NMC
Committed to Nuclear Excellence

Nuclear Management Company, LLC
Prairie Island Nuclear Generating Plant
1717 Wakonade Dr. East
Welch MN 55089

May 30, 2002

10 CFR Part 50
Section 50.90

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Supplement to License Amendment Request dated December 11, 2000
Conversion to Improved Technical Specifications (ITS)

By letter dated, December 11, 2000, Prairie Island submitted a License Amendment Request (LAR) to convert the current Technical Specifications (CTS) using the guidance of NUREG-1431, Revision 1 as amended by NRC and industry Technical Specification Task Force (TSTF) documents. This letter supplements the subject LAR.

The NRC Staff, in meetings and telephone calls, has requested changes in the proposed Technical Specifications and additional documentation in support of this LAR. Page changes associated with follow-on RAIs listed in Attachment 2 and designators E47, E49, E50 and E51 are included in this supplement. Change designator E47 pages delete CTS provisions which allow SRs to be performed at 0.75 to 1.25 times the specified interval and conforms the Prairie Island (PI) ITS to NUREG-1431 guidance. Change pages associated with designators E49, E50 and E51 make miscellaneous changes to Chapter/Sections 3.9, 3.3 and 5.0 respectively.

Attachment 1 to this letter provides additional information in response to NRC requests for additional information (RAIs) RAI 3.8.3-02 and 3.8.3-03

Attachment 2, Page List by RAI Q, provides a cross-reference of follow-on RAIs, change designators and other sources of page changes to the pages that they changed.

A001

Attachment 3 to this letter contains Revision 14 change pages. Changes to the Revision 14 pages are sidelined in the right margin beside the line(s) which have been revised. Change Pages from Parts A, B, D, F, G or Cross-References are dated 5/6/02. Change Pages from Parts C and E are marked as Revision 14 with a small textbox below the revision sideline which contains "R-14".

The Significant Hazards Determinations and Environmental Assessments, as presented in the original December 11, 2000 submittal and as supplemented March 6, 2001, July 3, 2001, August 13, 2001, November 12, 2001, December 12, 2001, January 25, 2002, January 31, 2002, February 14, 2002, February 15, 2002, February 16, 2002, March 6, 2002, April 11, 2002, May 10, 2002 and by the Part G change pages in Attachment 3 of this letter, bound the proposed license amendment.

NMC is notifying the State of Minnesota of this LAR supplement by transmitting a copy of this letter and attachments to the designated State Official.

To the best of my knowledge and belief, the statements contained in this document are true and correct. In some respects these statements are not based on my personal knowledge, but on information furnished by other Prairie Island Nuclear Generating Plant (PINGP) and NMC employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

In this letter NMC has not made any new or revised any Nuclear Regulatory Commission commitments. Please address any comments or questions regarding this matter to myself or Mr. Dale Vincent at 1-651-388-1121.

Mano K. Nazar
Site Vice President
Prairie Island Nuclear Generating Plant

(Copies and attachments listed on page 3)

C: Regional Administrator - Region III, NRC
Senior Resident Inspector, NRC
NRR Project Manager, NRC
James Bernstein, State of Minnesota

Attachments:
Affidavit
1. Additional information in response to NRC RAIs 3.8.3-02 and 3.8.3-03
2. Page List by RAI Q
3. Revision 14 Change Pages

UNITED STATES NUCLEAR REGULATORY COMMISSION

NUCLEAR MANAGEMENT COMPANY, LLC

PRAIRIE ISLAND NUCLEAR GENERATING PLANT DOCKET NO. 50-282
50-306

REQUEST FOR AMENDMENT TO
OPERATING LICENSES DPR-42 & DPR-60

SUPPLEMENT TO LICENSE AMENDMENT REQUEST DATED DECEMBER 11, 2000
CONVERSION TO IMPROVED TECHNICAL SPECIFICATIONS (ITS)

By letter dated May 30, 2002, Nuclear Management Company, LLC, a Wisconsin corporation, is submitting additional information in support of the License Amendment Request originally submitted December 11, 2000.

This letter contains no restricted or other defense information.

NUCLEAR MANAGEMENT COMPANY, LLC

By _____
Mano K. Nazar
Site Vice President
Prairie Island Nuclear Generating Plant

State of Minnesota

County of Goodhue

On this 30th day of May 2002 before me a notary public acting in said County, personally appeared Mano K. Nazar, Site Vice President, Prairie Island Nuclear Generating Plant, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Nuclear Management Company, LLC, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true.

Marlys E. Davis

MARLYS E. DAVIS
NOTARY PUBLIC-MINNESOTA
My Commission Expires Jan. 31, 2005

Prairie Island Nuclear Generating Plant

Attachment 1

to
Supplement dated May 30, 2002
to License Amendment Request dated December 11, 2000
Conversion to Improved Technical Specifications (ITS)

Additional information in response to NRC RAIs 3.8.3-02 and 3.8.3-03

Attachment 1

RAIs 3.8.3-02 and 3.8.3-03

In meetings with the NRC Staff, NMC was requested to provide additional information the basis for the PI (PI) ITS not including periodic testing for water accumulation in the diesel fuel oil (DFO) tanks. PI has two diesel fuel oil systems, one supplies DFO to Unit 1 emergency diesel generators (EDGs) and the cooling water diesels and the other system supplies DFO to the Unit 2 EDGs.

CTS does not require testing for water accumulation in the DFO system tanks nor do they require periodic cleaning of the DFO storage tanks. These systems were not designed for testing for water accumulation and therefore it is difficult to perform these tests and clean the tanks.

To test for water in the bottom of a Unit 1 system tank requires a confined space entry permit to access the top of each tank (six total). Confined space entry involves personnel hazards. When access to the tank has been established, a pipe plug must be removed from each tank. A test stick with water sensitive paste is then dipped into the tank to test for water. Following completion of this test, each tank must be reclosed and the confined space exited.

To test for water in the bottom of a Unit 2 tank requires opening the DFO storage tank vaults (two total) and confined space entry into each vault. Then a pipe cap must be removed from each tank (four total) and a test stick with water sensitive paste can be dipped into the tank to test for water. Then the cap would be re-installed. Alternatively a valve in the vault sump may be opened and a test sample taken, although this has never been done and may be unsafe due to the size of the valve. Following testing for water, the vaults must be resealed to prevent water entry. Periodic testing for water is counter-productive because it has been difficult to reseal the vaults to keep out rainwater.

PI did test for water accumulation in the DFO storage tanks approximately annually for a few years in the 1990s. This practice was discontinued due to the lack of water in the tanks, personnel hazards and the difficulties encountered.

Prairie Island Nuclear Generating Plant

Attachment 2

to

Supplement dated May 30, 2002
to License Amendment Request dated December 11, 2000
Conversion to Improved Technical Specifications (ITS)

Page List by RAI Q

RAI Q #	Package #	Part	Page #
E47	1.0	B	1.3-13
E47	1.0	B	1.4-3
E47	1.0	B	1.4-4
E47	1.0	C	28 of 40
E47	1.0	C	35 of 40
E47	1.0	C	36 of 40
E47	1.0	E	1.3-16
E47	1.0	E	1.4-4
E47	1.0	E	1.4-5
E47	1.0	E	1.4-6
E47	1.0	F	7
E47	3.0	B	3.0-5
E47	3.0	B	B 3.0-14
E47	3.0	C	5 of 6
E47	3.0	D	7
E47	3.0	D	8
E47	3.0	E	3.0-6
E47	3.0	E	B 3.0-17
E47	3.0	F	2
E47	3.0	F	4
E47	3.0	G	1
E47	3.0	G	3
E49	3.9	D	14
E49	3.9	F	8
E49	3.9	F	9
E50	3.3	B	3.3.1-23
E50	3.3	B	3.3.5-5
E50	3.3	B	3.3.5-5
E50	3.3	B	3.3.6-4
E50	3.3	B	3.3.6-4
E50	3.3	B	B 3.3.2-5
E50	3.3	B	B 3.3.5-4
E50	3.3	B	B 3.3.5-8
E50	3.3	B	B 3.3.6-3
E50	3.3	E	3.3.1-30
E50	3.3	E	3.3.5-6
E50	3.3	E	3.3.5-6
E50	3.3	E	3.3.5-7

RAI Q #	Package #	Part	Page #
E50	3.3	E	3.3.6-7
E50	3.3	E	3.3.6-7
E50	3.3	E	B 3.3.2-8
E50	3.3	E	B 3.3.5-4
E50	3.3	E	B 3.3.5-10
E50	3.3	E	B 3.3.6-4
E50	3.3	F	18
E50	3.7	B	B 3.7.12-1
E50	3.7	B	B 3.7.12-7
E50	3.7	E	B 3.7.12-2
E50	3.7	E	B 3.7.12-9
E51	5.0	B	5.0-29
E51	5.0	B	5.0-36
E51	5.0	E	5.0-36
E51	5.0	E	5.0-42
R3.2-15/2	3.2	D	24
R3.2-24	3.2	B	3.2.4-1
R3.2-24	3.2	E	3.2.4-2
R3.2-26	3.2	D	18
R3.3.1-30	3.3	B	3.3.1-8
R3.3.1-30	3.3	B	B 3.3.1-52
R3.3.1-30	3.3	B	B 3.3.1-53
R3.3.1-30	3.3	C	19 of 72
R3.3.1-30	3.3	D	22
R3.3.1-30	3.3	E	3.3.1-12
R3.3.1-30	3.3	E	B 3.3.1-71
R3.3.1-30	3.3	E	B 3.3.1-73
R3.3.1-30	3.3	F	5
R3.3.3-04	3.3	B	3.3.3-5
R3.3.3-04	3.3	B	B 3.3.3-18
R3.3.3-04	3.3	B	B 3.3.3-19
R3.3.3-04	3.3	C	68 of 72
R3.3.3-04	3.3	C	69 of 72
R3.3.3-04	3.3	D	67
R3.3.3-04	3.3	D	97
R3.3.3-04	3.3	E	3.3.3-5
R3.3.3-04	3.3	E	B 3.3.3-23
R3.3.3-04	3.3	E	B 3.3.3-24

RAI Q #	Package #	Part	Page #
R3.3.3-04	3.3	E	B 3.3.3-25
R3.3.3-04	3.3	F	94
R3.3.3-04	3.3	G	67
R3.3.3-04	3.3	G	68
R3.3.5-03/2	3.3	D	96
R3.3.5-03/2	3.3	D	97
R3.4-31	1.0	B	1.1-5
R3.4-31	1.0	E	1.1-7
R3.9(CL-58)	3.9	B	3.9.3-1
R3.9(CL-58)	3.9	E	3.9.3-1
R3.9(CL-58)	3.9	F	3
R3.9-05	3.9	B	3.9.3-1
R3.9-05	3.9	B	3.9.3-2
R3.9-05	3.9	B	B 3.9.3-1
R3.9-05	3.9	B	B 3.9.3-2
R3.9-05	3.9	B	B 3.9.3-3
R3.9-05	3.9	B	B 3.9.3-4
R3.9-05	3.9	C	4 of 10
R3.9-05	3.9	D	11
R3.9-05	3.9	E	3.9.3-1
R3.9-05	3.9	E	3.9.3-2
R3.9-05	3.9	E	B 3.9.3-1
R3.9-05	3.9	E	B 3.9.3-2
R3.9-05	3.9	E	B 3.9.3-3
R3.9-05	3.9	E	B 3.9.3-4
R3.9-05	3.9	E	B 3.9.3-5
R3.9-05	3.9	F	3
R3.9-05	3.9	F	7
R3.9-07	3.9	B	3.9.4-1
R3.9-07	3.9	D	7
R3.9-07	3.9	E	3.9.4-1
R3.9-08	3.9	B	3.9.4-1
R3.9-08	3.9	B	B 3.9.4-2
R3.9-08	3.9	B	B 3.9.4-3
R3.9-08	3.9	B	B 3.9.4-4
R3.9-08	3.9	B	B 3.9.4-5
R3.9-08	3.9	C	2 of 10
R3.9-08	3.9	C	3 of 10

RAI Q #	Package #	Part	Page #
R3.9-08	3.9	D	21
R3.9-08	3.9	E	3.9.4-1
R3.9-08	3.9	E	B 3.9.4-2
R3.9-08	3.9	E	B 3.9.4-3
R3.9-08	3.9	E	B 3.9.4-5
R3.9-08	3.9	E	B 3.9.4-6
R3.9-08	3.9	E	B 3.9.4-7
R3.9-08	3.9	F	5
R3.9-08	3.9	F	18
R3.9-08	3.9	F	18
R3.9-08	3.9	G	19
R3.9-08	3.9	G	20
R3.9-09	3.9	D	8
R3.9-11	3.9	B	3.9.4-1
R3.9-11	3.9	B	B 3.9.4-3
R3.9-11	3.9	B	B 3.9.5-5
R3.9-11	3.9	B	B 3.9.6-4
R3.9-11	3.9	C	2 of 10
R3.9-11	3.9	D	5
R3.9-11	3.9	D	6
R3.9-11	3.9	E	3.9.4-1
R3.9-11	3.9	E	B 3.9.4-4
R3.9-11	3.9	E	B 3.9.5-6
R3.9-11	3.9	E	B 3.9.6-5
R3.9-18	3.9	D	17
R3.9-20	3.9	C	5 of 10
R3.9-20	3.9	D	19
Repagination	1.0	E	1.1-5
Repagination	1.0	E	1.1-6
Repagination	1.0	E	1.1-8
Repagination	1.0	E	1.1-9
Repagination	3.0	B	B 3.0-15
Repagination	3.3	G	69
Repagination	3.7	B	3.7.4-2
Repagination	3.7	B	3.7.5-4
Repagination	3.7	B	B 3.7.5-6
Repagination	3.7	E	B 3.7.5-8
Repagination	3.7	B	B 3.7.5-10

RAI Q #	Package #	Part	Page #
Repagination	3.7	B	B 3.7.5-12
Repagination	3.7	B	B 3.7.5-13
Repagination	3.7	B	B 3.7.6-4
Repagination	3.7	B	B 3.7.6-5
Repagination	3.7	E	B 3.7.6-6
Repagination	3.7	E	B 3.7.12-3
Repagination	3.7	E	B 3.7.12-4
Repagination	3.7	E	B 3.7.12-5
Repagination	3.7	E	B 3.7.12-6
Repagination	3.7	E	B 3.7.12-7
Repagination	3.7	E	B 3.7.12-8
Repagination	3.7	E	B 3.7.12-10
Repagination	3.9	B	3.9.3-3
Repagination	3.9	B	B 3.9.4-6
Repagination	3.9	E	B 3.9.3-6
Repagination	3.9	E	B 3.9.4-8
Repagination	3.9	E	B 3.9.4-9
Repagination	3.9	E	B 3.9.4-10
Repagination	3.9	E	B 3.9.4-11
Repagination	3.9	E	B 3.9.5-7
Repagination	3.9	G	21
Repagination	5.0	B	5.0-37
Repagination	5.0	E	5.0-43
RG3.7-11	3.7	B	3.7.4-1
RG3.7-11	3.7	B	3.7.5-1
RG3.7-11	3.7	B	3.7.5-2
RG3.7-11	3.7	B	3.7.5-3
RG3.7-11	3.7	B	3.7.5-5
RG3.7-11	3.7	B	3.7.6-1
RG3.7-11	3.7	B	3.7.6-2
RG3.7-11	3.7	B	B 3.7.4-2
RG3.7-11	3.7	B	B 3.7.4-3
RG3.7-11	3.7	B	B 3.7.5-5
RG3.7-11	3.7	B	B 3.7.5-7
RG3.7-11	3.7	B	B 3.7.5-8
RG3.7-11	3.7	B	B 3.7.5-9
RG3.7-11	3.7	B	B 3.7.5-11
RG3.7-11	3.7	B	B 3.7.6-3

RAI Q #	Package #	Part	Page #
RG3.7-11	3.7	C	1 of 50
RG3.7-11	3.7	C	2 of 50
RG3.7-11	3.7	C	3 of 50
RG3.7-11	3.7	C	4 of 50
RG3.7-11	3.7	D	58
RG3.7-11	3.7	E	3.7.4-1
RG3.7-11	3.7	E	3.7.4-2
RG3.7-11	3.7	E	3.7.5-1
RG3.7-11	3.7	E	3.7.5-2
RG3.7-11	3.7	E	3.7.5-3
RG3.7-11	3.7	E	3.7.5-5
RG3.7-11	3.7	E	3.7.5-6
RG3.7-11	3.7	E	3.7.6-1
RG3.7-11	3.7	E	3.7.6-2
RG3.7-11	3.7	E	B 3.7.4-4
RG3.7-11	3.7	E	B 3.7.4-5
RG3.7-11	3.7	E	B 3.7.5-6
RG3.7-11	3.7	E	B 3.7.5-7
RG3.7-11	3.7	E	B 3.7.5-9
RG3.7-11	3.7	E	B 3.7.5-10
RG3.7-11	3.7	E	B 3.7.5-11
RG3.7-11	3.7	E	B 3.7.5-13
RG3.7-11	3.7	E	B 3.7.5-14
RG3.7-11	3.7	E	B 3.7.6-4
RG3.7-11	3.7	F	5
RG3.7-11	3.7	F	6
RG3.7-11	3.7	F	8
RG3.7-11	3.7	F	10
RG3.7-11	3.7	G	3

Prairie Island Nuclear Generating Plant

Attachment 3

to

Supplement dated May 30, 2002
to License Amendment Request dated December 11, 2000
Conversion to Improved Technical Specifications (ITS)

Revision 14 Change Pages

Improved Technical Specifications
Supplement dated 5/6/02

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
1.0	B	1.1-5	12/11/00	1.0	B	1.1-5	5/6/02
		1.3-13	12/11/00			1.3-13	5/6/02
		1.4-3	12/11/00			1.4-3	5/6/02
		1.4-4	12/11/00			1.4-4	5/6/02
1.0	C	28 of 40	None		C	28 of 40	14
		35 of 40	None			35 of 40	14
		36 of 40	None			36 of 40	14
1.0	E	1.1-5	None		E	1.1-5	13
		1.1-6	13			1.1-6	None
		1.1-7	None			1.1-7	14
		1.1-8	None			1.1-8	13
		1.1-9	13			1.1-9	None
		1.3-16	None			1.3-16	14
		1.4-4	None			1.4-4	14
		1.4-5	None			1.4-5	14
		1.4-6	None			1.4-6	14
1.0	F	7	1/2/02		F	7	5/6/02
3.0	B	3.0-5	12/11/00	3.0	B	3.0-5	5/6/02
		B 3.0-14	12/11/00			B 3.0-14	5/6/02
		B 3.0-15	5/1/01			B 3.0-15	5/1/02
3.0	C	5 of 6	2		C	5 of 6	14

Improved Technical Specifications
Supplement dated 5/6/02

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
3.0	D	7	12/11/00	3.0	D	7	5/6/02
		8	12/11/00			8	5/6/02
3.0	E	3.0-6	None		E	3.0-6	14
		B 3.0-17	2			B 3.0-17	14
	F	2	12/11/00		F	2	5/6/02
		4	12/11/00			4	5/6/02
3.0	G	1	5/1/01		G	1	5/6/02
		3	12/11/00			3	5/6/02
3.2	B	3.2.4-1	12/11/00	3.2	B	3.2.4-1	5/6/02
	D	18	5/1/02		D	18	5/6/02
		24	5/1/02			24	5/6/02
	E	3.2.4-2	8		E	3.2.4-2	14
3.3	B	3.3.1-8	9/4/01	3.3	B	3.3.1-8	5/6/02
		3.3.1-23	12/11/00			3.3.1-23	5/6/02
		3.3.3-5	5/1/02			3.3.3-5	5/6/02
		3.3.5-5	5/1/02			3.3.5-5	5/6/02
		3.3.6-4	5/1/02			3.3.6-4	5/6/02
		B 3.3.1-52	4/1/02			B 3.3.1-52	5/6/02
		B 3.3.1-53	4/1/02			B 3.3.1-53	5/6/02
		B 3.3.2-5	5/1/02			B 3.3.2-5	5/6/02

Improved Technical Specifications
Supplement dated 5/6/02

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
3.3	B	B 3.3.3-18	5/1/02	3.3	B	B 3.3.3-18	5/6/02
		B 3.3.3-19	5/1/02			B 3.3.3-19	5/6/02
		B 3.3.5-4	5/1/02			B 3.3.5-4	5/6/02
		B 3.3.5-8	5/1/02			B 3.3.5-8	5/6/02
		B 3.3.6-3	5/1/02			B 3.3.6-3	5/6/02
3.3	C	19 of 72	4		C	19 of 72	14
		68 of 72	13			68 of 72	14
		69 of 72	12			69 of 72	14
.3	D	22	5/1/02		D	22	5/6/02
		67	12/11/00			67	5/6/02
		96	5/1/02			96	5/6/02
		97	5/1/02			97	5/6/02
3.3	E	3.3.1-12	4		E	3.3.1-12	14
		3.3.1-30	None			3.3.1-30	14
		3.3.3-5	13			3.3.3-5	14
		3.3.5-6	13			3.3.5-6	14
		3.3.5-7	13			3.3.5-7	14
		3.3.6-7	13			3.3.6-7	14
		B 3.3.1-71	12			B 3.3.1-71	14
		B 3.3.1-73	12			B 3.3.1-73	14
		B 3.3.2-8	13			B 3.3.2-8	14
		B 3.3.3-23	13			B 3.3.3-23	14
		B 3.3.3-24	2			B 3.3.3-24	14
		B 3.3.3-25	13			B 3.3.3-25	14

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
3.3	E	B 3.3.5-4	13	3.3	E	B 3.3.5-4	14
		B 3.3.5-10	13			B 3.3.5-10	14
		B 3.3.6-4	13			B 3.3.6-4	14
3.3	F	5	9/4/01		F	5	5/6/02
		18	9/4/01			18	5/6/02
		94	5/1/02			94	5/6/02
3.3	G	--			G	67	5/6/02
		--				68	5/6/02
		67	12/11/00			69	12/11/00
3.7	B	3.7.4-1	4/1/02	3.7	B	3.7.4-1	5/6/02
		3.7.4-2	2/2/02			3.7.4-2	2/2/02
		3.7.5-1	2/2/02			3.7.5-1	5/6/02
		3.7.5-2	2/2/02			3.7.5-2	5/6/02
		3.7.5-3	12/11/00			3.7.5-3	5/6/02
		3.7.5-4	2/2/02			3.7.5-4	12/11/00
		--				3.7.5-5	5/6/02
		3.7.6-1	2/2/02			3.7.6-1	5/6/02
		3.7.6-2	2/2/02			3.7.6-2	5/6/02
		B 3.7.4-2	4/1/02			B 3.7.4-2	5/6/02
		B 3.7.4-3	4/1/02			B 3.7.4-3	5/6/02
		B 3.7.5-5	12/11/00			B 3.7.5-5	5/6/02
		B 3.7.5-6	2/2/02			B 3.7.5-6	12/11/00
		B 3.7.5-7	2/2/02			B 3.7.5-7	5/6/02
		B 3.7.5-8	12/11/00			B 3.7.5-8	5/6/02

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	**Part**	**Page**	**Revision/ Date**	**Chapter/ Section**	**Part**	**Page**	**Revision/ Date**
3.7	B	B 3.7.5-9	12/11/00	3.7	B	B 3.7.5-9	5/6/02
		B 3.7.5-10	12/11/00			B 3.7.5-10	12/11/00
		B 3.7.5-11	12/11/00			B 3.7.5-11	5/6/02
		B 3.7.5-12	2/2/02			B 3.7.5-12	2/2/02
		--				B 3.7.5-13	12/11/00
		B 3.7.6-3	2/2/02			B 3.7.6-3	5/6/02
		B 3.7.6-4	2/2/02			B 3.7.6-4	2/2/02
		--				B 3.7.6-5	2/2/02
		B 3.7.12-1	4/1/02			B 3.7.12-1	5/6/02
		B 3.7.12-7	4/1/02			B 3.7.12-7	5/6/02
3.7	C	1 of 50	12		C	1 of 50	14
		2 of 50	None			2 of 50	14
		3 of 50	11			3 of 50	14
		4 of 50	None			4 of 50	14
3.7	D	58	4/1/02		D	58	5/6/02
3.7	E	3.7.4-1	12		E	3.7.4-1	14
		3.7.4-2	11			3.7.4-2	14
		3.7.5-1	11			3.7.5-1	14
		3.7.5-2	11			3.7.5-2	14
		3.7.5-3	None			3.7.5-3	14
		3.7.5-5	None			3.7.5-5	14
		3.7.5-6	11			3.7.5-6	14
		3.7.6-1	11			3.7.6-1	14
		3.7.6-2	11			3.7.6-2	14

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
3.7	E	B 3.7.4-4	12	3.7	E	B 3.7.4-4	14
		B 3.7.4-5	12			B 3.7.4-5	14
		B 3.7.5-6	11			B 3.7.5-6	14
		B 3.7.5-7	None			B 3.7.5-7	14
		B3.7.5-8	11			B 3.7.5-8	11
		B 3.7.5-9	11			B 3.7.5-9	14
		B 3.7.5-10	None			B 3.7.5-10	14
		B 3.7.5-11	None			B 3.7.5-11	14
		B 3.7.5-13	None			B 3.7.5-13	14
		B 3.7.5-14	11			B 3.7.5-14	14
		B 3.7.6-4	11			B 3.7.6-4	14
		B 3.7.6-5	11			B 3.7.6-5	11
		B 3.7.6-6	11			B 3.7.6-6	11
		B 3.7.6-7	None			--	
		--				B 3.7.12-2	14
		B 3.7.12-3	None			B 3.7.12-3	None
		B 3.7.12-4	12			B 3.7.12-4	12
		B 3.7.12-5	12			B 3.7.12-5	12
		B 3.7.12-6	11			B 3.7.12-6	11
		B 3.7.12-7	11			B 3.7.12-7	11
		B 3.7.12-8	None			B 3.7.12-8	None
		B 3.7.12-9	12			B 3.7.12-9	14
		B 3.7.12-10	None			B 3.7.12-10	None
3.7	F	5	12/11/00		F	5	5/6/02
		6	2/2/02			6	5/6/02
		8	12/11/00			8	5/6/02

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
3.7	F	10	2/2/02	3.7	F	10	5/6/02
3.7	G	3	5/1/02		G	3	5/6/02
3.9	B	3.9.3-1	12/11/00	3.9	B	3.9.3-1	5/6/02
		3.9.3-2	12/11/00			3.9.3-2	5/6/02
		--				3.9.3-3	12/11/00
		3.9.4-1	1/21/02			3.9.4-1	5/6/02
		B 3.9.3-1	1/21/02			B 3.9.3-1	5/6/02
		B 3.9.3-2	1/21/02			B 3.9.3-2	5/6/02
		B 3.9.3-3	12/11/00			B 3.9.3-3	5/6/02
		B 3.9.3-4	12/11/00			B 3.9.3-4	5/6/02
		B 3.9.4-2	4/1/02			B 3.9.4-2	5/6/02
		B 3.9.4-3	4/1/02			B 3.9.4-3	5/6/02
		B 3.9.4-4	12/11/00			B 3.9.4-4	5/6/02
		B 3.9.4-5	1/21/02			B 3.9.4-5	5/6/02
		B 3.9.4-6	4/1/02			B 3.9.4-6	4/1/02
		B 3.9.5-5	12/11/00			B 3.9.5-5	5/6/02
		B 3.9.6-4	12/11/00			B 3.9.6-4	5/6/02
3.9	C	2 of 10	10		C	2 of 10	14
		3 of 10	10			3 of 10	14
		4 of 10	10			4 of 10	14
		5 of 10	10			5 of 10	14
9	D	5	1/21/02		D	5	5/6/02
		6	1/21/02			6	5/6/02

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	Part	Page	Revision/ Date	Chapter/ Section	Part	Page	Revision/ Date
3.9	D	7	1/21/02	3.9	D	7	5/6/02
		8	4/1/02			8	5/6/02
		11	1/21/02			11	5/6/02
		14	1/21/02			14	5/6/02
		17	1/21/02			17	5/6/02
		19	1/21/02			19	5/6/02
		--				21	5/6/02
3.9	E	3.9.3-1	None		E	3.9.3-1	14
		3.9.3-2	None			3.9.3-2	14
		3.9.4-1	10			3.9.4-1	14
		B 3.9.3-1	10			B 3.9.3-1	14
		B 3.9.3-2	10			B 3.9.3-2	14
		B 3.9.3-3	None			B 3.9.3-3	14
		B 3.9.3-4	None			B 3.9.3-4	14
		B 3.9.3-5	None			B 3.9.3-5	14
		B 3.9.3-6	None			B 3.9.3-6	14
		B 3.9.4-2	12			B 3.9.4-2	14
		B 3.9.4-3	12			B 3.9.4-3	14
		B 3.9.4-4	None			B 3.9.4-4	14
		B 3.9.4-5	None			B 3.9.4-5	14
		B 3.9.4-6	10			B 3.9.4-6	14
		B 3.9.4-7	12			B 3.9.4-7	14
		B 3.9.4-8	12			B 3.9.4-8	12
		B 3.9.4-9	12			B 3.9.4-9	12
		B 3.9.4-10	None			B 3.9.4-10	12
		--				B 3.9.4-11	None

Revision 14 Change Page List

UPDATING INSTRUCTIONS

Remove				Insert			
Chapter/ Section	**Part**	**Page**	**Revision/ Date**	**Chapter/ Section**	**Part**	**Page**	**Revision/ Date**
3.9	E	B 3.9.5-6	None	3.9	E	B 3.9.5-6	14
		B 3.9.5-7	None			B 3.9.5-7	None
		B 3.9.6-5	None			B 3.9.6-5	14
3.9	F	3	12/11/00	3.9	F	3	5/6/02
		5	4/1/02			5	5/6/02
		7	1/21/02			7	5/6/02
		8	12/11/00			8	5/6/02
		9	1/21/02			9	5/6/02
		18	1/21/02			18	5/6/02
3.9	G	--			G	19	5/6/02
		--				20	5/6/02
		19	12/11/00			21	12/11/00
5.0	B	5.0-29	5/1/01	5.0	B	5.0-29	5/6/02
		5.0-36	12/11/00			5.0-36	5/6/02
		5.0-37	4/1/02			5.0-37	4/1/02
5.0	E	5.0-36	2		E	5.0-36	14
		5.0-42	12			5.0-42	14
		5.0-43	12			5.0-43	12

1.1 Definitions (continued)

PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)	The PTLR is the unit specific document that provides the reactor vessel pressure and temperature limits, including heatup and cooldown rates, and the OPPS arming temperature for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.6.6. Plant operation within these operating limits is addressed in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits," LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) –Reactor Coolant System Cold Leg Temperature (RCSCLT) > Safety Injection (SI) Pump Disable Temperature," and LCO 3.4.13, "Low Temperature Overpressure Protection (LTOP) - Reactor Coolant System Cold Leg Temperature (RCSCLT) ≤ Safety Injection (SI) Pump Disable Temperature."
QUADRANT POWER TILT RATIO (QPTR)	QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 1650 MWt.
REACTOR TRIP SYSTEM (RTS) RESPONSE TIME	The RTS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor output until opening of a reactor trip breaker. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-6

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Perform SR 3.x.x.x.	Once per 8 hours
	OR	
	A.2 Reduce THERMAL POWER to ≤ 50% RTP.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours

Entry into Condition A offers a choice between Required Action A.1 or A.2. Required Action A.1 has a "once per" Completion Time, which qualifies for the 25% extension, per SR 3.0.2, to each performance after the initial performance. The initial 8 hour interval of Required Action A.1 begins when Condition A is entered and the initial performance of Required Action A.1 must be complete within the first 8 hour interval. If Required Action A.1 is followed, and the Required Action is not met within the Completion Time (plus the extension allowed by SR 3.0.2), Condition B is entered. If Required Action A.2 is followed and the Completion Time of 8 hours is not met, Condition B is entered.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the MODE or other specified condition. Failure to do so would result in a violation of SR 3.0.4.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours after ≥ 25% RTP AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time reactor power is increased from a power level < 25% RTP to ≥ 25% RTP, the Surveillance must be performed within 12 hours.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the 25% extension allowed by SR 3.0.2. "Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If reactor power decreases to < 25% RTP, the measurement of both intervals stops. New intervals start upon reactor power reaching 25% RTP.

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-6

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Perform SR 3.x.x.x. OR A.2 Reduce THERMAL POWER to ≤ 50% RTP.	Once per 8 hours 8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours

Entry into Condition A offers a choice between Required Action A.1 or A.2. Required Action A.1 has a "once per" Completion Time, which qualifies for the 25% extension, per SR 3.0.2, to each performance after the initial performance. The initial 8 hour interval of Required Action A.1 begins when Condition A is entered and the initial performance of Required Action A.1 must be complete within the first 8 hour interval. If Required Action A.1 is followed, and the Required Action is not met within the Completion Time (plus the extension allowed by SR 3.0.2), Condition B is entered. If Required Action A.2 is followed and the Completion Time of 8 hours is not met, Condition B is entered. R-14

1.4 Frequency

EXAMPLE (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable. R-14

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the MODE or other specified condition. Failure to do so would result in a violation of SR 3.0.4.

1.4 Frequency

EXAMPLE (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours after ≥ 25% RTP AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time reactor power is increased from a power level < 25% RTP to ≥ 25% RTP, the Surveillance must be performed within 12 hours.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the 25% extension allowed by SR 3.0.2. "Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If reactor power decreases to < 25% RTP, the measurement of both intervals stops. New intervals start upon reactor power reaching 25% RTP.

R-14

1.1 Definitions

LEAKAGE (continued)

collection systems or a sump or collecting tank;

2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE; or

3. ~~Reactor Coolant System (~~RCS~~)~~ LEAKAGE through a steam generator (SG) to the secondary system;

b. Unidentified LEAKAGE

All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE;

c. Pressure Boundary LEAKAGE

LEAKAGE (except SG LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall, or vessel wall.

MASTER RELAY TEST

A MASTER RELAY TEST shall consist of energizing all ~~each~~ master relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required master relay. TA1.0-32 The MASTER RELAY TEST shall include a continuity check of each associated required slave relay. The MASTER RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps.

R-13

(continued)

MODE	A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.
OPERABLE – OPERABILITY	A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train,

OPERABLE-OPERABILITY (continued)	component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
PHYSICS TESTS	PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. These tests are: a. Described in ~~Chapter [14, Initial Test Program] of the FSAR;~~ Appendix J of the USAR, Pre-Operational and Startup Tests; CL1.0-41 b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.

(continued)

PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)	The PTLR is the unit specific document that provides the reactor vessel pressure and temperature limits, including heatup and cooldown rates, and the OPPS arming temperature for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.6.6. Plant operation within these operating limits is addressed in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits," LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) - Reactor Coolant System Cold Leg Temperature (RCSCLT) > Safety Injection (SI) Pump Disable Temperature," and LCO 3.4.13~~2~~, "Low Temperature Overpressure Protection (LTOP) - Reactor Coolant System Cold Leg Temperature (RCSCLT) ≤ Safety Injection (SI) Pump Disable Temperature~~System~~." TA1.0-42 PA1.0-43 R-14
QUADRANT POWER TILT RATIO (QPTR)	QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.

1.1 Definitions (continued)

RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 1650 ~~[2893]~~ MWt.
REACTOR TRIP SYSTEM (RTS) RESPONSE TIME	The RTS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor output CL1.0-44 TA1.0-46

(continued)

until opening~~loss~~ of a reactor trip breaker~~stationary gripper coil voltage~~. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.

SHUTDOWN MARGIN (SDM)

SDM shall be the instantaneous amount of reactivity by which:

a. T~~t~~he reactor is subcritical; or CL1.0-47

b. The reactor would be subcritical from its present condition assuming~~:~~

~~SHUTDOWN MARGIN (SDM)~~ ~~(continued)~~

~~a.~~ a~~A~~ll rod cluster control assemblies (RCCAs) are fully inserted except for the single RCCA of highest reactivity worth, which is assumed to be fully withdrawn. With any RCCA not capable of being fully inserted, the reactivity worth of the RCCA must be accounted for in the determination of SDM.~~; and~~

~~b.~~ In MODES 1 and 2, the fuel and moderator temperatures are changed to the ~~[~~nominal zero power design temperature~~level]~~.

SLAVE RELAY TEST

A SLAVE RELAY TEST shall consist of energizing ~~each~~ all slave relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required slave relay. TA1.0-32 The SLAVE RELAY TEST shall include~~, as a minimum,~~ a continuity check of associated required testable actuation devices. The SLAVE RELAY TEST may be performed by means of any series of sequential, overlappping, or total steps.

R-13

(continued)

STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals,

1.1 Definitions

STAGGERED TEST BASIS (continued)	where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.
TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT)	A TADOT shall consist of operating the trip actuating device and verifying the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY~~required alarm, interlock, display, and trip functions~~. TA1.0-32 The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary~~required~~ accuracy. The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps.

B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-6 (continued)

Entry into Condition A offers a choice between Required Action A.1 or A.2. Required Action A.1 has a "once per" Completion Time, which qualifies for the 25% extension, per SR 3.0.2, to each performance after the initial performance. The initial 8 hour interval of Required Action A.1 begins when Condition A is entered and the initial performance of Required Action A.1 must be complete within the first 8 hour interval. If Required Action A.1 is followed, and the Required Action is not met within the Completion Time (plus the extension allowed by SR 3.0.2), Condition B is entered. If Required Action A.2 is followed and the Completion Time of 8 hours is not met, Condition B is entered. R-14

If after entry into Condition B, Required Action A.1 or A.2 is met, Condition B is exited and operation may then continue in Condition A.

(continued)

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable. R-14

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the MODE or other specified condition. Failure to do so would result in a violation of SR 3.0.4.

(continued)

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours after ≥ 25% RTP AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time reactor power is increased from a power level < 25% RTP to ≥ 25% RTP, the Surveillance must be performed within 12 hours.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the 25% extension allowed by SR 3.0.2. "Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified

R-14

(continued)

1.4 Frequency

condition is first met (i.e., the "once" performance in this example). If reactor power decreases to < 25% RTP, the measurement of both intervals stops. New intervals start upon reactor power reaching 25% RTP.

R-14

(continued)

Difference Category	Difference Number 1.0-	Justification for Differences
	57	Not used.
	58	Not used.

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1

SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

SR 3.0.2

To accommodate normal test schedules, the specified Frequency for each SR is met, except for SRs with a specified Frequency of 24 months, if the Surveillance is performed within 0.75 to 1.25 times (± 25%) the interval specified in the Frequency, as measured from the established schedule for performance of the SR or as measured from the time a specified condition of the Frequency is met.

The specified Frequency for each SR is met, except for SRs with a specified Frequency of 24 months, if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension (1.25 times the interval specified) does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the interval extension (1.25 times the interval specified) applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

BASES

SR 3.0.1 (continued)

may be credited as fulfilling the performances of the SR. This allowance includes those SRs whose performance is normally precluded in a given MODE or other specified condition.

Surveillances, including Surveillances invoked by Required Actions, do not have to be performed on inoperable equipment because the ACTIONS define the remedial measures that apply. Surveillances have to be met and performed in accordance with SR 3.0.2, prior to returning equipment to OPERABLE status.

Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with SR 3.0.2. Post maintenance testing may not be possible in the current MODE or other specified conditions in the Applicability due to the necessary unit parameters not having been established. In these situations, the equipment may be considered OPERABLE provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a MODE or other specified condition where other necessary post maintenance tests can be completed.

SR 3.0.2

SR 3.0.2 establishes the requirements for meeting the specified Frequency for Surveillances and any Required Action with a Completion Time that requires the periodic performance of the Required Action on a "once per . . ." interval.

SR 3.0.2 permits a 25% extension of the interval specified in the Frequency. This extension facilitates Surveillance scheduling and considers plant operating conditions that may not be suitable for conducting the Surveillance (e.g., transient conditions or other ongoing Surveillance or maintenance activities).

BASES

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. The requirements of regulations take precedence over the TS. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations. The TS cannot in and of themselves extend a test interval specified in the regulations.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

Also, as stated in SR 3.0.2, the 25% extension does not apply to SRs with a specified Frequency of 24 months. This is to ensure performance is within equipment performance expectations. This is consistent with present industry analysis that supports refueling cycle intervals up to, but not longer than, 24 months.

The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

~~4.0 SURVEILLANCE REQUIREMENTS~~

A3.0-00

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

R-2

~~Applicability~~

SR3.0

SR 3.0.2~~A.~~ ~~Each Surveillance Requirement shall be performed within the specified time interval with the following exceptions:~~

~~1.~~ The specified Frequency for each SR is met, ~~Specific time intervals between tests~~, except for tests with a specified Frequency of 24 months, if the Surveillance is performed~~may be~~ within 1.25 times the interval specified in the Frequency, as measured from the previous performance of the SR or as measured from the time a specified condition of the Frequency is met~~adjusted plus or minus 25% to accommodate normal test schedules~~. M3.0-14 R-14

~~2. The intervals between tests~~ The specified Frequency is met for each SR with a specified Frequency of 24 months if the Surveillance is performed within 18 months to 24 months~~scheduled for refueling shutdowns shall not exceed two years~~. M3.0-14 R-14

For Frequencies specified as "once", the interval extension (1 times the interval specified) does not apply. M3.0-16

If a Completion Time requires periodic performance on a "once per . . ."basis, the interval extension (1.25 times the interval specified) applies to each performance after the initial performance. M3.0-16

Exceptions to this Specification are stated in the individual Specifications. M3.0-14

SR 3.0.1~~B.~~ SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet~~perform~~ a Surveillance Requirement, whether such failure is experienced during the performance of the Surveillance or between performances, ~~within the allowed surveillance interval, defined by Specification 4.0.A,~~ shall be failure to meet the~~constitute noncompliance with the OPERABILITY requirements for a~~ Limiting Condition for Operation. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits. A3.0-17

NSHD category	Change number 3.0-	Discussion Of Change
A	13	New Requirement. (ITS LCO 3.0.9) This new Specification LCO 3.0.9 clarifies the use of the PI ITS for two units. The CTS follows these same rules although they were never explicitly written. This Specification does not provide any new requirements, but simply documents current practice; therefore, this is an administrative change. This LCO is particularly useful at PI because the plant uses a single TS book for both units. This Specification is consistent with the approved Vogtle Improved Technical Specifications.
M	14	CTS 4.0.A. (ITS SR 3.0.2) The CTS has been revised to conform to the guidance of NUREG-1431 which specifies management of SRs based on a "fixed interval" surveillance program. Since this change may involve many changes to the current PI program for management of surveillances this is a more restrictive change. This change is acceptable since the surveillances will continue to be performed and continue to demonstrate equipment operability under the revised SR program management. The Specification on the interval between refueling shutdown has been revised to retain the current requirements in conjunction with increasing the refueling interval. The CTS does not allow any SRs to be performed at an interval greater than two years. This LAR will extend many SR Frequencies to 24 months to support longer plant refueling cycles. However, analyses have not been performed to demonstrate that the Frequency can be extended beyond 24 months. Therefore, through this added phraseology, the CTS restriction of two years has been retained.

NSHD category	Change number 3.0-	Discussion Of Change
M	14	(continued) (This space not used.)
	15	Not used.
M	16	New Requirement. (ITS SR 3.0.2) New requirements from NUREG-1431 SR 3.0.2 have been included to support the ITS format changes and make the ITS complete. These changes are acceptable since they do not allow plant operation or testing that will cause an unsafe condition. Since these changes impose additional rules of use in the TS, these are more restrictive changes.

SR 3.0.2 The specified Frequency for each SR is met, except for SRs with a specified Frequency of 24 months, if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met. CL3.0-32 R-14

The specified Frequency is met for each SR with a specified Frequency of 24 months if the Surveillance is performed within 24 months, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met. CL3.0-32

For Frequencies specified as "once," the above interval extension (1.25 times the interval specified) does not apply. CL3.0-32 R-14

If a Completion Time requires periodic performance on a "once per . . ." basis, the ~~above Frequency~~ interval extension (1.25 times the interval specified) applies to each performance after the initial performance. R-14

Exceptions to this Specification are stated in the individual Specifications.

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of

(continued)

performance of the Required Action on a "once per . . ." interval.

SR 3.0.2 permits a 25% extension of the interval specified in the Frequency. This extension facilitates Surveillance scheduling and considers plant operating conditions that may not be suitable for conducting the Surveillance (e.g., transient conditions or other ongoing Surveillance or maintenance activities). R-14

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. ~~An example of where SR 3.0.2 does not apply is a Surveillance with a Frequency of "in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions."~~ The requirements of regulations take precedence over the TS. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations. The TS cannot in and of themselves extend a test interval specified in the regulations. ~~Therefore, there is a Note in the Frequency~~ R-14 TA3.0-54

SR 3.0.2 (continued)

~~stating,"SR 3.0.2 is not applicable."~~ R-2

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required

(continued)

Difference Category	Difference Number 3.0-	Justification for Differences
TA	26	This change incorporates TSTF-136.
TA	27	This change incorporates TSTF-12, Revision 1.
	28	Not used.
	29	Not used.
	30	Not used.
PA	31	A new Specification 3.0.9 has been included to provide clarification on how the ITS relates to the two unit PI plant. This clarification is necessary since PI uses a single TS book for both units.
CL	32	Clarification is also included which limits 24 month intervals to 24 months without any further extension.
	33 to 40	Not used.

Difference Category	Difference Number 3.0-	Justification for Differences
TA	46	This change incorporates TSTF-165.
TA	47	This change incorporates TSTF-273, Revision 2.
	48	Not used.
	49	Not used.
	50	Not used.
PA	51	Since this discussion is supporting the use of Test Exception LCOs, clarification is provided.
TA	52	This change incorporates TSTF-8, Revision 2.
CL	53	NUREG-1431 allows a 25% extension of the specified interval. Clarification is included that 24 month intervals are not allowed to be extended by 25%.

PART G

PACKAGE 3.0

LIMITING CONDITION FOR OPERATION APPLICABILITY SURVEILLANCE REQUIREMENT APPLICABILITY

NO SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL ASSESSMENT

NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10CFR Part 50, Section 50.91 using the standards provided in Section 50.92.

For ease of review, the changes are evaluated in groupings according to the type of change involved. A single generic evaluation may suffice for some of the changes while others may require specific evaluation in which case the appropriate reference change numbers are provided.

A - Administrative (GENERIC NSHD)
(A3.0-00, A3.0-01, A3.0-02, A3.0-04, A3.0-09, A3.0-12, A3.0-13, A3.0-17, A3.0-18)

Most administrative changes have not been marked-up in the Current Technical Specifications, and may not be specifically referenced to a discussion of change. This No Significant Hazards Determination (NSHD) may be referenced in a discussion of change by the prefix "A" if the change is not obviously an administrative change and requires an explanation.

These proposed changes are editorial in nature. They involve reformatting, renaming, renumbering, or rewording of existing Technical Specifications to provide consistency with NUREG-1431 or conformance with the Writer's Guide, or change of current plant terminology to conform to NUREG-1431. Some administrative changes involve relocation of requirements within the Technical Specifications without affecting their

M - More restrictive (GENERIC NSHD)
(M3.0-03, M3.0-06, M3.0-07, M3.0-11, M3.0-14, M3.0-16, M3.0-19)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3.2 POWER DISTRIBUTION LIMITS

3.2.4 QUADRANT POWER TILT RATIO (QPTR)

LCO 3.2.4 The QPTR shall be ≤ 1.02.

APPLICABILITY: MODE 1 with THERMAL POWER > 50% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. QPTR not within limit.	A.1 Reduce THERMAL POWER ≥ 3% from RTP for each 1% of QPTR > 1.00.	2 hours after each QPTR determination
	AND	
	A.2 Perform SR 3.2.4.1.	Once per 12 hours
	AND	

NSHD Category	Change Number 3.2-	Discussion of Change
	45	Not used.
M	46	CTS 3.10.C.4. The surveillance frequency for this SR has been increased to require performance each shift rather than daily or after each 10% power change. Since power changes of 10% occur infrequently while in this condition, the requirement to perform this SR each shift is considered more restrictive. This change is acceptable because performance of this SR more frequently does not introduce safety concerns. The presentation of this test requirement has also been revised to state "Note, not required to be performed until 12 hours after core is operating above 85% power with one or more excore nuclear channel inputs inoperable". Since CTS allows performance of this test daily, this revised Note is also more restrictive. This is acceptable since performance of this SR does not affect plant power operation and does not place the plant in an unsafe condition. These changes are consistent with the guidance of NUREG-1431.
LR	47	CTS 3.10.C.4. The number of each type of instrument per quadrant for this SR has been relocated to the Bases. These specification details are unnecessary in the SR since they can be adequately controlled in the Bases. This change is consistent with the guidance of NUREG-1431. Since ITS Bases (under the Bases Control Program in Section 5.5 of the ITS) is licensee controlled, relocation of CTS requirements to the Bases is a less restrictive change.

NSHD Category	Change Number 3.2-	Discussion of Change
M	55	CTS 3.10.B.3(c). New requirements are included in CTS 3.10.B.3(c) requiring SR 3.2.2.1 to be performed prior to exceeding 50% RTP, prior to exceeding 75% RTP and 24 hours after reaching greater than or equal to 95% RTP. These performances are modified by a Note which states, "THERMAL POWER does not have to be reduced to comply with this Required Action." These changes are more restrictive since they will require additional performances of SR 3.2.2.1. These changes are acceptable because additional performances of this SR prior to exceeding 75% RTP and 24 hours after reaching greater than or equal to 95% RTP are a conservative actions which will assure the plant is operated in a safe manner by verifying the core power distribution at these additional power levels as power is increased. These SRs are tests which do not adversely affect safe operation of the plant because they are core flux maps which have been routinely performed during plant operations for nearly 30 years without adverse impact on core operations. The addition of the Note is acceptable because it is a clarification that if the Fndh can be restored to within limits without reducing power below 75% or 50% RTP, then the power level does not need to be reduced to meet the Completion Times. This is acceptable and maintains the plant in a safe condition since Fndh limits are verified to be met. These changes are consistent with the guidance of NUREG-1431.
M	56	CTS 3.10.B.6(b). A new requirement is included in CTS which requires reducing power below 15% RTP within 9 hours when the CTS requirement of 3.10.B.6(b), as modified to be consistent with NUREG-1431 guidance, are not met. Since CTS only requires reducing power below 50% RTP, this change is more restrictive. This change is accceptable because further reducing the power is a conservative action which assures the plant is operated in a safe manner. This change is consistent with the guidance of NUREG-1431.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. QPTR not within limit.	A.1	Reduce THERMAL POWER ≥ 3% from RTP for each 1% of QPTR > 1.00.	2 hours after each QPTR determination TA3.2-63
	AND		
	A.2	Perform SR 3.2.4.1 ~~and reduce THERMAL POWER ≥ 3% from RTP for each 1% of QPTR > 1.00~~.	Onc e per 12 hours TA3.2-63 R-14
	AND		
	A.3	Perform SR 3.2.1.1, SR 3.2.1.2 and SR 3.2.2.1.	24 hours after achieving equilibrium conditions from a THERMAL POWER reduction per Required Actions A.1 TA3.2-75 TA3.2-63 AND Once per 7 days thereafter
	AND		
	A.4	Re-evaluate safety analyses and confirm results remain valid for duration of operation under this condition.	Prior to increasing THERMAL POWER above the limit of Required Action A.1
	AND		(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
O. One train inoperable.	----------NOTE---------- One train may be bypassed for up to 8 hours for surveillance testing provided the other train is OPERABLE. ---------- O.1 Restore train to OPERABLE status. OR O.2 Be in MODE 3.	 6 hours 12 hours
P. One RTB train inoperable.	----------NOTE---------- 1. One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. 2. One RTB may be bypassed for up to 4 hours for maintenance on undervoltage or shunt trip mechanisms, provided the other train is OPERABLE. ---------- P.1 Restore train to OPERABLE status. OR P.2 Be in MODE 3.	 1 hour 7 hours

Table 3.3.1-1 (page 7 of 8)
Reactor Trip System Instrumentation

Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Allowable Value is defined by the following Trip Setpoint.

$$\Delta T \le \Delta T_0 \left\{ K_1 - K_2 (T - T') \left[\frac{(1+\tau_1 s)}{(1+\tau_2 s)} \right] + K_3 (P - P') - f(\Delta I) \right\}$$

Where: ΔT is measured Reactor Coolant System (RCS) ΔT, °F.
ΔT_0 is the indicated ΔT at RTP, °F.
s is the Laplace transform operator, sec^{-1}.
T is the measured RCS average temperature, °F.
T′ is the nominal T_{avg} at RTP, = 567.3 °F.

P is the measured pressurizer pressure, psig
P′ is the nominal RCS operating pressure, = 2235 psig

$K_1 \le 1.11$
$K_2 = 0.009/°F$
$K_3 = 0.000566/psig$
$\tau_1 = 30$ sec
$\tau_2 = 4$ sec

$f(\Delta I) = -0.0150\{12 + (q_t - q_b)\}$	when $q_t - q_b \le -12\%$ RTP
0% of RTP	when -12% RTP $< q_t - q_b \le 9\%$ RTP
$0.0250\{(q_t - q_b) - 9\}$	when $q_t - q_b > 9\%$ RTP

Where q_t and q_b are percent RTP in the upper and lower halves of the core, respectively, and $q_t + q_b$ is the total THERMAL POWER in percent RTP.

SURVEILLANCE REQUIREMENTS

----------NOTE----------
SR 3.3.3.1 and SR 3.3.3.2 apply to each EM instrumentation Function in Table 3.3.3-1 except Function 11. SR 3.3.3.1 and SR 3.3.3.2 apply to Function 11.

SURVEILLANCE		FREQUENCY
SR 3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
SR 3.3.3.2	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.3.3	----------NOTE---------- Neutron detectors are excluded from CHANNEL CALIBRATION. ---------- Perform CHANNEL CALIBRATION.	 24 months

Table 3.3.5-1 (page 1 of 1)
Containment Ventilation Isolation Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1.	Manual Initiation	1[(a)], 2[(a)], 3[(a)], 4[(a)] (b)	2	SR 3.3.5.5	NA
2.	Automatic Actuation Relay Logic	1[(a)], 2[(a)], 3[(a)], 4[(a)] (b)	2 trains	SR 3.3.5.2 SR 3.3.5.4	NA
3.	High Radiation in Exhaust Air	1[(a)], 2[(a)], 3[(a)], 4[(a)] (b)	2 (1 per train)	SR 3.3.5.1 SR 3.3.5.3 SR 3.3.5.6	(c)
4.	Manual Containment Isolation	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a., for initiation functions and requirements.			
5.	Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for initiation functions and requirements.			
6.	Manual Containment Spray	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 2, for initiation functions and requirements.			

(a) When the Containment Inservice Purge System is not isolated.
(b) During movement of irradiated fuel assemblies within containment when the Containment Purge or Inservice Purge System is not isolated.
(c) ≤ count rate corresponding to 500 mrem/year whole body and 3000 mrem/year skin due to noble gases at the site boundary.

Table 3.3.6-1 (page 1 of 1)
CRSVS Actuation Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1.	Manual Initiation	1, 2, 3, 4 (a)	2	SR 3.3.6.3	
2.	Control Room Radiation - Atmosphere	1, 2, 3, 4 (a)	2	SR 3.3.6.1 SR 3.3.6.2 SR 3.3.6.4	5 times background
3.	Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

(a) During movement of irradiated fuel assemblies.

BASES

ACTIONS

P.1 and P.2 (continued)

The Required Actions have been modified by two Notes. Note 1 allows one train to be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. Note 2 allows one RTB to be bypassed for up to 4 hours for maintenance on undervoltage or shunt trip mechanisms if the other train is OPERABLE.

Q.1 and Q.2

Condition Q applies to the P-6 and P-10 interlocks. With one or more channel(s) inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition within 1 hour or the unit must be placed in MODE 3 within the next 6 hours. Verifying the interlock status ensures the interlock's Function. The Completion Time of 1 hour is based on operating experience and the minimum amount of time allowed for manual operator actions. The Completion Time of an additional 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. The 1 hour and 7 hour Completion Times are equal to the time allowed by LCO 3.0.3 for shutdown actions in the event of a complete loss of RTS Function.

R.1 and R.2

Condition R applies to the P-7, P-8, and P-9 interlocks. With one or more channel(s) inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition within 1 hour or the unit must be placed in MODE 2 within the next 6 hours. These actions are conservative for the case where power level is being

BASES

ACTIONS

R.1 and R.2 (continued)

raised. Verifying the interlock status ensures the interlock's Function. The Completion Time of 1 hour is based on operating experience and the minimum amount of time allowed for manual operator actions. The Completion Time of an additional 6 hours is reasonable, based on operating experience, to reach MODE 2 from full power in an orderly manner and without challenging unit systems.

S.1 and S.2

Condition S applies to the RTB Undervoltage and Shunt Trip Mechanisms, or diverse trip features, in MODES 1 and 2. With one of the diverse trip features inoperable, it must be restored to an OPERABLE status within 48 hours or the unit must be placed in a MODE where the requirement does not apply. This is accomplished by placing the unit in MODE 3 within the next 6 hours (54 hours total time). The Completion Time of an additional 6 hours is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

With the unit in MODE 3, Action C would apply to any inoperable RTB Trip mechanism. The affected RTB shall not be bypassed while one of the diverse features is inoperable except for the time required to perform maintenance to one of the diverse features. The allowable time for performing maintenance of the diverse features is 4 hours, per Condition P.

The Completion Time of 48 hours for Required Action S.1 is reasonable considering that in this Condition there is one remaining diverse feature for the affected RTB, and one OPERABLE RTB capable of performing the safety function and given the low probability of an event occurring during this interval.

BASES

BACKGROUND

ESF Relay Logic System (continued)

performing the same functions, are provided. If one train is taken out of service for maintenance or test purposes, the second train will provide ESF actuation for the unit. Each train is packaged in its own set of cabinets for physical and electrical separation to satisfy separation and independence requirements.

The ESF relay logic system performs the decision logic for most ESF equipment actuation; generates the electrical output signals that initiate the required actuation; and provides the status, permissive, and annunciator output signals to the main control room of the unit. The relay logic consists of input, master and slave relays. The bistable outputs are combined via the input relays into logic matrices that represent combinations indicative of various transients. If a required logic matrix combination is completed, the appropriate master and slave relays are energized. The master and slave relays cause actuation of those components whose aggregate Function best serves to alleviate the condition and restore the unit to a safe condition. Examples are given in the Applicable Safety Analyses, LCO, and Applicability sections of this Bases.

Each relay logic train has built in test features that allow testing the decision logic matrix and some master and slave relay functions while the unit is at power. When any one train is taken out of service for testing, the other train is capable of providing unit monitoring and protection until the testing has been completed.

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

Each of the analyzed accidents can be detected by one or more ESFAS Functions. One of the ESFAS Functions is the primary actuation signal for that accident. An ESFAS Function may be the primary actuation signal for more than one type of accident.

An ESFAS Function may also be a secondary, or backup, actuation signal for one or more other accidents. For example, Pressurizer

BASES (continued)

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that SR 3.3.3.1 and SR 3.3.3.2 apply to each EM instrumentation Function in Table 3.3.3-1 except Function 11. SR 3.3.3.1 and 3.3.3.2 apply to Function 11.

SR 3.3.3.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross instrumentation failure has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The high radiation instrumentation should be compared to similar unit instruments located throughout the unit.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including isolation, indication, and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

As specified in the SR, a CHANNEL CHECK is only required for those channels that are normally energized.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.3.1 (continued)

The Frequency of 31 days is based on operating experience that demonstrates that channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.3.2

A CHANNEL CALIBRATION is performed every 92 days. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. The Frequency is based on operating experience at PI.

SR 3.3.3.3

A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. This SR is modified by a Note that excludes neutron detectors.

The Frequency is based on operating experience and consistency with the typical PI refueling cycle.

BASES

LCO (continued)

3. High Radiation in Exhaust Air

The LCO specifies two required channels of radiation monitors, one per train, to ensure that the radiation monitoring instrumentation necessary to initiate CVI remains OPERABLE.

For sampling systems, channel OPERABILITY involves more than OPERABILITY of the channel electronics. OPERABILITY may also require correct valve lineups, and sample pump operation as well as detector OPERABILITY, if these supporting features are necessary for trip to occur under the conditions assumed by the safety analyses.

4. Manual Containment Isolation

Refer to LCO 3.3.2, Function 3.a., for initiating Functions and requirements.

5. Safety Injection

Refer to LCO 3.3.2, Function 1, for initiating Functions and requirements.

6. Manual Containment Spray

Refer to LCO 3.3.2, Function 2, for initiating Functions and requirements.

APPLICABILITY

All Functions in Table 3.3.5-1 are required to be OPERABLE in MODES 1, 2, 3, and 4 when the Containment Inservice (low flow) Purge System is not isolated. In addition, the Manual Initiation,

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1 (continued)

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.5.2

SR 3.3.5.2 is the performance of an ACTUATION LOGIC TEST. This test is performed every 31 days on a STAGGERED TEST BASES. The test includes actuation of the master and slave relays whose contact outputs remain within the logic. The test condition inhibits actuation of the master and slave relays whose contact outputs provide direct equipment actuation. The Surveillance interval is acceptable based on instrument reliability and industry operating experience.

SR 3.3.5.3

A COT is performed every 31 days on each required channel to ensure the entire channel will perform the intended Function. The setpoint shall be left consistent with the current unit specific procedure tolerance.

SR 3.3.5.4

SR 3.3.5.4 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation mode is either allowed to function or is placed in a condition where the relay contact operation can be verified without operation of the equipment. This test is performed every 24 months.

BASES

LCO (continued)

A high radiation signal from one control room radiation monitor channel (R23 or R24) initiates the following:

a. The Cleanup Fan on the associated train starts;

b. Exhaust Dampers on the associated train are isolated; and

c. Outside Air Dampers for both trains are isolated.

Table 3.3.6-1 specifies the allowable value for the Control Room Atmosphere Radiation Monitors as five times background which is approximately 10 times less than the Derived Air Concentration for Xe-133 from Appendix B of 10CFR20. No Analytical Limit is assumed in the accident analysis for this function. This allowable value was developed outside the PI setpoint methodology.

3. Safety Injection

Refer to LCO 3.3.2, Function 1, for all initiating Functions and requirements.

APPLICABILITY

CRSVS Function 1 in Table 3.3.6-1 must be OPERABLE in MODES 1, 2, 3, 4, and during movement of irradiated fuel assemblies.

The Applicability for CRSVS actuation on ESFAS Safety Injection Functions are specified in LCO 3.3.2. Refer to the Bases for LCO 3.3.2 for discussion of the Safety Injection Function Applicability.

ACTIONS

A Note has been added to the ACTIONS indicating that separate Condition entry is allowed for each Function. The Conditions of this

~~TABLE 3.5-2A (Page 5 of 6) (Overflow)~~

ACTION 7: With ~~the number of OPERABLE channels~~ one train inoperable ~~less than the Total Number of Channels~~, restore the inoperable channel to OPERABLE status within 6 hours or be in at least MODE 3 ~~HOT SHUTDOWN~~ within 12~~the next 6~~ hours; however, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.1 provided the other channel is OPERABLE.

LCO3.3.1 Condition O

A3.3-18

A3.3-21

A3.3-29

ACTION 8: With ~~the number of OPERABLE channels~~ one channel or train inoperable ~~less than the Total Number of Channels~~ restore the inoperable channel or train to OPERABLE status within 48 hours or within 48 hours initiate action to fully insert all rods and make the Rod Control System incapable of rod withdrawal~~open the reactor trip breakers~~ within 49~~the next~~ hours.

LCO3.3.1 Condition C

A3.3-18

L3.3-136

A3.3-29

R-4

ACTION 9: a. With one of the diverse trip features (Undervoltage or Shunt Trip Attachment) inoperable, restore it to OPERABLE status within 48 hours or be in MODE 3 within 54 hours ~~declare the breaker inoperable and apply the requirements of b below~~.

LCO3.3.1 Condition S

M3.3-32

The breaker may ~~shall not~~ be bypassed while one of the diverse trip features is inoperable, ~~except~~ for 4 hours ~~the time required~~ for performing maintenance and testing to restore the diverse trip feature to OPERABLE status.

LCO3.3.1 Condition P Note 2

R-14

~~TABLE TS.3.5-2A Page 5 of 6 (Overflow) Rev 111 8/10/94~~

TABLE TS.4.1-1C (Page 2 of 4)

MISCELLANEOUS INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A3.3-72

FUNCTIONAL UNIT	CHECK	CALIBRATE	~~FUNCTIONAL TEST~~	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED	
~~13. Containment Sump A, B and C Level~~	~~N.A.~~	~~R~~	~~R~~	~~N.A.~~	~~1, 2, 3, 4~~	R3.3-115
~~14. Deleted~~						
Tbl3.3.1-1 F. 16.b.2 — 15. Turbine First Stage Pressure	~~S~~	R SR3.3.1.10	Q SR3.3.1.7	N.A.	1	LR3.3-156; R-7
~~16. Emergency Plan Radiation Instruments (35)~~	~~M~~	~~R~~	~~M~~	~~N.A.~~	~~1, 2, 3, 4, 5, 6~~	R3.3-115; R-12; R-7
~~17. Seismic Monitors~~	~~R~~	~~R~~	~~N.A.~~	~~N.A.~~	~~1, 2, 3, 4, 5, 6~~	R3.3-115; R-7
SR3.3.1.12 — 18. Coolant Flow - RTD Bypass Flowmeter	~~S~~	R SR3.3.1.12	M	N.A.	1, 2, ~~3 (34)~~	LR3.3-116; L3.3-117
~~19. CRDM Cooling Shroud Exhaust Air Temperature~~	~~S~~	~~N.A.~~	~~R~~	~~N.A.~~	~~1, 2, 3 (31), 4 (31), 5 (31)~~	R3.3-115; R-7
~~20. Reactor Gap Exhaust Air Temperature~~	~~S~~	~~N.A.~~				R3.3-115; R-7
	~~R~~	~~1, 2, 3, 4~~				
SR3.3.3.1 SR3.3.3.3 — 21. Post-Accident Monitoring Instruments (Table TS.3.15-1) (36)	M SR3.3.3.1	R (41) SR3.3.3.3	~~N.A.~~	N.A.	1, 2	A3.3-143; R-14
~~22. Deleted~~						

~~TABLE TS.4.1-1C (Page 2 of 4) REV 121 11/9/95~~

TABLE TS.4.1-1C (Page 3 of 4)

MISCELLANEOUS INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A3.3-72

FUNCTIONAL UNIT	CHECK	CALIBRATE	~~FUNCTIONAL TEST~~	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
~~23. Deleted~~					
~~24. Steam Exclusion Actuation~~	~~W~~	~~Y~~	~~M~~	~~N.A.~~	~~1, 2, 3~~
25. Overpressure Mitigation	N.A.	R	R	N.A.	4[38], 5
~~26. Auxiliary Feedwater Pump Suction Pressure~~	~~N.A.~~	~~R~~	~~R~~	~~N.A.~~	~~1, 2, 3~~
~~27. Auxiliary Feedwater Pump Discharge Pressure~~	~~N.A.~~	~~R~~	~~R~~	~~N.A.~~	~~1, 2, 3~~
~~28. NaOH Caustic Stand Pipe Level~~	~~W~~	~~R~~	~~M~~	~~N.A.~~	~~1, 2, 3, 4~~
29. Hydrogen Monitors	~~M~~ SR3.3.3.1	Q SR3.3.3.2	~~M~~	N.A.	1, 2
~~30. Containment Temperature Monitors~~	~~M~~	~~R~~	~~N.A.~~	~~N.A.~~	~~1, 2, 3, 4~~
~~31. Turbine Overspeed Protection Trip Channel~~	~~N.A.~~	~~R~~	~~M~~	~~N.A.~~	~~1~~

Addressed Elsewhere

R3.3-152

R-7

LR3.3-156

R-12

LR3.3-118

L3.3-169

SR3.3.3.1
SR3.3.3.2

LR3.3-157

R-14

R3.3-115

R-7

~~TABLE TS.4.1-1C (Page 3 of 4) REV 121 11/9/95~~

NSHD category	Change number 3.3-	Discussion of Change
M	032	Table 3.5-2A, Action 9. The Required Actions of Part a. of this Action Statement has been modified to be consistent ITS LCO 3.3.1 Condition S, which conforms with the guidance of NUREG-1431. The maintenance exception of Part a. of this Required Action is included with Note 2 in Condition P. CTS Action 9a allows 48 hours for repair of an inoperable diverse trip feature or declare the reactor trip breaker (RTB) inoperable. CTS also allows the breaker to be bypassed to perform maintenance and testing to restore the diverse trip feature to operable status without any stated time limit. As ITS Condition P Note 2, the time the breaker may be bypassed is limited to 4 hours, thus this is a more restrictive change. The 4 hours is consistent with WCAP-14333P-A, Rev. 1 Safety Evaluation which concluded that the RTB may be bypassed for 4 hours since the Automatic Actuation Relay Logic may be bypassed for 4 hours which would also make the RTB inoperable. In addition, the 4 hours is acceptable based on the redundancy capabilities afforded by the OPERABLE RTB, and the low probability of an abnormal event occurring during this period. Providing a specific time limit is acceptable and does not cause an unsafe plant condition since most maintenance and testing would normally be performed in this time frame.

NSHD category	Change number 3.3-	Discussion of Change
LR	116	Table 4.1-1C, Function18. The instrumentation shift check and monthly functional test have been relocated to the TRM. This change is consistent with the guidance of NUREG-1431. This change is acceptable since this instrumentation usually passes these SRs when performed. Even though this instrumentation is removed from the TS, it will continue to be under the regulatory controls of 10CFR50.59 since the TRM is part of the USAR. Since these SRs are relocated from the TS, this is a less restrictive change.
L	117	Table 4.1-1C, Function 18, Calibration and Note 34. Mode 3 has not been included in the applicability for this SR. This SR is included as a note in SR 3.3.1.12 in support of the OTΔT and OPΔT functions. Since OTΔT and OPΔT are only applicable in Modes 1 and 2, this SR has been made applicable in Modes 1 and 2. This change is consistent with the guidance of NUREG-1431. This change is acceptable since the SR is required to be met in the modes where OTΔT and OPΔT perform a safety function. Since the SR is applicable in fewer modes, this is a less restrictive change.
LR	118	Table 4.1-1C, Function 29. The CTS shift channel check and monthly functional test Surveillance Requirements for the hydrogen monitors, which are more restrictive than NUREG-1431, have been relocated to the TRM which is by reference part of the USAR. The hydrogen monitors will continue to be included in the Event Monitoring Instrumentation specification and have monthly channel checks and quarterly channel calibration. This change is acceptable since the hydrogen monitors will continue to be required by ITS and will have TS required testing. The current Surveillance Requirements will be under the regulatory controls of 10CFR50.59. Since the current Surveillance Requirements have been removed from TS controls, this is a less restrictive change.

NSHD category	Change number 3.3-	Discussion of Change
L	168	CTS 3.8.A.1.j. CTS specifies that the radiation monitors, which initiate isolation of the Containment Purge System shall be tested and verified to be OPERABLE prior to CORE ALTERATIONS. The ITS changes this to test the Function at a Frequency of 24 months and changes the Applicability to "during movement of irradiated fuel." For the revised ITS Applicability, the accidents postulated to occur during CORE ALTERATION, in addition to the fuel handling accident, are: inadvertent criticality (due to a control rod removal error or continuous rod withdrawal error during refueling or boron dilution) and the inadvertent loading of, and subsequent operation with a fuel assembly in an improper location. The inadvertent criticality and fuel loading error events have been evaluated for PI and do not result in fuel cladding integrity damage. Since the only accident postulated to occur during CORE ALTERATIONS that results in a significant radioactive release is the fuel handling accident, this specification is revised to only apply during fuel handling. CTS requires this SR to be performed prior to CORE ALTERATIONS. CTS allow 24 month refueling outages at which time this SR would be performed. CTS would also require performance of this SR if the plant shut down for mid-cycle CORE ALTERATIONS. This change requires the SR to be performed on a 24 month Frequency. Since equipment and instrumentation typically pass their surveillances, they are considered OPERABLE for the entire SR Frequency unless otherwise known to be inoperable. Based on this, it is not necessary to require these radiation monitors to be tested prior to CORE ALTERATIONS since they successfully passed their last SR. Changing the Frequency to 24 months still coincides with the refueling cycle. In addition, the radiation monitors are subject to a CHANNEL OPERATIONAL TEST on a

NSHD category	Change number 3.3-	Discussion of Change
L	168	(continued) monthly bases, thus providing assurance that the monitors are performing as designed. This is considered to be a Less Restrictive change since this change eliminates specific restructions for the SR Frequency.
L	169	CTS Table 4.1-1C, Function 29, Hydrogen Monitors. The CTS requires that a CHANNEL CHECK, for the Hydrogen Monitors, be performed "Shiftly." This has been changed inaccordance with the ISTS from "Shiftly" to "Monthly." The purpose of a channel check is to ensure that the associated channel(s) are performing within expected ranges during normal plant operations. Decreasing the Frequency for performing the subject surveillance test is a Less Restrictive change. The 31 day Frequency is based on industry operating experience that demonstrates that channel failure, especially for this instrument, is rare.
M	170	Table 3.5-2B, Action 27. To be consistent with the guidance of NUREG-1431, a new requirement to reduce power to MODE 4. This change is more restrictive in that it requires additional actions or additonal reduction of plant power within 60 hours. This change is acceptable since it will maintain the plant in a safe condition and not introduce any unsafe plant operating conditions or tests.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
PR. One RTB train inoperable.	----------NOTES---------- 1. One train may be bypassed for up to 4~~2~~ hours for surveillance testing, provided the other train is OPERABLE. 2. One RTB may be bypassed for up to 4~~2~~ hours for maintenance on undervoltage or shunt trip mechanisms, provided the other train is OPERABLE. ----------	CL3.3-162 CL3.3-163 R-14
	PR.1 Restore train to OPERABLE status. OR PR.2 Be in MODE 3.	1 hour R-4 7 hours
Q~~S~~. One or more channels inoperable.	Q~~S~~.1 Verify interlock is in required state for existing unit conditions. OR Q~~S~~.2 Be in MODE 3.	1 hour TA3.3-151 7 hours

(continued)

Table 3.3.1-1 (page 7 of 8)
Reactor Trip System Instrumentation

Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Allowable Value is defined by ~~shall not exceed~~ the following Trip Setpoint ~~by more than [3.8]% of ΔT span~~.
~~Delete NUREG-1431 equation:~~

$$\Delta T \frac{(1+\tau_1 s)}{(1+\tau_2 s)} \left(\frac{1}{1+\tau_3 s} \right) \le \Delta T_0 \left\{ K_1 - K_2 \frac{(1+\tau_4 s)}{(1+\tau_5 s)} \left[T \frac{1}{(1+\tau_6 s)} - T' \right] + K_3 (P - P') - f_1(\Delta I) \right\}$$

~~Insert CTS equation:~~

$$\Delta T \le \Delta T_0 \left\{ K_1 - K_2 (T - T') \left[\frac{(1+\tau_1 s)}{(1+\tau_2 s)} \right] + K_3 (P - P') - f(\Delta I) \right\}$$ CL3.3-214

Where: ΔT is measured Reactor Coolant System (RCS) ΔT, °F.
ΔT_0 is the indicated ΔT at RTP, °F.
s is the Laplace transform operator, sec^{-1}.
T is the measured RCS average temperature, °F.
T' is the nominal T_{avg} at RTP, ~~=~~≤ 567.3~~[588]~~°F.

P is the measured pressurizer pressure, psig
P' is the nominal RCS operating pressure, ~~=~~≤ ~~[~~2235~~]~~ psig

CL3.3-215

K_1 ≤ 1.11~~[1.09]~~ K_2 ~~=~~≥ ~~[~~0.009~~138]~~/°F K_3 = ~~[~~0.00056~~71]~~/psig
τ_1 ~~=~~≥ 30~~[8]~~ sec τ_2 ~~=~~≤ 4~~[3]~~ sec ~~τ_3 ≤ [2] sec~~
~~τ_4 ≥ [33] sec τ_5 ≤ [4] sec τ_6 ≤ [2] sec~~

CL3.3-214

$f(\Delta I)$ = -0.0150~~1.26~~{12~~35~~ + (q_t - q_b)}when q_t - q_b ≤ - 12~~[35]~~% RTP
0% of RTP when -12~~[35]~~% RTP < q_t - q_b ≤ 9~~[7]~~% RTP
0.0250~~-1.05~~{(q_t - q_b) - 9~~7~~}when q_t - q_b > 9~~[7]~~% RTP

CL3.3-214 R-14

Where q_t and q_b are percent RTP in the upper and lower halves of the core, respectively, and q_t + q_b is the total THERMAL POWER in percent RTP.

SURVEILLANCE REQUIREMENTS

----------NOTE----------
SR 3.3.3.1 and SR 3.3.3.3~~2~~ apply to each EPAM instrumentation Function in Table 3.3.3-1 except Function 11. SR 3.3.3.1 and SR 3.3.3.2 apply to Function 11.
---------- R-14

SURVEILLANCE		FREQUENCY
SR 3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
SR 3.3.3.2	Perform CHANNEL CALIBRATION.	CL3.3-499 92 days R-14
SR 3.3.3.3~~2~~	----------NOTE---------- Neutron detectors are excluded from CHANNEL CALIBRATION. ---------- Perform CHANNEL CALIBRATION.	CL3.3-172 R-14 24~~[18]~~ months

Table 3.3.5~~-6~~-1 (page 1 of 1)
Containment Ventilation ~~Purge and Exhaust~~ Isolation Instrumentation

R-12 R-7

	FUNCTION	TA3.3-332 APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE ~~TRIP SETPOINT~~ TA3.3-176
1.	Manual Initiation	1[a], 2[a], 3[a], 4[a] (b)	2	SR 3.3.5~~-6.56~~	NA
2.	Automatic Actuation Relay Logic ~~and Actuation Relays~~	1[a], 2[a], 3[a], 4[a] (b)	2 trains	SR 3.3.5~~6~~.2 ~~SR 3.3.6.3~~ SR 3.3.5~~-6~~.4~~5~~	~~NA~~
3.	High Radiation in Exhaust Air ~~Containment Radiation~~	1[a], 2[a], 3[a], 4[a] (b)	CL3.3-333 2 (1 per train)	SR 3.3.5.1 SR 3.3.5.3 SR 3.3.5.6	(c) CL3.3-341
	~~a. Gaseous~~		~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.4~~ ~~SR 3.3.6.7~~	~~≤ [2 x background]~~
	~~b. Particulate~~		~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.4~~ ~~SR 3.3.6.7~~	~~≤ [2 x background]~~
	~~c. Iodine~~		~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.4~~ ~~SR 3.3.6.7~~	~~≤ [2 x background]~~
	~~d. Area Radiation~~		~~[1]~~	~~SR 3.3.6.1~~ ~~SR 3.3.6.4~~ ~~SR 3.3.6.7~~	~~≤ [2 x background]~~
4.	Manual Containment Isolation ~~— Phase A~~	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a., for ~~all~~ initiation functions and requirements.			TA3.3-332 CL3.3-342
5.	Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for initiation functions and requirements.			CL3.3-343
6.	Manual Containment Spray	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 2, for initiation functions and requirements.			CL3.3-343

R-14 R-14 R-12

(a) When the Containment Inservice Purge System is not isolated. CL3.3-344

(b) During movement of irradiated fuel assemblies within containment when the Containment Purge or Inservice Purge Systems are not isolated.

(c) ≤ count rate corresponding to 500 mrem/year whole body and 3000 mrem/year skin due to noble gases at the site boundary. CL3.3-341

R-7

R-14

Table 3.3.6~~7~~-1 (page 1 of 1)
CRSVEFS Actuation Instrumentation

	FUNCTION	TA3.3-332 APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TA3.3-176 ALLOWABLE VALUE ~~TRIP SETPOINT~~
1.	Manual Initiation	1, 2, 3, 4 (a)	2 ~~trains~~	SR 3.3.6~~7~~.36	~~NA~~
~~2.~~	~~Automatic Actuation Logic and Actuation Relays~~		~~2 trains~~	~~SR 3.3.7.3~~ ~~SR 3.3.7.4~~ ~~SR 3.3.7.5~~	CL3.3-482 ~~NA~~
~~2~~3.	Control Room Radiation - Atmosphere	1, 2, 3, 4 (a)	2	SR 3.3.6.1 SR 3.3.6.2 SR 3.3.6.4	5 times background
	~~a. Control Room Atmosphere~~		~~[2]~~	~~SR 3.3.7.1~~ ~~SR 3.3.7.2~~ ~~SR 3.3.7.7~~	~~≤ [2] mR/hr~~
	~~b. Control Room Air Intakes~~		~~[2]~~	~~SR 3.3.7.1~~ ~~SR 3.3.7.2~~ ~~SR 3.3.7.7~~	~~≤ [2] mR/hr~~
~~3~~4.	Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.			

R-14

R-14

CL3.3-481

R-14

(a) During movement of irradiated fuel assemblies.

BASES

PA3.3-356

and opening the associated RTB. The RTB remains OPERABLE under these conditions so that entry into Condition P is not required while performing testing allowed by this Note.

~~R~~P.1 and ~~R~~P.2

Condition ~~R~~P applies to the RTBs in MODES 1 and 2. These actions address the train orientation of the RTS for the RTBs. With one RTB train inoperable, 1 hour is allowed to restore the train to OPERABLE status or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of an additional 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. The 1 hour and 7~~6~~ hour Completion Times are equal to the time allowed by LCO 3.0.3 for shutdown actions in the event of a complete loss of RTS Function. Placing the unit in MODE 3 ~~removes the requirement for this particular Function.~~results in Action C entry while RTB(s) are inoperable.

TA3.3-151

R-4

TA3.3-151

The Required Actions have been modified by two Notes. Note 1 allows one ~~channel~~train to be bypassed for up to ~~2~~4 hours for surveillance testing, provided the other ~~channel~~train is OPERABLE. Note 2 allows one RTB to be bypassed for up to 4~~2~~ hours for maintenance on undervoltage or shunt trip mechanisms if the other ~~RTB~~ train is OPERABLE. ~~The 2 hour time limit is justified in Reference 7~~.

CL3.3-162

CL3.3-163

R-14

~~S~~Q.1 and ~~S~~Q.2

Condition ~~S~~Q applies to the P-6 and P-10 interlocks. With one or more channel(s) inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition

TA3.3-151

(continued)

BASES

PA3.3-356

~~US.1, U.2.1,~~ and S.2~~U.2.2~~

TA3.3-151

Condition ~~US~~ applies to the RTB Undervoltage and Shunt Trip Mechanisms, or diverse trip features, in MODES 1 and 2. With one of the diverse trip features inoperable, it must be restored to an OPERABLE status within 48 hours or the unit must be placed in a MODE where the requirement does not apply. This is accomplished by placing the unit in MODE 3 within the next 6 hours (54 hours total time) ~~followed by opening the RTBs in 1 additional hour (55 hours total time)~~. The Completion Time of an additional 6 hours is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

~~ACTIONS~~ ~~U.1, U.2.1, and U.2.2 (continued)~~

With ~~the RTBs open and~~ the unit in MODE 3, Action C would apply to any inoperable RTB Trip mechanism.~~this trip Function is no longer required to be OPERABLE.~~ The affected RTB shall not be bypassed while one of the diverse features is inoperable except for the time required to perform maintenance to one of the diverse features. The allowable time for performing maintenance of the diverse features is 4~~2~~ hours, per ~~for the reasons stated under~~ Condition P~~R~~.

TA3.3-151

CL3.3-163

R-14

The Completion Time of 48 hours for Required Action ~~US~~.1 is reasonable considering that in this Condition there is one remaining diverse feature for the affected RTB, and one OPERABLE RTB capable of performing the safety function and given the low probability of an event occurring during this interval.

~~V.1~~

TA3.3-151

(continued)

BASES

PA3.3-356

Each ~~SSPS~~relay logic train has ~~a~~ built in test~~ing device that can automatically~~ features that allow testing the decision logic matrix and some master and slave relay functions~~ and the actuation devices~~ while the unit is at power. When any one train is taken out of service for testing, the other train is capable of providing unit monitoring and protection until the testing has been completed.~~ The testing device is semiautomatic to minimize testing time.~~

CL3.3-364

R-14

~~The actuation of ESF components is accomplished through master and slave relays. The SSPS energizes the master relays appropriate for the condition of the unit. Each master relay then energizes one or more slave relays, which then cause actuation of the end devices. The master and slave relays are routinely tested to ensure operation. The test of the master relays energizes the relay, which then operates the contacts and applies a low voltage to the associated slave relays. The low voltage is not sufficient to actuate the slave relays but only demonstrates signal path continuity. The SLAVE RELAY TEST actuates the devices if their operation will not interfere with continued unit operation. For the latter case, actual component operation is prevented by the SLAVE RELAY TEST circuit, and slave relay contact operation is verified by a continuity check of the circuit containing the slave relay.~~

CL3.3-233

~~Reviewer's Note: No one unit ESFAS incorporates all of the Functions listed in Table 3.3.2-1. In some cases (e.g., Containment Pressure - High 3, Function 2.c), the table reflects several different implementations of the same Function. Typically, only one of these implementations are used at any specific unit.~~

(continued)

PA3.3-356 CL3.3-281

BASES

~~G~~J.1

~~At this unit,~~ ~~a~~Alternate means (e.g., CETs) of monitoring Reactor Vessel Water Level and Containment Area Radiation have been developed and tested. These alternate means may be temporarily installed if the normal ~~PA~~EM channel cannot be restored to OPERABLE status within the allotted time. If these alternate means are used, the Required Action is not to shut down the unit but rather to follow the directions of Specification 5.6.8, in the Administrative Controls section of the TS. The report provided to the NRC should discuss the alternate means used, describe the degree to which the alternate means are equivalent to the installed ~~PA~~EM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal ~~PA~~EM channels. CL3.3-474 R-7

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that SR 3.3.3.1 and SR 3.3.3.3~~2~~ apply to each ~~P~~EM instrumentation Function in Table 3.3.3-1 except Function 11. SR 3.3.3.1 and 3.3.3.2 apply to Function 11. R-14

SR 3.3.3.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross instrumentation failure has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an

(continued)

PA3.3-356 CL3.3-281

BASES

~~REQUIREMENTS~~

indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The high radiation instrumentation should be compared to similar unit instruments located throughout the unit.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including isolation, indication, and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

As specified in the SR, a CHANNEL CHECK is only required for those channels that are normally energized.

The Frequency of 31 days is based on operating experience that demonstrates that channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.3.2

CL3.3-499

A CHANNEL CALIBRATION is performed every 92 days CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. The Frequency is based on operating experience at PI.

R-14

PA3.3-356 CL3.3-281

BASES

SR 3.3.3.3~~2~~ CL3.3-172

A CHANNEL CALIBRATION is performed every 24~~[18]~~ months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. This SR is modified by a Note that excludes neutron detectors. ~~The calibration method for neutron detectors is specified in the Bases of LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation."~~ The Frequency is based on operating experience and consistency with the typical PI~~industry~~ refueling cycle. R-14 CL3.3-472

R-13

REFERENCES

1. ~~[Unit-specific document (e.g., FSAR, NRC Regulatory Guide 1.97 SER letter).]~~ USAR Section 7.10.
2. Regulatory Guide 1.97, ~~[date]~~ Revision 2.
3. ~~NUREG-0737, Supplement 1, "TMI Action Items."~~
3. NRC approved LAR 121 dated November 9,1995. R-2

PA3.3-356 CL3.3-331

BASES

2. Automatic Actuation Relay Logic~~ and Actuation Relays~~
The LCO requires two trains of CVI~~Automatic Actuation~~ Relay Logic~~ and Actuation Relays~~ OPERABLE to ensure that no single random failure can prevent automatic actuation. CL3.3-337

~~Automatic Actuation~~ The CVI Relay Logic ~~and Actuation Relays~~ consists of the same features and operate in the same manner as described for ESFAS Function 1.b, SI, and ESFAS Function 3.~~a~~b, Containment ~~Phase A~~ Isolation. The applicable MODES and specified conditions for the ~~CVI~~ ~~containment purge isolation~~ portion of these Functions are different and less restrictive than those for their containment ~~Phase A~~ isolation and SI roles. If one or more of the SI or ~~Phase A~~ containment isolation Functions becomes inoperable in such a manner that only the CVI ~~Containment Purge Isolation Function~~ is affected, the Conditions applicable to their SI and ~~Phase A~~ containment isolation Functions need not be entered. The less restrictive Actions specified for inoperability of the ~~Containment Purge Isolation~~CVI Functions specify sufficient compensatory measures for this case. CL3.3-252

3. ~~Containment Radiation~~High Radiation in Exhaust Air

The LCO specifies ~~four~~ two required channels of radiation monitors, one per train, to ensure that the radiation monitoring instrumentation necessary to initiate CVI~~Containment Purge Isolation~~ remains OPERABLE. R-14

~~LCO~~ For sampling systems, channel OPERABILITY involves

(continued)

PA3.3-356 CL3.3-331

BASES (continued)

SR 3.3.5~~6~~.2 CL3.3-233

SR 3.3.5~~6~~.2 is the performance of an ACTUATION LOGIC TEST. ~~The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity. This verifies that the logic modules are OPERABLE and there is an intact voltage signal path to the master relay coils.~~ This test is performed every 31 days on a STAGGERED TEST BASIS. The test includes actuation of the master and slave relays whose contact outputs remain within the logic. The test condition inhibits actuation of the master and slave relays whose contact outputs provide direct equipment actuation. The Surveillance interval is acceptable based on instrument reliability and industry operating experience. R-14

~~SR 3.3.6.3~~ CL3.3-233

~~SR 3.3.6.3 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact~~

~~SURVEILLANCE REQUIREMENTS~~ ~~SR 3.3.5.2 (continued)~~

~~operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity. This test is performed every 31 days on a STAGGERED TEST BASIS. The Surveillance interval is acceptable based on instrument reliability and industry operating experience.~~

(continued)

BASES

Control Room Atmosphere~~Air Intake~~ Radiation Monitors, R23 and R24, to ensure that the radiation monitoring instrumentation necessary to initiate the CRSV~~EF~~S remains OPERABLE.

A high radiation signal from one control room radiation monitor channel (R23 or R24) initiates the following:

a. The Cleanup Fan on the associated train starts;

b. Exhaust Dampers on the associated train are isolated; and

c. Outside Air Dampers for both trains are isolated.

Table 3.3.6-1 specifies the allowable value for CL3.3-484 the Control Room Atmosphere Radiation Monitors as five times background which is approximately 10 times less than the Derived Air Concentration for Xe-133 from Appendix B of 10CFR20. No Analytical Limit is assumed in the accident analysis for this function. This allowable value was developed outside the PI setpoint methodology. R-14
~~For sampling systems, channel OPERABILITY involves more than OPERABILITY of channel electronics. OPERABILITY may also require correct valve lineups, sample pump operation, and filter motor operation, as well as detector OPERABILITY, if~~ CL3.3-487 ~~these supporting features are necessary for trip to occur under the conditions assumed by the safety analyses.~~

(continued)

Difference Category	Difference Number 3.3-	Justification for Differences
CL	163	The PI CTS allows the RTB to be bypassed for work on the diverse trip features with no distinction made between testing or maintenance nor is there any CTS Completion Time associated placing the breaker in bypass to perform maintenance or testing. Per the guidance of NURGE-1431, Note 2, PI revised the STS time for allowing the breaker to be bypassed from 2 hours to 4 hours for maintenance. The 4 hours is consistent with WCAP-14333P-A, Rev. 1 Safety Evaluation which concluded that the RTB may be bypassed for 4 hours since the Automatic Actuation Relay Logic may be bypassed for 4 hours which would also make the RTB inoperable. This is the basis for the 4 hours. CTS allows the breaker to be bypassed with no Completion Time requirement. The 4 hours is a reasonable time based on the WCAP analysis and the redundancy capabilities afforded by the OPERABLE RTB, and the low probability of an abnormal event occurring during this period.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	213	NUREG-1431 Function 18f, Turbine Impulse Pressure, P-13. PI design pre-dates use of the P-13 designation. Thus, PI does not have P-13 per se and therefore, it is not included in the PI ITS.
CL	214	The NUREG-1431 equations for OTΔT and OPΔT have been replaced by the CTS equations from CTS 2.3.A.2.d. This results in changing values for some variables and deleting others. Also, PI design provides the same f(ΔI) penalty to both OTΔT and OPΔT. The equation constants have NOT been relocated to the COLR in accordance with approved TSTF-339. PI does not currently have approved methodology to determine these values; therefore they have been retained in the ITS.
CL	215	The CTS equation equalities have been included in the OTΔT and OPΔT equations. This means the changes in proposed TSTF-310 have not been incorporated.
	216	Not used.

Difference Category	Difference Number 3.3-	Justification for Differences
CL	495	NUREG-1431, Rev. 1, SR 3.3.8.3 has been deleted. This SR is applicable for Function 2 which is not applicable to PI design.
CL	496	NUREG-1431, Rev. 1, SR 3.3.8.4 has been deleted. This SR is applicable to Function 1, "Manual Initiation" for the ventilation system. PI does not have this Function, therefore, this SR is not applicable to PI design.
X	497	NUREG-1431, Rev. 1, SR 3.3.8.5 (ITS SR 3.3.7.3) Frequency has been change from 18 to 24 months to be consistent with the proposed PI refueling cycle.
	498	Not used.
CL	499	A new SR 3.3.3.2 has been included in the ITS which requires CHANNEL CALIBRATION every 92 days. This SR is provided to apply only to the hydrogen monitors which at PI require more frequent calibration than other Event Monitoring instruments.

Specific NSHD for Change L3.3-169

This change relaxes CTS SR Frequency from "shiftly" to "monthly" for performing a CHANNEL CHECK on the radiation monitors. This change is consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed change involves relaxing CTS SR Frequency for performing a CHANNEL CHECK for the hydrogen monitor instrumentation. This instrumentation is not assumed to be an accident initiator therefore this change does not involve a significant increase in the probability of an accident previously evaluated. Since the state of these monitors will continue to be verified "shiftly" with other surveillances in theTRM, this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.3-169 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The proposed change involves relaxing CTS SR Frequency for a CHANNEL CHECK from "shiftly" to "monthly" for the hydrogen monitor instrumentation. These monitors have a monthly CHANNEL CHECK, which ensure that the instrumentation is performing as designed. In addition, the monitors will continue to have a "shiftly" CHANNEL CHECK performed in accordance with the TRM. Industry experience of the reliability of these monitors demonstrates that performing a CHANNEL CALIBRATION at a 31 day bases is adequate. Since it is assumed that if an instrument or piece of equipment successfully passed its SR, that the instrumentation or equipment remains OPERABLE until performance of its next SR, unless otherwise known to be inoperable for other reasons. Therefore, relaxing the CHANNEL CHECK SR Frequency, in the Technical Specifications, does not involve a significant reduction in the plant margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

3.7 PLANT SYSTEMS

3.7.4 Steam Generator (SG) Power Operated Relief Valves (PORVs)

LCO 3.7.4 Two SG PORV lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SG PORV line inoperable.	A.1 ----------NOTE---------- LCO 3.0.4 is not applicable. ---------- Restore SG PORV line to OPERABLE status.	7 days
B. Two SG PORV lines inoperable.	B.1 Restore one SG PORV line to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours
	AND	
	C.2 Be in MODE 4 without reliance upon steam generator for heat removal.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Verify one complete cycle of each SG PORV.	In accordance with the Inservice Testing Program
SR 3.7.4.2	Verify one complete manual cycle of each SG PORV block valve.	24 months

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Two AFW trains shall be OPERABLE.

----------NOTES----------

1. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation.

2. Only the AFW train which includes the motor driven pump is required to be OPERABLE in MODE 4.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable. OR ----------NOTE---------- Only applicable if MODE 2 has not been entered following refueling. ---------- One turbine driven AFW pump inoperable in MODE 3 following refueling.	A.1 Restore affected equipment to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO.
B. One AFW train inoperable in MODE 1, 2, or 3 for reasons other than Condition A.	B.1 Restore AFW train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time for Condition A or B not met. OR Two AFW trains inoperable in MODE 1, 2, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	6 hours 12 hours
D. Two AFW trains inoperable in MODE 1, 2, or 3.	D.1 ----------NOTE---------- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. ---------- Initiate action to restore one AFW train to OPERABLE status.	 Immediately
E. Required AFW train inoperable in MODE 4.	E.1 Initiate action to restore AFW train to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	----------NOTE---------- AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control if it is capable of being manually realigned to the AFW mode of operation. ---------- Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.5.2	----------NOTE---------- Not required to be performed for the turbine driven AFW pump until prior to exceeding 10% RTP or within 72 hours after RCS temperature > 350°F. ---------- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.5.3	----------NOTES---------- 1. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. 2. Not applicable in MODE 4 when steam generator is relied upon for heat removal. ---------- Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.7.5.4	----------NOTE---------- 1. Not required to be performed for the turbine driven AFW pump until prior to exceeding 10% RTP or within 72 hours after RCS temperature > 350°F. 2. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. Not applicable in MODE 4 when steam generator is relied upon for heat removal. ---------- Verify each AFW pump starts automatically on an actual or simulated actuation signal.	24 months

3.7 PLANT SYSTEMS

3.7.6 Condensate Storage Tanks (CSTs)

LCO 3.7.6 The CSTs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CSTs inoperable.	A.1 Verify by administrative means OPERABILITY of backup water supply.	4 hours AND Once per 12 hours thereafter
	AND	
	A.2 Restore CSTs to OPERABLE status.	7 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	AND	
	B.2 Be in MODE 4, without reliance on steam generator for heat removal.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.1	Verify CSTs useable contents ≥ 100,000 gal per operating unit.	12 hours

BASES

APPLICABLE SAFETY ANALYSES (continued)

step prior to terminating the primary to secondary break flow into the ruptured steam generator. The time required to terminate the primary to secondary break flow for a SGTR is more critical than the time required to cool down for this event and also for other accidents.

The SG PORVs are equipped with manual block valves in the event a SG PORV spuriously fails open or fails to close during use.

The SG PORVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two SG PORV lines are required to be OPERABLE to ensure that at least one SG PORV is available to conduct a unit cooldown following a SGTR.

Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which the condenser is unavailable for use with the Steam Dump System.

A SG PORV is considered OPERABLE when it is capable of being remotely operated and when its associated block valve is open.

APPLICABILITY

In MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal, the SG PORVs are required to be OPERABLE.

In MODE 5 or 6, a SGTR is not a credible event.

BASES (continued)

ACTIONS

A.1

With one required SG PORV line inoperable, action must be taken to restore OPERABLE status within 7 days.

The 7 day Completion Time allows for the redundant capability afforded by the remaining OPERABLE SG PORV lines, Steam Dump System, and MSSVs.

Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply.

B.1

With two SG PORV lines inoperable, action must be taken to restore one SG PORV to OPERABLE status. Since the block valve can be closed to isolate a SG PORV, some repairs may be possible with the unit at power.

The 1 hour Completion Time allows time to plan an orderly shutdown of the unit and is reasonable, based on the availability of the Steam Dump System and MSSVs, and the low probability of an event occurring during this period that would require the SG PORV lines.

C.1 and C.2

If the SG PORV lines cannot be restored to OPERABLE status within the associated Completion Time, 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, without reliance upon steam generator for heat removal, within 12 hours.

BASES

LCO (continued)

the system to perform the safety related function, also are required to be OPERABLE. The normal (Condensate Storage Tanks (CSTs)) and backup (Cooling Water System) water supplies to the AFW pumps must also be OPERABLE. OPERABILITY requirements for the CSTs are specified in LCO 3.7.6, "Condensate Storage Tanks (CSTs)."

The LCO is modified by two Notes. The first Note indicating that an AFW train may be considered OPERABLE during alignment and operation for steam generator level control if capable of being manually realigned to the AFW mode of operation. The second Note indicating that an AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4. This is because of the reduced heat removal requirements and short period of time in MODE 4 during which the AFW is required and the insufficient steam available in MODE 4 to power the turbine driven AFW pump.

During operation in MODES 2 and 3, the AFW pump discharge motor operated valves used for throttling may be less than full open. The Shutdown-Auto mode of control may be used during such operations. This control mode bypasses the AFW pump start due to both MFW pumps being tripped or shutdown.

APPLICABILITY

In MODES 1, 2, and 3, the AFW System is required to be OPERABLE in the event that it is called upon to provide heat removal . In addition, the AFW System is required to supply enough makeup water to replace the steam generator secondary inventory, lost as the unit cools to MODE 4 conditions.

In MODE 4 the AFW System may be used for heat removal via the steam generators.

In MODE 5 or 6, the steam generators are not normally used for heat removal, and the AFW System is not required to perform a safety function.

BASES

ACTIONS

A.1

If one of the two steam supplies to the turbine driven AFW train is inoperable, or if a turbine driven pump is inoperable while in MODE 3 immediately following refueling, action must be taken to restore the inoperable equipment to an OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

a. For the inoperability of a steam supply to the turbine driven AFW pump, the 7 day Completion Time is reasonable since there is a redundant steam supply line for the turbine driven pump;

b. For the inoperability of a turbine driven AFW pump while in MODE 3 immediately subsequent to a refueling outage, the 7 day Completion Time is reasonable due to the minimal decay heat levels in this situation; and

c. For both the inoperability of a steam supply line to the turbine driven pump and an inoperable turbine driven AFW pump while in MODE 3 immediately following a refueling outage, the 7 day Completion Time is reasonable due to the availability of the redundant OPERABLE motor driven AFW pump, and due to the low probability of an event requiring the use of the turbine driven AFW pump.

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 Conditions A and B are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times

BASES

ACTIONS

A.1 (continued)

apply simultaneously, and the more restrictive must be met.

Condition A is modified by a Note which limits the applicability of the Condition when the unit has not entered MODE 2 following a refueling. Condition A allows one AFW train to be inoperable for 7 days vice the 72 hour Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical.

B.1

With one of the required AFW trains (pump or flow path) inoperable in MODE 1, 2, or 3 for reasons other than Condition A, action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of 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 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 Conditions A and B 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.

BASES

ACTIONS (continued)

C.1 and C.2

When Required Action A.1 or B.1 cannot be completed within the required Completion Time, or if two AFW trains are inoperable in MODE 1, 2, or 3, 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.

In MODE 4 with two AFW trains inoperable, operation is allowed to continue because only one motor driven pump AFW train is required in accordance with the Note that modifies the LCO. Although not required, the unit may continue to cool down and initiate RHR.

D.1

If both AFW trains are inoperable in MODE 1, 2, or 3, 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 D.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

ACTIONS (continued)

E.1

In MODE 4, either the reactor coolant pumps or the RHR Loops can be used to provide forced circulation. This is addressed in LCO 3.4.6, "RCS Loops-MODE 4." With one required AFW train inoperable, action must be taken to immediately restore the inoperable train to OPERABLE status. The immediate Completion Time is consistent with LCO 3.4.6.

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1

This SR verifies the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths thereby providing 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 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 is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

This SR is modified by a Note that states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during MODES 2, 3

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1 (continued)

and 4 operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained.

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. Differential pressure is a normal test of centrifugal pump performance required by Section XI of 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, Section XI (Ref. 2) satisfies this requirement. The Inservice Testing Program specifies the Frequency for testing each pump. This test is considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly.

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. This deferral is based on the inservice testing requirements not met; all other requirements for OPERABILITY must be satisfied.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.5.3

This SR verifies that AFW can be delivered to the appropriate steam generator by demonstrating that each automatic valve in the flow path actuates to its correct position on an actual or simulated safety injection signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. This test is considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly. The 24 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 24 month Frequency is acceptable based on operating experience and the design reliability of the equipment.

This SR is modified by two Notes. The first Note states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during MODES 2, 3 and 4 operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained. The second Note states that the SR is not required in MODE 4. In MODE 4, the required AFW train is already aligned and operating.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.5.4

This SR verifies that the AFW pumps will start when required by demonstrating that each AFW pump starts automatically on an actual or simulated AFW pump start signal. Since this test is performed during unit shutdown, the turbine driven AFW pump is not actually started, but the components necessary to assure it starts on an actual or simulated AFW pump start signal are demonstrated to be OPERABLE. This test is considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly. The 24 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 two Notes. Note 1 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. Note 2 states that one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during MODES 2, 3 and 4 operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained.

BASES

REFERENCES

1. USAR, Section 11.9.

2. ASME, Boiler and Pressure Vessel Code, Section XI.

3. USAR, Section 14.4.

BASES (continued)

LCO

The CSTs are considered OPERABLE when the CSTs' contents have at least 100,000 gallons useable per operating unit (MODES 1, 2, or 3).

This basis is established in Reference 2 and exceeds the volume required by the accident analysis.

The OPERABILITY of the CSTs is determined by maintaining the tank level at or above the minimum required level.

APPLICABILITY

In MODES 1, 2, and 3, and MODE 4, when steam generator is being relied upon for heat removal, the CSTs are required to be OPERABLE.

In MODE 5, or 6, the CSTs are not required because the AFW System is not required.

ACTIONS

A.1 and A.2

If the CSTs are not OPERABLE (e.g., level is not within limits), the OPERABILITY of the backup safety-related portion of the CL supply should be verified by administrative means within 4 hours and once every 12 hours thereafter. OPERABILITY of the backup safety-related portion of the CL supply must include verification that the flow paths from the backup water supply to the AFW pumps are OPERABLE in accordance with LCO 3.7.8. The CSTs must be restored to OPERABLE status within 7 days.

The 4 hour Completion Time is reasonable, based on operating experience, to verify the OPERABILITY of the backup safety-related portion of the Cooling Water supply. Additionally, verifying the backup water supply every 12 hours is adequate to ensure the backup water supply continues to be available. The 7 day Completion Time is reasonable, based on an OPERABLE backup

BASES

ACTIONS

A.1 and A.2 (continued)

safety-related portion of the CL supply being available, and the low probability of an event occurring during this time period requiring the CSTs.

B.1 and B.2

If the CSTs cannot be restored to OPERABLE status within the associated Completion Time, 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, without reliance on the steam generator for heat removal, 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.

SURVEILLANCE REQUIREMENTS

SR 3.7.6.1

This SR verifies that the CSTs contain the required useable volume of cooling water. The 12 hour Frequency is based on operating experience and the need for operator awareness of unit evolutions that may affect the CST inventory between checks.

Also, the 12 hour Frequency is considered adequate in view of other indications in the control room, including alarms, to alert the operator to abnormal deviations in the CST level.

BASES (continued)

REFERENCES

1. USAR, Section 11.9.

2. USAR, Section 14.4.

B 3.7 PLANT SYSTEMS

B 3.7.12 Auxiliary Building Special Ventilation System (ABSVS)

BASES

BACKGROUND

The ABSVS is a standby ventilation system, common to the two units, that is designed to collect and filter air from the Auxiliary Building Special Ventilation (ABSV) boundary following a loss of coolant accident (LOCA). The ABSV boundary contains those areas within the auxiliary building which have the potential for collecting significant containment leakage that could bypass the shield building and leakage from systems which could recirculate primary coolant during LOCA mitigation.

The ABSVS consists of two independent and redundant trains. Each train consists of a heater, a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan.

Ductwork, dampers, and instrumentation also form part of the system. The system initiates filtered ventilation of the ABSV boundary following receipt of a safety injection (SI) signal, high radiation signal or manual initiation. The radiation signal is not credited in the USAR for accident mitigation.

The exhaust from the main condenser air ejector is directed to the ABSVS for filtering prior to exhausting from the plant via the shield building stack to mitigate steam generator tube leakage.

When the ABSVS actuates, the normal nonsafeguards supply and exhaust dampers close automatically, and the Auxiliary Building Normal Ventilation System supply and exhaust fans trip. The prefilters remove any large particles in the air, and with the heaters reduce the level of entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. The primary purpose of the heaters is to maintain the relative humidity at an acceptable level.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.12.3 (continued)

The 92 day Frequency is based on the known reliability of equipment and the two train redundancy available.

SR 3.7.12.4

The ABSVS initiates on a safety injection signal, radiation signal or manual actuation. This SR verifies that each ABSVS train starts and operates on an actual or simulated safety injection actuation signal or on manual initiation.

The 24 month Frequency is consistent with industry reliability experience for similar equipment. The 24 month Frequency is acceptable since this system usually passes the Surveillance when performed.

REFERENCES

1. USAR, Appendix G.
2. USAR, Section 10.3.
3. USAR, Section 14.
4. USAR, Section 6.7.
5. 10 CFR 100.11.

A3.7-00

3.4 STEAM AND POWER CONVERSION SYSTEM

R-2

~~Applicability~~

A3.7-01

~~Applies to the operating status of the steam and power conversion system.~~

~~Objective~~

A3.7-01

~~To specify minimum conditions of steam relieving capacity and auxiliary feed- water supply necessary to assure the capability of removing decay heat from the reactor, and to limit the concentration of activity that might be released by steam relief to the atmosphere.~~

Specification

A. Steam Generator Safety and Power Operated Relief Valves

A3.7-02

LCO3.7.1 Applic

1. A reactor shall not be in MODE 1, 2, and 3 ~~made or maintained critical nor shall reactor coolant system average temperature exceed 350°F~~ unless the following conditions are satisfied (except as specified in 3.4.A.2 below):

LCO3.7.1

a. Ten steam generator safety valves shall be OPERABLE with lift settings of 1077, 1093, 1110, 1120 and 1131 psig ±3% except during testing.

LCO3.7.4

b. Both steam generator power-operated relief valves lines for that reactor are OPERABLE.

M3.7-121

R-12

LCO3.7.1 Cond A

One steam generator safety valve may be inoperable for 4 hours.

L3.7-03

A3.7-04

2. During MODEs 1, 2, and 3 ~~STARTUP OPERATION or POWER OPERATION~~, the following condition of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. ~~—~~If OPERABILITY is not restored within the time specified, be in at least

LCO3.7.1 Cond B

LCO3.7.4 Cond C

A3.7-05

MODE 3 ~~HOT SHUTDOWN~~ within the next 6 hours and Mode 4 without reliance upon steam generator for heat removal ~~reduce reactor coolant system average temperature below 350°F~~ within 12 ~~the following 6~~ hours.

M3.7-120

A3.7-06

R-14

LCO3.7.4 Cond A Cond B

a. One steam generator power-operated relief valve may be inoperable for 7 days, two SG PORVs may be inoperable for 1 ~~48~~ hours.

L3.7-07

R-11

B. Auxiliary Feedwater System

A3.7-02

LCO3.7.5 Applic

1. A reactor shall not be in MODES 1, 2, and 3 ~~made or maintained critical nor shall reactor coolant system average temperature exceed 350°F~~ unless the following conditions are satisfied (except as specified in 3.4.B.2 below):

LCO3.7.5

a. For each ~~single~~ unit in operation, two auxiliary feedwater trains shall be ~~the turbine-driven pump associated with that reactor plus one motor-driven pump are~~ OPERABLE.

M3.7-08

b. ~~For two-unit operation, all four auxiliary feedwater pumps are OPERABLE~~.

A3.7-09

c. ~~Valves and piping associated with the above components are OPERABLE except that during STARTUP OPERATION necessary changes may be made in motor-operated valve position. All such changes shall be under direct administrative control~~.

LCO3.7.5

NOTE: 1. An AFW train may be considered OPERABLE during alignment and operation for steam generator level control if capable of being manually realigned to the AFW mode of operation.

L3.7-11

NOTE 2: Only the AFW train, which includes the motor driven pump is required to be OPERABLE in MODE 4.

M3.7-120

R-14

SR3.7.5.1

NEW SR, verify each month that AFW valves in each water and steam flow path not locked, sealed or otherwise secured in position, are in the correct position.

M3.7-12

SR3.7.5.3 and 3.7.5.4 Note

Note applicable in MODE 4 when steam generator is relied upon for heat removal.

M3.7-120

R-14

LCO3.7.2

NEW Specification requires two MSIVs to be operable. Action statements consistent with NUREG-1431 are included.

M3.7-13

LCO3.7.3

NEW Specification requires two MFRVs and associated bypass valves OPERABLE. Action statements consistent with NUREG-1431 are included.

M3.7-14

SR3.7.3.1 SR3.7.3.2

NEW SRs, verify isolation time for MFRVs and MFRV bypass valves on an actual or simulated actuation signal.

M3.7-15

3.4.B.1.d. A minimum of 100,000 gallons of water per unit is available in the condensate storage tanks ~~and a backup supply of river water is available through the cooling water system~~. M3.7-16 LCO3.7.6 LR3.7-17

e. ~~Motor operated valves MV-32242 and MV-32243 (Unit 2 valves MV-32248 and MV-32249) shall have valve position monitor lights OPERABLE and shall be locked in the open position by having the motor control center supply breakers physically locked in the off position.~~ LR3.7-18

f. ~~Manual valves in the above systems that could (if one is improperly positioned) reduce flow below that assumed for accident analysis shall be locked in the proper position for emergency use. During POWER OPERATION, changes in valve position will be under direct administrative control.~~ LR3.7-18

g. ~~The condensate supply cross connect valve C-41-2, to the auxiliary feedwater pumps shall be blocked and tagged open. Any changes in position of this valve shall be under direct administrative control.~~ LR3.7-18

2. During MODES 1, 2, and 3 ~~STARTUP OPERATION or POWER OPERATION~~, A3.7-04 A3.7-20 ~~any one of the~~ following conditions of inoperability may exist for each unit provided STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, place the affected unit ~~(or either unit in the case of a motor driven AFW pump inoperability)~~ in MODE 3 ~~at least HOT SHUTDOWN~~ within the next 6 hours and MODE 4, without reliance on steam generator for heat removal ~~reduce reactor coolant system average temperature below 350°F~~ within 12 ~~the following 6~~ hours. LCO3.7.5 Cond C LCO3.7.6 Cond B M3.7-08 A3.7-05 M3.7-120 R-11 R-14 A3.7-06

One steam supply to a turbine driven AFW pump may be inoperable 7 days and 10 days from discovery of failure to meet the LCO. LCO3.7.5 Cond A L3.7-22 M3.7-23

a. A ~~turbine driven~~ AFW train inoperable in MODE 1, 2, or 3 for reasons other than Condition A ~~pump, system valves and piping~~ may be inoperable for 72 hours and 10 days from discovery of failure to meet the LCO. LCO3.7.5 Cond B M3.7-120 R-14 M3.7-109 R-11

STARTUP OPERATION may continue without completing SRs which demonstrate OPERABILITY of a Turbine Driven AFW Pump and/or associated system valves ~~inoperable based solely on the In-Service testing requirements of TS section 4.2.A.2 and flow verification having not been met, provided all other requirements for operability are satisfied~~. The pump and/or associated system valves not required to~~must~~ be tested and operable until prior to exceeding 10% reactor power or within 72 hours after~~from increasing~~ RCS temperature above 350°F. SR3.7.5.2 Note LR3.7-19 A3.7-21

~~b. A motor driven AFW pump, system valves and piping may be inoperable for 72 hours.~~ LR3.7-24

L3.7-25

LCO3.7.6 Cond A

c. The condensate storage tanks may be inoperable for 7 days ~~48 hours~~ provided the cooling water system is available as a backup supply of water to the auxiliary feedwater pumps. Verify within 4 hours that backup supply is available and verify once per 12 hours thereafter.

M3.7-26

SR3.7.6.1

NEW SR, Verify CSTs contain ≥ 100,000 gallons water per unit every 12 hours.

M3.7-27

LR3.7-28

~~d. The backup supply of river water provided by the cooling water system may be inoperable for 48 hours provided a minimum of 100,000 gallons of water is available in the condensate storage tanks.~~

LR3.7-29

~~e. The valve position monitor lights for motor operated valves MV-32242 and MV-32243 (Unit 2 valves MV-32248 and MV-32249) may be inoperable for 72 hours provided the associated valves' positions are verified to be open once each shift.~~

LCO3.7.4, 3.7.5, AND 3.7.6 APPLICABILITY

MODES 1, 2,and 3, MODE 4 when steam generator is relied Upon for heat removal.

M3.7-120

3.7.5 Cond E

Required AFW train inoperable in MODE 4, initiate action To restore AFW train to OPERABLE status immediately.

M3.7-120

R-14

NSHD category	Change number 3.7-	Discussion Of Change
M	120	CTS 3.4. CTS does not require the SG PORVs, motor driven AFW train, or the CSTs to be OPERABLE in MODE 4. The ITS adds the requirment that the subject systems and components are to be OPERABLE when the steam generator(s) is relied upon for heat removal This is a more restrictive change since it now provides additional APPLICABILITY restrictions that were not previously required by the CTS. This change is acceptable since it provides additional assurance that the subject systems and components will be OPERABLE in the plant conditions they might be required to perform their intended function. This change is consistent with NUREG-1431, Rev. 1.
M	121	CTS 3.4.A.1.b. CTS requires two steam generator-power operated relief valves (SG PORVs) to be OPERABLE. This has been changed for the ITS to require two SG PORV lines to be OPERABLE. Since this change will require more equipment to be OPERABLE this is a more restrictive change. This change is acceptable since this will not cause any unsafe plant conditions or tests and these lines are normally required to be operable for plant operation.

3.7 PLANT SYSTEMS

3.7.4 Steam Generator (SG) Power Operated Relief Valves (PORVs)~~Atmospheric Dump Valves (ADVs)~~

CL3.7-124

CL3.7-124

LCO 3.7.4 Two SG PORV~~[Three] ADV~~ lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

R-14

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SG PORV~~required ADV~~ line inoperable.	A.1 --------NOTE--------- LCO 3.0.4 is not applicable. ---------- Restore SG PORV ~~required ADV~~ line to OPERABLE status.	CL3.7-124 CL3.7-124 X3.7-130 7 days
B. Two SG PORV~~or more required ADV~~ lines inoperable.	B.1 Restore one SG PORV~~ADV~~ line to OPERABLE status.	PA3.7-353 CL3.7-124 ~~24~~1 hour~~s~~

R-12

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours
	AND	CL3.7-125
	C.2 Be in MODE 4 without reliance upon steam generator for heat removal.	12~~[18]~~ hours R-14

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Verify one complete cycle of each SG PORV~~ADV~~.	In accordance with the Inservice Testing Program~~[18] months~~
SR 3.7.4.2	Verify one complete manual cycle of each SG PORV ~~ADV~~ block valve.	~~[18]~~24 months X3.7-137 R-11

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

PA3.7-127

TA3.7-136

LCO 3.7.5 Two~~[Three]~~ AFW trains shall be OPERABLE.

NOTES

1. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation.

2. Only ~~one~~the AFW train~~,~~ which includes the~~a~~ motor driven pump~~,~~ is required to be OPERABLE in MODE 4.

R-14

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

R-14

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable. OR ---------NOTE--------- Only applicable if MODE 2 has not been entered following refueling. ---------- One turbine driven AFW pump inoperable in MODE 3 following refueling.	A.1 Restore affected equipment~~steam supply~~ to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO TA3.7-150 R-11
B. One AFW train inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	B.1 Restore AFW train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO R-14

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time for Condition A ~~[or B]~~ not met. OR Two AFW trains inoperable in MODE 1, 2, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	6 hours CL3.7-132 12~~[18]~~ hours
~~D.~~ Two~~[Three]~~ AFW trains inoperable in MODE 1,2,or 3.	D.1 ---------NOTE-------- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. ---------- Initiate action to restore one AFW train to OPERABLE status.	R-14 R-14 Immediately
E. Required AFW train inoperable in MODE 4.	E.1 Initiate action to restore AFW train to OPERABLE status.	Immediately R-14

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.5.3	----------NOTES---------- 1. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. 2. Not applicable in MODE 4 when steam generator is relied upon for heat removal. ---------- Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	TA3.7-136 R-14 R-14 24~~[18]months~~ X3.7-137

~~(continued)~~

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.7.5.4 ----------NOTES----------	
1. Not required to be performed for the turbine driven AFW pump until prior to exceeding 10% RTP or within [724 hours] after RCS temperature > 350°F ~~≥ [1000] psig in the steam generator~~.	CL3.7-134 TA3.7-136
2. AFW train(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. Not applicable in MODE 4 when steam generator is relied upon for heat removal.	R-11 R-14
Verify each AFW pump starts automatically on an actual or simulated actuation signal.	24~~[18]~~months X3.7-137
~~SR 3.7.5.5 Verify proper alignment of the required AFW flow paths by verifying flow from the condensate storage tank to each steam generator.~~	~~Prior to entering MODE 2, whenever unit has been in MODE 5 or 6 for > 30 days~~ PA3.7-139

3.7 PLANT SYSTEMS

3.7.6 Condensate Storage Tanks (CSTs) CL3.7-141

LCO 3.7.6 The CSTs ~~level~~ shall be OPERABLE~~≥ [110,000 gal]~~. TA3.7-142

CL3.7-143

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal. R-14

ACTIONS

R-11

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. CSTs inoperable~~level not within limit~~.	A.1	Verify by administrative means OPERABILITY of backup water supply.	4 hours AND Once per 12 hours thereafter
	AND		
	A.2	Restore CSTs ~~level~~ to OPERABLE status ~~within limit~~.	7 days

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	AND	CL3.7-143 CL3.7-144
	B.2 Be in MODE 4, without reliance on steam generator for heat removal.	12~~[18]~~ hours

R-14

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.1	Verify ~~the~~ CSTs useable contents ~~level is~~ ≥ ~~[~~10~~1~~0,000 gal~~]~~ per operating unit.	12 hours CL3.7-141

R-11

TA3.7-142

APPLICABILITY In MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal, the SG PORVs~~ADVs~~ are required to be OPERABLE.

In MODE 5 or 6, a~~n~~ SGTR is not a credible event. R-14

ACTIONS

A.1

With one required SG PORV~~ADV~~ line inoperable, action must be taken to restore OPERABLE status within 7 days.

The 7 day Completion Time allows for the redundant capability afforded by the remaining OPERABLE SG PORV~~ADV~~ lines, ~~a nonsafety grade backup in the~~ Steam Dump~~Bypass~~ System, and MSSVs. R-12

Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply. R-12

B.1

With two ~~or more~~ SG PORV~~ADV~~ lines inoperable, action must be taken to restore~~all but~~ one SG PORV~~ADV~~ line to OPERABLE status. Since the block valve can be closed to isolate a~~n~~ SG PORV~~ADV~~, some repairs may be possible with the unit at power.

The ~~24~~1 hour Completion Time allows time to plan an orderly shutdown of the unit and is reasonable ~~to repair inoperable ADV lines~~, based on the availability of the Steam Dump ~~Bypass~~ System and MSSVs, and the low probability of an event occurring during this period that would require the SG PORV~~ADV~~ lines. PA3.7-353 R-11 R-12

BASES

C.1 and C.2

If the SG PORV~~ADV~~ lines cannot be restored to OPERABLE status within the associated Completion Time, 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

CL3.7-125

~~ACTIONS~~ ~~C.1 and C.2 (continued)~~

MODE 3 within 6 hours, and in MODE 4, without reliance upon steam generator for heat removal, within 12~~[18]~~ hours.

R-14

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit from full power conditions in an orderly manner and challenging unit systems.

conditions without

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

~~To perform a controlled cooldown of the RCS, the ADVs must be able to be opened either remotely or locally and throttled through their full range.~~ This SR ensures that the SG PORVs~~ADVs~~ are tested through a full control cycle in accordance with the Inservice Testing Program~~at least once per fuel cycle~~. The SG PORV is isolated by the block valve for this test. Performance of inservice testing or use of ~~an~~ SG PORV~~ADV~~ during a unit cooldown may satisfy this requirement.

X3.7-130

Operating experience has shown that these components usually pass the Surveillance when performed~~at the [18] month Frequency~~ in accordance with the Inservice Testing Program. The Frequency is acceptable from a reliability standpoint.

X3.7-130

PA3.7-201

BASES

Two~~[Three]~~ independent AFW pumps in two~~[three]~~ diverse trains are required to be OPERABLE to ensure the availability of decay heat removal~~RHR~~ capability for all events accompanied by a loss of ~~offsite power~~ main feedwater and a single failure.

CL3.7-251

~~This is accomplished by powering two of the pumps from independent emergency buses.~~

~~The third AFW pump is powered by a different means,a steam driven turbine supplied with steam from a source that is not isolated by closure of the MSIVs.~~

~~The AFW System is configured into [three] trains.~~

CL3.7-251

The AFW System is considered OPERABLE when the components and flow paths required to provide redundant AFW flow to the steam generators are OPERABLE. This requires that ~~the~~ one~~two~~ motor driven AFW pump~~s~~ be OPERABLE and capable of ~~in [two] diverse paths, each~~ supplying AFW to both ~~separate~~ 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 supplying AFW to both~~any of the~~ steam generators. The piping, valves, instrumentation, and controls in the required flow paths, required for the system to perform the safety related function, also are required to be OPERABLE. The normal (Condensate Storage Tanks (CSTs)) and backup (Cooling Water System) water supplies to the AFW pumps must also be OPERABLE. OPERABILITY requirements for the CSTs are specified in LCO 3.7.6, "Condensate Storage Tanks (CSTs)."

TA3.7-136

PA3.7-255

The LCO is modified by ~~a~~two Notes. The first Note indicating that an AFW train may be considered OPERABLE during alignment and operation for steam generator

R-14

PA3.7-201

BASES

level control if capable of being manually realigned to the AFW mode of operation. The second Note indicating that ~~one~~an AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4. This is because of the reduced heat removal requirements and short period of time in MODE 4 during which the AFW is required and the insufficient steam available in MODE 4 to power the turbine driven AFW pump.

R-14

CL3.7-128

During operation in MODES 2 and 3, the AFW pump discharge motor operated valves used for throttling may be less than full open. The Shutdown-Auto mode of control may be used during such operations. This control mode bypasses the AFW pump start due to both MFW pumps being tripped or shutdown.

APPLICABILITY

PA3.7-253

In MODES 1, 2, and 3, the AFW System is required to be OPERABLE in the event that it is called upon to provide heat removal~~function~~ ~~when the MFW is lost~~. In addition, the AFW System is required to supply enough makeup water to replace the steam generator secondary inventory, lost as the unit cools to MODE 4 conditions.

In MODE 4 the AFW System may be used for heat removal via the steam generators.

In MODE 5 or 6, the steam generators are not normally used for heat removal, and the AFW System is not required to perform a safety function.

R-14

ACTIONS

A.1

TA3.7-150

If one of the two steam supplies to the turbine driven AFW train is inoperable, or if a turbine driven pump is inoperable while in MODE 3 immediately following refueling, action must be taken to restore the inoperable equipment to an OPERABLE status

PA3.7-201

BASES

within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

a. For the inoperability of a steam supply to the turbine driven AFW pump, t~~T~~he 7 day Completion Time is reasonable since there is a redundant ~~OPERABLE~~ steam supply line for ~~to~~ the turbine driven ~~AFW~~ pump; TA3.7-150

b. For the inoperability of a turbine driven AFW pump while in MODE 3 immediately subsequent to a refueling outage, the 7 day Completion Time is reasonable due to the minimal decay heat levels in this situation~~The availability of redundant OPERABLE motor driven AFW pumps~~; and TA3.7-150

c. For both the inoperability of a steam supply line to the turbine driven pump and an inoperable turbine driven AFW pump while in MODE 3 immediately following a refueling outage, the 7 day Completion Time is reasonable due to the availability of the redundant OPERABLE motor driven AFW pump, and due to t~~T~~he low probability of an event ~~occurring that~~ requiring~~es~~ the use of~~inoperable steam supply to~~ the turbine driven AFW pump. TA3.7-150

~~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 Conditions A and B are entered concurrently. The AND connector between 7 days

R-11

PA3.7-201

BASES

and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

Condition A is modified by a Note which limits the applicability of the Condition when the unit has not entered MODE 2 following a refueling. Condition A allows one AFW train to be inoperable for 7 days vice the 72 hour Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical. TA3.7-150 R-11

B.1

With one of the required AFW trains (pump or flow path) inoperable in MODE 1, 2, or 3 [for reasons other than Condition A], action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of 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. R-14

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 Conditions A and B 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. R-11

PA3.7-201

BASES

C.1 and C.2

When Required Action A.1 [or B.1] cannot be completed within the required Completion Time, or if two AFW trains are

ACTIONS ~~C.1 and C.2 (continued)~~

inoperable in MODE 1, 2, or 3, 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 ~~[18]~~ hours.

CL3.7-132

R-14

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.

In MODE 4 with two AFW trains inoperable, operation is allowed to continue because only one motor driven pump AFW train is required in accordance with the Note that modifies the LCO. Although not required, the unit may continue to cool down and initiate RHR.

R-14

D.1

If both ~~all [three]~~ AFW trains are inoperable in MODE 1, 2, or 3, 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

R-14

BASES (continued)

this condition requires that action be started immediately to restore one AFW train to OPERABLE status.

Required Action D.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.

E.1

In MODE 4, either the reactor coolant pumps or the RHR loops can be used to provide forced circulation. This is addressed in LCO 3.4.6, "RCS Loops—MODE 4." With one required AFW train inoperable, action must be taken to immediately restore the inoperable train to OPERABLE status. The immediate Completion Time is consistent with LCO 3.4.6.

R-14

SURVEILLANCE REQUIREMENTS

SR 3.7.5.1

This SR verifies~~Verifying~~ the correct alignment for manual, power operated, and automatic valves in the AFW System water and steam supply flow paths thereby providing~~es~~ 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 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.

BASES (continued)

~~required by Reference 2~~. This test is considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly.

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. This deferral is based on the inservice testing requirements not met; all other requirements for OPERABILITY must be satisfied. PA3.7-255

SURVEILLANCE REQUIREMENTS (continued)

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 safety injection ~~actuation~~ signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. This test is considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly. The 24 ~~[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 24 ~~[18]~~ month Frequency is acceptable based on operating experience and the design reliability of the equipment. PA3.7-255 TA3.7-136 X3.7-137 CL3.7-138

This SR is modified by ~~a~~two Notes. The first Note ~~that~~ states one or more AFW trains may be considered OPERABLE during alignment and operation for steam generator R-14

BASES (continued)

level control, if it is capable of being manually (i.e., remotely or locally, as appropriate) realigned to the AFW mode of operation, provided it is not otherwise inoperable. This exception allows the system to be out of its normal standby alignment and temporarily incapable of automatic initiation without declaring the train(s) inoperable. Since AFW may be used during MODES 2, 3 and 4 operations for steam generator level control, and these manual operations are an accepted function of the AFW system, OPERABILITY (i.e., the intended safety function) continues to be maintained. The second Note states that the SR is not required in MODE 4. In MODE 4, the required AFW train is already aligned and operating.

R-14

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 ESFAS~~when required by demonstrating that each AFW pump starts automatically on an actual or simulated AFW pump start ~~actuation~~ signal~~ in MODES 1, 2, and 3. In MODE 4, the required pump is already operating and the autostart function is not required~~. Since this test is performed during unit shutdown, the turbine driven AFW pump is not actually started, but the components necessary to assure it starts on an actual or simulated AFW pump start signal are demonstrated to be OPERABLE. This test is considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly. The 24 ~~[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.

PA3.7-255

X3.7-137

This SR is modified by ~~[a] [two]~~ Note~~[s]~~.~~[Note~~

CL3.7-134

R-11

PA3.7-201

CL3.7-141

BASES

LCO

~~To satisfy accident analysis assumptions, the CST must contain sufficient cooling water to remove decay heat for [30 minutes] following a reactor trip from 102% RTP, and then to cool down the RCS to RHR entry conditions, assuming a coincident loss of offsite power and the most adverse single failure. In doing this, it must retain sufficient water to ensure adequate net positive suction head for the AFW pumps during cooldown, as well as account for any losses from the steam driven AFW pump turbine, or before isolating AFW to a broken line.~~

CL3.7-257

The CSTs are considered OPERABLE when the CSTs' contents have at least 100,000 useable gallons per operating unit (MODES 1, 2, or 3).

R-11

~~The CST level required is equivalent to a usable volume of ≥ [110,000 gallons], which is based on holding the unit in MODE 3 for [2] hours, followed by a cooldown to RHR entry conditions at [75]°F/hour.~~ This basis is established in Reference 24 and exceeds the volume required by the accident analysis.

LCO (continued)

The OPERABILITY of the CSTs is determined by maintaining the tank level at or above the minimum required level.

APPLICABILITY

In MODES 1, 2, and 3, and in MODE 4, when steam generator is being relied upon for heat removal, the CSTs are ~~is~~ required to be OPERABLE.

In MODE 5 or 6, the CSTs are ~~is~~ not required because the AFW System is not required.

R-14

(continued)

PA3.7-201

CL3.7-141

BASES

ACTIONS

A.1 and A.2

If the CSTs are not OPERABLE (e.g., level is not within limits), the OPERABILITY of the backup safety-related portion of the CL supply should be verified by administrative means within 4 hours and once every 12 hours thereafter. OPERABILITY of the backup safety-related portion of the CL ~~feedwater~~ supply must include verification that the flow paths from the backup water supply to the AFW pumps are OPERABLE in accordance with LCO 3.7.8.~~, and that the backup supply has the required volume of water available.~~ The CSTs must be restored to OPERABLE status within 7 days~~, because the backup supply may be performing this function in addition to its normal functions~~.

TA3.7-142

R-11

PA3.7-261

The 4 hour Completion Time is reasonable, based on operating experience, to verify the OPERABILITY of the backup safety-related portion of the Cooling Wwater supply. Additionally, verifying the backup water supply every 12 hours is adequate to ensure the backup water supply continues to be available. The 7 day Completion Time is reasonable, based on an OPERABLE backup safety-related portion of the CL~~water~~ supply being available, and the low probability of an event occurring during this time period requiring the CSTs.

TA3.7-262

(continued)

BASES (continued)

B.1 and B.2

If the CSTs cannot be restored to OPERABLE status within the associated Completion Time, 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, without reliance on the steam generator for heat removal, within 12~~[18]~~ hours. CL3.7-144

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.

SURVEILLANCE REQUIREMENTS

SR 3.7.6.1

This SR verifies that the CSTs contain~~s~~ the required useable volume of cooling water. ~~(The required CST volume may be single value or a function of RCS conditions.)~~

The 12 hour Frequency is based on operating experience and the need for operator awareness of unit evolutions that may affect the CST inventory between checks. R-11

Also, the 12 hour Frequency is considered adequate in view of other indications in the control room, including alarms, to alert the operator to abnormal deviations in the CST level.

REFERENCES

1. UFSAR, Section 11.9~~[9.2.6]~~.

2. UFSAR, Section~~Chapter~~ 14.4~~[6]~~.

~~3. FSAR, Chapter[15].~~

PA3.7-172 PA3.7-201

BASES

~~serves to collect charcoal fines, and to back up the upstream HEPA filter should it develop a leak~~. The system initiates filtered ventilation of the ABSV boundary~~pump room~~ following receipt of a safety injection (SI) signal, high radiation signal or manual initiation. The radiation signal is not credited in the USAR for accident mitigation.

R-12

R-14

The exhaust from the main condenser air ejector is directed to the ABSVS for filtering prior to exhausting from the plant via the shield building stack to mitigate steam generator tube leakage.

CL3.7-312

~~The ECCS PREACS is a standby system., aligned to bypass the system HEPA filters and charcoal adsorbers. During emergency operations, the ECCS PREACS dampers are realigned, and fans are started to begin filtration. Upon receipt of the actuating Engineered Safety Feature Actuation System signal(s), normal air discharges from the ECCS pump room isolate, and the stream of ventilation air discharges through the system filter trains.~~

CL3.7-314

When the ABSVS actuates, the normal nonsafeguards supply and exhaust dampers close automatically, and the Auxiliary Building Normal Ventilation System supply and exhaust fans trip. The prefilters remove any large particles in the air, and with the heaters reduce the level of ~~any~~ entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. The primary purpose of the heaters is to maintain the relative humidity at an acceptable level.

~~The ECCS PREACS is discussed in the FSAR, Sections [6.5.1], [9.4.5], and [15.6.5] (Refs. 1, 2, 3, respectively) since it~~The ABSVS ~~may be~~would typically only be used for ~~normal, as well as~~ post accident~~,~~ atmospheric cleanup functions. ~~The primary purpose of the heaters is to maintain the~~

(continued)

PA3.7-172 PA3.7-201

BASES

~~relative humidity at an acceptable level, consistent with iodine removal efficiencies per Regulatory Guide 1.52 (Ref. 4)the following consideration.~~ The ABSVS and ABSV boundary are discussed in the USAR (References 1, 2 and 3).

APPLICABLE SAFETY ANALYSES

The design basis of the ABSVS~~ECCS PREACS~~ is established by the large break LOCA. The potential leakage paths from the containment to the auxiliary building are discussed in Reference 1.

The system evaluation assumes a passive failure of the ECCS outside containment, such as an RHR~~SI~~ pump seal failure, during the recirculation mode (Ref. 4). In such a case, the system limits radioactive release to within the 10 CFR 100 (Ref. 5) limits~~, or the NRC staff approved licensing basis (e.g., a specified fraction of Reference 5 limits)~~. The analysis of the effects and consequences of a large break LOCA is presented in References 3 and 4. The ABSVS~~ECCS PREACS~~ also actuates following a small break LOCA, in those cases where the ECCS goes into the recirculation mode of long term cooling, to clean up releases of smaller leaks, such as from valve stem packing.

~~Two types of system failures are considered in the accident analysis: complete loss of function, and excessive LEAKAGE. Either type of failure may result in a lower efficiency of removal for any gaseous and particulate activity released to the ECCS pump rooms following a LOCA.~~ CL3.7-316

The ABSVS~~ECCS PREACS~~ satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii)~~the NRC Policy Statement~~.

(continued)

PA3.7-172 PA3.7-201

BASES

LCO

Two independent and redundant trains of the ABSVS~~ECCS PREACS~~ are required to be OPERABLE to ensure that at least one is available, assuming that a single failure disables the other train~~ coincident with loss of offsite power~~. CL3.7-317

This OPERABILITY requirement ensures that~~ Total system failure could result in~~ the atmospheric releases, in the event of a Design Basis Accident (DBA) in containment, from ~~the~~ ECCS pump ~~room~~ leakage and contaiment leakage which bypasses the shield building would not result in doses exceeding 10 CFR 100 limits (Ref. 5)~~ in the event of a Design Basis Accident (DBA)~~. CL3.7-321

~~ECCS PREACS is considered OPERABLE when the individual components necessary to maintain the ECCS pump room filtration are OPERABLE in both trains.~~ CL3.7-322

In order for the ABSVS to be OPERABLE, the Turbine Building roof exhauster fans must be capable of being de-energized within 30 minutes following a loss of coolant accident.

An ABSVS~~ECCS PREACS~~ train is considered OPERABLE when its associated: R-11

LCO (continued)

a. Fan is OPERABLE;

b. HEPA filter and charcoal adsorbers ~~are not excessively restricting flow, and~~ are capable of passing their design flow and performing their filtration functions; ~~and~~

c. Heater, ~~demister,~~ ductwork, ~~valves,~~ and dampers are OPERABLE and air circulation can be maintained; and R-12

(continued)

PA3.7-172 PA3.7-201

BASES

d. Instrumentation and controls are OPERABLE.

R-12

The ABSV boundary is OPERABLE if both of the following conditions can be met:

CL3.7-174

a. Openings in the ABSV boundary are under administrative control and can be reduced to less than 10 square feet within 6 minutes following an accident; and

direct

b. Dampers and actuation circuits that isolate the Auxiliary Building Normal Ventilation System following an accident are OPERABLE or can be manually isolated within 6 minutes following an accident.

CL3.7-174

The LCO is modified by a Note allowing the ABSV boundary to be opened under administrative controls. As discussed above, openings must be closed to less than 10 square feet within 6 minutes following an accident.

R-11

CL3.7-174

APPLICABILITY

In MODES 1, 2, 3, and 4 for either unit, the ABSVS~~ECCS PREACS~~ is required to be OPERABLE~~ consistent with the OPERABILITY requirements of the ECCS~~.

PA3.7-323

When both units are i~~I~~n MODE 5 or 6, the ABSVS~~ECCS PREACS~~ is not required to be OPERABLE~~ since the ECCS is not required to be OPERABLE~~.

(continued)

PA3.7-172 PA3.7-201

BASES

ACTIONS

A.1

R-11

With one ABSVS~~ECCS PREACS~~ train inoperable, action must be taken to restore OPERABLE status within 7 days. During this time, the remaining OPERABLE train is adequate to perform the ABSVS~~ECCS PREACS~~ function.

The 7 day Completion Time is appropriate because the ABSVS risk contribution is substantially less than that for the ECCS (72 hour Completion Time)~~, and this system is not a direct support system for the ECCS~~. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

PA3.7-323

Concurrent failure of two ABSVS~~ECCS PREACS~~ trains would result in the loss of functional capability; therefore, LCO 3.0.3 must be entered immediately.

B.1

With both ABSVS trains inoperable due to an inoperable ABSV boundary, action must be taken to restore OPERABLE status within 24 hours.

CL3.7-174

The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the availability of the ABSVS to provide a filtered release (albeit with potential for some unfiltered leakage).

If the ABSV boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply.

R-11

(continued)

PA3.7-172 PA3.7-201

BASES

CB.1 and CB.2

If an~~the~~ ABSVS~~ECCS-PREACS~~ train cannot be restored to OPERABLE status or the ABSV boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. CL3.7-174

To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. R-11

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.

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1

This SR verifies that each ABSVS train can be manually started, the associated filter heater energizes, and the filter units remain sufficiently dried out to ensure they can perform their function. PA3.7-324

(continued)

PA3.7-172 PA3.7-201

BASES

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not severe, testing each train once a month provides an adequate check on this system. Monthly heater operations, with air through the filter, dries~~y~~ out any moisture that may have accumulated in the charcoal from humidity in the ambient air. ~~[Systems with heaters~~ Each ABSVS train must be operated ≥ 10 ~~continuous~~ hours per month with the heaters energized. ~~Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.]~~ The 31 day Frequency is based on the known reliability of equipment and the two train redundancy available.

circulation

CL3.7-175

SR 3.7.12.2

This SR verifies that the required ABSVS~~ECCS PREACS~~ testing is performed in accordance with the ~~[~~Ventilation Filter Testing Program (VFTP)~~]~~. ~~The ECCS PREACS filter tests are in accordance with Reference 4.~~

PA3.7-303

The ~~[~~VFTP~~]~~ includes testing HEPA filter performance, charcoal adsorbers efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations).

Specific test Frequencies and additional information are discussed in detail in the ~~[~~VFTP~~]~~.

SR 3.7.12.3~~4~~

This SR verifies proper functioning of the ABSVS by verifying the integrity of the ABSV boundary and the ability of the ABSVS to maintain a negative pressure with respect to potentially uncontaminated adjacent areas.

CL3.7-176

(continued)

PA3.7-172 PA3.7-201

BASES

During the post accident mode of operation, the ABSVS is designed to maintain a slight negative pressure within the ABSV boundary with respect to the containment and shield building. CL3.7-176

Each ABSVS train is started from the control room and the following are verified:

a. Associated Auxiliary Building Normal Ventilation System fans trip and dampers close; and

b. A measurable negative pressure is drawn within the ABSV boundary within 6 minutes after initiation, with a 10 square foot opening within the ABSV boundary.

The 92 day Frequency is based on the known reliability of equipment and the two train redundancy available.

SR 3.7.12.~~3~~4

The ABSVS initiates on a safety injection signal, high radiation signal or manual actuation. This SR verifies that each ABSVS~~ECCS PREACS~~ train starts and operates on an actual or simulated safety injection actuation signal, on an actual or simulated safety injection signal and on manual initiation. R-14

The 24~~[18]~~ month Frequency is consistent with industry reliability experience for similar equipment. The 24 month Frequency is acceptable since this system usually passes the Surveillance when performed.~~that specified in Reference 4~~. X3.7-137 PA3.7-326

~~SR 3.7.12.4~~

~~This SR verifies the integrity of the ECCS pump room enclosure. The ability of the ECCS pump room to maintain a negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper functioning of the ECCS PREACS. During the [post accident] mode of operation, the ECCS~~ PA3.7-327

PA3.7-172 PA3.7-201

BASES

~~PREACS is designed to maintain a slight negative pressure in the ECCS pump room, with respect to adjacent areas, to prevent unfiltered LEAKAGE. The ECCS PREACS is designed to maintain a ≤ [-0.125] inches water gauge relative to atmospheric pressure at a flow rate of[3000] cfm from the ECCS pump room. The Frequency of [18] months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 6).~~

~~This test is conducted with the tests for filter penetration; thus, an [18] month Frequency on a STAGGERED TEST BASIS is consistent with that specified in Reference 4.~~

~~SR 3.7.12.5~~

~~Operating the ECCS PREACS bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the ECCS PREACS bypass damper is verified if it can be specified in Reference 4.~~

CL3.7-177

REFERENCES

1. UFSAR, Appendix G~~Section [6.5.1]~~.
2. UFSAR, Section 10.3~~[9.4.5]~~.
3. UFSAR, Section 14~~[15.6.5]~~.
4. USAR, Section 6.7~~Regulatory Guide 1.52 (Rev. 2)~~.
5. 10 CFR 100.11.
6. ~~NUREG-0800, Section 6.5.1, Rev. 2, July 1981.~~

Difference Category	Difference Number 3.7-	Justification for Differences
CL	123	Since the MFIVs are not included in this specification there is only a single valve in each flow path and therefore, Action Statement D is not applicable.
CL	124	NUREG-1431 Specification 3.7.3, according to the Bases, is the system which provides a method for cooling the unit to RHR entry conditions if the condenser is not available. At PI, the SG PORVs provide this capability and therefore the specification title and other affected portions of this Specification and associated Bases have been revised to "SG PORV". The number of SG PORVs required OPERABLE is two since PI has only two per unit (one per steam generator).
CL	125	CTS require the unit to be placed in MODE 4 within 12 hours after Required Action and associated Completion Time not met; therefore, 12 hours is included in the ITS. TSTF-352, Revision 1 has not been included.

Difference Category	Difference Number 3.7-	Justification for Differences
	126	Not used.
PA	127	PI has two trains of AFW for each unit. Therefore, this specification is written to require two AFW trains.
CL	128	This change adds a Note to the LCO and Bases which will allow the system to operate and still be considered OPERABLE for safety related requirements. PI requires this Note to incorporate NRC TS interpretation issued to NSP October 16, 1997. Since PI has only two trains of AFW per unit and the AFW system is required to operate as part of normal plant startup and shutdown, this change is required. This change is consistent with TSTF- 245, Revision 1 (See TA3.7-136).
	129	Not used.

Difference Category	Difference Number 3.7-	Justification for Differences
CL	132	The Completion Time to be in MODE 4 is 12 hours to be consistent with CTS requirements after Required Actions and Completion Times not met.
	133	Not used.
CL	134	The Note which specifies when the SR is required to be performed is modified to incorporate CTS requirements which specifies the pump test must be performed prior to 10% power or within 72 hours after RCS temperature exceeds 350°F.
TA	135	This change incorporates approved industry traveler, TSTF-101.
TA	136	This change incorporates TSTF- 245, Revision 1. The Bases SR discussion of the SR Note was modified to specifically state the Modes during which the AFW system is operated to avoid confusing the operators.
X	137	The SR interval is increased to 24 months to support the proposed PI refueling cycle.

Difference Category	Difference Number 3.7-	Justification for Differences
CL	141	PI has three condensate storage tanks which are interconnected to commonly serve both PI units. Thus, these tanks form a system which is shared between PI Units 1 and 2. Therefore, an "s" has been added to "CST" in the title and Condition A to show it is the system of tanks, not just one tank, that is under consideration.
TA	142	This change incorporates approved traveler, TSTF-140 which requires the CSTs to be operable rather than specifying tank contents.
	143	Not used.

M - More restrictive (GENERIC NSHD)
(M3.7-08, M3.7-12, M3.7-13, M3.7-14, M3.7-15, M3.7-16, M3.7-23, M3.7-26, M3.7-27, M3.7-30, M3.7-35, M3.7-37, M3.7-39, M3.7-42, M3.7-46, M3.7-48, M3.7-49, M3.7-51, M3.7-52, M3.7-53, M3.7-55, M3.7-58, M3.7-59, M3.7-60, M3.7-61, M3.7-65, M3.7-73, M3.7-75, M3.7-76, M3.7-104, M3.7-107, M3.7-108, M3.7-109, M3.7-110, M3.7-115, M3.7-116, M3.7-119, M3.7-120, M3.7-121)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3.9 REFUELING OPERATIONS

3.9.3 Nuclear Instrumentation

LCO 3.9.3 Two core subcritical neutron flux monitors shall be OPERABLE.

AND

One core subcritical neutron flux monitor audible count rate circuit shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required core subcritical neutron flux monitor inoperable.	A.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2 Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the boron concentration of LCO 3.9.1.	Immediately
B. Two required core subcritical neutron flux monitors inoperable.	B.1 Initiate action to restore one core subcritical neutron flux monitor to OPERABLE status.	Immediately
	AND	
	B.2 Perform SR 3.9.1.1.	Once per 12 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required core subcritical neutron flux monitor audible count rate circuit inoperable.	C.1 Initiate action to isolate unborated water sources.	Immediately
	AND	
	C.2 Suspend CORE ALTERATIONS.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.3.1	Perform CHANNEL CHECK.	12 hours
SR 3.9.3.2	----------NOTE---------- Neutron detectors are excluded from CHANNEL CALIBRATION. ---------- Perform CHANNEL CALIBRATION.	24 months

3.9 REFUELING OPERATIONS

3.9.4 Containment Penetrations

LCO 3.9.4 The containment penetrations shall be in the following status:

a. The equipment hatch closed and held in place by four bolts;

b. One door in each air lock closed, or both doors in each air lock may be open with:

1. containment (high flow) purge system isolated,

2. one air lock door OPERABLE, and

3. at least two containment fan coil unit fans capable of operating in the high speed mode; and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either:

1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or

2. capable of being closed by an OPERABLE Containment Ventilation Isolation System.

----------NOTE----------
Penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

APPLICABILITY: During movement of irradiated fuel assemblies within containment.

B 3.9 REFUELING OPERATIONS

B 3.9.3 Nuclear Instrumentation

BASES

BACKGROUND

Core subcritical neutron flux monitors are used during refueling operations to monitor the core reactivity condition. The installed core subcritical neutron flux monitors are part of the Nuclear Instrumentation System (NIS). These detectors (N-31, N-32, N-51, and N-52) are located external to the reactor vessel and detect neutrons leaking from the core.

The installed core subcritical neutron flux monitors are:

a. BF3 detectors operating in the proportional region of the gas filled detector characteristic curve; or

b. Fission chambers.

The detectors monitor the neutron flux in counts per second. The instrument range used for monitoring changes in subcritical multiplication typically covers six decades of neutron flux. The detectors provide continuous visual indication in the control room. The installed BF3 neutron flux monitors provide an audible indication to alert operators in containment to a possible dilution accident. The NIS is designed in accordance with the criteria presented in Reference 1.

APPLICABLE SAFETY ANALYSES

Two OPERABLE core subcritical neutron flux monitors are required to provide a signal to alert the operator to unexpected changes in core reactivity such as with a boron dilution accident (Ref. 2) or an improperly loaded fuel assembly.

The core subcritical neutron flux monitors satisfy Criterion 3 of 10 CFR 50.36 (c) (2)(ii).

BASES (continued)

LCO

This LCO requires that two core subcritical neutron flux monitors, capable of monitoring subcritical neutron flux, be OPERABLE to ensure that redundant monitoring capability is available to detect changes in core reactivity. Neutron detectors N-31, N-32, N-51 and N-52 may be used to satisfy this LCO requirement.

This LCO also requires that one audible countrate circuit, associated with either N-31 or N-32, be OPERABLE to ensure that audible indication is available to alert the operator in containment in the event of a dilution accident or improperly loaded fuel assembly.

APPLICABILITY

In MODE 6, the core subcritical neutron flux monitors must be OPERABLE to determine changes in core reactivity. There are no other direct means available to check core reactivity levels. In MODES 2, 3, 4, and 5, the installed detectors and circuitry are also required to be OPERABLE by LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation."

ACTIONS

A.1 and A.2

With only one required core subcritical neutron flux monitor OPERABLE, redundancy has been lost. Since these instruments are the only direct means of monitoring core reactivity conditions, CORE ALTERATIONS and introduction of coolant into the RCS with boron concentration less than required to meet the minimum boron concentration of LCO 3.9.1 must be suspended immediately. Suspending the introduction of coolant into the RCS with boron concentration less than required to meet the minimum boron concentration of LCO 3.9.1 is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation.

BASES

ACTIONS

A.1 and A.2 (continued)

Introduction of temperature changes, including temperature increases when operating with a positive moderator temperature coefficient (MTC), must also be evaluated to not result in reducing SDM below the required value. Performance of Required Action A.1 shall not preclude completion of movement of a component to a safe position.

B.1

With no required core subcritical neutron flux monitor OPERABLE, action to restore a monitor to OPERABLE status shall be initiated immediately. Once initiated, action shall be continued until a required core subcritical neutron flux monitor is restored to OPERABLE status.

B.2

With no required core subcritical neutron flux monitor OPERABLE, there are no direct means of detecting changes in core reactivity. However, since CORE ALTERATIONS and positive reactivity additions that could lead to reducing SDM below the required value are not to be made, the core reactivity condition is stabilized until the core subcritical neutron flux monitors are OPERABLE. This stabilized condition is determined by performing SR 3.9.1.1 to ensure that the required boron concentration exists.

The Completion Time of once per 12 hours is sufficient to obtain and analyze a reactor coolant sample for boron concentration and ensures that unplanned changes in boron concentration would be identified. The 12 hour Frequency is reasonable, considering the low probability of a change in core reactivity during this time period.

BASES

ACTIONS (continued)

C.1 and C2

With no audible core subcritical neutron flux monitor count rate circuit OPERABLE, only visual indication is available and prompt and definite indication of a boron dilution event would be lost. In this situation, the boron dilution event may not be detected quickly enough to assure sufficient time is available for operators to manually isolate the unborated water source and stop the dilution prior to the loss of SHUTDOWN MARGIN. Therefore, action must be taken to prevent an inadvertent boron dilution event from occurring. This is accomplished by isolating all the unborated water flow paths to the Reactor Coolant System. Isolating these flow paths ensures that an inadvertent dilution of the reactor coolant boron concentration is prevented. Since CORE ALTERATIONS and addition of unborated water can not be made, the core reactivity is stabilized until the audible count rate capability is restored.

The Completion Time of "Immediately" assures prompt response by operation and requires an operator to initiate actions to isolate an affected flow path immediately. Performance of Required Actions C.1 and C.2 shall not preclude completion of movement of a component to a safe position. Once actions are initiated, they must be continued until all the necessary flow paths are isolated or the circuit is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

SR 3.9.3.1

SR 3.9.3.1 is the performance of a CHANNEL CHECK, which is a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that the two indication channels should be consistent with core conditions. Changes in fuel loading and core geometry can result in significant differences between source range channels, but each channel should be consistent with its local conditions.

The Frequency of 12 hours is consistent with the CHANNEL CHECK Frequency specified similarly for the same instruments in LCO 3.3.1.

BASES

BACKGROUND (continued)

The containment air locks, which are also part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 unit operation in accordance with LCO 3.6.2, "Containment Air Locks." Each air lock has a door at both ends. The doors are normally interlocked to prevent simultaneous opening when containment OPERABILITY is required. During periods of unit shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary.

During movement of irradiated fuel assemblies within containment, containment closure or closure capability is required; therefore, the door interlock mechanism may remain disabled and both doors may be open provided one door can be closed within 30 minutes with at least two containment fan coil unit fans capable of operating in high speed.

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will restrict fission product radioactivity release from containment to be within regulatory limits.

The Containment Purge and Exhaust System includes two subsystems, Containment Purge and Containment Inservice Purge. The containment purge subsystem includes a 36 inch purge penetration and a 36 inch exhaust penetration. The second subsystem, a minipurge system referred to as containment inservice purge, includes a 14 inch purge penetration and an 18 inch exhaust penetration.

During MODES 1, 2, 3, and 4, the two valves in each of the normal purge and exhaust penetrations are secured in the closed position, or the penetrations may be blank flanged. The two valves in each of the two containment inservice purge penetrations can be opened intermittently, but are closed automatically by the Containment Ventilation Isolation System.

BASES

BACKGROUND (continued)

In MODE 6, sufficient air flow rates are necessary to conduct refueling operations. The inservice purge system is used for this purpose, and each of the four valves is closed by the radiation monitors associated with the containment inservice purge system in accordance with LCO 3.3.5, "Containment Ventilation Isolation Instrumentation." The 36 inch subsystem is normally blank flanged, although the option for use is allowed during outages, except during movement of irradiated fuel with the air lock doors open. All four containment purge valves are also closed by the Containment Ventilation Isolation Instrumentation.

The other containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, or blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations during fuel movements..

APPLICABLE SAFETY ANALYSES

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 1). Fuel handling accidents include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The requirements of LCO 3.9.2, "Refueling Cavity Water Level," in conjunction with the minimum decay time of 100 hours prior to irradiated fuel movement with containment closure capability ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100. The acceptance limit for offsite radiation exposure is 25% of 10 CFR 100 values.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will restrict fission product release from containment to be well within regulatory limits. The closure restrictions are sufficient to restrict fission product radioactivity release from containment due to a fuel handling accident during refueling.

A fuel handling accident does not cause containment pressurization; however, with an assumed single failure, the operating purge system supply fan is assumed to continue supplying air to containment. To maintain post-fuel handling accident releases well within the limits of 10 CFR 100, only the inservice purge system is allowed to be operating during fuel movement. Two fan coil unit fans are required to operate in the high speed mode following a fuel handling accident to assure that radioactive material in containment is well mixed and any releases will leave containment at a lower concentration over the duration of the accident. The provision that one air lock door is OPERABLE and under procedural control will assure that at least one door will be closed within 30 minutes as required, thus assuring radioactive releases are well within the limits of 10 CFR 100 (Ref. 1).

Containment penetrations satisfy Criterion 3 of 10 CFR 50.36 (c)(2)(ii).

LCO

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident.

BASES

LCO
(continued)

The LCO requires containment penetrations to meet the following requirements:

a. The equipment hatch is closed and held in place by at least 4 bolts;

b. One door in each air lock is closed, or both doors in each air lock may be open with:

   1. containment (high flow) purge system isolated,

   2. one air lock door OPERABLE, and

   3. at least two containment fan coil unit fans capable of operating in the high speed mode; and

c. Each penetration, including the containment (high flow) purge system and inservice (low flow) purge system, providing direct access from the containment atmosphere to the outside atmosphere is either:

   1. closed by a manual valve, or automatic isolation valve, blind flange, or equivalent: or

   2. capable of being closed by an OPERABLE Containment Ventilation Isolation System.

A penetration with direct access from the containment atmosphere to the outside atmosphere includes all penetrations open to the containment atmosphere that provide a flow path that leads anywhere outside containment and are open to the atmosphere.

The containment air lock doors may be open during movement of irradiated fuel in the containment provided that the LCO requirements are met.

BASES

LCO (continued)

These requirements include one door OPERABLE, under procedural control and capable of being closed within 30 minutes following a fuel handling accident in containment and at least two fan coil unit fans are capable of operating in the high speed mode following a fuel handling accident in containment. Should a fuel handling accident occur inside containment, the fan coil unit fans will be operated in high speed and one door in each air lock will be closed following an evacuation of containment.

For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by the Containment Ventilation Isolation System. The OPERABILITY requirements for this LCO require that the automatic purge and exhaust valve closure can be achieved and, therefore, meet the assumptions used in the safety analysis to ensure that releases through the valves are terminated, such that radiological doses are within the acceptance limit.

APPLICABILITY

The containment penetration requirements are applicable during movement of irradiated fuel assemblies within containment because this is when there is a potential for the limiting fuel handling accident.

In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1.

In MODES 5 and 6, when movement of irradiated fuel assemblies within containment is not being conducted, the potential for a fuel handling accident does not exist. Therefore, under these conditions no requirements are placed on containment penetration status.

BASES

ACTIONS

A.4, A.5, A.6.1, and A.6.2 (continued)

b. One door in each air lock must be closed; and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere must be either closed by a manual or automatic isolation valve, blind flange, or equivalent, or verified to be capable of being closed by an OPERABLE Containment Ventilation Isolation System.

With the RHR loop requirements not met, the potential exists for the coolant to boil, clad to fail, and release radioactive gas to the containment atmosphere. Performing the actions described above ensures that all containment penetrations are either closed or can be closed so that the dose limits are not exceeded.

The Completion Time of 4 hours allows adequate time to fulfill the Required Actions and not exceed dose limits.

SURVEILLANCE REQUIREMENTS

SR 3.9.5.1

This Surveillance demonstrates that the RHR loop is in operation in order to provide sufficient decay heat removal capability and to prevent thermal and boron stratification in the core. The Frequency of 12 hours is sufficient, considering the flow, temperature, pump control, and alarm indications available to the operator in the control room for monitoring the RHR System.

REFERENCES

None.

BASES

ACTIONS

B.1 (continued)

including temperature increases when operating with a positive moderator temperature coefficient (MTC), must also be evaluated to not result in reducing core reactivity below the required SDM or refueling boron concentration limit.

B.2

If no RHR loop is in operation, actions shall be initiated immediately, and continued, to restore one RHR loop to operation. Since the unit is in Conditions A and B concurrently, the restoration of two OPERABLE RHR loops and one operating RHR loop should be accomplished expeditiously.

B.3, B.4, B5.1 and B.5.2

If no RHR loop is in operation, the following actions must be taken:

a. The equipment hatch must be closed and secured with four bolts;

b. One door in each air lock must be closed; and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere must be either closed by a manual or automatic isolation valve, blind flange, or equivalent, or verified to be capable of being closed by an OPERABLE Containment Ventilation Isolation System.

With the RHR loop requirements not met, the potential exists for the coolant to boil, clad to fail, and release radioactive gas to the containment atmosphere. Performing the actions described above

~~3.8 REFUELING AND FUEL HANDLING~~

~~Applicability~~

~~Applies to operating limitations associated with fuel handling operations and CORE ALTERATIONS.~~

~~Objectives~~ A3.9-02

~~To ensure that no incident could occur during fuel handling and CORE ALTERATIONS that would affect public health and safety.~~

Specification

A. ~~Core Alterations~~ A3.9-03

1. ~~During CORE ALTERATIONS~~ the following conditions shall be satisfied (except as specified in 3.8.A.2 and 3 below): L3.9-04

LCO 3.9.4 ~~a.~~ During movement of irradiated fuel assemblies in containment

LCO 3.9.4.a a. ~~1)~~ The equipment hatch shall be closed and held in place by four bolts. A3.9-06

LCO 3.9.4.c c. ~~In addition,~~ at least one isolation valve ~~shall be OPERABLE or locked closed~~ in each penetration providing ~~line which penetrates the containment and provides a~~ direct access ~~path~~ from containment atmosphere to the outside atmosphere, closed by a manual or automatic isolation valve, blind flange, or equivalent, or capable of being closed by an OPERABLE Containment Ventilation Isolation System, ~~.~~ A3.9-07 A3.9-10 R-14

~~2)~~ Airlock doors

LCO 3.9.4.b b. ~~a) At least~~ one door in each air lock is closed, or

~~b)~~ Both doors in each air lock may be open with ~~if:~~

LCO 3.9.4.b ~~i.~~ The containment (high flow) purge system ~~is~~ isolated, A3.9-12

~~ii.~~ The inservice (low flow) purge system ~~is~~ capable of automatic isolation A3.9-14

~~iii.~~ At least one door in each air lock is OPERABLE~~, under procedural control, and capable of being closed within 30 minutes following a fuel handling accident in containment,~~ and LR3.9-13 R-14

~~iv.~~ At least two containment fan coil unit fans are capable of operating in the high speed mode ~~following a fuel handling accident in containment~~.

SR3.9.4.1
SR3.9.4.2

New SRs, Verify containment penetration status every 7 days, verify inservice (low flow) purge system valves actuate to isolation position on actual or simulated signal (not required to be met for inservice purge valves are closed to comply with TS.3.8.A.1.a.(1) (ITS 3.9.4.c.1))every 24 months.

M3.9-16

R-10

~~b. Radiation levels in the fuel handling areas of the containment shall be monitored continuously.~~

LR3.9-17

LCO3.9.4
Note

Add LCO Note - Penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

L3.9-55

R-14

~~3.8.A.1.c.~~ The core subcritical neutron flux shall be continuously monitored by at least two neutron monitors, ~~each with continuous visual~~

LCO3.9.3

LR3.9-18

~~indication in the control room~~ and one with audible indication ~~in the containment~~, which are in service whenever in MODE 6 ~~core geometry is being changed~~. When ~~core geometry is not being changed, at least~~ only one required neutron flux monitor is ~~shall be~~ in service take 3.8.A.2 required action.

M3.9-21

LCO3.9.3 Cond A

LCO3.9.3 Cond B

When both required neutron flux monitors are inoperable, verify boron concentration every 12 hours.

M3.9-22

M3.9-23

LCO3.9.3 Cond C

Immediately initiate action to isolate unborated water sources when required audible core subcritical flux monitor is inoperable.

R-14

SR3.9.3.1
SR3.9.3.2

New SRs, perform CHANNEL CHECK every 12 hours and CHANNEL CALIBRATION every 24 months. Neutron detectors are excluded from CHANNEL CALIBRATION.

M3.9-24

R-10

~~d. The plant shall be in the REFUELING condition.~~

A3.9-26

LR3.9-27

e. During movement of fuel assemblies in containment ~~or control rods out of the reactor vessel~~, at least 23 feet of water shall be maintained above the reactor vessel flange. The required water level shall be verified ~~prior to moving fuel assemblies or control rods and~~ at least once every day ~~while the cavity is flooded~~.

LCO3.9.2

A3.9-28

SR3.9.2.1

L3.9-31

f. At least one residual heat removal pump shall be OPERABLE and running in MODE 6 with water level ≥ 20 ft above the top of reactor vessel flange and in MODE 6 with the water level < 20 ft above the top of reactor vessel flange.

LCO3.9.5
LCO3.9.6

M3.9-32

R-10

LCO3.9.5 Note

The pump may be shut down for up to one hour per 8 hour period provided no operations are permitted which would cause reduction of RCS boron concentration. ~~to facilitate movement of fuel or core components.~~

M3.9-33

L3.9-34

LCO3.9.6 Note 1

The pump may be shut down for up to one hour per 8 hour period provided the core outlet temperature is maintained >10 F below saturation temperature, no operations are permitted that would cause a reduction of the RCS boron concentration and no draining operations to further reduce RCS water volume are permitted.

M3.9-53

R-10

SR3.9.5.1

New SR, verify RHR loop is in operation.

M3.9-36

3.8.A.1.g (continued)

~~g.~~ In Mode 6, If the water level above the top of the reactor vessel flange is less than 20 feet, M3.9-37

LCO3.9.6

~~except for control rod unlatching/latching operations or upper internals removal/replacement,~~ M3.9-37

both residual heat removal loops shall be OPERABLE.

LCO3.9.6 Note 2

New LCO NOTE 2 which allows one required RHR loop to be Inoperable for up to 2 hours for surveillance testing. L3.9-54

SR3.9.6.1
SR3.9.6.2

New SRs, verify one RHR loop in operation every 12 hours, verify breaker alignment and power available to other RHR pump every 7 days. M3.9-43

R-10

~~h. Direct communication between the control room and the operating floor of the containment shall be available whenever CORE ALTERATIONS are taking place.~~ LR3.9-44

LR3.9-46

~~i. No movement of irradiated fuel in the reactor shall be made untilthe reactor has been subcritical for at least 100 hours.~~

Addressed Elsewhere

j. The radiation monitors which initiate isolation of the Containment Purge System shall be tested and verified to be OPERABLE prior to CORE ALTERATIONS.

LCO3.9.2 Cond A
LCO3.9.3 Cond A&C
LCO3.9.4 Cond A

~~2.~~ If ~~any of~~ the above conditions are not met, CORE ALTERATIONS shall cease (for 3.8.A.1.c (ITS 3.9.3)), or cease irradiated fuel movement in containment(for 3.8.A.1.a (ITS 3.9.4) and e (ITS 3.9.2)) A3.9-47

A3.9-47

LCO3.9.3 Cond B
LCO3.9.5 Cond A
LCO3.9.6 RA A.1, A.2, B.2

Work shall be initiated to correct the violated conditions so that the specifications are met (for 3.8.A.1.c (ITS 3.9.3), f (ITS3.9.5) and g (ITS 3.9.6 initiate action to restore RHR loop to operation and initiate action to increase ≥ 20 ft of water above top of reactor vessel flange)), A3.9-52

R-14

A3.9-47

LCO3.9.3 Cond A
LCO3.9.5 Cond A
LCO3.9.6 Cond B

and (for 3.8.A.1.c (ITS 3.9.3), f (ITS 3.9.5) and g (ITS 3.9.6)) no operations which may increase the reactivity of the core shall be performed

NSHD Category	Change Number 3.9-	Discussion of Change
	09	Not used.
A	10	CTS 3.8.A.1.a.1). The CTS requirements for isolation of lines which penetrate containment and provide a direct path from containment atmosphere to the outside have been revised by the addition of "atmosphere". This provides clarification on which spaces are under consideration in this LCO. Further clarification is also provided in the Bases to assure that the operator understand that all penetrations which lead to spaces outside containment are included. The CTS has been further clarified by specifically stating that isolation of the subject path can be accomplished by a manual isolation valve, automatic isolation valve, or equivalent method. An equivalent method can consist of a pipe cap, pipe plug or other similar means. Since the intent of the Specification has not changed this is an administrative change.
	11	Not used.
A	12	CTS 3.8.A.1.a.2). CTS provides four requirements which allow both containment doors in each air lock to be open when fuel is being handled in containment. Minor editorial changes have been made by deleting "At least" from the requirement to close one air lock door and "if" has been replaced by "with" in the introduction to the listing of requirements to make the Specification read correctly. Since these changes do not reduce or increase any CTS requirements, these are administrative changes.

NSHD Category	Change Number 3.9-	Discussion of Change
LR	13	CTS 3.8.A.1.a.2) b) iii and 3.8.A.1.a.2) b) iv. CTS requires at least one door in each air lock to be under procedural control and capable of being closed following a fuel handling accident in containment. The requirement to be under procedural control and the clause "following a fuel handling accident in containment" have been relocated to the Bases. Typically TS requirements are under procedural controls and this requirement is a detail that is unnecessary to be repeated in ITS. The requirement to have one door OPERABLE and capable of being closed in 30 minutes is applicable the whole time that plant conditions are in the applicability of this Specification, not just "following a fuel handling accident in containment", therefore this clause is unnecessary and is not included in ITS. The requirement for the door being capable of being closed in 30 minutes is a detail that is relocated to the ITS Bases. In addition, the requirement for two containment fan coil unit fans to be capable of operating in the high speed mode is applicable the whole time that the plant is moving irradiated fuel assemblies in containment not just "following a fuel handling accident in containment". Therefore this clause is not included in ITS for the fan coil unit fans. It is understood that the provisions for closing an air lock door and operating the containment fan coil unit fans are to mitigate the consequences of a fuel handling accident in containment since that is the purpose of this specification. Therefore this clause is unnecessary. These requirements have been relocated to the Bases since this is unnecessary detail in the TS. This change is consistent with the guidance of NUREG-1431 and TSTF-51. Since the ITS Bases (under the Bases Control Program in Section 5.5 of the ITS) are licensee controlled, this change is less restrictive.

NSHD Category	Change Number 3.9-	Discussion of Change
A	14	CTS 3.8.A.1.a.2) b) ii. CTS requires the inservice (low flow) purge system to be capable of automatic isolation when both doors in each air lock are open during fuel handling in containment. ITS LCO 3.9.4.c requires "At least one isolation valve in each penetration providing direct access from the containment atmosphere to the outside atmosphere either: 2. capable of being closed by an OPERABLE Containment Ventilation Isolation System." at all times during movement of irradiated fuel assemblies in containment. The Prairie Island systems which are closed by the Containment Ventilation Isolation (CVI) System are the inservice (low flow) purge and the containment (high flow) systems. Therefore it is not necessary to repeat this requirement explicitly in ITS LCO 3.9.4.b. Since the intent of the specification is unchanged this is an administrative change. CTS requires the inservice purge system to be capable of automatic isolation. ITS requires penetrations which are not closed by a manual or automatic isolation valve, blind flange, or equivalent to be "capable of being closed" by an OPERABLE Containment Ventilation Isolation System (CVI). Since "capable of being closed" by CVI is functionally the same as "capable of automatic isolation" for the inservice purge system, this is an administrative change.
	15	Not used.

NSHD Category	Change Number 3.9-	Discussion of Change
M	16	New SRs, 3.9.4.1 and 3.9.4.2 are included which require verification of containment penetration status every 7 days and verification of containment purge and inservice purge valve actuation every 24 months. The 7 day frequency for containment penetration status verification is commensurate with the normal duration of time to complete fuel handling operations. The 24 month Frequency for verification of containment purge and inservice purge valve actuation is consistent with a 24 month refueling outage interval and will allow this verification to be performed during each refueling outage. ITS SR 3.9.4.2 is modified by a note which does not require the SR to be met when containment purge and inservice purge valves are closed in compliance with LCO 3.9.4 requirements for penetrations to be isolated. This surveillance ensures that a postulated fuel handling accident that releases fission product radioactivity within containment will not result in a release of significant fission product radioactivity to the environment. This is an acceptable exception since penetrations that are closed in compliance with the LCO do not have to be tested to assure that they can be automatically closed. These are activities which are currently performed under plant procedures; therefore this change does not adversely impact plant operations. Since these will be formal TS required surveillances, this change is considered more restrictive. This change is included to make the PI ITS complete and consistent with the guidance of NUREG-1431.

NSHD Category	Change Number 3.9-	Discussion of Change
M	23	CTS 3.8.A.1.c. A new Required Action is included which addresses inoperability of the audible count rate indication. This new action statement will require operators to immediately initiate action to isolate unborated water sources. This change is included to provide assurance that a boron dilution event will not occur when the operators do not have audible count rate indication. Since this change requires additional operators actions, it is more restrictive. This change is acceptable since it provides additional assurance that the plant is maintained in a safe condition.
M	24	New SRs, 3.9.3.1 and 3.9.3.2 are included which require a CHANNEL CHECK every 12 hours and a CHANNEL CALIBRATION every 24 months of the neutron flux monitors. These are activities which are currently performed under plant procedures; therefore this change does not adversely impact plant operations. Performance of a CHANNEL CHECK every 12 hours is consistent with the Frequency for CHANNEL CHECKs required for other instruments in other Specifications and assures that the instrument does not have any obvious inoperabilities. Performance of a CHANNEL CALIBRATION every 24 months allows the SR to be performed during plant outage conditions and is acceptable based on operating experience with these instruments. Neutron detectors are excluded from this calibration which is the same as CTS requirements in CTS Table 4.1-1A, Function 6. Since these SRs will be formal TS required surveillances, this change is considered more restrictive. These changes are included to make the PI ITS consistent with the guidance of NUREG-1431.

NSHD Category	Change Number 3.9-	Discussion of Change
M	32	CTS 3.8.A.1.f. CTS requires one RHR pump to be OPERABLE and operating during CORE ALTERATIONS and allows the pump to be shutdown for one hour. To be consistent with NUREG-1431, an Applicability statement is added to this specification to require one RHR pump OPERABLE and operating during all of MODE 6. ITS splits these requirements into two Specifications: ITS 3.9.5 for MODE 6 with the pool level above 20 ft and ITS 3.9.6 with the pool level below 20 ft. Since CTS paragraph 3.8.A.1.g specifies 20 ft as the level at which two RHR pumps are required to be operable, the 20 ft level is used in these applicability statements. The pool is full at 24.5 ft above the top of the reactor vessel flange. Since the plant does not have installed level indication at this elevation and operators may not be in containment during all of MODE 6, it would be difficult for the operators to maintain this level throughout the outage. For this reason the CTS requires 20 and this level is retained in the ITS. Since this change increases the scope of Applicability for these CTS requirements, this is a more restrictive change. This change is acceptable since current plant operations are allowed with ITS Specifications 3.9.5 and 3.9.6 as proposed and the plant will be operated in a safe manner.
M	33	CTS 3.8.A.1.f. CTS allow the operating RHR pump to be shut down for up to one hour to facilitate movement of fuel or core components. This change will prohibit operations which would cause reduction of RCS boron concentration and limit the pump shutdown to one hour per 8 hour period. This change will not adversely affect safe plant operation and may improve plant safety. This change is included for consistency with NUREG-1431. Since additional limitations are placed on plant operations, this change is more restrictive.

NSHD Category	Change Number 3.9-	Discussion of Change
M	43	New SRs, 3.9.6.1 and 3.9.6.2 are included which require verification that one RHR loop is in operation every 12 hours and verify proper breaker alignment and power available to the other RHR pump every 7 days. Verification of RHR operation every 12 hours is sufficient considering the flow, temperature, pump control and alarm indications available to the operator for monitoring the RHR System in the control room. The Frequency of 7 days for verification of power to the other pump is reasonable in view of the other administrative controls on plant operations at this time and based on operating experience. These new SRs are simple observations of plant conditions and will not adversely impact plant operations. Since these will be formal TS required surveillances, this change is considered more restrictive. This change is included to make the PI ITS complete and consistent with the guidance of NUREG-1431.
LR	44	CTS 3.8.A.1.h. The requirement for communication between the control room and containment is not included. No screening criteria apply for this requirement since communications is not part of the primary success path assumed in mitigation of a DBA or transient. The requirement specified for this function does not satisfy the NRC Final Policy Statement technical specification screening criteria and is relocated to the TRM. This is acceptable since the TRM is under the controls of 10CFR50.59. This change is consistent with the guidance of NUREG-1431.
	45	Not used.

NSHD Category	Change Number 3.9-	Discussion of Change
A	50	CTS 3.8.A.3. The phrase "Close the equipment hatch and penetrations" is added after reference to TS.3.8.A.1.a.1 to clarify the actions that are required by this Specification.
M	51	CTS 3.8.A.3. New requirements to verify that the inservice purge system will isolate have been included when a required RHR pump is not operating. This change is acceptable because it provides conservative actions to assure that containment integrity will be maintained in the event of a fuel handling accident in containment. This is a more restrictive change since it is not in CTS.
A	52	CTS 3.8.A.2. Clarification is added that work to correct the violated condition includes restoring an RHR loop to operation and increasing the water level when the one RHR pump is not operating and the water level is below 20 ft above the reactor vessel flange. Since CTS does not specify the actions to be taken, the plant currently has this option. Therefore this clarification is an administrative change.

NSHD Category	Change Number 3.9-	Discussion of Change
L	55	CTS 3.8.A.1.a.2).This change adds a LCO Note allowing the penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. If the penetration is unisolated, specific administrative controls would be inplace to ensure that the flow path could be isolated in the event of an accident. These administrative controls would be inplace to ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident. This is considered to be a Less Restrictive change since the CTS does not allow the subject penetrations to be unisolated under administrative controls. This change is consistent with NUREG-1431, Rev. 1.

3.9 REFUELING OPERATIONS

3.9.3 Nuclear Instrumentation

LCO 3.9.3 Two core subcritical ~~source range~~ neutron flux monitors shall be OPERABLE. CL3.9-57 CL3.9-58

AND

One core subcritical neutron flux monitor audible count rate circuit shall be OPERABLE. R-14

APPLICABILITY: MODE 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One [required] ~~source range~~ core subcritical neutron flux monitor inoperable.	A.1 Suspend CORE ALTERATIONS.	TA3.9-94 Imm edi ately R-14
	AND	
	A.2 Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the boron concentration of LCO 3.9.1~~positive reactivity additions~~.	CL3.9-57 Immediately

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Two [required] ~~source range~~ core subcritical neutron flux monitors inoperable.	B.1 Initiate action to restore one ~~source range~~ core subcritical neutron flux monitor to OPERABLE status.	Immediately CL3.9-57 TA3.9-59 R-14
	<u>AND</u>	
	B.2 Perform SR 3.9.1.1.	~~4 hours~~ ~~AND~~ Once per 12 hours ~~thereafter~~
C. Required core subcritical neutron flux monitor audible count rate circuit inoperable.	C.1 Initiate action to isolate unborated water sources.	Immediately CL3.9-58
	<u>AND</u>	
	C.2 Suspend CORE ALTERATIONS.	Immediately PA3.9-70 R-14

3.9 REFUELING OPERATIONS

3.9.4 Containment Penetrations

LCO 3.9.4 The containment penetrations shall be in the following status:

a. The equipment hatch closed and held in place by ~~[~~four~~]~~ bolts;

b. One door in each air lock closed, or both doors in each air lock may be open with: CL3.9-62

1. containment (high flow) purge system isolated,

2. one air lock door OPERABLE, and

3. at least two containment fan coil unit fans capable of operating in the high speed mode; and R-14

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere either: R-14

1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or

2. capable of being closed by an OPERABLE Containment Ventilation ~~Purge and Exhaust~~ Isolation System. PA3.9-64 R-14

----------NOTE----------
Penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

TA3.9-129 TA3.9-66 R-14

APPLICABILITY: ~~During CORE ALTERATIONS,~~
During movement of irradiated fuel assemblies within containment.

B 3.9 REFUELING OPERATIONS

PA3.9-77

B 3.9.3 Nuclear Instrumentation

BASES

BACKGROUND

Core subcritical~~The source range~~ neutron flux monitors are used during refueling operations to monitor the core reactivity condition. The installed ~~source range~~ core subcritical neutron flux monitors are part of the Nuclear Instrumentation System (NIS). These detectors (N-31, N-32, N-51, and N-52) are located external to the reactor vessel and detect neutrons leaking from the core.

CL3.9-57 CL3.9-90 CL3.9-57

The installed ~~source range~~ core subcritical neutron flux monitors are:

a. BF3 detectors operating in the proportional region of the gas filled detector characteristic curve; or

R-14 CL3.9-90

b. Fission chambers.

The detectors monitor the neutron flux in counts per second. The instrument range used for monitoring changes in subcritical multiplication typically covers six decades of neutron flux ~~(1E+6 cps) with a [5]% instrument accuracy~~. The detectors ~~also~~ provide continuous visual indication in the control room. The installed BF3 neutron flux monitors provide ~~and~~ an audible indication~~alarm~~ to alert operators in containment to a possible dilution accident. The NIS is designed in accordance with the criteria presented in Reference 1.

CL3.9-91 CL3.9-58 R-10

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

Two OPERABLE ~~source range~~ core subcritical neutron flux monitors are required to provide a signal to alert the operator to unexpected changes in core reactivity such as with a boron dilution accident (Ref. 2) or an improperly loaded fuel assembly. ~~The need for a safety analysis for an uncontrolled boron dilution accident is eliminated by isolating all unborated water sources as required by LCO 3.9.2, "Unborated Water Source Isolation Valves."~~ CL3.9-57 R-14 CL3.9-92 CL3.9-57

The ~~source range~~ core subcritical neutron flux monitors satisfy Criterion 3 of 10 CFR 50.36 (c)(2)(ii) ~~the NRC Policy Statement~~. R-14

LCO

This LCO requires that two ~~source range~~ core subcritical neutron flux monitors, capable of monitoring subcritical neutron flux, be OPERABLE to ensure that redundant monitoring capability is available to detect changes in core reactivity. Neutron detectors N-31, N-32, N-51 and N-52 may be used to satisfy this LCO requirement. CL3.9-57 R-14

This LCO also requires that one audible count rate circuit, associated with either N-31 or N-32, be OPERABLE to ensure that audible indication is available to alert the operator in containment in the event of a dilution accident or improperly loaded fuel assembly. CL3.9-58 R-10

APPLICABILITY

In MODE 6, the ~~source range~~ core subcritical neutron flux monitors must be OPERABLE to determine changes in core reactivity. There are no other direct means available to check core reactivity levels. CL3.9-57 R-14

(continued)

BASES (continued)

In MODES 2, 3, 4, and 5, the~~se same~~ installed ~~source range~~ detectors and circuitry are also required to be OPERABLE by LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation."

ACTIONS

A.1 and A.2

With only one required~~source range~~ core subcritical neutron flux monitor OPERABLE, redundancy has been lost. Since these instruments are the only direct means of monitoring core reactivity conditions, CORE ALTERATIONS and introduction of coolant into the RCS with boron concentration less than required to meet the minimum boron concentration of LCO 3.9.1~~ positive reactivity additions~~ must be suspended immediately. Suspending the introduction of coolant into the RCS with boron concentration less than required to meet the minimum boron concentration of LCO 3.9.1 is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes, including temperature increases when operating with a positive moderator temperature coefficient (MTC), must also be evaluated to not result in reducing SDM below the required value. Performance of Required Action A.1 shall not preclude completion of movement of a component to a safe position.

CL3.9-57

R-14

TA3.9-94

TA3.9-94

PA3.9-97

(continued)

BASES

B.1

With no ~~source range~~ required core subcritical neutron flux monitor OPERABLE, action to restore a monitor to OPERABLE status shall be initiated immediately. CL3.9-57 Once initiated, action shall be continued until a ~~source range~~ required core subcritical neutron flux monitor is restored to OPERABLE status.

R-14

B.2

With no required ~~source range~~ core subcritical neutron flux monitor OPERABLE, there are no direct means of detecting changes in core reactivity. CL3.9-57 However, since CORE ALTERATIONS and positive reactivity additions that could lead to reducing SDM below the required value are not to be made, the core reactivity condition is stabilized until the ~~source range~~ core subcritical neutron flux monitors are OPERABLE. This stabilized condition is determined by performing SR 3.9.1.1 to ensure that the required boron concentration exists.

TA3.9-94

CL3.9-57

R-14

The Completion Time of once per 12~~4~~ hours is sufficient to obtain and analyze a reactor coolant sample for boron concentration~~.~~ and ~~The Frequency of once per 12 hours~~ ensures that unplanned changes in boron concentration would be identified. The 12 hour Frequency is reasonable, considering the low

TA3.9-59

~~ACTIONS~~ ~~B.2 (continued)~~

probability of a change in core reactivity during this time period.

BASES

C.1 and C.2 CL3.9-58

With no audible core subcritical neutron flux monitor count rate circuit OPERABLE, only visual PA3.9-70 indication is available and prompt and definite indication of a boron dilution event would be lost. In this situation, the boron dilution event may not be detected quickly enough to assure sufficient time is available for operators to manually isolate the unborated water source and stop the dilution prior to the loss of SHUTDOWN MARGIN. Therefore, action must be taken to prevent an inadvertent boron dilution event from occurring. This is accomplished by isolating all the unborated water flow paths to the Reactor Coolant System. Isolating these flow paths ensures that an inadvertent dilution of the reactor coolant boron concentration is prevented. Since CORE ALTERATIONS and addition of unborated water can not be made, the core reactivity is stabilized until the audible count rate capability is restored.

The Completion Time of "Immediately" assures prompt response by operation and requires an operator to initiate actions to isolate an affected flow path immediately. Perfomance of Required Actions C.1 and C.2 shall not preclude completion of movement of a component to a safe position. Once actions are initiated, they must be continued until all the necessary flow paths are isolated or the circuit is restored to OPERABLE status.

R-14

SURVEILLANCE REQUIREMENTS

SR 3.9.3.1

SR 3.9.3.1 is the performance of a CHANNEL CHECK, which is a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that the two indication channels should be

BASES

consistent with core conditions. Changes in fuel loading and core geometry can result in significant differences between source range channels, but each channel should be consistent with its local conditions.

The Frequency of 12 hours is consistent with the CHANNEL CHECK Frequency specified similarly for the same instruments in LCO 3.3.1.

SR 3.9.3.2

SR 3.9.3.2 is the performance of a CHANNEL CALIBRATION every ~~18~~ 24 months. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. ~~The CHANNEL CALIBRATION for the source range neutron flux monitors consists of obtaining the detector plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data.~~ The ~~18~~24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage. Operating experience has shown these components usually pass the Surveillance when performed ~~at the 18 month Frequency~~.

CL3.9-57

PA3.9-95

X3.9-61

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 13, GDC 26, GDC 28, and GDC 29.~~AEC "General Design Criteria for Nuclear Power Plant Construction Permits," Criteria 13, 19, 27 and 31, issued for comment July 10, 1967, as referenced in USAR Section 1.2.

CL3.9-81

2. UFSAR, Section 14.4~~[15.2.4]~~.

CL3.9-93

BASES

four bolts. Good engineering practice dictates that the bolts required by this LCO be approximately equally spaced.

BACKGROUND (continued)

The containment air locks, which are also part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 unit operation in accordance with LCO 3.6.2, "Containment Air Locks." Each air lock has a door at both ends. The doors are normally interlocked to prevent simultaneous opening when containment OPERABILITY is required. During periods of unit shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary.

During ~~CORE ALTERATIONS or~~ movement of irradiated fuel assemblies within containment, containment closure or closure capability is required; therefore, the door interlock mechanism may remain disabled and both doors may be open provided one door can be closed within 30 minutes with at least two containment fan coil unit fans capable of operating in high speed~~, but one air lock door must always remain closed~~. TA3.9-66 CL3.9-62 R-14

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will ~~be restricted from escaping to the environment. The closure restrictions are sufficient to~~ restrict fission product radioactivity release from containment to be within regulatory limits~~due to a fuel handling accident during refueling~~. CL3.9-62

PA3.9-101

The Containment Purge and Exhaust System includes two subsystems, Containment Purge and Containment Inservice Purge. The containment purge~~normal~~ subsystem includes a 36~~42~~ inch purge penetration and a 36~~42~~ inch exhaust penetration. The second subsystem, a R-12

(continued)

BASES

minipurge system referred to as containment inservice purge, includes ~~an~~ 148 inch purge penetration and an 18 inch exhaust penetration.

CL3.9-102

During MODES 1, 2, 3, and 4, the two valves in each of the containment~~normal~~ purge and exhaust penetrations are ~~secured in the closed position~~blank flanged. The two valves in each of the two containment inservice purge~~ minipurge~~ penetrations can be opened intermittently, but are closed automatically by the Containment Ventilation Isolation System.~~ Engineered Safety Features Actuation System (ESFAS). Neither of the subsystems is subject to a Specification in MODE 5.~~ CL3.9-102

In MODE 6, sufficient air flow rates ~~large air exchangers~~ are necessary to conduct refueling operations. The ~~normal 42 inch~~ inservice purge system is used for this purpose, and ~~all~~ each of the four valves is~~are~~ closed by the radiation monitors associated with the containment inservice purge system in accordance with, LCO 3.3.5, "Containment Ventilation Isolation Instrumentation." ~~ESFAS in accordance with LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."~~ The 36 inch subsystem is normally blank flanged, although the option for use is allowed during outages, except during movement of irradiated fuel with the air lock doors open. All four containment purge valves are also closed by the Containment Ventilation Isolation Instrumentation. CL3.9-102 PA3.9-101 R-14 PA3.9-101

~~The minipurge system remains operational in MODE 6, and all four valves are also closed by the ESFAS. or The minipurge system is not used in MODE 6. All four 8 inch valves are secured in the closed position.~~

(continued)

BASES

BACKGROUND (continued)

The other containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations during fuel movements~~ (Ref. 1)~~.

R-14

APPLICABLE SAFETY ANALYSES

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel (Ref. 1~~2~~). Fuel handling accidents~~, analyzed in Reference 3,~~ include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The requirements of LCO 3.9.2~~7~~, "Refueling Cavity Water Level," in conjunction with~~and~~ the minimum decay time of 100 hours prior to irradiated fuel movement with containment closure capability~~CORE ALTERATIONS~~ ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100. ~~Standard Review Plan, Section 15.7.4, Rev. 1 (Ref. 3), defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values.~~ The acceptance limit~~s~~ for offsite radiation exposure ~~will be~~is 25% of 10 CFR 100 values~~ or the NRC staff approved licensing basis (e.g., a specified fraction of 10 CFR 100 limits)~~.

CL3.9-86
PA3.9-54
TA3.9-66
CL3.9-62
CL3.9-86
CL3.9-62

(continued)

BASES

The requirements for containment penetration closure ensure that a release of fission product radioactivity within containment will restrict fission product relase from containment to be well within regulatory limits. The closure restrictions are sufficient to restrict fission product radioactivity release from containment due to a fuel handling accident during refueling.

A fuel handling accident does not cause containment pressurization; however, with an assumed single failure, the operating purge system supply fan is assumed to continue supplying air to containment. To maintain post-fuel handling accident releases well within the limits of 10CFR100, only the inservice purge system is allowed to be operating during fuel movement. Two fan coil unit fans are required to operate in the high speed mode following a fuel handling accident to assure that radioactive material in containment is well mixed and any releases will leave containment at a lower concentration over the duration of the accident. The provision that one air lock door is OPERABLE and under procedural control will assure that at least one door will be closed within 30 minutes as required, thus assuring radioactive releases are well within the limits of 10 CFR 100 (Ref. 1). CL3.9-62

Containment penetrations satisfy Criterion 3 of 10 CFR 50.36 (c)(2)(ii)~~ the NRC Policy Statement~~.

TA3.9-129

LCO

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open

R-14

(continued)

BASES

status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident.

TA3.9-129

R-14

This LCO limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity released within containment.

CL3.9-62

The LCO requires ~~any~~containment penetrations ~~providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge and exhaust penetrations.~~ to meet the following requirements:

a. The equipment hatch is closed and held in place by at least 4 bolts;

b. One door in each air lock is closed, or both doors in each air lock may be open with:

   1. containment (high flow) purge system isolated,

   2. one air lock door OPERABLE, and

   3. at least two containment fan coil unit fans capable of operating in the high speed mode; and

R-14

c. Each penetration, including the containment (high flow) purge system and inservice (low flow) purge system, providing direct access from the containment atmosphere to the outside atmosphere is either:

R-14

(continued)

BASES

1. closed by a manual valve, or automatic isolation valve, blind flange, or equivalent; or

2. capable of being closed by an OPERABLE Containment Ventilation Isolation System.

R-14

PA3.9-64

A penetration with direct access from the containment atmosphere to the outside atmosphere includes all penetrations open to the containment atmosphere that provide a flow path that leads anywhere outside containment and are open to the atmosphere.

R-14

The containment air lock doors may be open during movement of irradiated fuel in the containment provided that the LCO requirements are met. These requirements include one door OPERABLE, under procedural control and capable of being closed within 30 minutes following a fuel handling accident in containment and at least two fan coil unit fans are capable of operating in the high speed mode following a fuel handling accident in containment. Should a fuel handling accident occur inside containment, the fan coil unit fans will be operated in high speed and one door in each air lock will be closed following an evacuation of containment.

CL3.9-62

PA3.9-64

For the OPERABLE containment purge and exhaust penetrations, this LCO ensures that these penetrations are isolable by the Containment Ventilation Isolation System. ~~Containment Purge and Exhaust Isolation System.~~ The OPERABILITY requirements for this LCO require~~ensure~~ that the automatic purge and exhaust valve closure ~~times specified in the FSAR~~ can be achieved and, therefore, meet the assumptions used in the safety analysis to ensure that releases through the valves are terminated, such that radiological doses are within the acceptance limit.

(continued)

BASES

APPLICABILITY

The containment penetration requirements are applicable during ~~CORE ALTERATIONS or~~ movement of irradiated fuel assemblies within containment because this is when there is a potential for the limiting~~a~~ fuel handling accident. TA3.9-66

In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1.

In MODES 5 and 6, when ~~CORE ALTERATIONS or~~ movement of irradiated fuel assemblies within containment is ~~are~~ not being conducted, the potential for a fuel handling accident does not exist. Therefore, under these conditions no requirements are placed on containment penetration status.

ACTIONS

A.1~~ and A.2~~ PA3.9-64

If the containment equipment hatch, air locks, or any containment penetration that provides direct access from the containment atmosphere to the outside atmosphere is not in the required status, including the Containment ~~Purge and Exhaust~~ Ventilation Isolation System not capable of automatic actuation when the purge and exhaust valves are open, the unit must be placed in a condition where the isolation function is not needed. This is accomplished by immediately suspending ~~CORE ALTERATIONS and~~ movement of irradiated fuel assemblies within containment. Performance of these actions shall not preclude completion of movement of a fuel assembly~~component~~ to a safe position. R-12

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1

PA3.9-64

This Surveillance demonstrates that each of the containment penetrations required to be in its closed position is in that position. The Surveillance on the open purge and exhaust valves will demonstrate that the valves will function if required during a fuel handling accident~~are not blocked from closing~~. Also the Surveillance will

TA3.9-66

SURVEILLANCE REQUIREMENTS

~~SR 3.9.4.1 (continued)~~

R-12

demonstrate that each valve operator has motive power, which will ensure that each valve is capable of being closed by an OPERABLE automatic Ccontainment Ventilation~~purge and exhaust~~ Iisolation signal.

The Surveillance is performed every 7 days during ~~CORE ALTERATIONS or~~ movement of irradiated fuel assemblies within containment. The Surveillance interval is selected to be commensurate with the normal duration of time to complete fuel handling operations. A surveillance is to be conducted before the start of refueling operation and then in accordance with the frequency specified~~will provide two or three surveillance verifications during the applicable period for this LCO~~. As such, this Surveillance ensures that a postulated fuel handling accident that releases fission product radioactivity within the containment will not result in a release of significant fission product radioactivity to the environment.

TA3.9-66

CL3.9-105

(continued)

BASES

SR 3.9.4.2

This Surveillance demonstrates that each containment purge and exhaust valve actuates to its isolation position on manual initiation or on an actual or simulated high radiation signal. The 24~~18~~ month Frequency maintains consistency with other similar ESFAS instrumentation and valve testing requirements. In LCO 3.3.5~~6~~, the Containment Ventilation ~~Purge and Exhaust~~ Isolation instrumentation requires a CHANNEL CHECK every 12 hours and a COT every 92 days to ensure the channel OPERABILITY during refueling operations. Every 24~~18~~ months a CHANNEL CALIBRATION is performed. ~~The system actuation response time is demonstrated every 18 months, during refueling, on a STAGGERED TEST BASIS.~~ SR 3.6.3.5 demonstrates that the isolation time of each valve is in accordance with the Inservice Testing Program requirements. These Surveillances, when performed, ~~during MODE 6~~ will ensure that the valves are capable of closing after a postulated fuel handling accident to limit a release of fission product radioactivity from the containment.

R-12

X3.9-61

CL3.9-65

CL3.9-88

CL3.9-86

The SR is modified by a Note stating that this Surveillance is not required to be met for valves in isolated penetrations. The LCO provides the option to close penetrations in lieu of requiring automatic actuation capability.

TA3.9-67

(continued)

BASES (continued)

REFERENCES

1. ~~GPU Nuclear Safety Evaluation SE-0002000-001, Rev. 0, May 20, 1988.~~

~~2.~~ UFSAR, Section 14.5~~[15.4.5]~~.

~~3. NUREG-0800, Section 15.7.4, Rev. 1, July 1981.~~

BASES

b. One door in each air lock must be closed; and TA3.9-69

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere must be either closed by a manual or automatic isolation valve, blind flange, or equivalent, or verified to be capable of being closed by an OPERABLE Containment Ventilation Isolation System. R-14

~~If RHR loop requirements are not met, all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere must be closed within 4 hours.~~ With the RHR loop requirements not met, the potential exists for the coolant to boil, clad to fail, and release radioactive gas to the containment atmosphere. Performing the actions described above ensures that all~~Closing~~ containment penetrations are either closed or can be closed so that~~are open to the outside atmosphere ensures~~ the dose limits are not exceeded. TA3.9-69 PA3.9-127

The Completion Time of 4 hours ~~is reasonable, based on the low probability of the coolant boiling in that time.~~ allows adequate time to fulfill the Required Actions and not exceed dose limits. PA3.9-116

SURVEILLANCE REQUIREMENTS

SR 3.9.5.1

This Surveillance demonstrates that the RHR loop is in operation in order ~~and circulating reactor coolant. The flow rate is determined by the flow rate necessary~~ to provide sufficient decay heat removal capability and to prevent thermal and boron stratification in the core. The Frequency of 12 hours is sufficient, considering the flow, temperature, pump control, and alarm indications available to the operator in the control room for monitoring the RHR System. CL3.9-71

BASES

REFERENCES ~~1. Section FSAR, [5.5.7]~~None. CL3.9-109

BASES

result in reducing core reactivity below the required SDM or refueling boron concentration limit.

B.2

If no RHR loop is in operation, actions shall be initiated immediately, and continued, to restore one RHR loop to operation. Since the unit is in Conditions A and B concurrently, the restoration of two OPERABLE RHR loops and one operating RHR loop should be accomplished expeditiously.

B.3, B.4, B5.1 and B.5.2

TA3.9-69

If no RHR loop is in operation, the following actions must be taken:

a. The equipment hatch must be closed and secured with four bolts;

b. One door in each air lock must be closed; and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere must be either closed by a manual or automatic isolation valve, blind flange, or equivalent, or verified to be capable of being closed by an OPERABLE Containment Ventilation Isolation System. R-14

~~If no RHR loop is in operation, all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere must be closed within 4 hours.~~ TA3.9-69 With the RHR loop requirements not met, the potential exists for the coolant to boil, clad to fail, and release radioactive gas to the containment atmosphere. PA3.9-127 Performing the actions described above

(continued)

Difference Category	Difference Number 3.9-	Justification for Differences
CL	57	The term "source range" has not been included because PI uses other neutron flux detectors (gammametrics) in this function in addition to the source range neutron flux monitors. The use of the term "core subcritical neutron flux monitors" is consistent with CTS which allows use of monitors other than the source range neutron flux monitors. Since there are more than two monitors which could be used, "required" is retained in the Action Statements.
CL	58	An LCO statement, action statement and supporting Bases requiring an operable audible neutron flux count rate circuit are included to retain the CTS requirements. The audible count rate circuit is necessary because PI depends on operator action to mitigate the consequences of a boron dilution event. The installed source range neutron detectors are the instruments which provide the audible count rate. Also, approved TSTF-23, Rev 3 requires audible count rate indication and an associated action statement.
TA	59	Incorporates approved traveler TSTF-96, Revision 1.

Difference Category	Difference Number 3.9-	Justification for Differences
	63	Not used.
PA	64	The PI name for the instrumentation system which automatically isolates containment ventilation during fuel handling is the "Containment Ventilation Isolation System" and the Specification for this system is 3.3.5, "Containment Ventilation Isolation Instrumentation". The systems which are isolated are the "containment purge (high flow) system" and containment inservice (low flow) purge system", thus these names are used in SR 3.9.4.2 and throughout the Bases as applicable. The parenthetical modifiers " (high flow)" and "(low flow)" may be included to assure that the operators do not confuse these systems.
	65	Not used.

Difference Category	Difference Number 3.9-	Justification for Differences
TA	69	Incorporates TSTF-197, Revision 2. This change provides more definitive guidance to the operators for the actions which must be taken. The changes also include plant specific terminology for further clarification. See PA3.9-116 for further discussion of exceptions to TSTF-197. The "or equivalent" option in NUREG-1431, as modified by TSTF-197, is not included in the PI ITS. PI does not currently have this flexibility and the evaluations which support it have not been performed, thus this is not included.
PA	70	New Condition C was included to be consistent with CTS and TSTF-23, Rev. 3. Required Action (RA), C.2 has been included in addition to the requirements of TSTF-23 to incorporate CTS requirements. New RA C.2 implements CTS 3.8.A.2 requirements as applied to CTS 3.8.A.1.c.

Difference Category	Difference Number 3.9-	Justification for Differences
CL	71	SR 3.9.5.1 and SR 3.9.6.1 and their Bases were revised to remove the flow rate for the RHR loop in operation. The PI safety analysis for boron dilution in MODE 6 assumes uniform mixing of the borated coolant as a result of a RHR pump being in operation and does not specify a flow rate. Therefore, there is no basis for inclusion of a flow rate in the SR. The phrase "and circulating reactor coolant" was not included since this is an implied function for an RHR loop in operation and is consistent the safety analysis. This change is also consistent with the guidance of the letter to Mr. James Davis, NEI from William D. Beckner, NRC, dated April 29, 1999,
	72	Not used.
CL	73	The water level in 3.9.5 and 3.9.6 Applicability Statements below which two RHR pumps are required to be operable has been changed to 20 ft to retain the CTS requirement. The level of 23 ft as specified in NUREG-1431 is not practical at PI since it does not allow sufficient operating flexibility. CTS does not have refueling cavity level requirements throughout MODE 6. ITS 3.9.2 requires the level to be 23 ft during fuel handling which is consistent with CTS and is acceptable since operators are always present when fuel is being handled. The pool is full at 24.5 ft above the top of the reactor vessel flange. The plant does not have installed level instrumentation above the 23 ft level and since operators may not be present in containment during all of MODE 6, it would be difficult for the operators to main this level throughout the outage. The 23 ft level in NUREG-1431, per the Bases, was selected to be consistent with the level for fuel handling, ISTS 3.9.7 (ITS 3.9.2). The level in

Difference Category	Difference Number 3.9-	Justification for Differences
CL	73	(continued) ISTS 3.8.7 (ITS 3.9.2) is based on the accident analyses which assume 23 ft of water in the refueling cavity. The level in ISTS 3.9.5 is based on the need for adequate water to provide a heat sink to prevent boiling if RHR cooling is not available. The 20 ft level, per CTS, is adequate to provide a heat sink in the event RHR cooling is not available. This change has also been made in the Bases.
CL	74	Note 1 has been added to LCO 3.9.6 in accordance with approved TSTF-349, Revision 1 with one exception. CTS TS.3.1.A.1.c and 3.1.A.1.d allow both RHR pumps to not be operating when the RCS temperature is below 350 F and cooling is provided by the RHR system for up to one hour provided restrictions similar to those included in LCO 3.9.6 Note 1 are met. CTS 3.8.A.1.f allows both RHR pumps to be shutdown for 1 hour during CORE ALTERATIONS regardless of refueling cavity water level to allow plant refueling evolutions. Therefore the TSTF-349 restriction of 15 minutes for switching from one pump to another has not been included. LCO Note 1 has been revised in ITS LCO 3.9.6 to preserve the CTS allowed operating conditions. Associated Bases for this Note have also been provided.
	75	Not used.
TA	76	This change incorporates TSTF-361, Revision 2.

Difference Category	Difference Number 3.9-	Justification for Differences
	128	Not used.
TA	129	This change incorporates TSTF-312, Rev. 1 except that CORE ALTERATIONS is not included. In accordance with approved TSTF-51, Rev. 2, ITS Specification 3.9.4 does not include CORE ALTERATIONS in the Applicability.

Specific NSHD for Change L3.9-55

The proposed change would allow a penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed change would allow a penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. The penetration flow path is not an assumed accident initiator therefore; this change does not involve a significant increase in the probability of a previously evaluated accident. If the penetration is unisolated, specific administrative controls would be in place to ensure that the flow path could be isolated in the event of an accident. These administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident. In this condition, the accident analyses only credit the containment as a barrier. In the lower energy conditions of this LCO, opening containment isolation valves under administrative control is less risk significant. Therefore, this change is proposed to provide a consistent approach to containment boundary issues that utilize previously approved acceptable compensatory measures. Therefore, this change does not involve a significant increase in the consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. This proposed change does not introduce any new mode of plant operation or change the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.9-55 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The proposed change would allow a penetration flow path(s) providing access from the containment atmosphere to the outside atmosphere to be unisolated under administrative controls. If the penetration is unisolated, specific administrative controls would be in place to ensure that the flow path could be isolated in the event of an accident. Based on these administrative controls, the containment would continue to provide an isolated barrier between the inside of containment and the outside atmosphere. Therefore the proposed change does not result in a significant reduction in the margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431 as modified by approved TSTF-312, Revision 1.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

5.5 Programs and Manuals

5.5.14 Containment Leakage Rate Testing Program (continued)

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.15 Battery Monitoring and Maintenance Program

This Program provides for restoration and maintenance of the 125V plant safeguards batteries and service building batteries, which may be used instead of the safeguards batteries during shutdown conditions in accordance with manufacturer's recommendations, as follows:

a. Actions to restore battery cells with float voltage < 2.13 V will be in accordance with manufacturer's recommendations, and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

8. XN-NF-77-57 (A), XN-NF-77-57, Supplement 1 (A), "Exxon Nuclear Power Distribution Control for Pressurized Water Reactors Phase II", May, 1981;

9. WCAP-13677, "10 CFR 50.46 Evaluation Model Report: W-COBRA/TRAC 2-Loop Upper Plenum Injection Model Update to Support ZIRLO$_{TM}$ Cladding Options", April 1993 (approved by NRC SE dated November 26, 1993);

10. NSPNAD-93003-A, "Transient Power Distribution Methodology", (latest approved version);

11. NAD-PI-003, "Prairie Island Nuclear Power Plant Required Shutdown Margin During Physics Tests, " (approved by NRC SE dated July 30, 2002); and

12. NAD-PI-004, "Prairie Island Nuclear Power Plant $F_Q^W(Z)$ Penalty with Increasing $\left[\frac{F_Q^C(Z)}{K(Z)}\right]$ Trend, "(approved by NRC SE dated July 30, 2002).

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heat-up, cooldown, low temperature operation, criticality, and hydrostatic testing, LTOP arming, PORV lift settings and Safety Injection Pump Disable

5.6 Reporting Requirements

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR) (continued)

Temperature as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits";
LCO 3.4.6, "RCS Loops - MODE 4";
LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled";
LCO 3.4.10, "Pressurizer Safety Valves";
LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) – Reactor Coolant System Cold Leg Temperature (RCSCLT) > Safety Injection (SI) Pump Disable Temperature";
LCO 3.4.13, "Low Temperature Overpressure Protection (LTOP) – Reactor Coolant System Cold Leg Temperature (RCSCLT) ≤ Safety Injection (SI) Pump Disable Temperature"; and
LCO 3.5.3, "ECCS - Shutdown".

b. The analytical methods used to determine the RCS pressure and temperature limits and Cold Overpressure Mitigation System setpoints shall be those previously reviewed and approved by the NRC, specifically those described in the following document:

WCAP-14040-NP-A, Revision 2, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves" (includes any exemption granted by NRC to ASME Code Case N-514).

c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluence period and for any revision or supplement thereto. Changes to the curves, setpoints, or parameters in the PTLR resulting from new or additional analysis of beltline material properties shall be submitted to the NRC prior to issuance of an updated PTLR.

5.5 Programs and Manuals (continued)

pressure P_a.

d. Leakage Rate acceptance criteria are: CL5.0-73

1. Primary containment leakage rate acceptance criterion is $\leq 1.0\ L_a$. Prior to unit startup, following testing in accordance with the program, the combined leakage rate acceptance criteria are $\leq 0.60\ L_a$ for all components subject to Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests.
2. Air lock testing acceptance criteria are:
   a)Overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq$ 46 psig.
   b)For each door intergasket test, leakage rate is $\leq 0.01\ L_a$ when pressurized to $\geq$ 10 psig.

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

TA5.0-86

5.5.15 Battery Monitoring and Maintenance Program

This Program provides for restoration and maintenance of the 125V plant safeguards batteries and service building batteries, which may be used instead of the safeguards batteries during shutdown conditions, in accordance with manufacturer's recommendations as follows:

a. Actions to restore battery cells with float voltage < 2.13 V will be in accordance with manufacturer's recommendations, and R-14
b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

5.6 Reporting Requirements

10. NSPNAD-93003-A, "Transient Power Distribution Methodology", (latest approved version);

11. NAD-PI-003, "Prairie Island Nuclear Power Plant Required Shutdown Margin During Physics Tests," (approved by NRC SE dated July 30, 2002); and

12. NAD-PI-004, "Prairie Island Nuclear Power Plant $F_Q^W(Z)$ Penalty with Increasing $\left[\frac{F_Q^C(Z)}{K(Z)}\right]$ Trend," (approved by NRC SE dated July 30, 2002).

~~Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.~~ R-14

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met. TA5.0-77

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heat-up, cooldown, low temperature operation, criticality, and hydrostatic testing, LTOP arming, PORV lift settings and Safety Injection Pump Disable Temperature as well as heatup and cooldown rates shall be established and documented in the PTLR for the following: PA5.0-76
LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits";
LCO 3.4.6, "RCS Loops - MODE 4";

(continued)

5.6 Reporting Requirements

LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled";
LCO 3.4.10, "Pressurizer Safety Valves";
LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) - Reactor Coolant System Cold Leg Temperature (RCSCLT) > Safety Injection (SI) Pump Disable Temperature"; R-12
LCO 3.4.13, "Low Temperature Overpressure Protection (LTOP) - Reactor Coolant System Cold Leg Temperature (RCSCLT) ≤ Safety Injection (SI) Pump Disable Temperature"; and
LCO 3.5.3, "ECCS - Shutdown".
~~[The individual specifications that address RCS pressure and temperature limits must be referenced here.]~~

b. The analytical methods used to determine the RCS pressure and temperature limits and Cold Overpressure Mitigation System setpoints shall be those previously reviewed and approved by the NRC, specifically those described in the following document~~s~~: CL5.0-56

WCAP-14040-NP-A, Revision 2, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves" (includes any exemption granted by NRC to ASME Code Case N-514). CL5.0-56
~~[Identify the NRC staff approval document by date.]~~

c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluence period and for any revision or supplement thereto. Changes to the curves, setpoints, or parameters in the PTLR resulting from new or additional analysis of beltline material properties shall be submitted to the NRC prior to issuance of an updated PTLR.

~~Reviewers' Notes: The methodology for the calculation of the P-T limits for NRC approval should include the following provisions:~~ PA5.0-76
~~1. The methodology shall describe how the neutron fluence is calculated (reference new Regulatory Guide when issued).~~
~~2. The Reactor Vessel Material Surveillance Program shall comply with~~ R-12

(continued)