV to close, the additional mass and energy in the steam headers downstream from the other MSIV contribute to the total release. With the most reactive rod cluster control assembly assumed stuck in the fully withdrawn position, there is an increased possibility that the core will become critical and return to power. The core is ultimately shut down by the boric acid injection delivered by the Emergency Core Cooling System.

The accident analysis compares several different SLB events against different acceptance criteria. The large SLB outside containment upstream of the MSIV is limiting for offsite dose, although a break in this short section of main steam header has a very low probability. The large SLB inside containment at hot zero power is the limiting case for a post trip return to power. The analysis includes scenarios with offsite power available, and with a loss of offsite power following turbine trip. With offsite power available, the reactor coolant pumps continue to circulate coolant through the steam generators, maximizing the Reactor Coolant System cooldown. With a loss of offsite power, the response of mitigating systems is delayed. Significant single failures considered include failure of an MSIV to close.

The MSIVs serve only a safety function and remain open during power operation. The MSIV bypass valves are typically used for turbine warming and pressure equalization during startup, and are normally closed during power operation, but may be opened, for example, for testing or maintenance. These valves operate under the following situations:

a. An HELB inside containment. In order to maximize the mass and energy release into containment, the analysis assumes that the MSIV in the affected steam generator remains open. For this accident scenario, steam is discharged into containment from all steam generators until the remaining MSIVs and MSIV bypass valves close. After MSIV and MSIV bypass valve closure, steam is

BASES

APPLICABLE SAFETY ANALYSES (continued)

discharged into containment only from the affected steam generator and from the residual steam in the main steam header downstream of the closed MSIVs in the unaffected loops. Closure of the MSIVs (and MSIV bypass valves) isolates the break from the unaffected steam generators.

b. A break outside of containment and upstream from the MSIVs is not a containment pressurization concern. The uncontrolled blowdown of more than one steam generator must be prevented to limit the potential for uncontrolled RCS cooldown and positive reactivity addition. Closure of the MSIVs (and MSIV bypass valves) isolates the break and limits the blowdown to a single steam generator.

c. A break downstream of the MSIVs will be isolated by the closure of the MSIVs and the closed MSIV bypass valves.

d. Following a steam generator tube rupture, closure of the MSIVs (and MSIV bypass valves) isolates the ruptured steam generator from the intact steam generators to minimize radiological releases.

e. The MSIVs and MSIV bypass valves are also utilized during other less limiting events such as a feedwater line break.

The MSIVs and MSIV bypass valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

This LCO requires that four MSIVs and their associated actuator trains, and four MSIV bypass valves be OPERABLE. The MSIVs are considered OPERABLE when isolation times are within limits of Figure B 3.7.2-1 when given a close signal and they are capable of closing on an isolation actuation signal. An MSIV actuator train is considered OPERABLE when it is capable of closing the associated MSIV on demand and within the required isolation time. The MSIV bypass valves are considered OPERABLE when their isolation times are within limits and they are capable of closing on an isolation actuation signal.

The LCO is modified by two Notes. Note 1 allows all MSIVs and their associated actuator trains to be inoperable in MODES 2 and 3 when closed and de-activated. When all MSIVs are closed and de-activated, they are performing the specified safety function. Closing and de-activating provides a means of isolation that cannot be adversely affected by a single active failure, thus assuring the MSIV is performing the specified safety function. To de-activate the MSIVs, the electrical power

BASES

ACTIONS

A.1 (continued)

remaining OPERABLE actuator train. The 7-day Completion Time takes into account the redundant OPERABLE actuator train to the MSIV, reasonable time for repairs, and the low probability of an event occurring that requires the inoperable actuator train to the affected MSIV.

B.1

With an actuator train on one MSIV inoperable and an actuator train on an additional MSIV inoperable, such that the inoperable actuator trains are not in the same separation group, action must be taken to restore one of the inoperable actuator trains to OPERABLE status within 72 hours. With two actuator trains inoperable on two MSIVs, there is an increased likelihood that an additional failure (such as the failure of an actuation logic train) could cause one MSIV to fail to close. The 72-hour Completion Time is reasonable since the dual-redundant actuator train design ensures that with only one actuator train on each of two affected MSIVs inoperable, each MSIV is still capable of closing on demand.

C.1

With an actuator train on one MSIV inoperable and an actuator train on an additional MSIV inoperable, but with both inoperable actuator trains in the same separation group, action must be taken to restore one of the inoperable actuator trains to OPERABLE status within 24 hours. The 24-hour Completion Time provides a reasonable amount of time for restoring at least one actuator train since the dual-redundant actuator train design for each MSIV ensures that a single inoperable actuator train cannot prevent the affected MSIV(s) from closing on demand. With two actuator trains inoperable in the same separation group, an additional failure (such as the failure of an actuation logic train in the other separation group) could cause both affected MSIVs to fail to close on demand. The 24-hour Completion Time takes into the redundant OPERABLE actuator trains to the affected MSIVs and the low probability of an event occurring that requires the inoperable actuator trains to the affected MSIVs.

BASES

ACTIONS (continued)

D.1

Required Action D.1 provides assurance that the appropriate Action is entered for the affected MSIV if its associated actuator trains become inoperable. Failure of both actuator trains for a single MSIV results in the inability to close the affected MSIV on demand.

E.1

With three or more MSIV actuator trains inoperable or when Required Action A.1, B.1, or C.1 cannot be completed within the required Completion Time, the affected MSIVs may be incapable of closing on demand and must be immediately declared inoperable. Having three actuator trains inoperable could involve two inoperable actuator trains on one MSIV and one inoperable actuator train on another MSIV, or an inoperable actuator train on each of three MSIVs, for which the inoperable actuator trains could all be in the same separation group or be staggered among the two separation groups.

Depending on which of these conditions or combinations is in effect, the condition or combination could mean that all of the affected MSIVs remain capable of closing on demand (due to the dual-redundant actuator train design), or that at least one MSIV is inoperable, or that with an additional single failure up to three MSIVs could be incapable of closing on demand. Therefore, in some cases, immediately declaring the affected MSIVs inoperable is conservative (when some or all of the affected MSIVs may still be capable of closing on demand even with a single additional failure), while in other cases it is appropriate (when at least one of the MSIVs would be inoperable, or up to three could be rendered inoperable by an additional single failure). Required Action E.1 is conservatively based on the worst-case condition and therefore requires immediately declaring all the affected MSIVs inoperable. Declaring two or more MSIVs inoperable while in MODE 1 requires entry into LCO 3.0.3.

F.1

With one MSIV inoperable in MODE 1, action must be taken to restore OPERABLE status within 8 hours. Some repairs to the MSIV can be made with the unit hot. The 8-hour Completion Time is reasonable, considering the low probability of an accident occurring during this time period that would require a closure of the MSIVs. Condition F is entered when one MSIV is inoperable in MODE 1, including when both actuator trains for one MSIV are inoperable. When only one actuator train is inoperable on one MSIV, Condition A applies.

BASES

ACTIONS (continued)

G.1

If the MSIV cannot be restored to OPERABLE status within 8 hours, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours and Condition H would be entered. The Completion Times are reasonable, based on operating experience, to reach MODE 2 and to close the MSIVs in an orderly manner and without challenging unit systems.

H.1 and H.2

Condition H is modified by a Note indicating that separate Condition entry is allowed for each MSIV bypass valve.

With one or more MSIV bypass valves inoperable, action must be taken to restore each MSIV bypass valve to OPERABLE status within 8 hours or the inoperable MSIV bypass valve must be closed or isolated. When closed or isolated, the MSIV bypass valve is in the position required by the assumptions in the safety analysis. The 8-hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an accident occurring during this time period that would require a closure of the MSIV bypass valves.

For inoperable MSIV bypass valves that cannot be restored to OPERABLE status within 8 hours, but are closed or isolated, the inoperable MSIV bypass valves must be verified on a periodic basis to be closed or isolated. This is necessary to assure that the assumptions in the safety analysis remain valid. The 7-day Completion Time is reasonable, based on engineering judgment, in view of valve status indications available in the control room, and other administrative controls to ensure that these valves are closed or isolated.

I.1 and I.2

Condition I is modified by a Note indicating that separate Condition entry is allowed for each MSIV.

Since the MSIVs are required to be OPERABLE in MODES 2 and 3, the inoperable MSIVs may either be restored to OPERABLE status or closed. When closed, the MSIVs are already in the position required by the assumptions in the safety analysis.

The 8-hour Completion Time is consistent with that allowed in Condition F.

BASES

ACTIONS

I.1 and I.2 (continued)

For inoperable MSIVs that cannot be restored to OPERABLE status within the specified Completion Time, but are closed, the inoperable MSIVs must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid.

The 7-day Completion Time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and other administrative controls, to ensure that these valves are in the closed position.

J.1 and J.2

If the Required Actions of Condition H or I are not met, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed at least in MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that the closure time of each MSIV is within the limits of Figure B 3.7.2-1 from each actuator train when tested pursuant to the Inservice Testing Program. The MSIV isolation time is explicitly assumed in the accident analyses that credit the Steam Line Isolation. Figure B 3.2.7-1 is a curve of the MSIV isolation time limit as a function of steam generator pressure. The acceptance curve for the MSIV stroke time conservatively accounts for potential pressure differential between the steam generator pressure indication and the pressure at the MSIV. This Surveillance is normally performed upon returning the unit to operation following a refueling outage.

The Frequency is in accordance with the Inservice Testing Program.

This test can be conducted in MODE 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.2.2

This SR verifies that each actuator train can close its respective MSIV on an actual or simulated actuation signal. The manual fast close hand switch in the control room provides an acceptable actuation signal. This Surveillance is normally performed upon returning the plant to operation following a refueling outage. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated.

The frequency of MSIV testing is every 18 months. The 18-month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18-month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint.

SR 3.7.2.3

This SR verifies that each MSIV bypass valve can close on an actual or simulated actuation signal. This Surveillance is normally performed upon returning the plant to operation following a refueling outage. The Frequency of MSIV bypass valve testing is every 18 months. The 18-month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18-month Frequency. Therefore, this Frequency is acceptable from a reliability standpoint.

SR 3.7.2.4

This SR verifies that the closure time of each MSIV bypass valve is $\leq$ 15 seconds when tested pursuant to the Inservice Testing Program. This is consistent with the assumptions used in the accident and containment analyses. For the MSIV bypass valves, this Surveillance is performed routinely during plant operation (or as required for post-maintenance testing, but it may also be required to be performed upon returning the unit to operation following a refueling outage.

The Frequency for this SR is in accordance with the Inservice Testing Program.

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TAB – Table of Contents			
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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	81	DRR 19-1027	10/28/19
B 2.1.2-2	12	DRR 02-1062	9/26/02
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	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
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

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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	0	Amend. No. 123	12/18/99
B 3.1.4-9	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.1.8-6	5	DRR 00-1427	10/12/00
B 3.1.9-1	81	DRR 19-1027	10/28/19
B 3.1.9-2	81	DRR 19-1027	10/28/19
B 3.1.9-3	81	DRR 19-1027	10/28/19
B 3.1.9-4	81	DRR 19-1027	10/28/19
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	48	DRR 10-3740	12/28/10
B 3.2.1-9	29	DRR 06-1984	10/17/06
B 3.2.1-10	70	DRR 15-0944	4/28/15
B 3.2.2-1	48	DRR 10-3740	12/28/10

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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	70	DRR 15-0944	4/28/15
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.2.4-7	48	DRR 10-3740	12/28/10
TAB – B 3.3 INSTRUMENTATION			
B 3.3.1-1	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.3.1-10	29	DRR 06-1984	10/17/06
B 3.3.1-11	0	Amend. No. 123	12/18/99
B 3.3.1-12	0	Amend. No. 123	12/18/99
B 3.3.1-13	0	Amend. No. 123	12/18/99
B 3.3.1-14	0	Amend. No. 123	12/18/99
B 3.3.1-15	0	Amend. No. 123	12/18/99
B 3.3.1-16	0	Amend. No. 123	12/18/99
B 3.3.1-17	0	Amend. No. 123	12/18/99
B 3.3.1-18	0	Amend. No. 123	12/18/99
B 3.3.1-19	66	DRR 14-2329	11/6/14
B 3.3.1-20	66	DRR 14-2329	11/6/14
B 3.3.1-21	0	Amend. No. 123	12/18/99
B 3.3.1-22	0	Amend. No. 123	12/18/99
B 3.3.1-23	9	DRR 02-0123	2/28/02
B 3.3.1-24	78	DRR 18-0443	5/8/18
B 3.3.1-25	78	DRR 18-0443	5/8/18
B 3.3.1-26	78	DRR 18-0443	5/8/18
B 3.3.1-27	78	DRR 18-0443	5/8/18
B 3.3.1-28	2	DRR 00-0147	4/24/00
B 3.3.1-29	1	DRR 99-1624	12/18/99
B 3.3.1-30	1	DRR 99-1624	12/18/99
B 3.3.1-31	0	Amend. No. 123	12/18/99
B 3.3.1-32	20	DRR 04-1533	2/16/05
B 3.3.1-33	48	DRR 10-3740	12/28/10
B 3.3.1-34	20	DRR 04-1533	2/16/05

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B 3.3.1-35	19	DRR 04-1414	10/13/04
B 3.3.1-36	20	DRR 04-1533	2/16/05
B 3.3.1-37	20	DRR 04-1533	2/16/05
B 3.3.1-38	20	DRR 04-1533	2/16/05
B 3.3.1-39	25	DRR 06-0800	5/18/06
B 3.3.1-40	20	DRR 04-1533	2/16/05
B 3.3.1-41	20	DRR 04-1533	2/16/05
B 3.3.1-42	20	DRR 04-1533	2/16/05
B 3.3.1-43	20	DRR 04-1533	2/16/05
B 3.3.1-44	20	DRR 04-1533	2/16/05
B 3.3.1-45	20	DRR 04-1533	2/16/05
B 3.3.1-46	48	DRR 10-3740	12/28/10
B 3.3.1-47	20	DRR 04-1533	2/16/05
B 3.3.1-48	48	DRR 10-3740	12/28/10
B 3.3.1-49	20	DRR 04-1533	2/16/05
B 3.3.1-50	20	DRR 04-1533	2/16/05
B 3.3.1-51	21	DRR 05-0707	4/20/05
B 3.3.1-52	20	DRR 04-1533	2/16/05
B 3.3.1-53	20	DRR 04-1533	2/16/05
B 3.3.1-54	20	DRR 04-1533	2/16/05
B 3.3.1-55	25	DRR 06-0800	5/18/06
B 3.3.1-56	66	DRR 14-2329	11/6/14
B 3.3.1-57	20	DRR 04-1533	2/16/05
B 3.3.1-58	29	DRR 06-1984	10/17/06
B 3.3.1-59	20	DRR 04-1533	2/16/05
B 3.3.2-1	0	Amend. No. 123	12/18/99
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 3.3.2-22	37	DRR 08-0503	4/8/08
B 3.3.2-23	37	DRR 08-0503	4/8/08
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

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B 3.3.2-27	37	DRR 08-0503	4/8/08
B 3.3.2-28	37	DRR 08-0503	4/8/08
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	20	DRR 04-1533	2/16/05
B 3.3.2-46	54	DRR 11-2394	11/16/11
B 3.3.2-47	43	DRR 09-1416	9/2/09
B 3.3.2-48	37	DRR 08-0503	4/8/08
B 3.3.2-49	20	DRR 04-1533	2/16/05
B 3.3.2-50	20	DRR 04-1533	2/16/05
B 3.3.2-51	43	DRR 09-1416	9/2/09
B 3.3.2-52	43	DRR 09-1416	9/2/09
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	21	DRR 05-0707	4/20/05
B 3.3.3-14	8	DRR 01-1235	9/19/01
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
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	1	DRR 99-1624	12/18/99

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B 3.3.4-6	9	DRR 02-0123	2/28/02
B 3.3.5-1	0	Amend. No. 123	12/18/99
B 3.3.5-2	1	DRR 99-1624	12/18/99
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	22	DRR 05-1375	6/28/05
B 3.3.5-7	22	DRR 05-1375	6/28/05
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	0	Amend. No. 123	12/18/99
B 3.3.6-6	0	Amend. No. 123	12/18/99
B 3.3.6-7	81	DRR 19-1027	10/28/19
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	57	DRR 13-0006	1/16/13
B 3.3.7-7	0	Amend. No. 123	12/18/99
B 3.3.7-8	81	DRR 19-1027	10/28/19
B 3.3.8-1	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.3.8-6	24	DRR 06-0051	2/28/06
B 3.3.8-7	81	DRR 19-1027	10/28/19
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS)			
B 3.4.1-1	0	Amend. No. 123	12/18/99
B 3.4.1-2	10	DRR 02-0411	4/5/02
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	0	Amend. No. 123	12/18/99
B 3.4.1-6	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.4.3-7	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
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	12	DRR 02-1062	9/26/02
B 3.4.5-6	12	DRR 02-1062	9/26/02
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	72	DRR 15-1918	10/26/15
B 3.4.6-5	75	DRR 16-1909	10/26/16
B 3.4.6-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.7-5	72	DRR 15-1918	10/26/15
B 3.4.7-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.8-4	75	DRR 16-1909	10/26/16
B 3.4.8-5	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
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	32	DRR 07-0139	2/7/07
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
B 3.4.12-11	61	DRR 14-0346	2/27/14
B 3.4.12-12	32	DRR 07-0139	2/7/07
B 3.4.12-13	0	Amend. No. 123	12/18/99

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.12-14	32	DRR 07-0139	2/7/07
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	35	DRR 07-1553	9/28/07
B 3.4.13-6	81	DRR 19-1027	10/28/19
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	32	DRR 07-0139	2/7/07
B 3.4.14-6	32	DRR 07-0139	2/7/07
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	31	DRR 06-2494	12/13/06
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	81	DRR 19-1027	10/28/19
B 3.4.16-3	31	DRR 06-2494	12/13/06
B 3.4.16-4	31	DRR 06-2494	12/13/06
B 3.4.16-5	81	DRR 19-1027	10/28/19
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	1	DRR 99-1624	12/18/99
B 3.5.1-7	71	DRR 15-1528	7/30/15
B 3.5.1-8	1	DRR 99-1624	12/18/99
B 3.5.2-1	0	Amend. No. 123	12/18/99
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
B 3.5.2-6	42	DRR 09-1009	7/16/09
B 3.5.2-7	42	DRR 09-1009	7/16/09
B 3.5.2-8	72	DRR 15-1918	10/26/15

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TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) (continued)			
B 3.5.2-9	75	DRR 16-1909	10/26/16
B 3.5.2-10	80	DRR 19-0524	5/30/19
B 3.5.2-11	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
B 3.5.4-6	26	DRR 06-1350	7/24/06
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	2	Amend. No. 132	4/24/00
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	17	DRR 04-0453	5/26/04
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	0	Amend. No. 123	12/18/99
B 3.6.2-7	0	Amend. No. 123	12/18/99
B 3.6.3-1	0	Amend. No. 123	12/18/99
B 3.6.3-2	83	DRR 20-0300	4/5/20
B 3.6.3-3	83	DRR 20-0300	4/5/20
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	83	DRR 20-0300	4/5/20
B 3.6.3-8	36	DRR 08-0255	3/11/08
B 3.6.3-9	83	DRR 20-0300	4/5/20
B 3.6.3-10	8	DRR 01-1235	9/19/01
B 3.6.3-11	36	DRR 08-0255	3/11/08
B 3.6.3-12	36	DRR 08-0255	3/11/08
B 3.6.3-13	50	DRR 11-0449	3/9/11
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
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

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TAB – B 3.6 CONTAINMENT SYSTEMS (continued)			
B 3.6.4-2	0	Amend. No. 123	12/18/99
B 3.6.4-3	0	Amend. No. 123	12/18/99
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	13	DRR 02-1458	12/03/02
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	72	DRR 15-1918	10/26/15
B 3.6.6-8	80	DRR 19-0524	5/30/19
B 3.6.6-9	72	DRR 15-1918	10/26/15
B 3.6.6-10	75	DRR 16-1909	10/26/16
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	81	DRR 19-1027	10/28/19
B 3.6.7-4	81	DRR 19-1027	10/28/19
B 3.6.7-5	42	DRR 09-1009	7/16/09
TAB – B 3.7 PLANT SYSTEMS			
B 3.7.1-1	0	Amend. No. 123	12/18/99
B 3.7.1-2	0	Amend. No. 123	12/18/99
B 3.7.1-3	0	Amend. No. 123	12/18/99
B 3.7.1-4	0	Amend. No. 123	12/18/99
B 3.7.1-5	32	DRR 07-0139	2/7/07
B 3.7.1-6	32	DRR 07-0139	2/7/07
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	44	DRR 09-1744	10/28/09
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
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	66	DRR 14-2329	11/6/14

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TAB – B 3.7 PLANT SYSTEMS (continued)			
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	81	DRR 19-1027	10/28/19
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	1	DRR 99-1624	12/18/99
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	76	DRR 17-0343	2/21/17
B 3.7.5-5	76	DRR 17-0343	2/21/17
B 3.7.5-6	76	DRR 17-0343	2/21/17
B 3.7.5-7	76	DRR 17-0343	2/21/17
B 3.7.5-8	76	DRR 17-0343	2/21/17
B 3.7.5-9	76	DRR 17-0343	2/21/17
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.7-4	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.8-5	0	Amend. No. 123	12/18/99
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	3	Amend. No. 134	7/14/00
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	64	DRR 14-1822	8/28/14
B 3.7.10-8	81	DRR 19-1027	10/28/19
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	63	DRR 14-1572	7/1/14
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
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	81	DRR 19-1027	10/28/19
B 3.7.13-6	81	DRR 19-1027	10/28/19

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TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.13-7	81	DRR 19-1027	10/28/19
B 3.7.13-8	81	DRR 19-1027	10/28/19
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	81	DRR 19-1027	10/28/19
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	5	DRR 00-1427	10/12/00
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	81	DRR 19-1027	10/28/19
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	54	DRR 11-2394	11/16/11
B 3.7.19-7	54	DRR 11-2394	11/16/11
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	79	DRR 18-1579	10/22/18
B 3.7.20-4	79	DRR 18-1579	10/22/18
B 3.7.20-5	79	DRR 18-1579	10/22/18
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.1-1	54	DRR 11-2394	11/16/11
B 3.8.1-2	0	Amend. No. 123	12/18/99
B 3.8.1-3	75	DRR 16-1909	10/26/16
B 3.8.1-4	71	DRR 15-1528	7/30/15
B 3.8.1-5	59	DRR 13-1524	6/26/13
B 3.8.1-6	25	DRR 06-0800	5/18/06
B 3.8.1-7	26	DRR 06-1350	7/24/06
B 3.8.1-8	35	DRR 07-1553	9/28/07
B 3.8.1-9	42	DRR 09-1009	7/16/09
B 3.8.1-10	39	DRR 08-1096	8/28/08
B 3.8.1-11	36	DRR 08-0255	3/11/08
B 3.8.1-12	75	DRR 16-1909	10/26/16
B 3.8.1-13	47	DRR 10-1089	6/16/10
B 3.8.1-14	47	DRR 10-1089	6/16/10
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	26	DRR 06-1350	7/24/06
B 3.8.1-18	59	DRR 13-1524	6/26/13
B 3.8.1-19	26	DRR 06-1350	7/24/06
B 3.8.1-20	26	DRR 06-1350	7/24/06
B 3.8.1-21	33	DRR 07-0656	5/1/07
B 3.8.1-22	33	DRR 07-0656	5/1/07

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TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.1-23	74	DRR 16-1182	7/7/16
B 3.8.1-24	74	DRR 16-1182	7/7/16
B 3.8.1-25	74	DRR 16-1182	7/7/16
B 3.8.1-26	74	DRR 16-1182	7/7/16
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B 3.8.1-34	74	DRR 16-1182	7/7/16
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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
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B 3.8.3-4	1	DRR 99-1624	12/18/99
B 3.8.3-5	0	Amend. No. 123	12/18/99
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B 3.8.3-7	12	DRR 02-1062	9/26/02
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B 3.8.3-9	0	Amend. No. 123	12/18/99
B 3.8.4-1	0	Amend. No. 123	12/18/99
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B 3.8.4-3	0	Amend. No. 123	12/18/99
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B 3.8.5-1	57	DRR 13-0006	1/16/13
B 3.8.5-2	0	Amend. No. 123	12/18/99
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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
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B 3.9.3-4	68	DRR 15-0248	2/26/15
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	33	DRR 07-0656	5/1/07
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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)

within containment prior to and during personnel access. The supply and exhaust lines each contain two isolation valves. Because of their large size, the 36 inch containment purge supply and exhaust valves are not qualified for automatic closure from their open position under DBA conditions. Therefore, the 36 inch containment purge supply and exhaust isolation valves are normally sealed closed in MODES 1, 2, 3, and 4 to ensure the containment boundary is maintained.

Mini-Purge System (18 inch purge valves)

The Mini-purge System operates to:

a. Reduce the concentration of noble gases within containment prior to and during personnel access, and

b. Equalize containment internal and external pressures.

Since the 18 inch valves used in the Mini-purge System are designed to meet the requirements for automatic containment isolation valves, these valves may be opened as needed, for a limited time as specified in procedures, in MODES 1, 2, 3, and 4.

APPLICABLE SAFETY ANALYSES

The containment isolation valve LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during major accidents. As part of the containment boundary, containment isolation valve OPERABILITY supports leak tightness of the containment. Therefore, the safety analyses of any event requiring isolation of containment is applicable to this LCO.

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA) and a rod ejection accident (Ref. 1). In the analyses for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves (including containment purge valves) are minimized. The safety analyses assume that the 36 inch shutdown purge valves are closed at event initiation.

The DBA analysis assumes that, after the accident, isolation of the containment is complete and leakage terminated except for the design leakage rate, L_a.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The LOCA and rod ejection offsite dose analyses assumes leakage from the containment at a maximum leak rate of 0.20 percent of the containment volume per day for the first 24 hours, and at 0.10 percent of the containment volume per day for the duration of the accident.

The single failure criterion required to be imposed in the conduct of plant safety analyses was considered in the original design of the 18 inch containment mini-purge valves. Two valves in series on each purge line provide assurance that both the supply and exhaust lines could be isolated even if a single failure occurred. The inboard and outboard isolation valves on each line are provided with independent electrical power sources to solenoids that open the pneumatically operated spring closed actuators. The actuators fail closed on the loss of power or air. This arrangement was designed to preclude common mode failures from disabling both valves on a purge line.

The 36 inch purge valves may be unable to close against the buildup of pressure following a LOCA. Therefore, each of the purge valves is required to remain sealed closed during MODES 1, 2, 3, and 4. The Containment Shutdown Purge System valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valves' safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The 36 inch containment purge supply and exhaust valves must be maintained sealed closed. The valves covered by this LCO are listed along with their associated stroke times in the USAR (Ref. 2).

The normally closed containment isolation valves are considered OPERABLE when manual valves are closed, automatic valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference 2.

BASES

ACTIONS (continued)

C.1 and C.2

In the event one containment isolation valve in two or more separate penetration flow paths is inoperable, except for purge valve leakage not within limit, all but one of the affected penetration flow path(s) must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with C.1, the device used to isolate the penetration should be the closest available one to containment. Required Action C.1 must be completed within 4 hours. For the penetration flow paths isolated in accordance with Required Action C.1, the affected penetration(s) must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure that the penetrations requiring isolation following an accident are isolated. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting Containment OPERABILITY during MODES 1, 2, 3, and 4.

This Condition is applicable when multiple containment isolation valves in separate flow paths are inoperable. For subsequent containment isolation valve inoperabilities, the Required Action and Completion Time continue to apply to each additional containment isolation valve inoperability, with the Completion Time based on each subsequent entry into the Condition consistent with Note 2 to the ACTIONS Table (e.g., for each entry into the Condition). The containment isolation valve(s) inoperable as a result of that entry shall meet the Required Action and Completion Time.

D.1, D.2, and D.3

In the event one or more containment shutdown or mini-purge valves in one or more penetration flow paths are not within the leakage limits, leakage must be restored to within limits, or the affected penetration flow path must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve or closed manual valve (this includes power operated valves with power removed). A containment shutdown purge or mini-purge valve with resilient seals utilized to satisfy
Required Action D.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.6 or SR 3.6.3.7. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

BASES

ACTIONS (continued)

E.1 and E.2

If the Required Actions and associated Completion Times are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant 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 plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1

Each 36 inch containment shutdown purge supply and exhaust valve is required to be verified sealed closed at 31 day intervals. Each 36 inch containment shutdown purge supply and exhaust valve inside containment must be verified sealed closed prior to entering MODE 4 from MODE 5, if the surveillance has not been performed in the previous 92 days. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment shutdown purge valve. Detailed analysis of these valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the sealed closed position during MODES 1, 2, 3, and 4. A containment shutdown purge valve that is sealed closed must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing the air supply to the valve operator. In this application, the term "sealed" has no connotation of leak tightness. The Frequency is a result of an NRC initiative, Multi-Plant Action No. B-24 (Ref. 4), related to containment purge valve use during plant operations. In the event valve leakage requires entry into Condition D, the Surveillance permits opening one purge valve in a penetration flow path to perform repairs.

SR 3.6.3.2

This SR ensures that the mini-purge valves are closed as required or, if open, open for an allowable reason. If a mini-purge valve is open in violation of this SR, the valve is considered inoperable. If the inoperable valve is not otherwise known to have excessive leakage when closed, it is not considered to have leakage outside of limits. The SR is not required to be met when the mini-purge valves are open for the reasons stated. The valves may be opened for pressure control, ALARA or air quality

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B 2.1.1-4	0	Amend. No. 123	2/12/03
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B 3.0-7	81	DRR 19-1027	10/28/19
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B 3.0-10	81	DRR 19-1027	10/28/19
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B 3.2.1-8	48	DRR 10-3740	12/28/10
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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	84	DRR 20-0400	08/18/20
B 3.3.1-48	84	DRR 20-0400	08/18/20
B 3.3.1-49	84	DRR 20-0400	08/18/20
B 3.3.1-50	84	DRR 20-0400	08/18/20
B 3.3.1-51	84	DRR 20-0400	08/18/20
B 3.3.1-52	84	DRR 20-0400	08/18/20
B 3.3.1-53	84	DRR 20-0400	08/18/20
B 3.3.1-54	84	DRR 20-0400	08/18/20
B 3.3.1-55	84	DRR 20-0400	08/18/20
B 3.3.1-56	84	DRR 20-0400	08/18/20
B 3.3.1-57	84	DRR 20-0400	08/18/20
B 3.3.1-58	84	DRR 20-0400	08/18/20
B 3.3.1-59	84	DRR 20-0400	08/18/20
B 3.3.1-60 (new)	84	DRR 20-0400	08/18/20
B 3.3.1-61 (new)	84	DRR 20-0400	08/18/20
B 3.3.1-62 (new)	84	DRR 20-0400	08/18/20
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 3.3.2-22	37	DRR 08-0503	4/8/08

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TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.2-23	37	DRR 08-0503	4/8/08
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	20	DRR 04-1533	2/16/05
B 3.3.2-46	54	DRR 11-2394	11/16/11
B 3.3.2-47	43	DRR 09-1416	9/2/09
B 3.3.2-48	37	DRR 08-0503	4/8/08
B 3.3.2-49	20	DRR 04-1533	2/16/05
B 3.3.2-50	20	DRR 04-1533	2/16/05
B 3.3.2-51	43	DRR 09-1416	9/2/09
B 3.3.2-52	43	DRR 09-1416	9/2/09
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	21	DRR 05-0707	4/20/05
B 3.3.3-14	8	DRR 01-1235	9/19/01
B 3.3.3-15	8	DRR 01-1235	9/19/01
B 3.3.4-1	0	Amend. No. 123	12/18/99

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TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.4-2	9	DRR 02-1023	2/28/02
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	1	DRR 99-1624	12/18/99
B 3.3.4-6	9	DRR 02-0123	2/28/02
B 3.3.5-1	0	Amend. No. 123	12/18/99
B 3.3.5-2	1	DRR 99-1624	12/18/99
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	22	DRR 05-1375	6/28/05
B 3.3.5-7	22	DRR 05-1375	6/28/05
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	0	Amend. No. 123	12/18/99
B 3.3.6-6	0	Amend. No. 123	12/18/99
B 3.3.6-7	81	DRR 19-1027	10/28/19
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	57	DRR 13-0006	1/16/13
B 3.3.7-7	0	Amend. No. 123	12/18/99
B 3.3.7-8	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.3.8-6	24	DRR 06-0051	2/28/06
B 3.3.8-7	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.4.1-6	84	DRR 20-0400	08/18/20
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	0	Amend. No. 123	12/18/99
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	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 3.4.3-7	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	12	DRR 02-1062	9/26/02
B 3.4.5-6	12	DRR 02-1062	9/26/02
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	72	DRR 15-1918	10/26/15
B 3.4.6-5	75	DRR 16-1909	10/26/16
B 3.4.6-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.7-5	72	DRR 15-1918	10/26/15
B 3.4.7-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.8-4	75	DRR 16-1909	10/26/16
B 3.4.8-5	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
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	32	DRR 07-0139	2/7/07
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

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.12-10	0	Amend. No. 123	12/18/99
B 3.4.12-11	61	DRR 14-0346	2/27/14
B 3.4.12-12	32	DRR 07-0139	2/7/07
B 3.4.12-13	0	Amend. No. 123	12/18/99
B 3.4.12-14	32	DRR 07-0139	2/7/07
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	35	DRR 07-1553	9/28/07
B 3.4.13-6	81	DRR 19-1027	10/28/19
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	32	DRR 07-0139	2/7/07
B 3.4.14-6	32	DRR 07-0139	2/7/07
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	31	DRR 06-2494	12/13/06
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	31	DRR 06-2494	12/13/06
B 3.4.16-5	81	DRR 19-1027	10/28/19
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	1	DRR 99-1624	12/18/99
B 3.5.1-7	71	DRR 15-1528	7/30/15
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

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TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) (continued)			
B 3.5.2-5	72	DRR 15-1918	10/26/15
B 3.5.2-6	42	DRR 09-1009	7/16/09
B 3.5.2-7	42	DRR 09-1009	7/16/09
B 3.5.2-8	72	DRR 15-1918	10/26/15
B 3.5.2-9	75	DRR 16-1909	10/26/16
B 3.5.2-10	80	DRR 19-0524	5/30/19
B 3.5.2-11	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
B 3.5.4-6	26	DRR 06-1350	7/24/06
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	2	Amend. No. 132	4/24/00
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	17	DRR 04-0453	5/26/04
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	0	Amend. No. 123	12/18/99
B 3.6.2-7	0	Amend. No. 123	12/18/99
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	36	DRR 08-0255	3/11/08
B 3.6.3-10	8	DRR 01-1235	9/19/01
B 3.6.3-11	36	DRR 08-0255	3/11/08
B 3.6.3-12	36	DRR 08-0255	3/11/08
B 3.6.3-13	50	DRR 11-0449	3/9/11
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

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.6 CONTAINMENT SYSTEMS (continued)			
B 3.6.3-17	36	DRR 08-0255	3/11/08
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	0	Amend. No. 123	12/18/99
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	13	DRR 02-1458	12/03/02
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	72	DRR 15-1918	10/26/15
B 3.6.6-8	80	DRR 19-0524	5/30/19
B 3.6.6-9	72	DRR 15-1918	10/26/15
B 3.6.6-10	75	DRR 16-1909	10/26/16
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	81	DRR 19-1027	10/28/19
B 3.6.7-4	81	DRR 19-1027	10/28/19
B 3.6.7-5	42	DRR 09-1009	7/16/09
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	44	DRR 09-1744	10/28/09
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

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TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.3-7	37	DRR 08-0503	4/8/08
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	66	DRR 14-2329	11/6/14
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	84	DRR 20-0400	08/18/20
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	85	DRR 20-0988	10/24/20
B 3.7.5-8	85	DRR 20-0988	10/24/20
B 3.7.5-9	85	DRR 20-0988	10/24/20
B 3.7.5-10 (new)	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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.7-4	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.8-5	0	Amend. No. 123	12/18/99
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	3	Amend. No. 134	7/14/00
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	64	DRR 14-1822	8/28/14
B 3.7.10-8	81	DRR 19-1027	10/28/19
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	63	DRR 14-1572	7/1/14
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

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TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.13-2	81	DRR 19-1027	10/28/19
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	81	DRR 19-1027	10/28/19
B 3.7.13-6	81	DRR 19-1027	10/28/19
B 3.7.13-7	81	DRR 19-1027	10/28/19
B 3.7.13-8	81	DRR 19-1027	10/28/19
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	81	DRR 19-1027	10/28/19
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	5	DRR 00-1427	10/12/00
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	81	DRR 19-1027	10/28/19
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	54	DRR 11-2394	11/16/11
B 3.7.19-7	54	DRR 11-2394	11/16/11
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	79	DRR 18-1579	10/22/18
B 3.7.20-5	79	DRR 18-1579	10/22/18
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.1-1	54	DRR 11-2394	11/16/11
B 3.8.1-2	0	Amend. No. 123	12/18/99
B 3.8.1-3	75	DRR 16-1909	10/26/16
B 3.8.1-4	71	DRR 15-1528	7/30/15
B 3.8.1-5	59	DRR 13-1524	6/26/13
B 3.8.1-6	25	DRR 06-0800	5/18/06
B 3.8.1-7	26	DRR 06-1350	7/24/06
B 3.8.1-8	35	DRR 07-1553	9/28/07
B 3.8.1-9	42	DRR 09-1009	7/16/09
B 3.8.1-10	39	DRR 08-1096	8/28/08
B 3.8.1-11	36	DRR 08-0255	3/11/08
B 3.8.1-12	75	DRR 16-1909	10/26/16
B 3.8.1-13	47	DRR 10-1089	6/16/10
B 3.8.1-14	47	DRR 10-1089	6/16/10
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	26	DRR 06-1350	7/24/06

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TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.1-18	59	DRR 13-1524	6/26/13
B 3.8.1-19	26	DRR 06-1350	7/24/06
B 3.8.1-20	26	DRR 06-1350	7/24/06
B 3.8.1-21	33	DRR 07-0656	5/1/07
B 3.8.1-22	33	DRR 07-0656	5/1/07
B 3.8.1-23	74	DRR 16-1182	7/7/16
B 3.8.1-24	74	DRR 16-1182	7/7/16
B 3.8.1-25	74	DRR 16-1182	7/7/16
B 3.8.1-26	74	DRR 16-1182	7/7/16
B 3.8.1-27	74	DRR 16-1182	7/7/16
B 3.8.1-28	74	DRR 16-1182	7/7/16
B 3.8.1-29	74	DRR 16-1182	7/7/16
B 3.8.1-30	74	DRR 16-1182	7/7/16
B 3.8.1-31	74	DRR 16-1182	7/7/16
B 3.8.1-32	74	DRR 16-1182	7/7/16
B 3.8.1-33	74	DRR 16-1182	7/7/16
B 3.8.1-34	74	DRR 16-1182	7/7/16
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	80	DRR 19-0524	5/30/19
B 3.8.2-4	57	DRR 13-0006	1/16/13
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	0	Amend. No. 123	12/18/99
B 3.8.3-7	12	DRR 02-1062	9/26/02
B 3.8.3-8	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.8.4-4	0	Amend. No. 123	12/18/99
B 3.8.4-5	50	DRR 11-0449	3/9/11
B 3.8.4-6	50	DRR 11-0449	3/9/11
B 3.8.4-7	6	DRR 00-1541	3/13/01
B 3.8.4-8	0	Amend. No. 123	12/18/99
B 3.8.4-9	2	DRR 00-0147	4/24/00
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	0	Amend. No. 123	12/18/99
B 3.8.6-4	0	Amend. No. 123	12/18/99

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TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.6-5	0	Amend. No. 123	12/18/99
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	69	DRR 15-0493	3/26/15
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	69	DRR 15-0493	3/26/15
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	1	DRR 99-1624	12/18/99
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	57	DRR 13-0006	1/16/13
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	19	DRR 04-1414	10/12/04
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	0	Amend. No. 123	12/18/99
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	51	DRR 11-0664	3/21/11
B 3.9.3-4	68	DRR 15-0248	2/26/15
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	33	DRR 07-0656	5/1/07
B 3.9.4-6	23	DRR 05-1995	9/28/05
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	75	DRR 16-1909	10/26/16
B 3.9.5-5	75	DRR 16-1909	10/26/16
B 3.9.6-1	0	Amend. No. 123	12/18/99

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TAB – B 3.9 REFUELING OPERATIONS (continued)			
B 3.9.6-2	72	DRR 15-1918	10/26/15
B 3.9.6-3	42	DRR 09-1009	7/16/09
B 3.9.6-4	72	DRR 15-1918	10/26/15
B 3.9.6-5	75	DRR 16-1909	10/26/16
B 3.9.7-1	81	DRR 19-1027	10/28/19
B 3.9.7-2	81	DRR 19-1027	10/28/19
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

LCO (continued)

the CST to an ESW supply and supplying AFW to two steam generators. The turbine driven AFW pump is required to be OPERABLE with redundant steam supplies from each of two main steam lines upstream of the MSIVs, and shall be capable of automatically transferring the suction from the CST to an ESW supply and supplying AFW to any of the steam generators. The piping, valves, instrumentation, and controls in the required flow paths also are required to be OPERABLE. The inoperability of a single supply line or a single suction isolation valve from an ESW train to the turbine driven AFW pump causes a loss of redundancy in ESW supply to the pump but does not render the turbine driven AFW train inoperable. The supply line begins at the point where the ESW piping branches into two lines, one supplying the motor driven AFW pump and one supplying the turbine driven AFW pump and ends at the suction of the turbine driven AFW pump (Ref. 3). Therefore, with one ESW train inoperable, the associated motor driven AFW train is considered inoperable; and one turbine driven AFW pump supply line is considered inoperable. However, the turbine driven AFW train remains OPERABLE for 72 hours based on the remaining OPERABLE ESW supply line.

In order for the turbine driven AFW pump and motor driven AFW pumps to be OPERABLE while the AFW System is in automatic control or above 10% RTP, the discharge flow control valves shall be in the full open position, except when the motor driven AFW pumps discharge flow control valves are automatically throttled in response to actual AFW flow (Ref. 5). When $\leq$ 10% RTP, the turbine driven AFW pump and motor driven AFW pumps remain OPERABLE with the discharge flow control valves throttled as needed to maintain steam generator levels.

The standby lineup for the turbine driven AFW steam supply lines is when the main steam supply valves, ABHV0005 and ABHV0006, are closed and OPERABLE and the warmup valves, ABHV0048 and ABHV0049, are open and OPERABLE. With a main steam supply valve and its associated warmup valve closed, the turbine driven AFW steam supply line is inoperable. The turbine driven AFW pump is inoperable when restoring a steam supply line to service if both the main steam supply valve and its associated warmup valve were closed, until such time after the restoration of the warmup line that the rate of condensate being drained is low enough that the steam trap FCST0001 and/or the bypass valve FCLV0010 are adequately draining the system as evidenced by no alarms on annunciator 00-128F in the control room. During normal standby lineup, the turbine driven AFW pump is inoperable if the rate of condensation in the line is exceeding the capability of the steam trap FCST0001 and the bypass valve FCLV0010 as evidenced by a high level alarm on annunciator 00-128F in the control room that does not clear upon being acknowledged.

BASES

ACTIONS

A.1 (continued)

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met

B.1

If one of the two ESW supplies to the turbine driven AFW train is inoperable, action must be taken to restore the inoperable ESW supply to OPERABLE status within 72 hours. The 72-hour Completion Time is reasonable, based on the following reasons:

a. The redundant OPERABLE ESW supply to the turbine driven AFW pump;

b. The availability of redundant OPERABLE motor driven AFW pumps; and

c. The low probability of an event occurring that requires the inoperable ESW supply to the turbine driven AFW pump.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

C.1

With one of the required AFW trains (pump or flow path) inoperable for reasons other than Condition A or B, action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of

BASES

ACTIONS (continued)

C.1 (continued)

two steam supply lines to the turbine driven AFW pump. The 72-hour Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and C; or B and C are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

D.1 and D.2

When Required Action A.1, B.1, or C.1 cannot be completed within the required Completion Time, or if two AFW trains are inoperable, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 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 unit systems.

E.1

If all three AFW trains are inoperable, the unit is in a seriously degraded condition with no safety related means for conducting a cooldown, and only limited means for conducting a cooldown with nonsafety related equipment. In such a condition, the unit should not be perturbed by any action, including a power change, that might result in a trip. The seriousness of this condition requires that action be started immediately to restore one AFW train to OPERABLE status.

Required Action E.1 is modified by a Note indicating that all required MODE changes or power reductions are suspended until one AFW train is restored to OPERABLE status. In this case, LCO 3.0.3 is not applicable because it could force the unit into a less safe condition.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths provides assurance that the proper flow paths will exist for AFW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to manual vent/drain valves, and to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The 31 day Frequency, based on engineering judgment, is consistent with procedural controls governing valve operation, and ensures correct valve positions.

This SR is modified by a Note indicating that the SR is not required to be performed for the AFW flow control valves until the AFW System is placed in standby or THERMAL POWER is above 10% RTP.

SR 3.7.5.2

Verifying that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head ensures that AFW pump performance has not degraded during the cycle. Flow and differential head are normal tests of centrifugal pump performance required by the ASME Code (Ref. 2). Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this testing is performed on recirculation flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. Performance of inservice testing discussed in the ASME Code (Ref. 2) (only required at 3 month intervals) satisfies this requirement. The test Frequency in accordance with the Inservice Testing Program results in testing each pump once every 3 months, as required by Reference 2.

When on recirculation, the required differential pressure for the AFW pumps (Ref. 4) when tested in accordance with the Inservice Testing Program is:

Motor Driven Pumps	$\geq$ 1514 psid at a nominal flow of 110 gpm
Turbine Driven Pump	$\geq$ 1616.4 psid at a nominal flow of 130 gpm

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.2 (continued)

This SR is modified by a Note indicating that the SR should be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test.

SR 3.7.5.3

This SR verifies that AFW can be delivered to the appropriate steam generator in the event of any accident or transient that generates an ESFAS, by demonstrating that each automatic valve in the flow path actuates to its correct position on an actual or simulated actuation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 18 month Frequency is acceptable based on operating experience and the design reliability of the equipment.

This SR includes the requirement to verify that each AFW motor-operated discharge valve limits the flow from the motor driven AFW pump to each steam generator to $\leq$ 320 gpm and that valves in the ESW suction flowpath actuate to the full open position upon receipt of an Auxiliary Feedwater Pump Suction Pressure-Low signal.

SR 3.7.5.4

This SR verifies that the AFW pumps will start in the event of any accident or transient that generates an AFAS by demonstrating that each AFW pump starts automatically on an actual or simulated actuation signal. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power.

This SR is modified by a Note. The Note indicates that the SR be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.5

This SR verifies that the AFW is properly aligned by verifying the flow paths from the CST to each steam generator prior to entering MODE 2 after more than 30 days in MODE 5 or 6. OPERABILITY of AFW flow paths must be verified before sufficient core heat is generated that would require the operation of the AFW System during a subsequent shutdown. The Frequency is reasonable, based on engineering judgement and other administrative controls that ensure that flow paths remain OPERABLE. To further ensure AFW System alignment, flow path OPERABILITY is verified following extended outages to determine no misalignment of valves has occurred. This SR ensures that the flow path from the CST to the steam generators is properly aligned.

REFERENCES

1. USAR, Section 10.4.9.

2. ASME Code for Operation and Maintenance of Nuclear Power Plants.

3. NRC letter (C. Poslusny to O. Maynard) dated December 16, 1998: “Wolf Creek Generating Station - Technical Specification Bases Change, Auxiliary Feedwater System.”

4. Performance Improvement Request 2002-0945.

5. Condition Report 2006-000188.

BASES

ACTIONS

A.1, A.2, and A.3

With one Class 1E electrical equipment A/C train inoperable, action must be initiated immediately to implement mitigating actions. The mitigating action taken with one Class 1E electrical equipment A/C train inoperable include enabling the halon interlock relay and starting the appropriate single train recirculating fans (includes opening discharge damper) within one hour. In addition, the spare battery chargers are placed in service within three hours. One train of Control Building pressurization is secured within 12 hours if both trains of Control Building pressurization are in operation. These mitigating actions (i.e., actions that are taken to offset the consequences of an inoperable Class 1E electrical equipment A/C train) should be preplanned for implementation upon entry into the condition, if intentional.

A room area temperature limit of ≤ 90°F is based on the normal operating maximum steady state environmental condition and a plant specific calculation for a single Class 1E electrical equipment A/C train maintaining both Class 1E electrical equipment train rooms at a temperature of ≤ 104°F during design basis accident conditions. The plant specific calculation assumes affected room area temperatures are ≤ 90°F at the onset of the design basis accident.

With one Class 1E electrical equipment A/C train inoperable, the overall reliability of the cooling function is reduced. The remaining OPERABLE train can provide the required cooling function if mitigating actions are taken. The specified mitigating actions assume that the OPERABLE Class 1E electrical equipment A/C train is capable of operating at full capacity. As demonstrated by analysis, the capability of a single Class 1E electrical equipment A/C train to maintain area temperatures ≤ 90°F for both trains of electrical equipment during normal conditions, with the mitigating actions implemented, corresponds to that train's capability to maintain area temperatures ≤ 104°F for both trains of electrical equipment during accident conditions.

Verifying the room area temperatures within 1 hour and every 4 hours thereafter is adequate to ensure temperatures remain below ≤ 90°F. The 4 hour Completion Time is reasonable based on the minimal increase in room temperatures during this time period.

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TAB – Table of Contents			
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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
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B 3.0-12	81	DRR 19-1027	10/28/19
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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	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
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

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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	0	Amend. No. 123	12/18/99
B 3.1.4-9	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.1.8-6	5	DRR 00-1427	10/12/00
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 (new)	84	DRR 20-0400	08/18/20
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	48	DRR 10-3740	12/28/10
B 3.2.1-9	29	DRR 06-1984	10/17/06
B 3.2.1-10	70	DRR 15-0944	4/28/15

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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	70	DRR 15-0944	4/28/15
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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B 3.3.1-1	84	DRR 20-0400	08/18/20
B 3.3.1-2	0	Amend. No. 123	12/18/99
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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
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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
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B 3.3.1-31	84	DRR 20-0400	08/18/20
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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
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B 3.3.1-39	84	DRR 20-0400	08/18/20
B 3.3.1-40	84	DRR 20-0400	08/18/20
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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	84	DRR 20-0400	08/18/20
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B 3.3.1-49	84	DRR 20-0400	08/18/20
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B 3.3.1-51	84	DRR 20-0400	08/18/20
B 3.3.1-52	84	DRR 20-0400	08/18/20
B 3.3.1-53	84	DRR 20-0400	08/18/20
B 3.3.1-54	84	DRR 20-0400	08/18/20
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B 3.3.1-57	84	DRR 20-0400	08/18/20
B 3.3.1-58	84	DRR 20-0400	08/18/20
B 3.3.1-59	84	DRR 20-0400	08/18/20
B 3.3.1-60 (new)	84	DRR 20-0400	08/18/20
B 3.3.1-61 (new)	84	DRR 20-0400	08/18/20
B 3.3.1-62 (new)	84	DRR 20-0400	08/18/20
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 3.3.2-22	37	DRR 08-0503	4/8/08

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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	20	DRR 04-1533	2/16/05
B 3.3.2-46	54	DRR 11-2394	11/16/11
B 3.3.2-47	43	DRR 09-1416	9/2/09
B 3.3.2-48	37	DRR 08-0503	4/8/08
B 3.3.2-49	20	DRR 04-1533	2/16/05
B 3.3.2-50	20	DRR 04-1533	2/16/05
B 3.3.2-51	43	DRR 09-1416	9/2/09
B 3.3.2-52	43	DRR 09-1416	9/2/09
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	21	DRR 05-0707	4/20/05
B 3.3.3-14	8	DRR 01-1235	9/19/01
B 3.3.3-15	8	DRR 01-1235	9/19/01
B 3.3.4-1	0	Amend. No. 123	12/18/99

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TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.4-2	9	DRR 02-1023	2/28/02
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	1	DRR 99-1624	12/18/99
B 3.3.4-6	9	DRR 02-0123	2/28/02
B 3.3.5-1	0	Amend. No. 123	12/18/99
B 3.3.5-2	1	DRR 99-1624	12/18/99
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	22	DRR 05-1375	6/28/05
B 3.3.5-7	22	DRR 05-1375	6/28/05
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	0	Amend. No. 123	12/18/99
B 3.3.6-6	0	Amend. No. 123	12/18/99
B 3.3.6-7	81	DRR 19-1027	10/28/19
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	57	DRR 13-0006	1/16/13
B 3.3.7-7	0	Amend. No. 123	12/18/99
B 3.3.7-8	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.3.8-6	24	DRR 06-0051	2/28/06
B 3.3.8-7	81	DRR 19-1027	10/28/19
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	0	Amend. No. 123	12/18/99
B 3.4.1-6	84	DRR 20-0400	08/18/20
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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.3-7	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
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	12	DRR 02-1062	9/26/02
B 3.4.5-6	12	DRR 02-1062	9/26/02
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	72	DRR 15-1918	10/26/15
B 3.4.6-5	75	DRR 16-1909	10/26/16
B 3.4.6-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.7-5	72	DRR 15-1918	10/26/15
B 3.4.7-6	75	DRR 16-1909	10/26/16
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	42	DRR 09-1009	7/16/09
B 3.4.8-4	75	DRR 16-1909	10/26/16
B 3.4.8-5	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
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	32	DRR 07-0139	2/7/07
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

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TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.12-10	0	Amend. No. 123	12/18/99
B 3.4.12-11	61	DRR 14-0346	2/27/14
B 3.4.12-12	32	DRR 07-0139	2/7/07
B 3.4.12-13	0	Amend. No. 123	12/18/99
B 3.4.12-14	32	DRR 07-0139	2/7/07
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	35	DRR 07-1553	9/28/07
B 3.4.13-6	81	DRR 19-1027	10/28/19
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	32	DRR 07-0139	2/7/07
B 3.4.14-6	32	DRR 07-0139	2/7/07
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	31	DRR 06-2494	12/13/06
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	31	DRR 06-2494	12/13/06
B 3.4.16-5	81	DRR 19-1027	10/28/19
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	1	DRR 99-1624	12/18/99
B 3.5.1-7	71	DRR 15-1528	7/30/15
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

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TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) (continued)			
B 3.5.2-5	72	DRR 15-1918	10/26/15
B 3.5.2-6	42	DRR 09-1009	7/16/09
B 3.5.2-7	42	DRR 09-1009	7/16/09
B 3.5.2-8	72	DRR 15-1918	10/26/15
B 3.5.2-9	75	DRR 16-1909	10/26/16
B 3.5.2-10	80	DRR 19-0524	5/30/19
B 3.5.2-11	72	DRR 15-1918	10/26/15
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	0	Amend. No. 123	12/18/99
B 3.5.4-6	26	DRR 06-1350	7/24/06
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	2	Amend. No. 132	4/24/00
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	17	DRR 04-0453	5/26/04
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	0	Amend. No. 123	12/18/99
B 3.6.2-7	0	Amend. No. 123	12/18/99
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	36	DRR 08-0255	3/11/08
B 3.6.3-10	8	DRR 01-1235	9/19/01
B 3.6.3-11	36	DRR 08-0255	3/11/08
B 3.6.3-12	36	DRR 08-0255	3/11/08
B 3.6.3-13	50	DRR 11-0449	3/9/11
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

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TAB – B 3.6 CONTAINMENT SYSTEMS (continued)			
B 3.6.3-17	36	DRR 08-0255	3/11/08
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	0	Amend. No. 123	12/18/99
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	13	DRR 02-1458	12/03/02
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	72	DRR 15-1918	10/26/15
B 3.6.6-8	80	DRR 19-0524	5/30/19
B 3.6.6-9	72	DRR 15-1918	10/26/15
B 3.6.6-10	75	DRR 16-1909	10/26/16
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	81	DRR 19-1027	10/28/19
B 3.6.7-4	81	DRR 19-1027	10/28/19
B 3.6.7-5	42	DRR 09-1009	7/16/09
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	44	DRR 09-1744	10/28/09
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

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TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.3-7	37	DRR 08-0503	4/8/08
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	66	DRR 14-2329	11/6/14
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	84	DRR 20-0400	08/18/20
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	85	DRR 20-0988	10/24/20
B 3.7.5-8	85	DRR 20-0988	10/24/20
B 3.7.5-9	85	DRR 20-0988	10/24/20
B 3.7.5-10 (new)	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	0	Amend. No. 123	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.7-4	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.7.8-5	0	Amend. No. 123	12/18/99
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	3	Amend. No. 134	7/14/00
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	64	DRR 14-1822	8/28/14
B 3.7.10-8	81	DRR 19-1027	10/28/19
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	63	DRR 14-1572	7/1/14
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

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TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.13-2	81	DRR 19-1027	10/28/19
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	81	DRR 19-1027	10/28/19
B 3.7.13-6	81	DRR 19-1027	10/28/19
B 3.7.13-7	81	DRR 19-1027	10/28/19
B 3.7.13-8	81	DRR 19-1027	10/28/19
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	81	DRR 19-1027	10/28/19
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	5	DRR 00-1427	10/12/00
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	81	DRR 19-1027	10/28/19
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	54	DRR 11-2394	11/16/11
B 3.7.19-7	54	DRR 11-2394	11/16/11
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	79	DRR 18-1579	10/22/18
B 3.7.20-5	79	DRR 18-1579	10/22/18
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.1-1	54	DRR 11-2394	11/16/11
B 3.8.1-2	0	Amend. No. 123	12/18/99
B 3.8.1-3	75	DRR 16-1909	10/26/16
B 3.8.1-4	71	DRR 15-1528	7/30/15
B 3.8.1-5	59	DRR 13-1524	6/26/13
B 3.8.1-6	25	DRR 06-0800	5/18/06
B 3.8.1-7	26	DRR 06-1350	7/24/06
B 3.8.1-8	35	DRR 07-1553	9/28/07
B 3.8.1-9	42	DRR 09-1009	7/16/09
B 3.8.1-10	39	DRR 08-1096	8/28/08
B 3.8.1-11	36	DRR 08-0255	3/11/08
B 3.8.1-12	75	DRR 16-1909	10/26/16
B 3.8.1-13	47	DRR 10-1089	6/16/10
B 3.8.1-14	47	DRR 10-1089	6/16/10
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	26	DRR 06-1350	7/24/06

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TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.1-18	59	DRR 13-1524	6/26/13
B 3.8.1-19	26	DRR 06-1350	7/24/06
B 3.8.1-20	26	DRR 06-1350	7/24/06
B 3.8.1-21	33	DRR 07-0656	5/1/07
B 3.8.1-22	33	DRR 07-0656	5/1/07
B 3.8.1-23	74	DRR 16-1182	7/7/16
B 3.8.1-24	74	DRR 16-1182	7/7/16
B 3.8.1-25	74	DRR 16-1182	7/7/16
B 3.8.1-26	74	DRR 16-1182	7/7/16
B 3.8.1-27	74	DRR 16-1182	7/7/16
B 3.8.1-28	74	DRR 16-1182	7/7/16
B 3.8.1-29	74	DRR 16-1182	7/7/16
B 3.8.1-30	74	DRR 16-1182	7/7/16
B 3.8.1-31	74	DRR 16-1182	7/7/16
B 3.8.1-32	74	DRR 16-1182	7/7/16
B 3.8.1-33	74	DRR 16-1182	7/7/16
B 3.8.1-34	74	DRR 16-1182	7/7/16
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	80	DRR 19-0524	5/30/19
B 3.8.2-4	57	DRR 13-0006	1/16/13
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	0	Amend. No. 123	12/18/99
B 3.8.3-7	12	DRR 02-1062	9/26/02
B 3.8.3-8	1	DRR 99-1624	12/18/99
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	0	Amend. No. 123	12/18/99
B 3.8.4-4	0	Amend. No. 123	12/18/99
B 3.8.4-5	50	DRR 11-0449	3/9/11
B 3.8.4-6	50	DRR 11-0449	3/9/11
B 3.8.4-7	6	DRR 00-1541	3/13/01
B 3.8.4-8	0	Amend. No. 123	12/18/99
B 3.8.4-9	2	DRR 00-0147	4/24/00
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	0	Amend. No. 123	12/18/99
B 3.8.6-4	0	Amend. No. 123	12/18/99

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TAB – B 3.8 ELECTRICAL POWER SYSTEMS (continued)			
B 3.8.6-5	0	Amend. No. 123	12/18/99
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	69	DRR 15-0493	3/26/15
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	69	DRR 15-0493	3/26/15
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	1	DRR 99-1624	12/18/99
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	57	DRR 13-0006	1/16/13
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	19	DRR 04-1414	10/12/04
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	0	Amend. No. 123	12/18/99
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	51	DRR 11-0664	3/21/11
B 3.9.3-4	68	DRR 15-0248	2/26/15
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	33	DRR 07-0656	5/1/07
B 3.9.4-6	23	DRR 05-1995	9/28/05
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	75	DRR 16-1909	10/26/16
B 3.9.5-5	75	DRR 16-1909	10/26/16
B 3.9.6-1	0	Amend. No. 123	12/18/99

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TAB – B 3.9 REFUELING OPERATIONS (continued)			
B 3.9.6-2	72	DRR 15-1918	10/26/15
B 3.9.6-3	42	DRR 09-1009	7/16/09
B 3.9.6-4	72	DRR 15-1918	10/26/15
B 3.9.6-5	75	DRR 16-1909	10/26/16
B 3.9.7-1	81	DRR 19-1027	10/28/19
B 3.9.7-2	81	DRR 19-1027	10/28/19
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

LCO (continued)

the CST to an ESW supply and supplying AFW to two steam generators. The turbine driven AFW pump is required to be OPERABLE with redundant steam supplies from each of two main steam lines upstream of the MSIVs, and shall be capable of automatically transferring the suction from the CST to an ESW supply and supplying AFW to any of the steam generators. The piping, valves, instrumentation, and controls in the required flow paths also are required to be OPERABLE. The inoperability of a single supply line or a single suction isolation valve from an ESW train to the turbine driven AFW pump causes a loss of redundancy in ESW supply to the pump but does not render the turbine driven AFW train inoperable. The supply line begins at the point where the ESW piping branches into two lines, one supplying the motor driven AFW pump and one supplying the turbine driven AFW pump and ends at the suction of the turbine driven AFW pump (Ref. 3). Therefore, with one ESW train inoperable, the associated motor driven AFW train is considered inoperable; and one turbine driven AFW pump supply line is considered inoperable. However, the turbine driven AFW train remains OPERABLE for 72 hours based on the remaining OPERABLE ESW supply line.

In order for the turbine driven AFW pump and motor driven AFW pumps to be OPERABLE while the AFW System is in automatic control or above 10% RTP, the discharge flow control valves shall be in the full open position, except when the motor driven AFW pumps discharge flow control valves are automatically throttled in response to actual AFW flow (Ref. 5). When $\leq$ 10% RTP, the turbine driven AFW pump and motor driven AFW pumps remain OPERABLE with the discharge flow control valves throttled as needed to maintain steam generator levels.

The standby lineup for the turbine driven AFW steam supply lines is when the main steam supply valves, ABHV0005 and ABHV0006, are closed and OPERABLE and the warmup valves, ABHV0048 and ABHV0049, are open and OPERABLE. With a main steam supply valve and its associated warmup valve closed, the turbine driven AFW steam supply line is inoperable. The turbine driven AFW pump is inoperable when restoring a steam supply line to service if both the main steam supply valve and its associated warmup valve were closed, until such time after the restoration of the warmup line that the rate of condensate being drained is low enough that the steam trap FCST0001 and/or the bypass valve FCLV0010 are adequately draining the system as evidenced by no alarms on annunciator 00-128F in the control room. During normal standby lineup, the turbine driven AFW pump is inoperable if the rate of condensation in the line is exceeding the capability of the steam trap FCST0001 and the bypass valve FCLV0010 as evidenced by a high level alarm on annunciator 00-128F in the control room that does not clear upon being acknowledged.

BASES

ACTIONS

A.1 (continued)

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met

B.1

If one of the two ESW supplies to the turbine driven AFW train is inoperable, action must be taken to restore the inoperable ESW supply to OPERABLE status within 72 hours. The 72-hour Completion Time is reasonable, based on the following reasons:

a. The redundant OPERABLE ESW supply to the turbine driven AFW pump;

b. The availability of redundant OPERABLE motor driven AFW pumps; and

c. The low probability of an event occurring that requires the inoperable ESW supply to the turbine driven AFW pump.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

C.1

With one of the required AFW trains (pump or flow path) inoperable for reasons other than Condition A or B, action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of

BASES

ACTIONS (continued)

C.1 (continued)

two steam supply lines to the turbine driven AFW pump. The 72-hour Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10-day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and C; or B and C are entered concurrently. The AND connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

D.1 and D.2

When Required Action A.1, B.1, or C.1 cannot be completed within the required Completion Time, or if two AFW trains are inoperable, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 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 unit systems.

E.1

If all three AFW trains are inoperable, the unit is in a seriously degraded condition with no safety related means for conducting a cooldown, and only limited means for conducting a cooldown with nonsafety related equipment. In such a condition, the unit should not be perturbed by any action, including a power change, that might result in a trip. The seriousness of this condition requires that action be started immediately to restore one AFW train to OPERABLE status.

Required Action E.1 is modified by a Note indicating that all required MODE changes or power reductions are suspended until one AFW train is restored to OPERABLE status. In this case, LCO 3.0.3 is not applicable because it could force the unit into a less safe condition.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1

Verifying the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths provides assurance that the proper flow paths will exist for AFW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to manual vent/drain valves, and to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The 31 day Frequency, based on engineering judgment, is consistent with procedural controls governing valve operation, and ensures correct valve positions.

This SR is modified by a Note indicating that the SR is not required to be performed for the AFW flow control valves until the AFW System is placed in standby or THERMAL POWER is above 10% RTP.

SR 3.7.5.2

Verifying that each AFW pump's developed head at the flow test point is greater than or equal to the required developed head ensures that AFW pump performance has not degraded during the cycle. Flow and differential head are normal tests of centrifugal pump performance required by the ASME Code (Ref. 2). Because it is undesirable to introduce cold AFW into the steam generators while they are operating, this testing is performed on recirculation flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. Performance of inservice testing discussed in the ASME Code (Ref. 2) (only required at 3 month intervals) satisfies this requirement. The test Frequency in accordance with the Inservice Testing Program results in testing each pump once every 3 months, as required by Reference 2.

When on recirculation, the required differential pressure for the AFW pumps (Ref. 4) when tested in accordance with the Inservice Testing Program is:

Motor Driven Pumps	$\geq$ 1514 psid at a nominal flow of 110 gpm
Turbine Driven Pump	$\geq$ 1616.4 psid at a nominal flow of 130 gpm

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.2 (continued)

This SR is modified by a Note indicating that the SR should be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test.

SR 3.7.5.3

This SR verifies that AFW can be delivered to the appropriate steam generator in the event of any accident or transient that generates an ESFAS, by demonstrating that each automatic valve in the flow path actuates to its correct position on an actual or simulated actuation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. The 18 month Frequency is acceptable based on operating experience and the design reliability of the equipment.

This SR includes the requirement to verify that each AFW motor-operated discharge valve limits the flow from the motor driven AFW pump to each steam generator to $\leq$ 320 gpm and that valves in the ESW suction flowpath actuate to the full open position upon receipt of an Auxiliary Feedwater Pump Suction Pressure-Low signal.

SR 3.7.5.4

This SR verifies that the AFW pumps will start in the event of any accident or transient that generates an AFAS by demonstrating that each AFW pump starts automatically on an actual or simulated actuation signal. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power.

This SR is modified by a Note. The Note indicates that the SR be deferred until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.5

This SR verifies that the AFW is properly aligned by verifying the flow paths from the CST to each steam generator prior to entering MODE 2 after more than 30 days in MODE 5 or 6. OPERABILITY of AFW flow paths must be verified before sufficient core heat is generated that would require the operation of the AFW System during a subsequent shutdown. The Frequency is reasonable, based on engineering judgement and other administrative controls that ensure that flow paths remain OPERABLE. To further ensure AFW System alignment, flow path OPERABILITY is verified following extended outages to determine no misalignment of valves has occurred. This SR ensures that the flow path from the CST to the steam generators is properly aligned.

REFERENCES

1. USAR, Section 10.4.9.

2. ASME Code for Operation and Maintenance of Nuclear Power Plants.

3. NRC letter (C. Poslusny to O. Maynard) dated December 16, 1998: “Wolf Creek Generating Station - Technical Specification Bases Change, Auxiliary Feedwater System.”

4. Performance Improvement Request 2002-0945.

5. Condition Report 2006-000188.

BASES

ACTIONS

A.1, A.2, and A.3

With one Class 1E electrical equipment A/C train inoperable, action must be initiated immediately to implement mitigating actions. The mitigating action taken with one Class 1E electrical equipment A/C train inoperable include enabling the halon interlock relay and starting the appropriate single train recirculating fans (includes opening discharge damper) within one hour. In addition, the spare battery chargers are placed in service within three hours. One train of Control Building pressurization is secured within 12 hours if both trains of Control Building pressurization are in operation. These mitigating actions (i.e., actions that are taken to offset the consequences of an inoperable Class 1E electrical equipment A/C train) should be preplanned for implementation upon entry into the condition, if intentional.

A room area temperature limit of ≤ 90°F is based on the normal operating maximum steady state environmental condition and a plant specific calculation for a single Class 1E electrical equipment A/C train maintaining both Class 1E electrical equipment train rooms at a temperature of ≤ 104°F during design basis accident conditions. The plant specific calculation assumes affected room area temperatures are ≤ 90°F at the onset of the design basis accident.

With one Class 1E electrical equipment A/C train inoperable, the overall reliability of the cooling function is reduced. The remaining OPERABLE train can provide the required cooling function if mitigating actions are taken. The specified mitigating actions assume that the OPERABLE Class 1E electrical equipment A/C train is capable of operating at full capacity. As demonstrated by analysis, the capability of a single Class 1E electrical equipment A/C train to maintain area temperatures ≤ 90°F for both trains of electrical equipment during normal conditions, with the mitigating actions implemented, corresponds to that train's capability to maintain area temperatures ≤ 104°F for both trains of electrical equipment during accident conditions.

Verifying the room area temperatures within 1 hour and every 4 hours thereafter is adequate to ensure temperatures remain below ≤ 90°F. The 4 hour Completion Time is reasonable based on the minimal increase in room temperatures during this time period.