NMC
Committed to Nuclear Excellence

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

May 10, 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 E46 and E48 are included in this supplement. Change designator E46 pages increase the steam generator (SG) low-low level allowable value from ≥ 5% to ≥ 11.3% in response to Westinghouse NSAL 02-3. This revised allowable value was developed in accordance with the PI Setpoint Methodology. This letter also transmits the SER Tables. Attachment 3 includes a new Specification, ITS 3.3.6, "Control Room Special Ventilation System Actuation Instrumentation." The allowable value for the radiation monitors for this Specification are not included and will be provided in a future supplement.

Attachment 1 to this letter provides additional information in response to NRC requests for additional information (RAIs) RAI 3.8.1-16. Attachment 1 also provides additional information in support of changing surveillance requirement frequencies to 24 months.

A001

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.

Attachment 3 to this letter contains Revision 13 change pages. Changes to the Revision 13 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 5/1/02. Change Pages from Parts C and E are marked as Revision 13 with a small textbox below the revision sideline which contains "R-13".

Attachment 4 to this letter is the SER Tables.

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 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 RAI 3.8.1-16 and support of 24 month surveillance requirements
2. Page List by RAI Q
3. Revision 13 Change Pages
4. SER Tables

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 10, 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 _____
Michael D. Werner
Plant Manager
Prairie Island Nuclear Generating Plant

State of Minnesota

County of Goodhue

On this 10 day of ~~April~~ May 2002 before me a notary public acting in said County, personally appeared Michael D. Werner, Plant Manager, 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.

_____

DALE M. VINCENT
NOTARY PUBLIC-MINNESOTA
My Commission Expires Jan. 31, 2005

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Kivi	1			
Leveille	1			
Alexander	1			
Vincent	1		1	2
Frost	1		1	1
VanTassell	1			2
Marty (Manifest only)				
Hall	1		20	2
PITC				1
ITS Libr	1			1
Eng Libr				1
Lic Libr				1
NL File	1			
TS History	1			1
PI Records	1			1
Betty Underwood (OSRC)	1			
Totals	**45**	**4**	**45**	**17**

Prairie Island Nuclear Generating Plant

Attachment 1

to
Supplement dated May 10, 2002
to License Amendment Request dated December 11, 2000
Conversion to Improved Technical Specifications (ITS)

Additional information in response to NRC RAI 3.8.1-16 and support of 24 month surveillance requirements

ATTACHMENT 1

Additional information in response to NRC RAIs and support of 24 month surveillance requirements.

RAI 3.8.1-16

Prairie Island CTS does not have a requirement to test both emergency diesel generators (EDGs) at the same time. Prairie Island does perform an integrated Safety Injection (SI) test each refueling outage. This test does not differentiate between SI trains and therefore this SI test sends a start signal to both EDGs and both EDGs are verified to start. Therefore, the NUREG-1431 surveillance requirement which requires simultaneous start of both EDGs every 10 years has not been included in the PI ITS.

Additional information in support of 24 month surveillance requirements.

During meetings with the NRC Staff, NMC was requested to review historical plant maintenance and surveillance data for those plant systems and components for which ITS extends the Frequency to 24 months as identified in DOCs L3.4-86, L3.6-87, L3.7-101, L3.7-103 and L3.8-35. NMC has competed the requested review for the past 10 years of plant operation presented in the attached "Test Reliability Data Table". As a result of that review, a total of three failures in three different, unrelated systems were identified.

With the exception of the three identified failures, all other surveillance tests were passed. Those systems for which the surveillance tests passed maintained a 100% reliability. The three systems which has a failed surveillance test maintained a 84% reliability. It should be noted that these systems passed their surveillance test when minor repairs were completed and the failed surveillance was re-run.

Based on the above, NMC has determined that the effect on plant safety is small when the surveillance Frequency is extended from 18 months to 24 months for the subject systems and components. In addition, the assumptions in the PI licensing basis would not be invalidated based on the performance of any surveillance at the bounding surveillance interval limits provided to accommodate a 24 month fuel cycle.

Test Reliability Data Table

DOC	CTS Reference	ITS Ref.	System	Test Type	Years Review	No. of Tests	No. of Failures	Success Rate	Comments
L3.4-86	Table 4.1-2A FU 7a	3.4.11.2	Pressurizer PORVs	Cycle PORV	10	U1-14 U2-14	U1-0 U2-0	U1-100% U2-100%	No failures to meet test criteria
L3.4-86	4.6.C	3.4.9.2	Emergency Pressurizer Heaters	Power supply	10	U1-6 U2-6	U1-0 U2-1	U1-100% U2-84%	U1-No failures to meet test criteria U2-Blown fuse. SR successful after fuse replaced
L3.6-87	4.4.B.3.c	3.6.9.3	Shield Building Ventilation	Auto Start	10	U1-16 U2-18	U1-0 U2-0	U1-100% U2-100%	No failures to meet test criteria
L3.7-101	4.14.A.2	3.7.10.3	Control Room Special Ventilation	Auto Start	10	U1-6 U2-6	U1-0 U2-0	U1-100% U2-100%	No failures to meet test criteria
L3.7-101	4.15.A.2	3.7.13.3	Spent Fuel Pool Special Ventilation	Auto Start	10	U1-6 U2-6	U1-1 U2-1	U1-84% U2-84%	U1-Normal Exh Fan tripped. SR rerun successful U2- inlet damper failed to close. SR rerun successful
L3.7-103	4.14.B.1.c	3.7.10.4	Control Room Special Ventilation	Fan Test	10	U1-6 U2-6	U1-0 U2-0	U1-100% U2-100%	No failures to meet test criteria
L3.7-103	4.15.B.1.c	3.7.13.4	Spent Fuel Pool Special Ventilation	Fan Test	10	U1-6 U2-6	U1-0 U2-0	U1-100% U2-100%	No failures to meet test criteria
L3.8-35	4.6.A.3.b	3.8.1.10	Emergency Diesel Generators	SI with LOOP	10	U1-16 U2-18	U1-0 U2-0	U1-100% U2-100%	No failures to meet test criteria

Prairie Island Nuclear Generating Plant

Attachment 2

to
Supplement dated May 10, 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 #
E46	0-TC	B	ii
E46	3.3	B	3.3.1-19
E46	3.3	B	3.3.2-12
E46	3.3	C	3 of 72
E46	3.3	C	4 of 72
E46	3.3	D	98
E46	3.3	E	3.3.1-25
E46	3.3	E	3.3.2-21
E46	3.3	F	16
E46	3.3	G	3
E46	e	B	ii
E48	3.7	D	5
R3.2-01	3.2	D	21
R3.2-02	3.2	B	3.2.1-3
R3.2-02	3.2	B	3.2.2-3
R3.2-02	3.2	E	3.2.1-4
R3.2-02	3.2	E	3.2.2-3
R3.2-02	3.2	F	15
R3.2-03	3.2	D	6
R3.2-04	3.2	D	6
R3.2-09	3.2	D	22
R3.2-10	3.2	D	23
R3.2-12	3.2	D	23
R3.2-13	3.2	D	24
R3.2-14	3.2	B	3.2.2-2
R3.2-14	3.2	E	3.2.2-2
R3.2-14	3.2	F	4
R3.2-15	3.2	D	24
R3.2-27	3.2	B	3.2.4-5
R3.2-27	3.2	B	B 3.2.4-7
R3.2-27	3.2	C	9 of 14
R3.2-27	3.2	D	18
R3.2-27	3.2	D	25
R3.2-27	3.2	E	3.2.4-5
R3.2-27	3.2	E	B 3.2.4-9
R3.2-27	3.2	F	6
R3.2-27	3.2	G	1
R3.3.1-13	3.3	D	77

RAI Q #	Package #	Part	Page #
R3.3.1-30	3.3	D	22
R3.3.2-01	3.3	B	3.3.2-4
R3.3.2-01	3.3	B	3.3.2-5
R3.3.2-01	3.3	B	3.3.2-6
R3.3.2-01	3.3	B	3.3.2-10
R3.3.2-01	3.3	B	3.3.2-10
R3.3.2-01	3.3	B	3.3.2-11
R3.3.2-01	3.3	B	3.3.2-12
R3.3.2-01	3.3	B	B 3.3.2-18
R3.3.2-01	3.3	B	B 3.3.2-19
R3.3.2-01	3.3	B	B 3.3.2-20
R3.3.2-01	3.3	B	B 3.3.2-21
R3.3.2-01	3.3	B	B 3.3.2-22
R3.3.2-01	3.3	B	B 3.3.2-23
R3.3.2-01	3.3	B	B 3.3.2-34
R3.3.2-01	3.3	B	B 3.3.2-35
R3.3.2-01	3.3	B	B 3.3.2-36
R3.3.2-01	3.3	B	B 3.3.2-37
R3.3.2-01	3.3	B	B 3.3.2-41
R3.3.2-01	3.3	C	27 of 72
R3.3.2-01	3.3	C	28 of 72
R3.3.2-01	3.3	C	29 of 72
R3.3.2-01	3.3	C	30 of 72
R3.3.2-01	3.3	C	34 of 72
R3.3.2-01	3.3	C	35 of 72
R3.3.2-01	3.3	C	36 of 72
R3.3.2-01	3.3	C	37 of 72
R3.3.2-01	3.3	C	60 of 72
R3.3.2-01	3.3	D	97
R3.3.2-01	3.3	E	3.3.2-5
R3.3.2-01	3.3	E	3.3.2-6
R3.3.2-01	3.3	E	3.3.2-7
R3.3.2-01	3.3	E	3.3.2-8
R3.3.2-01	3.3	E	3.3.2-16
R3.3.2-01	3.3	E	3.3.2-17
R3.3.2-01	3.3	E	3.3.2-18
R3.3.2-01	3.3	E	3.3.2-19
R3.3.2-01	3.3	E	3.3.2-20

RAI Q #	Package #	Part	Page #
R3.3.2-01	3.3	E	3.3.2-21
R3.3.2-01	3.3	E	3.3.2-22
R3.3.2-01	3.3	E	3.3.2-23
R3.3.2-01	3.3	E	B 3.3.2-33
R3.3.2-01	3.3	E	B 3.3.2-38
R3.3.2-01	3.3	E	B 3.3.2-40
R3.3.2-01	3.3	E	B 3.3.2-67
R3.3.2-01	3.3	E	B 3.3.2-69
R3.3.2-01	3.3	E	B 3.3.2-70
R3.3.2-01	3.3	E	B 3.3.2-71
R3.3.2-01	3.3	E	B 3.3.2-72
R3.3.2-01	3.3	E	B 3.3.2-79
R3.3.2-01	3.3	F	21
R3.3.2-01	3.3	F	22
R3.3.2-01	3.3	F	23
R3.3.2-01	3.3	G	3
R3.3.2-12	3.3	B	3.3.2-3
R3.3.2-12	3.3	B	3.3.2-10
R3.3.2-12	3.3	B	B 3.3.2-32
R3.3.2-12	3.3	B	B 3.3.2-33
R3.3.2-12	3.3	B	B 3.3.2-34
R3.3.2-12	3.3	C	33 of 72
R3.3.2-12	3.3	D	31
R3.3.2-12	3.3	E	3.3.2-4
R3.3.2-12	3.3	E	3.3.2-4
R3.3.2-12	3.3	E	B 3.3.2-63
R3.3.2-12	3.3	E	B 3.3.2-65
R3.3.2-12	3.3	E	B 3.3.2-66
R3.3.2-12	3.3	F	20
R3.3.2-12	3.3	G	34
R3.3.2-12	3.3	G	35
R3.3.2-20	1.0	B	1.1-4
R3.3.2-20	1.0	B	1.1-6
R3.3.2-20	1.0	C	6 of 40
R3.3.2-20	1.0	C	11 of 40
R3.3.2-20	1.0	D	2
R3.3.2-20	1.0	E	1.1-5
R3.3.2-20	1.0	E	1.1-8

RAI Q #	Package #	Part	Page #
R3.3.2-20	1.0	F	3
R3.3.2-20	3.3	B	3.3.2-8
R3.3.2-20	3.3	B	3.3.2-9
R3.3.2-20	3.3	B	3.3.2-10
R3.3.2-20	3.3	B	B 3.3.2-5
R3.3.2-20	3.3	B	B 3.3.2-39
R3.3.2-20	3.3	B	B 3.3.2-43
R3.3.2-20	3.3	C	57 of 72
R3.3.2-20	3.3	C	60 of 72
R3.3.2-20	3.3	C	61 of 72
R3.3.2-20	3.3	D	98
R3.3.2-20	3.3	E	3.3.2-9
R3.3.2-20	3.3	E	3.3.2-10
R3.3.2-20	3.3	E	3.3.2-12
R3.3.2-20	3.3	E	3.3.2-14
R3.3.2-20	3.3	E	3.3.2-15
R3.3.2-20	3.3	E	3.3.2-20
R3.3.2-20	3.3	E	B 3.3.2-8
R3.3.2-20	3.3	E	B 3.3.2-76
R3.3.2-20	3.3	E	B 3.3.2-77
R3.3.2-20	3.3	E	B 3.3.2-78
R3.3.2-20	3.3	F	24
R3.3.2-20	3.3	F	95
R3.3.2-20	3.3	G	3
R3.3.3-05	3.3	B	3.3.3-5
R3.3.3-05	3.3	B	B 3.3.3-18
R3.3.3-05	3.3	B	B 3.3.3-19
R3.3.3-05	3.3	C	68 of 72
R3.3.3-05	3.3	C	71 of 72
R3.3.3-05	3.3	D	68
R3.3.3-05	3.3	E	3.3.3-5
R3.3.3-05	3.3	E	B 3.3.3-23
R3.3.3-05	3.3	E	B 3.3.3-25
R3.3.3-05	3.3	F	35
R3.3.3-05	3.3	G	1
R3.3.4-02	3.3	B	3.3.4-1
R3.3.4-02	3.3	B	3.3.4-2
R3.3.4-02	3.3	B	3.3.4-3

RAI Q #	Package #	Part	Page #
R3.3.4-02	3.3	B	3.3.4-4
R3.3.4-02	3.3	B	3.3.4-5
R3.3.4-02	3.3	B	B 3.3.4-4
R3.3.4-02	3.3	B	B 3.3.4-6
R3.3.4-02	3.3	B	B 3.3.4-7
R3.3.4-02	3.3	B	B 3.3.4-8
R3.3.4-02	3.3	B	B 3.3.4-9
R3.3.4-02	3.3	B	B 3.3.4-10
R3.3.4-02	3.3	C	37 of 72
R3.3.4-02	3.3	C	38 of 72
R3.3.4-02	3.3	D	30
R3.3.4-02	3.3	D	31
R3.3.4-02	3.3	E	3.3.4-1
R3.3.4-02	3.3	E	3.3.4-2
R3.3.4-02	3.3	E	3.3.4-3
R3.3.4-02	3.3	E	3.3.4-4
R3.3.4-02	3.3	E	3.3.4-5
R3.3.4-02	3.3	E	3.3.4-6
R3.3.4-02	3.3	E	B 3.3.4-5
R3.3.4-02	3.3	E	B 3.3.4-7
R3.3.4-02	3.3	E	B 3.3.4-8
R3.3.4-02	3.3	E	B 3.3.4-9
R3.3.4-02	3.3	E	B 3.3.4-10
R3.3.4-02	3.3	E	B 3.3.4-11
R3.3.4-02	3.3	F	39
R3.3.4-02	3.3	F	39
R3.3.4-02	3.3	F	88
R3.3.4-02	3.3	G	1
R3.3.4-14	3.3	B	3.3.4-5
R3.3.4-14	3.3	B	B 3.3.4-11
R3.3.4-14	3.3	C	8 of 72
R3.3.4-14	3.3	D	5
R3.3.4-14	3.3	E	3.3.4-7
R3.3.4-14	3.3	E	B 3.3.4-13
R3.3.4-14	3.3	E	B 3.3.4-14
R3.3.4-14	3.3	G	1
R3.3.4-14	3.3	G	3
R3.3.5-01	3.3	B	3,3.5-4

RAI Q #	Package #	Part	Page #
R3.3.5-01	3.3	B	3.3.5-5
R3.3.5-01	3.3	B	B 3.3.5-8
R3.3.5-01	3.3	B	B 3.3.5-9
R3.3.5-01	3.3	C	58 of 72
R3.3.5-01	3.3	C	59 of 72
R3.3.5-01	3.3	E	3.3.5-4
R3.3.5-01	3.3	E	3.3.5-5
R3.3.5-01	3.3	E	3.3.5-6
R3.3.5-01	3.3	E	3.3.5-7
R3.3.5-01	3.3	E	B 3.3.5-5
R3.3.5-01	3.3	E	B 3.3.5-10
R3.3.5-01	3.3	E	B 3.3.5-11
R3.3.5-01	3.3	E	B 3.3.5-12
R3.3.5-01	3.3	F	43
R3.3.5-03	3.3	B	B 3.3.5-5
R3.3.5-03	3.3	C	26 of 72
R3.3.5-03	3.3	C	33 of 72
R3.3.5-03	3.3	C	41 of 72
R3.3.5-03	3.3	C	65 of 72
R3.3.5-03	3.3	D	96
R3.3.5-03	3.3	E	3.3.5-3
R3.3.5-03	3.3	E	3.3.5-7
R3.3.5-03	3.3	E	B 3.3.5-5
R3.3.5-03	3.3	E	B 3.3.5-6
R3.3.5-03	3.3	E	B 3.3.5-8
R3.3.5-03	3.3	F	42
R3.3.5-03	3.3	G	65
R3.3.5-03	3.3	G	66
R3.3.5-05	3.3	B	3.3.5-1
R3.3.5-05	3.3	B	3.3.5-2
R3.3.5-05	3.3	B	3.3.5-3
R3.3.5-05	3.3	B	B 3.3.5-4
R3.3.5-05	3.3	B	B 3.3.5-6
R3.3.5-05	3.3	C	33 of 72
R3.3.5-05	3.3	D	29
R3.3.5-05	3.3	D	82
R3.3.5-05	3.3	E	3.3.5-1
R3.3.5-05	3.3	E	3.3.5-2

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R3.3.5-05	3.3	E	B 3.3.5-4
R3.3.5-05	3.3	E	B 3.3.5-7
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R3.3.M-02	3.6	B	B 3.6.1-6
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R3.3.M-04	3.3	B	3.3.6-1
R3.3.M-04	3.3	B	3.3.6-2
R3.3.M-04	3.3	B	3.3.6-3
R3.3.M-04	3.3	B	3.3.6-4
R3.3.M-04	3.3	B	B 3.3.6-1
R3.3.M-04	3.3	B	B 3.3.6-2
R3.3.M-04	3.3	B	B 3.3.6-3
R3.3.M-04	3.3	B	B 3.3.6-4
R3.3.M-04	3.3	B	B 3.3.6-5
R3.3.M-04	3.3	B	B 3.3.6-6
R3.3.M-04	3.3	B	B 3.3.6-7
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R3.3.M-04	3.3	E	3.3.6-1
R3.3.M-04	3.3	E	3.3.6-2
R3.3.M-04	3.3	E	3.3.6-3
R3.3.M-04	3.3	E	3.3.6-4
R3.3.M-04	3.3	E	3.3.6-5
R3.3.M-04	3.3	E	3.3.6-6
R3.3.M-04	3.3	E	B 3.3.6-1
R3.3.M-04	3.3	E	B 3.3.6-2
R3.3.M-04	3.3	E	B 3.3.6-3
R3.3.M-04	3.3	E	B 3.3.6-4
R3.3.M-04	3.3	E	B 3.3.6-5
R3.3.M-04	3.3	E	B 3.3.6-6
R3.3.M-04	3.3	E	B 3.3.6-7
R3.3.M-04	3.3	E	B 3.3.6-7
R3.3.M-04	3.3	E	B 3.3.6-8
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R3.3.M-04	3.3	F	46
R3.3.M-04	3.3	F	88
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R3.3.M-04	3.3	F	89
R3.3.M-04	3.3	F	90
R3.3.M-04	3.3	F	90
R3.3.M-04	3.3	F	90
R3.3.M-04	3.3	F	91
R3.3.M-04	3.3	F	91
R3.3.M-04	3.3	F	91
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R3.3.M-04	3.7	B	3.7.10-2
R3.3.M-04	3.7	B	B 3.7.10-1
R3.3.M-04	3.7	B	B 3.7.10-2
R3.3.M-04	3.7	B	B 3.7.10-6
R3.3.M-04	3.7	B	B 3.7.10-8
R3.3.M-04	3.7	E	3.7.10-2
R3.3.M-04	3.7	E	B 3.7.10-2
R3.3.M-04	3.7	E	B 3.7.10-8
R3.3.M-04	3.7	E	B 3.7.10-10
R3.3.M-04	3.7	F	17
R3.3.M-05	3.3	B	3.3.7-1
R3.3.M-05	3.3	B	3.3.7-2
R3.3.M-05	3.3	B	3.3.7-3
R3.3.M-05	3.3	B	3.3.7-4
R3.3.M-05	3.3	B	B 3.3.7-1
R3.3.M-05	3.3	B	B 3.3.7-2
R3.3.M-05	3.3	B	B 3.3.7-3
R3.3.M-05	3.3	B	B 3.3.7-4
R3.3.M-05	3.3	B	B 3.3.7-5
R3.3.M-05	3.3	C	32 of 72
R3.3.M-05	3.3	D	95
R3.3.M-05	3.3	E	3.3.7-1
R3.3.M-05	3.3	E	3.3.7-2
R3.3.M-05	3.3	E	3.3.7-3

RAI Q #	Package #	Part	Page #
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R3.3.M-05	3.3	E	B 3.3.7-2
R3.3.M-05	3.3	E	B 3.3.7-3
R3.3.M-05	3.3	E	B 3.3.7-4
R3.3.M-05	3.3	E	B 3.3.7-5
R3.3.M-05	3.3	E	B 3.3.7-6
R3.3.M-05	3.3	E	B 3.3.7-7
R3.3.M-05	3.3	E	B 3.3.7-8
R3.3.M-05	3.3	E	B 3.3.7-9
R3.3.M-05	3.3	E	B 3.3.7-10
R3.3.M-05	3.3	F	91
R3.3.M-05	3.3	F	92
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R3.8.1-10	3.8	E	B 3.8.1-33
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Repagination	0-TC	B	iv
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Repagination	1.0	B	1.1-7
Repagination	1.0	B	1.1-8
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Repagination	1.0	E	1.1-7
Repagination	1.0	E	1.1-9
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Prairie Island Nuclear Generating Plant

Attachment 3

to
Supplement dated May 10, 2002
to License Amendment Request dated December 11, 2000
Conversion to Improved Technical Specifications (ITS)

Revision 13 Change Pages

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UPDATING INSTRUCTIONS

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Table Contents		ii	12/11/00	Table Contents		ii	5/1/02
		iii	12/11/00			iii	12/11/00
		iv	12/11/00			Iv	12/11/00
1.0	B	1.1-4	12/11/00	1.0	B	1.1-4	5/1/02
		1.1-5	12/11/00			1.1-5	12/11/00
		1.1-6	12/11/00			1.1-6	5/1/02
		1.1-7	12/11/00			1.1-7	12/11/00
		- -				1.1-8	12/11/00
1.0	C	6 of 40	None	1.0	C	6 of 40	13
		11 of 40	None			11 of 40	13
1.0	D	2	12/11/00	1.0	D	2	5/1/02
1.0	E	1.1-5	None	1.0	E	1.1-5	13
		1.1-6	None			1.1-6	None
		1.1-7	None			1.1-7	None
		1.1-8	None			1.1-8	13
		1.1-9	None			1.1-9	None
1.0	F	3	12/11/00	1.0	F	3	5/1/02
3.2	B	3.2.1-3	12/11/00	3.2	B	3.2.1-3	5/1/02
		3.2.2-2	12/11/00			3.2.2-2	5/1/02
		3.2.2-3	12/11/00			3.2.2-3	5/1/02

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		B 3.2.4-7	12/11/00			B 3.2.4-7	5/1/02
3.2	C	9 of 14	8	3.2	C	9 of 14	13
3.2	D	6	1/2/02	3.2	D	6	5/1/02
		18	1/2/02			18	5/1/02
		21	1/2/02			21	5/1/02
		22	1/2/02			22	5/1/02
		23	1/2/02			23	5/1/02
		24	1/2/02			24	5/1/02
		- -				25	5/1/02
3.2	E	3.2.1-4	8	3.2	E	3.2.1-4	13
		3.2.2-2	None			3.2.2-2	13
		3.2.2-3	8			3.2.2-3	13
		3.2.4-5	None			3.2.4-5	13
		B 3.2.4-9	None			B 3.2.4-9	13
3.2	F	4	1/2/02	3.2	F	4	5/1/02
		6	1/2/02			6	5/1/02
		15	1/2/02			15	5/1/02
3.2	G	1	1/2/02	3.2	G	1	5/1/02
.3	B	3.3.1-19	4/1/02	3.3	B	3.3.1-19	5/1/02
		3.3.2-3	12/11/00			3.3.2-3	5/1/02

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3.3	B	3.3.2-4	12/11/00	3.3	B	3.3.2-4	5/1/02
		3.3.2-5	4/1/02			3.3.2-5	5/1/02
		3.3.2-6	4/1/02			3.3.2-6	5/1/02
		3.3.2-7	12/11/00			3.3.2-7	12/11/00
		3.3.2-8	12/11/00			3.3.2-8	5/1/02
		3.3.2-9	12/11/00			3.3.2-9	5/1/02
		3.3.2-10	4/1/02			3.3.2-10	5/1/02
		3.3.2-11	4/1/02			3.3.2-11	5/1/02
		- -				3.3.2-12	5/1/02
		3.3.3-5	1/2/02			3.3.3-5	5/1/02
		3.3.4-1	1/2/02			3.3.4-1	5/1/02
		3.3.4-2	4/1/02			3.3.4-2	5/1/02
		3.3.4-3	12/11/00			3.3.4-3	5/1/02
		3.3.4-4	4/1/02			3.3.4-4	5/1/02
		- -				3.3.4-5	5/1/02
		3.3.5-1	4/1/02			3.3.5-1	5/1/02
		3.3.5-2	1/2/02			3.3.5-2	5/1/02
		3.3.5-3	4/1/02			3.3.5-3	5/1/02
		3.3.5-4	12/11/00			3.3.5-4	5/1/02
		3.3.5-5	4/1/02			3.3.5-5	5/1/02
		- -				3.3.6-1	5/1/02
		- -				3.3.6-2	5/1/02
		- -				3.3.6-3	5/1/02
		- -				3.3.6-4	5/1/02
		- -				3.3.7-1	5/1/02
		- -				3.3.7-2	5/1/02
		- -				3.3.7-3	5/1/02

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3.3	B	- -		3.3	B	3.3.7-4	5/1/02
		B 3.3.2-5	12/11/00			B 3.3.2-5	5/1/02
		B 3.3.2-18	12/11/00			B 3.3.2-18	5/1/02
		B 3.3.2-19	1/2/02			B 3.3.2-19	5/1/02
		B 3.3.2-20	4/1/02			B 3.3.2-20	5/1/02
		B 3.3.2-21	1/2/02			B 3.3.2-21	5/1/02
		B 3.3.2-22	12/11/00			B 3.3.2-22	5/1/02
		B 3.3.2-23	12/11/00			B 3.3.2-23	5/1/02
		B 3.3.2-32	12/11/00			B 3.3.2-32	5/1/02
		B 3.3.2-33	12/11/00			B 3.3.2-33	5/1/02
		B 3.3.2-34	12/11/00			B 3.3.2-34	5/1/02
		B 3.3.2-35	12/11/00			B 3.3.2-35	5/1/02
		B 3.3.2-36	12/11/00			B 3.3.2-36	5/1/02
		B 3.3.2-37	12/1/01			B 3.3.2-37	5/1/02
		B 3.3.2-39	12/11/00			B 3.3.2-39	5/1/02
		B 3.3.2-40	12/11/00			B 3.3.2-40	12/11/00
		B 3.3.2-41	12/11/00			B 3.3.2-41	5/1/02
		- -				B 3.3.2-42	12/11/00
		- -				B 3.3.2-43	5/1/02
		B 3.3.3-18	1/2/02			B 3.3.3-18	5/1/02
		B 3.3.3-19	12/11/00			B 3.3.3-19	5/1/02
		B 3.3.4-4	1/2/02			B 3.3.4-4	5/1/02
		B 3.3.4-6	2/20/01			B 3.3.4-6	5/1/02
		B 3.3.4-7	4/1/02			B 3.3.4-7	5/1/02
		B 3.3.4-8	4/1/02			B 3.3.4-8	5/1/02
		B 3.3.4-9	4/1/02			B 3.3.4-9	5/1/02
		B 3.3.4-10	4/1/02			B 3.3.4-10	5/1/02

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3.3	B	- -		3.3	B	B 3.3.4-11	5/1/02
		- -				B 3.3.4-12	12/11/00
		B 3.3.5-4	12/11/00			B 3.3.5-4	5/1/02
		B 3.3.5-5	12/11/00			B 3.3.5-5	5/1/02
		B 3.3.5-6	4/1/02			B 3.3.5-6	5/1/02
		B 3.3.5-8	5/1/01			B 3.3.5-8	5/1/02
		B 3.3.5-9	5/1/01			B 3.3.5-9	5/1/02
		- -				B 3.3.6-1	5/1/02
		- -				B 3.3.6-2	5/1/02
		- -				B 3.3.6-3	5/1/02
		- -				B 3.3.6-4	5/1/02
		- -				B 3.3.6-5	5/1/02
		- -				B 3.3.6-6	5/1/02
		- -				B 3.3.6-7	5/1/02
		- -				B 3.3.7-1	5/1/02
		- -				B 3.3.7-2	5/1/02
		- -				B 3.3.7-3	5/1/02
		- -				B 3.3.7-4	5/1/02
		- -				B 3.3.7-5	5/1/02
3.3	C	3 of 72	12	3.3	C	3 of 72	13
		4 of 72	None			4 of 72	13
		8 of 72	2			8 of 72	13
		26 of 72	12			26 of 72	13
		27 of 72	4			27 of 72	13
		28 of 72	7			28 of 72	13
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3.3	C	30 of 72	4	3.3	C	30 of 72	13
		31 of 72	None			31 of 72	7
		32 of 72	7			32 of 72	13
		33 of 72	7			33 of 72	13
		34 of 72	7			34 of 72	13
		35 of 72	6			35 of 72	13
		36 of 72	None			36 of 72	13
		37 of 72	6			37 of 72	13
		38 of 72	None			38 of 72	13
		41 of 72	7			41 of 72	13
		57 of 72	2			57 of 72	13
		58 of 72	2			58 of 72	13
		59 of 72	7			59 of 72	13
		60 of 72	7			60 of 72	13
		61 of 72	12			61 of 72	13
		65 of 72	12			65 of 72	13
		68 of 72	12			68 of 72	13
		71 of 72	7			71 of 72	13
3.3	D	5	1/2/02	3.3	D	5	5/1/02
		22	4/1/02			22	5/1/02
		29	1/2/02			29	5/1/02
		30	12/1/01			30	5/1/02
		31	12/11/00			31	5/1/02
		68	12/11/00			68	5/1/02
		77	4/1/02			77	5/1/02
		82	1/2/02			82	5/1/02

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3.3	D	94	4/1/02	3.3	D	94	5/1/02
		- -				95	5/1/02
		- -				96	5/1/02
		- -				97	5/1/02
		- -				98	5/1/02
3.3	E	3.3.1-25	12	3.3	E	3.3.1-25	13
		3.3.2-4	None			3.3.2-4	13
		3.3.2-5	None			3.3.2-5	13
		3.3.2-6	None			3.3.2-6	13
		3.3.2-7	12			3.3.2-7	13
		3.3.2-8	12			3.3.2-8	13
		3.3.2-9	None			3.3.2-9	13
		3.3.2-10	2			3.3.2-10	13
		3.3.2-12	None			3.3.2-12	13
		3.3.2-14	None			3.3.2-14	13
		3.3.2-15	None			3.3.2-15	13
		3.3.2-16	None			3.3.2-16	13
		3.3.2-17	None			3.3.2-17	13
		3.3.2-18	None			3.3.2-18	13
		3.3.2-19	12			3.3.2-19	13
		3.3.2-20	None			3.3.2-20	13
		3.3.2-21	None			3.3.2-21	13
		3.3.2-22	12			3.3.2-22	13
		3.3.2-23	12			3.3.2-23	None
		3.3.2-24	None			3.3.2-24	None
		3.3.3-5	7			3.3.3-5	13

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3.3	E	3.3.4-1	None	3.3	E	3.3.4-1	13
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		3.3.4-3	12			3.3.4-3	13
		3.3.4-4	None			3.3.4-4	13
		3.3.4-5	12			3.3.4-5	13
		3.3.4-6	12			3.3.4-6	13
		- -				3.3.4-7	13
		3.3.5-1	12			3.3.5-1	13
		3.3.5-2	7			3.3.5-2	13
		3.3.5-3	12			3.3.5-3	13
		3.3.5-4	2			3.3.5-4	13
		3.3.5-5	2			3.3.5-5	13
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		- -				3.3.6-5	13
		- -				3.3.6-6	13
						3.3.6-7	13
		- -				3.3.7-1	13
		- -				3.3.7-2	13
		- -				3.3.7-3	13
		- -				3.3.7-4	13
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		B 3.3.2-8	None			B 3.3.2-8	13

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		B 3.3.2-38	7			B 3.3.2-38	13
		B 3.3.2-40	None			B 3.3.2-40	13
		B 3.3.2-63	None			B 3.3.2-63	13
		B 3.3.2-65	None			B 3.3.2-65	13
		B 3.3.2-66	None			B 3.3.2-66	13
		B 3.3.2-67	None			B 3.3.2-67	13
		B 3.3.2-69	None			B 3.3.2-69	13
		B 3.3.2-70	None			B 3.3.2-70	13
		B 3.3.2-71	6			B 3.3.2-71	13
		B 3.3.2-72	6			B 3.3.2-72	13
		B 3.3.2-76	None			B 3.3.2-76	13
		B 3.3.2-77	None			B 3.3.2-77	13
		B 3.3.2-78	None			B 3.3.2-78	13
		B 3.3.2-79	2			B 3.3.2-79	13
		B 3.3.2-80	2			B 3.3.2-80	2
		B 3.3.2-81	2			B 3.3.2-81	2
		B 3.3.3-23	7			B 3.3.3-23	13
		B 3.3.3-25	2			B 3.3.3-25	13
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		B 3.3.4-7	7			B 3.3.4-7	13
		B 3.3.4-8	1			B 3.3.4-8	13
		B 3.3.4-9	12			B 3.3.4-9	13
		B 3.3.4-10	12			B 3.3.4-10	13
		B 3.3.4-11	None			B 3.3.4-11	13
		B 3.3.4-12	12			B 3.3.4-12	None
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		B 3.3.5-4	None			B 3.3.5-4	13
		B 3.3.5-5	12			B 3.3.5-5	13
		B 3.3.5-6	None			B 3.3.5-6	13
		B 3.3.5-7	None			B 3.3.5-7	13
		B 3.3.5-8	12			B 3.3.5-8	13
		B 3.3.5-10	None			B 3.3.5-10	13
		B 3.3.5-11	None			B 3.3.5-11	13
		B 3.3.5-12	2			B 3.3.5-12	13
		- -				B 3.3.6-1	13
		- -				B 3.3.6-2	13
		- -				B 3.3.6-3	13
		- -				B 3.3.6-4	13
		- -				B 3.3.6-5	13
		- -				B 3.3.6-6	13
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		- -				B 3.3.6-11	13
		- -				B 3.3.6-12	13
		- -				B 3.3.7-1	13
		- -				B 3.3.7-2	13
		- -				B 3.3.7-3	13
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		- -				B 3.3.7-8	13
		- -				B 3.3.7-9	13
		- -				B 3.3.7-10	13
3.3	F	16	4/1/02	3.3	F	16	5/1/02
		20	12/11/00			20	5/1/02
		21	12/11/00			21	5/1/02
		22	12/1/01			22	5/1/02
		23	12/1/01			23	5/1/02
		24	12/11/00			24	5/1/02
		35	1/2/02			35	5/1/02
		39	1/2/02			39	5/1/02
		42	4/1/02			42	5/1/02
		43	12/11/00			43	5/1/02
		46	12/11/00			46	5/1/02
		88	1/2/02			88	5/1/02
		- -				89	5/1/02
		- -				90	5/1/02
		- -				91	5/1/02
		- -				92	5/1/02
		- -				93	5/1/02
		- -				94	5/1/02
		- -				95	5/1/02
3.3	G	1	4/1/02	3.3	G	1	5/1/02

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		65	12/11/00			65	5/1/02
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3.6	B	B 3.6.1-6	4/1/02	3.6	B	B 3.6.1-6	5/1/02
3.6	E	B 3.6.1-7	12	3.6	E	B 3.6.1-7	13
3.7	B	3.7.10-2	2/2/02	3.7	B	3.7.10-2	5/1/02
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		B 3.7.10-2	12/11/00			B 3.7.10-2	5/1/02
		B 3.7.10-6	2/2/02			B 3.7.10-6	5/1/02
		B 3.7.10-8	12/11/00			B 3.7.10-8	5/1/02
3.7	C	6 of 50	2	3.7	C	6 of 50	13
		7 of 50	11			7 of 50	13
		24 of 50	2			24 of 50	13
		25 of 50	None			25 of 50	13
3.7	D	1A	5/1/01	3.7	D	1A	5/1/02
		5	2/2/02			5	5/1/02
		16	12/11/00			16	5/1/02
		17	12/11/00			17	5/1/02

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		38	2/2/02			38	5/1/02
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		B 3.7.2-8	None			B 3.7.2-8	13
		B 3.7.10-2	None			B 3.7.10-2	13
		B 3.7.10-8	11			B 3.7.10-8	13
		B 3.7.10-10	None			B 3.7.10-10	13
3.7	F	17	2/2/02	3.7	F	17	5/1/02
		30	12/11/00			30	5/1/02
3.7	G	1	2/2/02	3.7	G	1	5/1/02
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		B 3.8.1-18	4/1/02			B 3.8.1-18	5/1/02
		B 3.8.1-22	12/11/00			B 3.8.1-22	5/1/02
		- -				B 3.8.1-23	12/11/00
3.8	C	9 of 12	3	3.8	C	9 of 12	13
3.8	D	- -		3.8	D	41	5/1/02
3.8	E	3.8.1-14	None	3.8	E	3.8.1-14	13

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		B 3.8.1-32	None			B 3.8.1-32	13
		B 3.8.1-33	None			B 3.8.1-33	13
		B 3.8.1-34	None			B 3.8.1-34	None
3.8	F	12	12/11/00	3.8	F	12	5/1/02
		18	12/11/00			18	5/1/02
3.8	G	4	4/1/02	3.8	G	4	5/1/02

1.1 Definitions (continued)

MASTER RELAY TEST	A MASTER RELAY TEST shall consist of energizing all master relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required master relay. 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.
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, 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 Appendix J of the USAR, Pre-Operational and Startup Tests; b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.

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) > Safety Injection (SI) Pump Disable Temperature," and LCO 3.4.13, "Low Temperature Overpressure Protection (LTOP) ≤ 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.

1.1 Definitions (continued)

SHUTDOWN MARGIN (SDM)	SDM shall be the instantaneous amount of reactivity by which: a. The reactor is subcritical; or b. The reactor would be subcritical from its present condition assuming all 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. In MODES 1 and 2, the fuel and moderator temperatures are changed to the nominal zero power design temperature.
SLAVE RELAY TEST	A SLAVE RELAY TEST shall consist of energizing all slave relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required slave relay. The SLAVE RELAY TEST shall include 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.
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, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.

1.1 Definitions (continued)

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. The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy. The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps.

Table 1.1-1 (page 1 of 1)
MODES

MODE	TITLE	REACTIVITY CONDITION (k_{eff})	% RATED THERMAL POWER[a]	AVERAGE REACTOR COOLANT TEMPERATURE (°F)
1	Power Operation	≥ 0.99	> 5	NA
2	Startup	≥ 0.99	≤ 5	NA
3	Hot Standby	< 0.99	NA	≥ 350
4	Hot Shutdown[b]	< 0.99	NA	$350 > T_{avg} > 200$
5	Cold Shutdown[b]	< 0.99	NA	≤ 200
6	Refueling[c]	NA	NA	NA

(a) Excluding decay heat.

(b) All reactor vessel head closure bolts fully tensioned.

(c) One or more reactor vessel head closure bolts less than fully tensioned.

LEAKAGE

LEAKAGE from the Reactor Coolant System (RCS) shall be: M1.0-02

a. Identified LEAKAGE

1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to 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. 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 master relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required master relay. 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. M1.0-02 R-13

~~OPERATIONAL MODE~~ MODE

~~An OPERATIONAL~~ MODE ~~(i.e., MODE)~~ shall correspond to any one inclusive combination of core reactivity condition, power level, ~~and~~ average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table ~~TS.~~1.1-1 with fuel in the reactor vessel. A1.0-01

~~SHIELD BUILDING INTEGRITY~~

~~SHIELD BUILDING INTEGRITY shall exist when:~~ LR1.0-16

~~1. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed, and~~

~~2. The shield building equipment opening is closed.~~

~~3. The Shield Building Ventilation System is OPERABLE.~~

SHUTDOWN MARGIN (SDM)

SDM~~SHUTDOWN MARGIN~~ shall be the instantaneous amount of reactivity by which: A1.0-01

a.~~1)~~ T~~t~~he reactor is subcritical;

or

b.~~2)~~ T~~t~~he reactor would be subcritical from its present condition assuming all rod cluster control assemblies (RCCAs) are fully inserted except for the single RCCA~~rod cluster control assembly~~ 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. In MODES 1 and 2, the fuel and moderator temperatures are changed to the nominal zero power design temperature. M1.0-17

SLAVE RELAY TEST

A SLAVE RELAY TEST shall consist of energizing all slave relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required slave relay. The SLAVE RELAY TEST shall include a continuity check of associated required testable actuation devices. The SLAVE RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps. M1.0-02

~~SOURCE CHECK~~

~~A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.~~ A1.0-18

R-13

NSHD Category	Change Number 1.0-	Discussion of Change
M	02	ACTUATION LOGIC TEST, AFD, CHANNEL RESPONSE TEST, LEAKAGE, MASTER RELAY TEST, SLAVE RELAY TEST, and TRIP ACTUATING DEVICE OPERATION TEST. The following new definitions have been included in the Prairie Island Improved Technical Specifications since these terms are used throughout the Technical Specifications (TS) and this conforms to the guidance of NUREG-1431: ACTUATION LOGIC TEST AXIAL FLUX DIFFERENCE (AFD) LEAKAGE MASTER RELAY TEST REACTOR TRIP SYSTEM (RTS) RESPONSE TIME (replaces CHANNEL RESPONSE TEST) SLAVE REALY TEST TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) Since these defined terms are new to the PI TS, these are more restrictive changes. These changes are acceptable since they do not change plant operations or testing. These new definitions are included to make the ITS complete.
LR	03	CTS definition of AUXILIARY BUILDING SPECIAL VENTILATION INTEGRITY. The definition for AUXILIARY BUILDING SPECIAL VENTILATION INTEGRITY was relocated to the Bases of new Technical Specifications 3.7.12 which is consistent with the guidance of NUREG-1431. This definition has not been relocated verbatim, but the substance of the definition in the context of the ITS Specification requirements is included in the Bases. Since the Bases are under licensee control in accordance with Section 5.5, "Bases Control Program" this is a less restrictive change. This is acceptable since the Bases remain under regulatory control through use of a10 CFR 50.59 type program.

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

MODE

A MODE shall correspond to any one inclusive combination of core reactivity condition,

(continued)

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.

PRESSURE AND

The PTLR is the unit specific document that

(continued)

TEMPERATURE LIMITS REPORT (PTLR)	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) > Safety Injection (SI) Pump Disable Temperature," and LCO 3.4.13~~2~~, "Low Temperature Overpressure Protection (LTOP) ≤ Safety Injection (SI) Pump Disable Temperature~~System~~." TA1.0-42 PA1.0-43
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 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 CL1.0-44 TA1.0-46

(continued)

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

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,

(continued)

1.1 Definitions	
	channels, or other designated components are tested during *n* Surveillance Frequency intervals,
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~~. 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. TA1.0-32

CL	37	The definition for ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME was not added to the new specifications. The current Prairie Island Technical Specifications do not require ESF response time testing. This test would impose a significant change in the plant test program beyond the currently licensed requirements. For these reasons the ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME test definition was not included in the new Technical Specifications.
CL	38	This definition is not contained in the Prairie Island Current Technical Specifications. The definition of L_a is contained in the Containment Leakage Rate Testing Program required by Specification 5.5.15; therefore, it is not included in Definitions section of the new Technical Specifications. This change is also consistent with approved TSTF-52, Revision 3 which deleted the definition of L_a from NUREG-1431.
CL	39	The phrase "from the RCS" was added to the LEAKAGE definition to clarify the applicability of this definition.

SURVEILLANCE REQUIREMENTS

----------NOTE----------
During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify $F_Q^C(Z)$ is within limit.	Once after each refueling prior to THERMAL POWER exceeding 75% RTP AND Once within 12 hours after achieving equilibrium conditions after exceeding, by ≥ 10% RTP, the THERMAL POWER at which $F_Q^C(Z)$ was last verified AND 31 effective full power days (EFPD) thereafter

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.4 ----------NOTE---------- THERMAL POWER does not have to be reduced to comply with this Required Action. ---------- Perform SR 3.2.2.1.	 Prior to THERMAL POWER exceeding 50% RTP AND Prior to THERMAL POWER exceeding 75% RTP AND 24 hours after THERMAL POWER reaching ≥95% RTP
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 2.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.2.1 Verify $F^N_{\Delta H}$ is within limits specified in the COLR.	Once after each refueling prior to THERMAL POWER exceeding 75% RTP AND 31 EFPD thereafter

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.4.1 ----------NOTES---------- 1. With input from one Power Range Neutron Flux channel inoperable and THERMAL POWER ≤ 85% RTP, the remaining three power range channels can be used for calculating QPTR. 2. SR 3.2.4.2 may be performed in lieu of this Surveillance. ---------- Verify QPTR is within limit by calculation.	7 days
SR 3.2.4.2 ----------NOTE---------- Not required to be performed until 12 hours after input from one or more Power Range Neutron Flux channels are inoperable with THERMAL POWER > 85% RTP. ---------- Verify QPTR is within limit using the movable incore detectors or thermocouples.	12 hours

BASES

ACTIONS

B.1 (continued)

based on operating experience regarding the amount of time required to reach the reduced power level without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.2.4.1

SR 3.2.4.1 is modified by two Notes. Note 1 allows QPTR to be calculated with three power range channels if THERMAL POWER is ≤ 85% RTP and the input from one Power Range Neutron Flux channel is inoperable. Note 2 allows performance of SR 3.2.4.2 in lieu of SR 3.2.4.1.

This Surveillance verifies that the QPTR, as indicated by the Nuclear Instrumentation System (NIS) excore channels, is within its limits. The Frequency of 7 days takes into account other information and alarms available to the operator in the control room.

For those causes of a core power tilt that occur quickly (e.g., a dropped rod), there typically are other indications of abnormality that prompt a verification of core power tilt.

SR 3.2.4.2

This Surveillance is modified by a Note, which states that it is not required until 12 hours after the input from one or more Power Range Neutron Flux channel inputs are inoperable and the THERMAL POWER is > 85% RTP.

With an NIS power range channel inoperable, tilt monitoring for a portion of the reactor core becomes degraded. Large tilts are likely detected with the remaining channels, but the capability for detection of small power tilts in some quadrants is decreased. Performing

LCO3.2.4 Cond A

AND (Inserts TS 3.10-5 A and B) M3.2-41

LCO3.2.4 Cond B

If Required Action A and associated Completion Time are not met, reduce Thermal Power to ≤ 50% RTP within 4 hours. M3.2-41

SR3.2.4.1

New SR 3.2.4.1, Verify QPTR is within limit by calculation, every 7 days. Note 1, with input from one power range neutron flux channel inoperable and THERMAL POWER ≤ 85% RTP, this SR can be performed using the remaining three channels. Note 2, CTS 3.10.C.4 (ITS SR 3.2.4.2) may be performed in lieu of this SR. M3.2-43

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~~3.10.C.2. If the QUADRANT POWER TILT RATIO exceeds 1.02 but is less than 1.07 for a sustained period of more than 24 hours, or if such a tilt recurs intermittently, the reactor shall be brought to the HOT SHUTDOWN condition. Subsequent operation below 50% of rating, for testing, shall be permitted.~~ L3.2-44

~~3. Except for PHYSICS TESTS if the QUADRANT POWER TILT RATIO exceeds 1.07, the reactor shall be brought to the HOT SHUTDOWN condition. Subsequent operation below 50% of rating, for testing, shall be permitted.~~ L3.2-44

SR3.2.4.2

~~4.~~ Note, not required to be performed until 12 hours after ~~If~~ the core is operating above 85% power with one or more excore nuclear channel input inoperable, ~~then~~ the core quadrant power balance shall M3.2-46

A3.2-58

R-13

be determined each shift ~~daily and after a 10% power change~~ using either ~~2~~ movable detectors or ~~4~~ core thermocouples ~~per quadrant, per Specification 3.11~~. LR3.2-47

Addressed Elsewhere

D. Rod Insertion Limits

1. The shutdown rods shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT when the reactor is critical or approaching criticality.

2. When the reactor is critical or approaching criticality, the control banks shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT.

3. Insertion limits do not apply during PHYSICS TESTS or during periodic exercise of individual rods. The shutdown margin specified in the Core Operating Limits Report must be maintained except for low power PHYSICS TESTING. For this test the reactor may be critical with all but one high worth full length control rod inserted for a period not to exceed 2 hours per year provided a rod drop test is run on the high worth full-length rod prior to this particular low power PHYSICS TEST.

NSHD Category	Change Number 3.2-	Discussion of Change
M	15	CTS 3.10.B.3(a). CTS requires shutdown to MODE 3 within 24 hours when the conditions of CTS 3.10.B.3 (a) are not met. A new Condition for ITS has been included which will require shutdown to MODE 2 in 6 hours when the Required Actions are not met. The less restrictive aspects of this change, shutdown to MODE 2 versus MODE 3, are considered in DOC L3.2-17. The change to require shutdown within 6 hours is a more restrictive change since CTS directs the operators to CTS 3.10.B.3(c) which allows 24 hours. This change is acceptable and does not cause unsafe plant operating conditions because 6 hours is adequate time to shutdown to MODE 2 in an orderly, planned manner without challenging plant systems. This change is consistent with the guidance of NUREG-1431.
M	16	CTS 3.10.B.3.(a) and 3.10.B.3.(b). New action statements are included to be consistent with the guidance of NUREG-1431 LCO 3.2.1 Condition A as modified by approved TSTF-95 which requires performance of SR 3.2.1.1 and 3.2.1.2 to determine the hot channel factors. Since these are new explicit requirements in ITS LCO 3.2.1, this is a more restrictive change. This change is acceptable and will not cause unsafe operating conditions because, under CTS, the actions required by these SRs would normally be performed in order to determine that TS requirements are met prior to increasing power level, even though they are not explicitly required.

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". This change conforms to the layout of the ISTS. Since CTS allows performance of this test daily, this revised Note is also more restrictive. 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
R	49	(continued) non-significant risk contributor. Likewise, the core thermocouple system is not modeled in the PI site-specific PRA since it is a non-significant risk contributor. Thus, these systems do not satisfy Criterion 4. For the reasons given above, the moveable detector and core thermocouple instrumentation systems do not satisfy the screening criteria for inclusion in the TS and have been relocated to the TRM which by reference is part of the USAR. Changes to the TRM will be controlled under the provisions of 10CFR50.59.
L	50	CTS 3.10.B.1. CTS requires hot channel factor limits to be met "At all times, except during low power PHYSICS TESTING". Clearly, "at all times" cannot be taken literally since at some power level the energy in the core is low enough that these limits are no longer applied. In accordance with the guidance of NUREG-1431, a more precise applicability is defined in ITS for hot channel factor limits as MODE 1. Since MODE 1 starts at 5% power the reactor may be critical and heat may be generated in the reactor in ITS when hot channel factor limits are not required. Since CTS requires these limits to be met at all times, except for low power Physics Testing this may be a less restrictive change. This change is acceptable because below 5% RTP there is insufficient stored energy in the fuel or insufficient energy being transferred to the reactor coolant to require a limit on the distribution of core power. Therefore, below 5% RTP, fuel design criteria are not exceeded and the accident analysis assumptions remain valid without these limits.

NSHD Category	Change Number 3.2-	Discussion of Change
M	51	New Requirement. An additional performance of the SR 3.2.1.2 to determine Fwq is required to be consistent with the guidance of NUREG-1431. Fwq is undefined until equilibrium conditions are reached, therefore, this requirement to perform SR 3.2.1.2 allows 12 hours after achieving equilibrium until the SR must be performed. Based on operating experience, 12 hours is sufficient time for core parameters to stabilize and perform this SR. Since this change requires an additional performance of the SR after each startup within a specific time limit, this change is more restrictive. This change will not cause a safety problem since this is an activity which is currently performed at the plant and conducting this SR following each refueling will not pose a safety concern.
M	52	CTS 3.10.B.2. A new SR Note is included in CTS 3.10.B.2 which requires performance of the SRs 3.2.1.1 and 3.2.1.2 (obtaining power distribution maps) at the beginning of each cycle. THERMAL POWER may be increased until an equilibrium power level has been achieved at which a power distribution map can be obtained. Since this is a new TS requirement to perform these SRs this is a more restrictive change. Current plant procedures require verification of power distribution at various power levels during power ascension. This change may require obtaining additional power distribution maps. This is acceptable since performance of these SRs is a verification which does not affect plant power operation and does not place the plant in an unsafe condition.

NSHD Category	Change Number 3.2-	Discussion of Change
M	53	CTS 3.10.B.3(a). A new requirement has been included in 3.10.B.3(a) to perform SR 3.2.2.1 within 24 hours. This is more restrictive since CTS does not require performance of SR 3.2.2.1 within 24 hours. The Completion Time of 24 hours is acceptable because of the increase in the DNB margin at lower power levels and the low probability of having a DNB limiting event within the 24 hour period. This change is acceptable because performance of this SR within 24 hours is a conservative action which will assure the plant is operated in a safe manner. This change is consistent with the guidance of NUREG-1431.
M	54	CTS 3.10.B.3(a) and 3.10.B.3(c). A new Note has been included in both CTS 3.10.B.3(a) and 3.10.B.3(c) which requires SR 3.2.2.1 to be performed whenever this condition, LCO 3.2.2 Condition A, is entered. This is more restrictive since CTS does not explicitly require performance of the SR whenever these CTS actions are entered. Verification that the nuclear enthalpy rise hot channel factor is within limits (SR 3.2.2.1) after an out of limit occurrence ensures that the cause that led to exceeding the limit is corrected, and that subsequent operation proceeds within the LCO limit. This change is acceptable because performance of this SR whenever LCO 3.2.2 Condition A is entered is a conservative action which will assure the plant is operated in a safe manner and performance of this SR is a verification which does not affect plant power operation and does not place the plant in an unsafe condition.. This change is consistent with the guidance of NUREG-1431.

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 75% RTP and 24 hours after reaching greater than or equal to 95% RTP. These performances, and performance prior to exceeding 50% RTP, 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.

NSHD Category	Change Number 3.2-	Discussion of Change
M	57	New Requirement. In conformance with the guidance of NUREG-1431, a Note is included for ITS SR 3.2.3.2 which allows a target flux difference to be provided after each refueling outage based on desgin predictions. Since this Note is not included in CTS, this is a more restrictive change. Note that predicted target flux differences are not addressed in the NMC methodology for AFD. This change is acceptable since a target flux difference based on design predictions will provide additional guidance to the operators during power ascension following a refueling outage. This change supports safe operation of the plant.
A	58	CTS 3.10.C.4. The Note which specifies when other means of determining QPTR has been revised to inlcude one "or more" excore nuclear channel input inoperable. NMC has determined that one or more inputs to the QPTR monitor may be inoperable and the OPERABILITY requirements of CTS Table 3.5-2A, 2a (ITS Table 3.3.1-1, 2a) can still be met. Therefore it is acceptable to allow more than one input to be inoperable. Furthermore, once one input is inoperable, the CTS required actions are implemented and no further actions or change in actions are required when more than one input is inoperable. Therefore, this is an administrative change.

SURVEILLANCE REQUIREMENTS

----------NOTE----------

During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify $F_Q^C(Z)$ is within limit.	Once after each refueling prior to THERMAL POWER exceeding 75% RTP AND Once within [12] hours after achieving equilibrium conditions after exceeding, by ≥ 10% RTP, the THERMAL POWER at which $F_Q^C(Z)$ was last verified AND 31 effective full power days (EFPD) thereafter

R-13

PA3.2-67

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.~~43~~ --------NOTE-------- THERMAL POWER does not have to be reduced to comply with this Required Action. ---------- Perform SR 3.2.2.1.	Prior to THERMAL POWER exceeding 50% RTP R-13 AND Prior to THERMAL POWER exceeding 75% RTP R-13 AND 24 hours after THERMAL POWER reaching ≥ 95% RTP R-13
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 2.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.2.1	Verify $F^N_{\Delta H}$ is within limits specified in the COLR.	Once after each refueling prior to THERMAL POWER exceeding 75% RTP AND 31 EFPD thereafter

R-13

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.4.1 ----------NOTES---------- 1. With input from one Power Range Neutron Flux channel inoperable and THERMAL POWER ~~≤~~ ~~87~~5% RTP, the remaining three power range channels can be used for calculating QPTR. 2. SR 3.2.4.2 may be performed in lieu of this Surveillance ~~if adequate Power Range Neutron Flux channel inputs are not OPERABLE~~. ---------- Verify QPTR is within limit by calculation.	TA3.2-63 CL3.2-82 TA3.2-80 7 days ~~AND~~ TA3.2-76 ~~Once within 12 hours and every 12 hours thereafter with the QPTR alarm inoperable~~
SR 3.2.4.2 ----------NOTE---------- Not~~Only~~ required to be performed until 12 hours after~~if~~ input from one or more Power Range Neutron Flux channels are inoperable with THERMAL POWER ~~≥~~ ~~87~~5% RTP. ---------- Verify QPTR is within limit using the movable incore detectors or thermocouples.	TA3.2-80 ~~Once~~ ~~withi~~ TA3.2-63 ~~n~~ 12 ho CL3.2-82 urs CL3.2-83 ~~AND~~ R-13 ~~12 hours thereafter~~

BASES

SR 3.2.4.2

CL3.2-82

This Surveillance is modified by a Note, which states that it is not required until 12 hours after ~~only when~~ the input from one or more Power Range Neutron Flux channel inputs are inoperable and the THERMAL POWER is ~~>~~≥ ~~87~~5% RTP.

TA3.2-80

TA3.2-63

R-13

With an NIS power range channel inoperable, tilt monitoring for a portion of the reactor core becomes degraded. Large tilts are likely detected with the remaining channels, but the capability for detection of small power tilts in some quadrants is decreased. Performing SR 3.2.4.2 at a Frequency of 12 hours provides an accurate alternative means for ensuring that the QPTR ~~any tilt~~ remains within its limits.

PA3.2-126

For purposes of monitoring changes in radial core power distribution ~~the QPTR~~ when one power range channel is inoperable, at least 2 ~~the~~ moveable incore detectors or 4 thermocouples per quadrant may be used to calculate an incore core power tilt. This incore core power tilt may be used, instead of the excore detectors, to confirm that the QPTR is within the limits by comparing it to previous flux maps. ~~are used to confirm that the normalized symmetric power distribution is consistent with the indicated QPTR and any previous data indicating a tilt. The incore detector monitoring is performed with a full incore flux map or two sets of four thimble locations with quarter core symmetry. The two sets of four symmetric thimbles is a set of eight unique detector locations. These locations are C-8, E-5, E-11, H-3, H-13, L-5, L-11, and N-8 for three and four loop cores.~~

CL3.2-83

CL3.2-127

(continued)

Difference Category	Difference Number 3.2-	Justification for Differences
PA	68	NUREG-1431 Required Action A.1.1 for LCO 3.2.2 and associated Bases were not included. Associated numbering changes have also been made. The requirement to restore Fndh to within limit is not necessary since it is implicit that the out of limit condition would have to be corrected in order to restore compliance with the LCO. Per the Writer's Guide, restoration of compliance with the LCO is always an option and therefore it should not be included unless it is the only action to be taken. This RA adds no value to actions to be taken and is unnecessary. It may be detrimental to ITS in that it adds unnecessary complexity to the logic to the RAs for this Condition. Without ISTS RA A.1.1, the logic is significantly simplified and there is no loss of guidance for the operators.
	69	Not used.
	70	Not used.
PA	71	NUREG-1431 provides two specifications for AFD depending on the plant specific methodology for control. The method used at PI is closest to the CAOC method; thus, specification 3.2.3A has been included. The methodology name is not necessary in the title and has been deleted along with the "A" in the specification number.
TA	72	This change incorporates TSTF-164, Rev. 1.
	73	Not used.

Difference Category	Difference Number 3.2-	Justification for Differences
	79	Not used.
TA	80	This change incorporates TSTF-109, Rev. 0.
	81	Not used.
CL	82	CTS use 85% power level as the limit for requiring QPTR to be determined using incore instrumentation. Thus, 85% power is used as the point in the ITS for deciding which SR to perform.
CL	83	CTS specify use of incore thermocouple as one of the available instrumentation systems for verifying QPTR. Thus this option is retained in the ITS.
TA	84	Incorporates TSTF-136, Rev. 0.

Difference Category	Difference Number 3.2-	Justification for Differences
	130	Not used
PA	131	TSTF-290 introduces a new Condition B with Required Actions and Completion Times similar to those in Condition A. The Completion Times for Required Actions (RAs) A.1 and A.2 have been modified with the phrase "after each Fcq(Z) determination" since these actions may have to be re-entered when Fcq(Z) is determined as required by ITS LCO 3.2.4 RA A.3. In accordance with TSTF-314, ITS LCO 3.2.4 RA A.3 also requires determination of Fwq(Z). The new Condition B required by TSTF-290 is consistent with CTS requirements to reduce power if Fwq(Z) (CTS measured Fnq (equilibrium)) limits are not met. Since LCO 3.2.1 RA B require reduction in power if the Fwq(Z) limits are not met, the phrase "after each Fwq(Z) determination" is also required in ITS LCO 3.2.1 RA B.

PART G

PACKAGE 3.2

POWER DISTRIBUTION LIMITS

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)
(A3.2-00, A3.2-01, A3.2-03, A3.2-05, A3.2-06, A3.2-22, A3.2-23, A3.2-26, A3.2-27, A3.2-33, A3.2-37, A3.2-38, A3.2-58)

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

Table 3.3.1-1 (page 3 of 8)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
9. Pressurizer Water Level - High	1(e)	3	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	≤ 90%
10. Reactor Coolant Flow- Low	1(f)	3 per loop	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	≥ 91%
11. Loss of Reactor Coolant Pump (RCP)					
a. RCP Breaker Open	1(f)	1 per RCP	M	SR 3.3.1.14	NA
b. Under-frequency 4 kV Buses 11 and 12 (21 and 22)	1(f)	2 per bus	L	SR 3.3.1.9 SR 3.3.1.10	≥ 58.2 Hz
12. Undervoltage on 4 kV Buses 11 and 12 (21 and 22)	1(e)	2 per bus	L	SR 3.3.1.9 SR 3.3.1.10	≥ 76% rated bus voltage
13. Steam Generator (SG) Water Level - Low Low	1, 2	3 per SG	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	≥ 11.3%

(e) Above the P-7 (Low Power Reactor Trips Block) interlock.
(f) Above the P-8 (Power Range Neutron Flux) or P-7 (Low Power Reactor Trips Block) interlocks.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more Containment Pressure channel(s) inoperable.	----------NOTE---------- One channel may be bypassed for up to 4 hours for surveillance testing. ----------	
	E.1.1 Place inoperable channel(s) in trip.	6 hours
	AND	
	E.1.2 Verify one channel per pair OPERABLE.	6 hours
	OR	
	E.2.1 Be in MODE 3.	12 hours
	AND	
	E.2.2 Be in MODE 4.	18 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. One channel or train inoperable.	F.1 Restore channel or train to OPERABLE status. OR F.2.1 Be in MODE 3. AND F.2.2 Be in MODE 4.	48 hours 54 hours 60 hours
G. One train inoperable.	----------NOTE---------- One train may be bypassed for up to 8 hours for surveillance testing provided the other train is OPERABLE. ---------- G.1 Restore train to OPERABLE status. OR G.2.1 Be in MODE 3. AND G.2.2 Be in MODE 4.	 6 hours 12 hours 18 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. One channel inoperable.	----------NOTE---------- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. ----------	
	H.1 Place channel in trip.	6 hours
	OR	
	H.2 Be in MODE 3.	12 hours
I. One or both channel(s) inoperable on one bus.	----------NOTE---------- One inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. ----------	
	I.1 Place channel(s) in trip.	6 hours
	OR	
	I.2 Be in MODE 3.	12 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
J. One train inoperable.	J.1 ----------NOTE---------- One train may be bypassed for up to 8 hours for surveillance testing provided the other train is OPERABLE. ---------- Enter applicable Condition(s) and Required Action(s) for Auxiliary Feedwater (AFW) train made inoperable by ESFAS instrumentation.	Immediately
K. One channel inoperable.	K.1 Enter applicable Condition(s) and Required Action(s) for Auxiliary Feedwater (AFW) pump made inoperable by ESFAS instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.2-1 to determine which SRs apply for each ESFAS Function.

SURVEILLANCE		FREQUENCY
SR 3.3.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.2.2	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.2.3	Perform COT.	92 days
SR 3.3.2.4	----------NOTE---------- Verification of setpoint not required. ---------- Perform TADOT.	24 months

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.3.2.5	----------NOTE---------- Verification of setpoint not required. ---------- Perform TADOT.	24 months on a STAGGERED TEST BASIS
SR 3.3.2.6	----------NOTE---------- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ---------- Perform CHANNEL CALIBRATION.	24 months
SR 3.3.2.7	Perform MASTER RELAY TEST.	24 months
SR 3.3.2.8	Perform SLAVE RELAY TEST.	24 months

Table 3.3.2-1 (page 1 of 4)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Safety Injection					
a. Manual Initiation	1, 2, 3, 4	2	B	SR 3.3.2.5	NA
b. Automatic Actuation Relay Logic	1, 2, 3, 4	2 trains	C	SR 3.3.2.2 SR 3.3.2.8	NA
c. High Containment Pressure	1, 2, 3	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≤ 4.0 psig
d. Pressurizer Low Pressure	1, 2, 3[(a)]	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≥ 1760 psig
e. Steam Line Low Pressure	1, 2, 3[(a)]	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≥ 500[(b)] psig
2. Containment Spray					
a. Manual Initiation	1, 2, 3, 4	2	B	SR 3.3.2.4	NA
b. Automatic Actuation Relay Logic	1, 2, 3, 4	2 trains	C	SR 3.3.2.2 SR 3.3.2.8	NA

(a) Pressurizer Pressure ≥ 2000 psig.
(b) Time constants used in the lead/lag controller are $t_1 \geq 12$ seconds and $t_2 \leq 2$ seconds.

Table 3.3.2-1 (page 2 of 4)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Containment Spray (continued)					
c. High-High Containment Pressure	1, 2, 3	3 sets of 2	E	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≤ 23 psig
3. Containment Isolation					
a. Manual Initiation	1, 2, 3, 4	2	B	SR 3.3.2.4	NA
b. Automatic Actuation Relay Logic	1, 2, 3, 4	2 trains	C	SR 3.3.2.2 SR 3.3.2.8	NA
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
4. Steam Line Isolation					
a. Manual Initiation	1, 2(c), 3(c)	1/loop	F	SR 3.3.2.4	NA
b. Automatic Actuation Relay Logic	1, 2(c), 3(c)	2 trains	G	SR 3.3.2.2 SR 3.3.2.7	NA
c. High-High Containment Pressure	1, 2(c), 3(c)	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≤ 17 psig.

(c) Except when both Main Steam Isolation Valves (MSIVs) are closed.

Table 3.3.2-1 (page 3 of 4)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Steam Line Isolation (continued)					
d. High Steam Flow	1, 2(c), 3(c)(d)	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≤ 9.18E5 lb/hr at 1005 psig
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
and					
Coincident with Low-Low T_{avg}-	1, 2(c), 3(c)(d)	4	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≥ 536°F
e. High High Steam Flow	1, 2(c), 3(c)	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≤ 4.5E6 lb/hr at 735 psig
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
5. Feedwater Isolation					
a. Automatic Actuation Relay Logic	1 ,2(e), 3(e)	2 trains	G	SR 3.3.2.2 SR 3.3.2.7	NA
b. High- High Steam Generator (SG) Water Level	1, 2(e)	3 per SG	H	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≤ 90%

(c) Except when both MSIVs are closed.
(d) Reactor Coolant System (RCS) $T_{avg} \geq 520°F$.
(e) Except when all Main Feedwater Regulation Valves (MFRVs) and MFRV bypass valves are closed and de-activated or isolated by a closed manual valve.

Table 3.3.2-1 (page 4 of 4)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. Feedwater Isolation (continued)					
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
6. Auxiliary Feedwater					
a. Automatic Actuation Relay Logic	1, 2, 3	2 trains	J	SR 3.3.2.2	NA
b. Low-Low SG Water Level	1, 2, 3	3 per SG	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.6	≥ 11.3%
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
d. Undervoltage on 4 kV Buses 11 and 12 (21 and 22)(f)	1, 2	2 per bus	I	SR 3.3.2.4 SR 3.3.2.6	≥ 76% rated bus voltage
e. Trip of both Main Feedwater Pumps	1, 2(g)	2 per pump	K	SR 3.3.2.4	NA

(f) Start of Turbine Driven Pump only.
(g) This function may be bypassed during alignment and operation of the AFW System for SG level control.

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.

	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	----------NOTE---------- Neutron detectors are excluded from CHANNEL CALIBRATION. --- Perform CHANNEL CALIBRATION.	24 months

3.3 INSTRUMENTATION

3.3.4 4 kV Safeguards Bus Voltage Instrumentation

LCO 3.3.4 The following 4 kV safeguards bus voltage instrumentation Functions shall be OPERABLE:

a. Four channels per bus of the undervoltage Function;

b. Four channels per bus of the degraded voltage Function; and

c. One automatic load sequencer per bus.

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated Diesel Generator (DG) is required to be OPERABLE by LCO 3.8.2, "AC Sources-Shutdown."

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Only applicable to Functions a and b. ---------- One or more Functions with one channel per bus inoperable.	A.1 Place channel in bypass.	6 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable to Functions a and b. ---------- One or more Functions with two channels per bus inoperable.	B.1 Place one channel in bypass and place one channel in trip.	6 hours
	AND	
	B.2 Verify all channels associated with redundant load sequencer are OPERABLE.	6 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable in MODE 1, 2, 3, or 4. ---------- Required Action and associated Completion Time of Condition A or B not met. OR Function a or b or both with three channels per bus inoperable. OR One required automatic load sequencer inoperable.	C.1 Perform SR 3.3.4.2 for OPERABLE automatic load sequencer. AND C.2 Establish offsite paths block loading capability for associated 4 kV safeguards bus. AND C.3 Verify offsite paths for associated 4kV safeguards bus OPERABLE. AND C.4 Declare required feature(s) supported by the affected inoperable DG inoperable when its required redundant feature(s) is inoperable. AND C.5 Restore automatic load sequencer to OPERABLE status.	6 hours AND Once per 24 hours thereafter 8 hours 8 hours AND Once per 8 hours thereafter 4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s) 7 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 36 hours
E. ----------NOTE---------- Only applicable in MODES 5 or 6. ---------- Required Action and associated Completion Time of Condition A or B not met. OR Function a or b or both with three channels per bus inoperable. OR One required automatic load sequencer inoperable.	E.1 Enter applicable Condition(s) and Required Action(s) of LCO 3.8.2, "AC Sources – Shutdown" for the DG made inoperable from inoperable 4kV safeguards bus voltage instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.4.1	Perform COT on each undervoltage and degraded voltage channel.	31 days
SR 3.3.4.2	Perform ACTUATION LOGIC TEST on each automatic load sequencer.	31 days
SR 3.3.4.3	Perform CHANNEL CALIBRATION on undervoltage and degraded voltage channels with Allowable Value as follows: a. Undervoltage Allowable Value ≥ 3016 V and ≤ 3224 V with an undervoltage time delay of 4 ± 1.5 seconds. b. Degraded voltage Allowable Value ≥ 3944 V and ≤ 4002 V with a degraded voltage time delay of 8 ± 0.5 seconds and degraded voltage DG start time delay of 7.5 to 63 seconds.	24 months

3.3 INSTRUMENTATION

3.3.5 Containment Ventilation Isolation Instrumentation

LCO 3.3.5 The Containment Ventilation Isolation instrumentation for each Function in Table 3.3.5-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5-1.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required radiation monitoring channel inoperable.	A.1 Restore the affected channel to OPERABLE status.	4 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ----------NOTE---------- Only applicable in MODE 1, 2, 3, or 4 when the Containment Inservice Purge System is not isolated. ---------- One or more Functions with one or more manual or automatic actuation trains inoperable. OR Two required radiation monitoring channels inoperable. OR Required Action and associated Completion Time of Condition A not met.	B.1 Enter applicable Conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," for containment inservice (low flow) purge valves made inoperable by isolation instrumentation.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable during movement of irradiated fuel assemblies within containment when the Containment Purge or Inservice Purge Systems are not isolated. ---------- One or more Functions with one or more manual or automatic actuation trains inoperable. OR Two required radiation monitoring channels inoperable. OR Required Action and associated Completion Time for Condition A not met.	C.1 Place and maintain containment purge (high flow) and inservice (low flow) purge valves in closed position. OR C.2 Enter applicable Conditions and Required Actions of LCO 3.9.4, "Containment Penetrations," for containment purge (high flow) and inservice (low flow) purge valves made inoperable by isolation instrumentation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each Containment Ventilation Isolation Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.5.2	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.5.3	Perform COT.	31 days
SR 3.3.5.4	Perform SLAVE RELAY TEST.	24 months
SR 3.3.5.5	----------NOTE---------- Verification of setpoint is not required. --- Perform TADOT.	24 months
SR 3.3.5.6	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 (d)
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	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.
(d) Not developed in accordance with PI Setpoint Methodology.

3.3 INSTRUMENTATION

3.3.6 Control Room Special Ventilation System (CRSVS) Actuation Instrumentation

LCO 3.3.6 The CRSVS actuation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6-1.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one channel inoperable.	A.1 Place one CRSVS train in operation and close the opposite train outside air dampers.	7 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. One or more Functions with two channels inoperable.	B.1	Enter applicable Conditions and Required Actions for two CRSVS trains made inoperable by inoperable CRSVS actuation instrumentation.	Immediately
	OR		
	B.2	Place both trains in operation.	Immediately
C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1	Be in MODE 3.	6 hours
	AND		
	C.2	Be in MODE 5.	36 hours
D. Required Action and associated Completion Time for Condition A or B not met during movement of irradiated fuel assemblies.	D.1	Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.6-1 to determine which SRs apply for each CRSVS Actuation Function.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2	Perform COT.	92 days
SR 3.3.6.3	----------NOTE---------- Verification of setpoint is not required. ---------- Perform TADOT.	24 months
SR 3.3.6.4	Perform CHANNEL CALIBRATION.	24 months

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 (b)
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	XXX
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.
(b) Not developed in accordance with PI Setpoint Methodology

3.3 INSTRUMENTATION

3.3.7 Spent Fuel Pool Special Ventilation System (SFPSVS) Actuation Instrumentation

LCO 3.3.7 The SFPSVS actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.7-1.

ACTIONS

----------NOTE----------
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Place one SFPSVS train in operation.	7 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Two channels inoperable.	B.1.1 Place one SFPSVS train in operation. AND	Immediately
	B.1.2 Enter applicable Conditions and Required Actions of LCO 3.7.13, "Spent Fuel Pool Special Ventilation System (SFPSVS)," for one train made inoperable by inoperable actuation instrumentation. OR	Immediately
	B.2 Place both trains in operation.	Immediately
C. Required Action and associated Completion Time for Condition A or B not met during movement of irradiated fuel assemblies in the fuel pool enclosure.	C.1 Suspend movement of irradiated fuel assemblies in the fuel pool enclosure.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.7.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.7.2 Perform COT.	92 days
SR 3.3.7.3 Perform CHANNEL CALIBRATION.	24 months

Table 3.3.7-1 (page 1 of 1)
SFPSVS Actuation Instrumentation

FUNCTION	APPLICABLE MODES OR SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Fuel Pool Enclosure Radiation	1,2,3,4 (a)	1 per train	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.3	(b)

(a) During movement of irradiated fuel assemblies in the fuel pool enclosure.
(b) This value provided by the ODCM.

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 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

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY (continued)

c. Containment Isolation Safety Injection

Containment Isolation is initiated by all Functions that initiate SI via the SI signal. The CI requirements for these Functions are the same as the requirements for their SI function. Therefore, the requirements are not repeated in Table 3.3.2-1. Instead, Function 1, SI, is referenced for all initiating Functions and requirements.

4. Steam Line Isolation

Isolation of the main steam lines provides protection in the event of an SLB inside or outside containment. Rapid isolation of the steam lines will limit the steam break accident to the blowdown from one SG, at most. For an SLB upstream of the main steam isolation valves (MSIVs), inside or outside of containment, closure of the non-return check valves or the MSIVs limits the accident to the blowdown from only the affected SG. For an SLB downstream of the MSIVs, closure of the MSIVs terminates the accident.

a. Steam Line Isolation – Manual Initiation

Manual initiation of Steam Line Isolation can be accomplished from the control room. There are two switches in the control room, one for each MSIV. The LCO requires one channel per loop to be OPERABLE.

b. Steam Line Isolation – Automatic Actuation Relay Logic

The steam line isolation actuation logic consists of all circuitry housed within the ESF relay logic cabinets for the steam line isolation subsystem in the same manner as described for ESFAS Function 1.b.

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

4. Steam Line Isolation (continued)

Manual and automatic initiation of steam line isolation must be OPERABLE in MODES 1, 2, and 3 when there is sufficient energy in the RCS and SGs to have an SLB. This could result in the release of significant quantities of energy and cause a cooldown of the primary system. The Steam Line Isolation Function is required in MODES 2 and 3 unless both MSIVs are closed. In MODES 4, 5, and 6, there is insufficient energy in the RCS and SGs to experience an SLB releasing significant quantities of energy.

c. Steam Line Isolation – High High Containment Pressure

This Function actuates closure of the MSIVs in the event of a LOCA or an SLB inside containment to maintain at least one unfaulted SG as a heat sink for the reactor. Three OPERABEL channels are sufficient to satisfy protective requirements with two-out-of-three logic. The transmitters and electronics are located outside containment with the sensing line located inside containment. Thus, they will not experience any adverse environmental conditions, and the Allowable Value reflects only steady state instrument uncertainties.

High High Containment Pressure must be OPERABLE in MODES 1, 2, and 3, when there is sufficient energy in the primary and secondary side to pressurize the containment following a pipe break. This would cause a significant increase in the containment pressure, thus allowing detection and closure of the MSIVs. The Steam Line Isolation Function remains OPERABLE in MODES 2 and 3 unless both MSIVs are closed. In MODES 4, 5, and 6, there

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

4. Steam Line Isolation (continued)

is not enough energy in the primary and secondary sides to over pressurize containment.

d. Steam Line Isolation-High Steam Flow Coincident With Safety Injection and Coincident With Low Low T_{avg}

This Function provides closure of the MSIVs during an SLB or inadvertent opening of an SG safety valve to maintain at least one unfaulted SG as a heat sink for the reactor.

Two steam line flow channels per steam line are required OPERABLE for this Function. These are combined in a one-out-of-two logic to indicate high steam flow in one steam line. The steam flow transmitters provide control inputs, but the control function cannot cause the events that the function must protect against. Therefore, two channels are sufficient to satisfy redundancy requirements. The one-out-of-two configuration allows online testing because trip of one high steam flow channel is not sufficient to cause initiation.

The High Steam Flow Allowable Value is a ΔP corresponding to $\leq$ 9.18E5 lb/hr at 1005 psig.

The main steam line isolates if the High Steam Flow signal occurs coincident with an SI signal and Low Low RCS average temperature. The Main Steam Line Isolation Function requirements for the SI Functions are the same as the requirements for their SI function. Therefore, the requirements are not repeated in Table 3.3.2-1. Instead, Function 1, SI, is referenced for all initiating functions and requirements.

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

d. Steam Line Isolation- High Steam Flow Coincident With Safety Injection and Coincident With Low Low T_{avg} (continued)

Two channels of T_{avg} per loop are required to be OPERABLE. The T_{avg} channels are combined in a logic such that two channels tripped cause a trip for the parameter. The accidents that this Function protects against cause reduction of T_{avg} in the entire primary system. Therefore, the provision of two OPERABLE channels per loop in a two-out-of-four configuration ensures no single random failure disables the Low Low T_{avg} Function. The T_{avg} channels provide control inputs, but the control function cannot initiate events that the Function acts to mitigate. Therefore, additional channels are not required to address control protection interaction issues.

With the T_{avg} resistance temperature detectors (RTDs) located inside the containment, it is possible for them to experience adverse environmental conditions during an SLB event. Therefore, the Allowable Value reflects both steady state and adverse environmental instrumental uncertainties. This Function must be OPERABLE in MODES 1 and 2, and in MODE 3, when T_{avg} is above 520 °F, when a secondary side break or stuck open valve could result in rapid depressurization of the steam lines. The Steam Line Isolation Function is required to be OPERABLE in MODES 2 and 3 unless both MSIVs are closed. This Function is not required to be OPERABLE in MODES 4, 5, and 6 because there is insufficient energy in the secondary side of the unit to have an accident.

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY (continued)

e. Steam Line Isolation- High High Steam Flow Coincident With Safety Injection

This Function provides closure of the MSIVs during a SLB to maintain at least one unfaulted SG as a heat sink for the reactor.

Two steam line flow channels per steam line are required to be OPERABLE for this Function. These are combined in a one-out-of-two logic to indicate high steam flow in one steam line. The steam flow transmitters provide control inputs, but the control function cannot cause the events that the Function must protect against. Therefore, two channels are sufficient to satisfy redundancy requirements.

The Allowable Value for High High Steam Flow is a ΔP corresponding to $\leq$ 4.5E6 lb/hr at 735 psig.

With the transmitters located inside containment, it is possible for them to experience adverse environmental conditions during an SLB event. Therefore, the Allowable Value reflects both steady state and adverse environmental instrument uncertainties.

The main steam lines isolate if the High High Steam Flow signal occurs coincident with an SI signal. The Main Steam Line Isolation Function requirements for the SI Functions are the same as the requirements for their SI function. Therefore, the requirements are not repeated in Table 3.3.2-1. Instead, Function 1, SI, is referenced for all initiating functions and requirements.

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

e. Steam Line Isolation-High High Steam Flow Coincident With Safety Injection (continued)

This Function must be OPERABLE in MODES 1, 2, and 3 when a secondary side break could result in rapid depressurization of the steam lines unless both MSIVs are closed. This Function is not required to be OPERABLE in MODES 4, 5, and 6 because there is insufficient energy in the secondary side of the unit to have an accident.

5. Feedwater Isolation

The primary function of the Feedwater Isolation signal is to limit containment pressurization during an SLB. This Function also mitigates the effects of a high water level in the SGs, which could result in carryover of water into the steam lines and excessive cooldown of the primary system. The SG high water level is due to excessive feedwater flows.

The Function performs the following:

- Trips the main turbine;
- Trips the main feedwater (MFW) pumps; and
- Shuts the MFW regulating valves (MFRVs) and the MFRV bypass valves.

BASES

ACTIONS (continued)

D.1, D.2.1, and D.2.2

Condition D applies to:

- High Containment Pressure;
- Pressurizer Low Pressure;
- Steam Line Low Pressure;
- Steam Line Isolation High High Containment Pressure ;
- High Steam Flow Coincident With Safety Injection Coincident With Low Low T_{avg};
- High High Steam Flow Coincident With Safety Injection; and
- Low Low SG Water level.

If one channel is inoperable, 6 hours are allowed to restore the channel to OPERABLE status or to place it in the tripped condition. Generally this Condition applies to functions that operate on two-out-of-three logic. Therefore, failure of one channel places the Function in a two-out-of-two configuration. One channel must be tripped to place the Function in a one-out-of-three configuration that satisfies redundancy requirements.

Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 6 hours requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours.

BASES

ACTIONS

D.1, D.2.1, and D.2.2 (continued)

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, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows the inoperable channel to be bypassed for up to 4 hours for surveillance testing of other channels. The 6 hours allowed to restore the channel to OPERABLE status or to place the inoperable channel in the tripped condition, and the 4 hours allowed for testing, are justified in Reference 5.

E.1.1, E.1.2, E.2.1, and E.2.2

Condition E applies to CS High High Containment Pressure which is a one-out-of-two channels, three-out-of-three sets logic. Condition E addresses the situation where containment pressure channels are inoperable. With channel(s) tripped, one or more of the three sets is actuated.

Restoring the channel to OPERABLE status, or placing the other inoperable channel in the trip condition and verifying one channel in each pair remains OPERABLE within 6 hours, is sufficient to assure that the Function remains OPERABLE. The Completion Time is further justified based on the low probability of an event occurring during this interval. Failure to restore the inoperable channel(s) to OPERABLE status, or place it in the tripped condition within 6 hours, requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours. The allowed

BASES

ACTIONS

E.1.1, E.1.2, E.2.1, and E.2.2 (continued)

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, this Function is a no longer required OPERABLE.

The Required Actions are modified by a Note that allows one channel to be bypassed at any time for up to 4 hours for surveillance testing. Placing a channel in the bypass condition for up to 4 hours for testing purposes is acceptable based on the results of Reference 5.

F.1, F.2.1, and F.2.2

Condition F applies to Manual Initiation of Steam Line Isolation. If a train or channel is inoperable, 48 hours are allowed to return it to OPERABLE status. The specified Completion Time is reasonable considering the nature of this Function and the low probability of an event occurring during this interval. If the Function cannot be returned to OPERABLE status, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power in an orderly manner and without challenging unit systems. In MODE 4, the unit does not have any analyzed transients or conditions that require the explicit use of the protection functions noted above.

BASES

ACTIONS (continued)

G.1, G.2.1 and G.2.2

Condition G applies to the automatic actuation relay logic for the Steam Line Isolation and Feedwater Isolation Functions. The action addresses the train orientation of the ESF relay logic for these functions. If one train is inoperable, 6 hours are allowed to restore the train to OPERABLE status. The Completion Time for restoring a train to OPERABLE status is reasonable considering that there is another train OPERABLE, and the low probability of an event occurring during this interval. If the train cannot be returned to OPERABLE status, the unit must be brought to MODE 3 within the next 6 hours and MODE 4 within the following 6 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. Placing the unit in MODE 4 removes all requirements for OPERABILITY of the actuation function. In this MODE, the unit does not have analyzed transients or conditions that require the explicit use of the Functions noted above.

The Required Actions are modified by a Note that allows one train to be bypassed for up to 8 hours for surveillance testing provided the other train is OPERABLE. This allowance is based on the reliability analysis (Ref. 5) assumption that 8 hours is the average time required to perform relay logic train surveillance.

H.1 and H.2

Condition H applies to High High SG Water Level.

If one channel is inoperable, 6 hours are allowed to restore one channel to OPERABLE status or to place it in the tripped condition. If placed in the tripped condition, the Function is then in a partial trip condition where one-out-of-two logic will result in actuation.

BASES

ACTIONS

H.1 and H.2 (continued)

The 6 hour Completion Time is justified in Reference 5. Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 6 hours requires the unit to be placed in MODE 3 within the following 6 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, this Function is no longer required OPERABLE.

The Required Actions are modified by a Note that allows the inoperable channel to be bypassed for up to 4 hours for surveillance testing of other channels. The 6 hours allowed to place the inoperable channel in the tripped condition, and the 4 hours allowed for a second channel to be in the bypassed condition for testing, are justified in Reference 5.

I.1 and I.2

Condition I applies to Undervoltage on Buses 11 and 12 (21 and 22).

If one or both channel(s) on one bus is inoperable, 6 hours are allowed to restore the channel(s) to OPERABLE status or to place it in the tripped condition. If placed in the tripped condition, the Function is then in a partial trip condition where one-out-of-two channels on the other bus will result in actuation. The 6 hour Completion Time is justified in Reference 5. Failure to restore the inoperable channel(s) to OPERABLE status or place it in the tripped

BASES

ACTIONS

I.1 and I.2 (continued)

condition within 6 hours requires the unit to be placed in MODE 3 within the following 6 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, this Function is no longer required OPERABLE.

The Required Actions are modified by a Note that allows the inoperable channel to be bypassed for up to 4 hours for surveillance testing of other channels. The 6 hours allowed to place the inoperable channel in the tripped condition, and the 4 hours allowed for a second channel to be in the bypassed condition for testing, are justified in Reference 5.

J.1 and K.1

Conditions J and K apply to the AFW automatic actuation relay logic function and to the AFW pump start on trip of both MFW pumps function.

The OPERABILITY of the AFW System must be assured by allowing automatic start of the AFW System pumps. If a logic train or channel is inoperable, the applicable Condition(s) and Required Action(s) of LCO 3.7.5, "Auxiliary Feedwater (AFW) System," are entered for the associated AFW Train or pump.

Required Action J.1 is modified by a note that allows placing a train in the bypass condition for up to 8 hours for surveillance testing provided the other train is OPERABLE. This is necessary to allow testing reactor trip system logic which is in the same cabinet with AFW logic. This is acceptable since the other AFW system train is OPERABLE and the probability for an event requiring AFW during this time is low.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.1 (continued)

indication and reliability. 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.

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 3.3.2.2

SR 3.3.2.2 is the performance of an ACTUATION LOGIC TEST. The ESF relay logic is tested every 31 days on a STAGGERED TEST BASIS. The train being tested is placed in the test condition, thus preventing inadvertent actuation. All possible logic combinations are tested for each ESFAS function. The test includes actuation of master and slave relays whose contact outputs remain within the relay logic. The test condition inhibits actuation of the master and slave relays whose contact outputs provide direct ESF equipment actuation. Where the relays are not actuated, the test circuitry provides a continuity check of the relay coil. This verifies that the logic is OPERABLE and that there is a signal path to the output relay coils.

Functions which do not test the master and slave relays with the logic specify separate master and slave relay tests in Table 3.3.2-1.

The Frequency of every 31 days on a STAGGERED TEST BASIS is adequate. It is based on industry operating experience, considering instrument reliability and operating history data.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.2.3

SR 3.3.2.3 is the performance of a COT.

A COT is performed on each required channel to ensure the entire channel will perform the intended Function. Setpoints must be found within the Allowable Values specified in Table 3.3.2-1. A successful test of the required contact(s) of a channel (logic input) relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions.

The difference between the current "as found" values and the previous test "as left" values must be consistent with the drift allowance used in the setpoint methodology. The setpoint shall be left set consistent with the assumptions of the current unit specific setpoint methodology.

The "as found" and "as left" values must also be recorded and reviewed for consistency with the assumptions of the surveillance interval extension analysis (Ref. 5) when applicable.

The Frequency of 92 days is justified in Reference 5.

SR 3.3.2.4

SR 3.3.2.4 is the performance of a TADOT. This SR is a check of the following ESFAS Instrumentation Functions:

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.4 (continued)

1. CS Manual Initiation;

2. CI Manual Initiation;

3. Manual isolation of the steam lines;

4. AFW pump start on Undervoltage on Buses 11 and 12 (21 and 22); and,

5. AFW pump start on trip of both MFW pumps.

This SR is performed every 24 months. A successful test of the required contact(s) of a channel (logic input) relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The Frequency is adequate, based on industry operating experience and is consistent with the typical refueling cycle. The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions, except the undervoltage start of the AFW pumps, have no associated setpoints. For the undervoltage start of the AFW pumps, setpoint verification is covered by other SRs.

SR 3.3.2.5

This SR is the performance of a TADOT to check the Safety Injection Manual Initiation Function. It is performed every 24 months on a STAGGERED TEST BASIS. The Frequency is adequate, based on industry operating experience and is consistent with a typical refueling cycle.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.5 (continued)

The SR is modified by a Note that excludes verification of setpoints during the TADOT. The manual initiation Function has no associated setpoints.

SR 3.3.2.6

SR 3.3.2.6 is the performance of a CHANNEL CALIBRATION.

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 measured parameter within the necessary range and accuracy.

CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the unit specific setpoint methodology. The difference between the current "as found" values and the previous test "as left" values must be consistent with the drift allowance used in the setpoint methodology.

The Frequency of 24 months is based on the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology.

This SR is modified by a Note stating that this test should include verification that the time constants are adjusted to the prescribed values where applicable.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.2.7

SR 3.3.2.7 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation. This test is performed every 24 months.

SR 3.3.2.8

SR 3.3.2.8 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.

REFERENCES

1. AEC "General Design Criteria for Nuclear Power Plant Construction Permits," Criterion 15, issued for comment July 10, 1967, as referenced in USAR Section 1.2.

2. USAR, Section 7.

3. USAR, Section 14.

4. "Engineering Manual Section 3.3.4.1,Engineering Design Standard for Instrument Setpoint/Uncertainty Calculations".

5. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.

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.

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 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

APPLICABLE SAFETY ANALYSES (continued)

unit protection in the event of any of the analyzed accidents discussed in Reference 3, in which a loss of offsite power is assumed.

The delay times assumed in the safety analysis for the ESF equipment include the 10 second DG start delay, and the appropriate sequencing delay, if applicable.

The 4 kV safeguards bus voltage instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The LCO for 4 kV safeguards bus voltage instrumentation requires that four channels per bus of both the UV and DV Functions, and one automatic load sequencer per bus, shall be OPERABLE in MODES 1, 2, 3, and 4. In MODES 5 and 6, the four channels and the associated load sequencer must be OPERABLE whenever the associated DG is required to be OPERABLE to ensure that the automatic start of the DG is available when needed. A UV or DV channel is OPERABLE when it is capable of actuating the load sequencer. Loss of the 4 kV Safeguards Bus Voltage Instrumentation Function could result in the delay of safety systems initiation when required. This could lead to unacceptable consequences during accidents.

A channel is OPERABLE with a trip setpoint outside its calibration tolerance band provided the trip setpoint "as-found" value does not exceed its associated Allowable Value and provided the trip setpoint "as-left" value is adjusted to within the calibration tolerance band.

APPLICABILITY

The 4 kV Safeguards Bus Voltage Instrumentation Functions are required in MODES 1, 2, 3, and 4 because ESF Functions are designed to provide protection in these MODES. Actuation in MODE 5 or 6 is required whenever the required DG must be OPERABLE so that it can perform its function on an UV or degraded power to the safeguards bus.

BASES

ACTIONS (continued)

B.1 and B.2

Condition B applies when one or more Functions with two channels per bus inoperable.

Required Action B.1 requires placing one channel in bypass and the other inoperable channel in trip. Required Action B.2 requires the verification that all channels associated with the redundant load sequencer are OPERABLE. The 6 hour Completion Time should allow ample time to repair most failures and takes into account the low probability of an event requiring a DG start occurring during this interval.

Condition B has been modified by a Note indicating that this Condition is only applicable to Functions a and b.

C.1

Condition C applies in MODE 1, 2, 3, or 4 when Required Action and associated Completion Time of Condition A or B are not met, when Functions a or b or both with three channels per bus inoperable, or when one required load sequencer is inoperable.

Required Action C.1 requires the performance of SR 3.3.4.2 for the OPERABLE automatic load sequencer. The 6 hour Completion Time provides a reasonable time for performance of the SR. Performance of this SR on a more frequent basis, once per 24 hours thereafter, ensures that the OPERABLE load sequencer remains OPERABLE while in this Condition. If the redundant train load sequencer fails to pass the SR it is inoperable and Condition D must then be entered.

BASES

ACTIONS (continued)

C.2 and C.3

To ensure a highly reliable power source remains with an inoperable load sequencer, the offsite paths for the associated 4 kV safeguards bus must be capable of accepting the block loading that could result from an SI signal and availability must be verified on a more frequent basis. The 8 hour Completion Time is consistent with the Completion Time for an inoperable 4 kV safeguards bus, as required in LCO 3.8.9, "Distribution Systems - Operating." The verification of the operability of the offsite paths for associated 4kV safeguards on a more frequent basis, once per 8 hours thereafter, ensures that the OPERABLE paths remain OPERABLE while in this Condition.

An inoperable load sequencer results in associated DG unavailability for automatic start, connection to the bus and load reception. In Condition C, the remaining OPERABLE DG and offsite paths are adequate to supply electrical power to the onsite Safeguards AC Distribution System.

Offsite power block loading capability is established by administrative control of selected distribution system loads to reduce potential starting inrush.

C.4

Required Action C.4 is intended to provide assurance that a loss of offsite power, during the period that a load sequencer is inoperable and the associated DG is inoperable for automatic start, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related trains. Redundant required feature failures consist of inoperable features associated with a train, redundant to the train that has an inoperable DG.

BASES

ACTIONS C.4 (continued)

The Completion Time for Required Action C.4 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. An inoperable DG exists; and

b. A required feature on the other train (Train A or Train B) is inoperable.

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

Discovering one required DG inoperable coincident with one or more inoperable required support or supported features, or both, that are associated with the OPERABLE DG, results

in starting the Completion Time for the Required Action. Four hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

In this Condition, the remaining OPERABLE DG and paths are adequate to supply electrical power to the onsite Safeguards Distribution System. Thus, on a component basis, single failure protection for the required feature's function may have been lost;

BASES

ACTIONS

C.4 (continued)

however, function has not been lost. The 4 hour Completion Time takes into account the OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

C.5

Required Action C.5 requires that the automatic load sequencer be restored to OPERABLE status. The 7 day Completion Time allows a reasonable time to repair the inoperable load sequencer. The Completion Time is consistent with the Completion Time to restore an inoperable DG, as required in LCO 3.8.1, "AC Sources - Operating."

D.1

Condition D applies when the Required Action and associated Completion Time of Condition C are not met. The unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours.

E.1

Required Action E.1 requires that LCO 3.8.2 "AC Sources-Shutdown" Condition(s) and Required Action(s) for the DG made inoperable from inoperable 4kV safeguards bus voltage

BASES

ACTIONS

E.1 (continued)

instrumentation be entered immediately when Required Action and Completion Time of Condition A or B are not met, or Functions a and b or both with three channels per bus inoperable, or when one required automatic load sequencer is inoperable in MODE 5 or 6. The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required AC electrical power sources should be completed as quickly as possible in order to minimize the time during which the unit safety systems may be without sufficient power.

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1

SR 3.3.4.1 is the performance of a COT every 31 days.
A COT is performed on each required undervoltage and degraded voltage relay channel to ensure they will perform the intended function. For these tests, the relay trip setpoints are verified and adjusted as necessary. The Frequency is based on the known reliability of the relays and load sequencers and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

SR 3.3.4.2

SR 3.3.4.2 is the performance of an ACTUATION LOGIC TEST on each required load sequencer every 31 days.

The test verifies that the logic functions provided by the load sequencer for voltage and load restoration are OPERABLE. The Frequency is based on the known reliability of the load sequencers and has been shown to be acceptable through operating experience.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.4.3

SR 3.3.4.3 is the performance of a CHANNEL CALIBRATION on the undervoltage and degraded voltage channels.

The setpoints, as well as the response to a UV and a DV test, shall include a single point verification that an actuation occurs within the required time delay, as shown in Reference 1.

The first degraded voltage time delay of 8 ± 0.5 seconds has been shown by testing and analysis to be long enough to allow for normal transients (i.e., motor starting and fault clearing). It is also longer than the time required to start the safety injection pump at minimum voltage. Following this delay, an alarm in the control room alerts the operator to the degraded condition. The subsequent occurrence of a safety injection actuation signal would immediately separate the affected bus or buses from the offsite power system. The degraded voltage DG start time delay range of 7.5 to 63 seconds is a limited duration such that the permanently connected Class 1E loads will not be damaged. Following this delay, if the operator has failed to restore adequate voltages, the affected bus or buses would be automatically separated from the offsite power system. The second time delay is specified here as an allowable range to be longer than the first time delay and shorter than the time which could cause damage to the permanently connected Class 1E loads.

A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the voltage relay channel. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.4.3 (continued)

The Frequency of 24 months is based on operating experience and consistency with the typical PI refueling cycle and is justified by the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

REFERENCES

1. USAR, Section 8.4.
2. "Engineering Manual Section 3.3.4.1,Engineering Design Standard for Instrument Setpoint/Uncertainty Calculations".
3. USAR, Section 14.

BASES

LCO (continued)

3. High Radiation in Exhaust Air

The LCO specifies two required channels of radiation monitors 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

APPLICABILITY (continued)

Automatic Actuation Relay Logic, and High Radiation in Exhaust Air Functions are required OPERABLE during movement of irradiated fuel assemblies within containment, when the Containment Purge (high flow) and Inservice (low flow) Purge Systems are not isolated. Under these conditions, the potential exists for an accident that could release fission product radioactivity into containment. Therefore, the CVI instrumentation must be OPERABLE in these MODES.

While in MODES 5 and 6 without irradiated fuel handling in progress, the CVI instrumentation need not be OPERABLE since the potential for radioactive releases is minimized and operator action is sufficient to ensure post accident offsite doses are maintained within the limits of Reference 1.

ACTIONS

The most common cause of channel inoperability is outright failure or drift of the process module sufficient to exceed the tolerance allowed by unit specific calibration procedures. Typically, the drift is found to be small and results in a delay of actuation rather than a total loss of function. This determination is generally made during the performance of a COT, when the process instrumentation is set up for adjustment to bring it within specification. If the trip setpoint is less conservative than the Allowable Value, the channel must be declared inoperable immediately and the appropriate Condition entered.

A Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.5-1. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

BASES

ACTIONS (continued)

A.1

Condition A applies to the failure of one CVI radiation monitor channel.

The 4 hours allowed to restore the affected channel is justified by the low likelihood of events occurring during this interval, and recognition that the remaining channels will respond to events.

B.1

Condition B applies to all CVI Functions and addresses the train orientation for these Functions.

If a train is inoperable, two required radiation monitoring channels are inoperable, or the Required Action and associated Completion Time of Condition A are not met, operation may continue as long as the Required Action for the applicable Conditions of LCO 3.6.3 is met for each valve made inoperable by failure of isolation instrumentation.

A Note is added stating that Condition B is only applicable in MODE 1, 2, 3, or 4 when the Containment Inservice Purge System is not isolated.

C.1 and C.2

Condition C applies to all CVI Functions and addresses the train orientation for these Functions. If a train is inoperable, two required monitoring channels are inoperable, or the Required Action and associated Completion Time of Condition A are not met, operation may continue as long as the Required Action to place and maintain containment purge (high flow) and inservice (low flow) purge and exhaust isolation valves in their closed position

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.1

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. This test includes actuation of the master relays whose contact outputs remain within the logic. The test condition inhibits actuation of the master 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 (continued)

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.5

SR 3.3.5.5 is the performance of a TADOT. This test is a check of the Manual Initiation Function and is performed every 24 months.The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.

The Frequency is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience.

SR 3.3.5.6

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 a measured parameter within the necessary range and accuracy.

The Frequency is consistent with the typical PI refueling cycle.

REFERENCES

1. 10 CFR 100.11.

B 3.3 INSTRUMENTATION

B 3.3.6 Control Room Special Ventilation System (CRSVS) Actuation Instrumentation

BASES

BACKGROUND

The CRSVS provides an enclosed control room environment from which the unit can be operated following an uncontrolled release of radioactivity. During normal operation, the Control Room Ventilation System provides control room ventilation. Upon receipt of an actuation signal, automatic control dampers of the associated train isolate the control room and direct a portion of recirculated air through redundant PAC filters before entry to the air handling units. This system is described in the Bases for LCO 3.7.10, "Control Room Special Ventilation System."

The actuation instrumentation consists of radiation monitors in the control room area. A high radiation signal from these detectors will initiate the associated train of the CRSVS. The CRSVS is also actuated by a safety injection (SI) signal. The SI Function is discussed in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation."

APPLICABLE SAFETY ANALYSES

The control room must be kept habitable for the operators stationed there during accident recovery and post accident operations.

The CRSVS acts to terminate the supply of unfiltered outside air to the control room and initiate filtration. These actions are necessary to ensure the control room is kept habitable for the operators stationed there during accident recovery and post accident operations by minimizing the radiation exposure of control room personnel.

In MODES 1, 2, 3, and 4, the radiation monitor actuation of the CRSVS is a backup for the SI signal actuation. This ensures

BASES

APPLICABLE SAFETY ANALYSES (continued)

initiation of the CRSVS during a loss of coolant accident or steam generator tube rupture.

The radiation monitor actuation of the CRSVS during movement of irradiated fuel assemblies is the primary means to ensure control room habitability in the event of a fuel handling accident.

The CRSVS actuation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The LCO requirements ensure that instrumentation necessary to initiate the CRSVS is OPERABLE.

1. Manual Initiation

   The LCO requires two channels OPERABLE. The operator can initiate the CRSVS at any time by using either of two switches in the control room. This action will cause actuation of all components in the same manner as any of the automatic actuation signals.

   The LCO for Manual Initiation ensures the proper amount of redundancy is maintained in the manual actuation circuitry to ensure the operator has manual initiation capability.

   Each channel consists of one switch and the interconnecting wiring to the actuation logic cabinet.

2. Control Room Radiation

   The LCO specifies two required Control Room Atmosphere Radiation Monitors, R23 and R24, to ensure that the radiation monitoring instrumentation necessary to initiate the CRSVS remains OPERABLE.

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 identifies an allowable value for the Control Room Atmosphere Radiation Monitor. 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

BASES

ACTIONS (continued)

Specification may be entered independently for each Function listed in Table 3.3.6-1 in the accompanying LCO. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

If one or more Functions has one channel inoperable, place one CRSVS train in operation with the opposite train outside air damper closed within 7 days. With one manual switch inoperable either train of CRSVS may be placed in operation. If one radiation monitoring channel is inoperable, the associated CRSVS train must be placed in operation and the outside air dampers associated with the opposite CRSVS train must be closed. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this Completion Time is the same as provided in LCO 3.7.10. This accomplishes the actuation instrumentation Function and places the unit in a conservative mode of operation.

B.1 and B.2

Condition B applies when one or more Functions with two channels inoperable. The first Required Action is to immediately enter the applicable Conditions and Required Actions of LCO 3.7.10 for two CRSVS trains made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed upon train inoperability as discussed in the Bases for LCO 3.7.10.

Alternatively, both trains may be placed in operation with the outside air dampers closed. This ensures the CRSVS function is performed even in the presence of a single failure.

BASES

ACTIONS (continued)

C.1 and C.2

Condition C applies when the Required Action and associated Completion Time for Condition A or B have not been met and the unit is in MODE 1, 2, 3, or 4. The unit must be brought to a MODE in which the LCO requirements are not applicable. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D.1

Condition D applies when the Required Action and associated Completion Time for Condition A or B have not been met when irradiated fuel assemblies are being moved. Movement of irradiated fuel assemblies must be suspended immediately to reduce the risk of accidents that would require CRSVS actuation.

SURVEILLANCE REQUIREMENTS

A Note has been added to the SR Table to clarify that Table 3.3.6-1 determines which SRs apply to which CRSVS Actuation Functions.

SR 3.3.6.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation 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. A

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.1 (continued)

CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

The Frequency is based on operating experience that demonstrates channel failure is rare.

SR 3.3.6.2

A COT is performed once every 92 days on each required channel to ensure the entire channel, including the actuation devices, will perform the intended function. This test verifies the capability of the instrumentation to provide the CRSVS actuation. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The setpoints are left consistent with the unit specific calibration procedure tolerance. The Frequency is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.

SR 3.3.6.3

SR 3.3.6.3 is the performance of a TADOT. This test is a check of the Manual Actuation Functions and is performed every 24 months. Each Manual Actuation Function is tested up to, and including, the master relay coils. In some instances, the test includes actuation of the end device (i.e., pump starts, valve cycles, etc.).

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.3 (continued)

The Frequency is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience. The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them.

SR 3.3.6.4

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 a measured parameter within the necessary range and accuracy.

The Frequency is consistent with the typical industry refueling cycle.

REFERENCES None.

B 3.3 INSTRUMENTATION

B 3.3.7 Spent Fuel Pool Special Ventilation System (SFPSVS) Actuation Instrumentation

BASES

BACKGROUND

The SFPSVS ensures that radioactive materials in the fuel pool enclosure atmosphere following a fuel handling accident are filtered and adsorbed prior to exhausting to the environment. The system is described in the Bases for LCO 3.7.13, "Spent Fuel Pool Special Ventilation System (SFPSVS)." The system initiates filtered ventilation of the fuel pool enclosure automatically following receipt of a high radiation signal.

High radiation, monitored by either of two monitors (R-25 and R-31), provides SFPSVS initiation. Each SFPSVS train is initiated by high radiation detected by a channel dedicated to that train. There are a total of two channels, one for each train. High radiation detected by either monitor initiates fuel pool enclosure isolation and starts the SFPSVS. These actions function to prevent exfiltration of contaminated air by initiating filtered ventilation, which imposes a negative pressure on the fuel pool enclosure.

APPLICABLE SAFETY ANALYSES

The SFPSVS ensures that radioactive materials in the fuel pool enclosure atmosphere following a fuel handling accident or a LOCA are filtered and adsorbed prior to being exhausted to the environment. This action reduces the radioactive content in the fuel pool enclosure exhaust following a LOCA or fuel handling accident so that offsite doses remain within the limits specified in 10 CFR 100 (Ref. 1).

The SFPSVS actuation instrumentation satisfies Criterion 3 of 10CFR50.36(c)(2)(ii).

BASES (continued)

LCO

The LCO requirements ensure that instrumentation necessary to initiate the SFPSVS is OPERABLE.

1. Fuel Pool Enclosure Radiation

   The LCO specifies two required Radiation Monitor channels (R-25 and R-31) to ensure that the radiation monitoring instrumentation necessary to initiate the SFPSVS remains OPERABLE.

   The allowable value for these radiation monitors is provided by the Prairie Island Offsite Dose Calculation Manual (ODCM).

APPLICABILITY

The manual SFPSVS initiation must be OPERABLE in MODES 1, 2, 3, and 4 and when moving irradiated fuel assemblies in the fuel pool enclosure, to ensure the SFPSVS operates to remove fission products associated with leakage after a fuel handling accident.

High radiation initiation of the SFPSVS must be OPERABLE in any MODE during movement of irradiated fuel assemblies in the fuel pool enclosure to ensure automatic initiation of the SFPSVS when the potential for a fuel handling accident exists.

While in MODES 5 and 6 without fuel handling in progress, the SFPSVS instrumentation need not be OPERABLE since a fuel handling accident cannot occur.

BASES (continued)

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4, would require the unit to be shutdown unnecessarily.

A.1

Condition A applies to the failure of a single radiation monitor channel. If one channel is inoperable, a period of 7 days is allowed to place one train of SFPSVS in operation. This accomplishes the actuation instrumentation function and places the unit in a conservative mode of operation. The 7 day Completion Time is the same as is allowed if one train of the mechanical portion of the system is inoperable. The basis for this time is the same as that provided in LCO 3.7.13.

B.1.1, B.1.2, and B.2

Condition B applies to the failure of two SFPSVS radiation monitors. The Required Action is to place one SFPSVS train in operation immediately. This accomplishes the actuation instrumentation function that may have been lost and places the unit in a conservative mode of operation. The applicable Conditions and Required Actions of LCO 3.7.13 must also be entered for the SFPSVS train made inoperable by the inoperable actuation instrumentation. This ensures appropriate limits are placed on train inoperability as discussed in the Bases for LCO 3.7.13.

BASES

ACTIONS

B.1.1, B.1.2, and B.2 (continued)

Alternatively, both trains may be placed in operation. This ensures the SFPSVS Function is performed even in the presence of a single failure.

C.1

Condition C applies when the Required Action and associated Completion Time for Condition A or B have not been met and irradiated fuel assemblies are being moved in the fuel pool enclosure. Movement of irradiated fuel assemblies in the fuel pool enclosure must be suspended immediately to eliminate the potential for events that could require SFPSVS actuation.

SURVEILLANCE REQUIREMENTS

SR 3.3.7.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation 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 Frequency is based on operating experience that demonstrates channel failure is rare.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.7.2

A COT is performed once every 92 days on each required channel to ensure the entire channel, including the actuation devices, will perform the intended function. This test verifies the capability of the instrumentation to provide the SFPSVS actuation. The setpoints shall be left consistent with the unit specific calibration procedure tolerance. The Frequency of 92 days is based on the known reliability of the monitoring equipment and has been shown to be acceptable through operating experience.

SR 3.3.7.3

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 a measured parameter within the necessary range and accuracy. The Frequency is consistent with the typical industry refueling cycle.

REFERENCES

1. 10 CFR 100.11.

Tbl 3.3.1-1 Function 12
Tbl 3.3.2-1 Function 6d

2.3.A.2.g. Reactor coolant pump bus undervoltage - ≥ 76~~75~~% of rated bus ~~normal~~ voltage. L3.3-31 R-12

Tbl 3.3.1-1 Function 11a

h. Open reactor coolant pump motor breaker. A3.3-133 R-4

Tbl 3.3.1-1 Function 11b

Reactor coolant pump bus underfrequency - ≥58.2 Hz

i. Power range neutron flux rate.

Tbl 3.3.1-1 Function 3a

1. Positive rate - ≤6~~15~~% of RATED THERMAL POWER with a time constant ≥2 seconds L3.3-31

Tbl 3.3.1-1 Function 3b

2. Negative rate - ≤8~~7~~% of RATED THERMAL POWER with a time constant ≥2 seconds L3.3-31

3. Other reactor trips

Tbl 3.3.1-1 Function 9

a. High pressurizer water level - ≤90% ~~of narrow range instrument span~~. A3.3-134

Tbl 3.3.1-1 Function 13
Tbl 3.3.2-1 Function 6b

b. Low-low steam generator water level - ≥11.35% ~~of narrow ra~~ ~~instrument span~~. A3.3-134 M3.3-172 R-13

c. Turbine Generator trip

Tbl 3.3.1-1 Function 14b

1. Turbine stop valve indicators - closed

Tbl 3.3.1-1 Function 14a

2. Low auto stop oil pressure - ≥45 psig

~~d. Safety injection - See Specification 3.5~~ A3.3-02

2.3.B. Protective instrumentation settings for reactor trip interlocks shall be as follows:

1. P-6 Interlock:

Tbl 3.3.1-1 Function 16a

Source range high flux trip shall be ~~un~~blocked whenever intermediate range neutron flux is ≥≤10^{-10} amperes. A3.3-28

2. P-7 Interlock:

"At power" reactor trips that are blocked at low power (low pressurizer pressure, high pressurizer level, and loss of flow for one or two loops) shall be ~~un~~blocked whenever: A3.3-28

Tbl 3.3.1-1 Function

a. Power range neutron flux is ≤≥12% of RATED THERMAL POWER or,

Tbl 3.3.1-1 Function 16b.2

b. Turbine load is ≤≥12~~10~~% of full load turbine impulse pressure. L3.3-31 A3.3-28

3. P-8 Interlock:

Tbl 3.3.1-1 Function 16c

Low power block of single loop loss of flow is permitted whenever power range neutron flux is ≤11~~10~~% of RATED THERMAL POWER. L3.3-31

4. P-9 Interlock:

Tbl 3.3.1-1 Function 16d

Reactor trip on turbine trip shall be ~~un~~blocked whenever power range neutron flux is ≤≥12~~50~~% of RATED THERMAL POWER. L3.3-31 A3.3-28

5. P-10 Interlock:

Tbl 3.3.1-1 Function 16e

Power range high flux low setpoint trip and intermediate range high flux trip shall be ~~un~~blocked whenever power range neutron flux is ≥≤9% of RATED THERMAL POWER. A3.3-28

~~C. Control Rod Withdrawal Stops~~ R3.3-03

~~1. Block automatic rod withdrawal:~~ R-13

~~a. P-2 Interlock:~~

~~Turbine load ≤15% of full load turbine impulse pressure.~~

TABLE TS.3.5-1 (continued)

ENGINEERED SAFETY INITIATION INSTRUMENTATION LIMITING SET POINTS

	FUNCTIONAL UNIT	CHANNEL	LIMITING SET POINTS
	10. 4KV Safeguards Busses Voltage Restoration	a. Degraded Voltage	
SR3.3.4.3		Voltage (% nominal)	≥94.8% and ≤96.2%
SR3.3.4.3		Degraded voltage Time Delay ~~±~~	8 ± 0.5 sec A3.3-09
SR3.3.4.3		Degraded voltage DG Start Time Delay ~~2~~	7.5 to 63~~8 ± 0.5 to 60 ± 3~~ sec R-13
		b. Undervoltage	
SR3.3.4.3		Voltage (% nominal)	75 ± 2.5%
SR3.3.4.3		Undervoltage Time Delay	4 ± 1.5 sec M3.3-40
Table 3.3.2-1 Funct 5b	11. Hi-Hi Steam Generator Level	Feedwater Isolation	≤90% R-2

~~TABLE TS.3.5-1 Page 2 of 2~~
~~REV 103 12/17/92~~

~~TABLE TS 3.3.5-2B (Page 2 of 9) (Overflow)~~

	~~4.~~ CONTAINMENT VENTILATION ISOLATION					
Table 3.3.5-1 Funct 5	~~5~~a. Safety Injection	See Functional Unit 1 above for all Safety Injection initiating functions and requirements.				
Table 3.3.5-1 Funct 1	~~1~~b. Manual	2	~~1~~	~~2~~	(b)	22
Table 3.3.5-1 Funct 6	~~6~~c. Manual Containment Spray	See Functional Unit 2a above for Manual Containment Spray requirements.				
Table 3.3.5-1 Funct 4	~~4~~d. Manual Containment Isolation	See Functional Unit 3b above for Manual Containment Isolation requirements.				
Table 3.3.5-1 Funct 3	~~3~~e. High Radiation in Exhaust Air	2	~~1~~	~~2~~	(b)	22
Table 3.3.5-1 Funct 2	~~2~~f. Automatic Actuation Relay Logic ~~and Actuation Relays~~	2	~~1~~	~~2~~	(b)	22

A3.3-35

Table 3.3.5-1 Notes a,b

(a~~b~~) Whenever in MODES 1, 2, 3, 4 or during movement of irradiated ~~s~~emblies within containment when ~~CONTAINMENT INTEGRITY is required and either~~ containment purge or inservice purge systems are not isolated ~~in operation~~.

A3.3-39

R-13

~~TABLE TS 3.3.5-2B (Overflow) Page 2 of 9 Rev 1.1 8/10/94~~

TABLE TS.3.5-2B (Page 3 of 9)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

A3.3-05

L3.3-132

R-4

FUNCTIONAL UNIT	REQUIRED ~~TOTAL NO. OF~~ CHANNELS	~~CHANNELS TO TRIP~~	~~MINIMUM CHANNELS OPERABLE~~	APPLICABLE MODES	ACTION
~~4~~5. STEAM LINE ISOLATION					
a. Manual	1/Loop	~~1/Loop~~	~~1/Loop~~	1, 2(c), 3(c)	~~F27~~
~~c~~b. Hi-Hi Containment Pressure	3	~~2~~	~~2~~	1, 2(c), 3(c)	~~D24~~
~~e~~e. Hi-Hi Steam Flow with Safety Injection					
1. Hi-Hi Steam Flow	2/Loop	~~1 in any Loop~~	~~1/Loop~~	1, 2(c), 3(c)	~~D29~~
2. Safety Injection	See Functional Unit 1 above for all Safety Injection initiating functions and requirements.				

Table 3.3.2-1 Funct 4a

Table 3.3.2-1 Funct 4c

Table 3.3.2-1 Funct 4e

L3.3-42

L3.3-42

L3.3-42

R-13

TABLE TS.3.5-2B
Page 3 of 9
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~~TABLE TS.3.5-2B (Page 3 of 9) (Overflow)~~

Table 3.3.2-1 Funct 4d

~~d~~d. Hi Steam Flow and 2 of 4 Lo-Lo T_{avg} with Safety Injection:

1. Hi Steam Flow	2/Loop	~~1 in any Loop~~	~~1/Loop~~	1, 2[c], 3[c, d]	~~D~~29
2. Lo-Lo T_{avg}	4	~~2~~	~~3~~	1, 2[c], 3[c, d]	~~D~~24

R-13

L3.3-42

R-7

Table 3.3.2-1 Funct 4d

3. Safety Injection — See Functional Unit 1 above for all Safety Injection initiating functions and requirements.

R-13

A3.3-43

Table 3.3.2-1 Note c

(c) Except when both MSIVs are closed~~When either main steam isolation valve is open~~.

Table 3.3.2-1 Notes c,d

(c,d) When reactor coolant system average temperature is greater than 520°F and either main steam isolation valve is open.

~~TABLE TS.3.5-2B Page 3 of 9 (Overflow)~~

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	REQUIRED ~~TOTAL NO. OF~~ CHANNELS	~~CHANNELS TO TRIP~~	~~MINIMUM CHANNELS OPERABLE~~	APPLICABLE MODES	ACTION
~~1~~5. STEAM LINE ISOLATION (continued)					
~~b~~e. Automatic Actuation ~~Relay~~ Logic ~~and Actuation Relays~~	2	~~1~~	~~2~~	1, 2[c], 3[c]	~~G~~25
~~5~~6. FEEDWATER ISOLATION					
~~b~~a. Hi-Hi Steam Generator Level	3/SG	~~2/SG in any SG~~	~~2/SG in each SG~~	1, 2[x]	~~H~~24
~~c~~b. Safety Injection	See Functional Unit 1 above for all Safety Injection initiating functions and requirements.				
~~c. Reactor Trip with 2 of 4 Low T_{avg} (Main Valves only).~~					
~~1. Reactor Trip~~	~~2~~	~~1~~	~~2~~	~~1, 2~~	~~28~~
~~2. Low T_{avg}~~	~~4~~	~~2~~	~~3~~	~~1, 2~~	~~24~~
~~a~~d. Automatic Actuation ~~Relay~~ Logic ~~and Actuation Relays~~	2	~~1~~	~~2~~	1, 2[x], 3[x]	~~G~~28

Table 3.3.2-1 Funct 4b → A3.3-35, L3.3-42, R-13

Table 3.3.2-1 Funct 5b → L3.3-45, R-13

Table 3.3.2-1 Funct 5c → LR3.3-154, R-12

Table 3.3.2-1 Funct 5a → A3.3-35, L3.3-45, M3.3-49, R-13

(c) Except when both MSIVs are closed~~when either main steam isolation valve is open~~ → A3.3-43

Table 3.3.2-1 Note c

(x) Except when all MFRVs and MFRV bypass valves are closed and de-activated or isolated by a closed manual valve. → L3.3-45, R-12

Table 3.3.2-1 Note e

~~TABLE TS.3.5-2B~~
~~Page 4 of 9~~
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TABLE TS.3.5-2B (Page 5 of 9)

ENGINEERED SAFETY FEATURE ACTUATION TABLE INSTRUMENTATION

A3.3-05

L3.3-132

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FUNCTIONAL UNIT	REQUIRED ~~TOTAL NO. OF~~ CHANNELS	~~CHANNELS TO TRIP~~	~~MINIMUM CHANNELS OPERABLE~~	APPLICABLE MODES	ACTION
~~6~~7. AUXILIARY FEEDWATER					
~~a. Manual~~	~~2~~	~~1~~	~~2~~	~~1, 2, 3~~	~~26~~ LR3.3-46
b. Steam Generator Lo-Lo Water Level	3/SG	~~2/SG in any SG~~	~~2/SG in each SG~~	1, 2, 3	D~~24~~ A3.3-47
~~d~~c. Undervoltage on ~~4.16 kV~~ Buses 11 and 12 (Unit 2: 21 and 22)	2/bus	~~1/bus on both buses~~	~~2 on one bus~~	1,2	I~~29~~ R-13
(Start Turbine Driven Pump only)					
~~e~~d. Trip of Both Main Feedwater Pumps					
~~1. Turbine Driven~~	2	~~2~~	~~2~~	1, ~~2~~*	~~K26~~ A3.3-51 R-13
~~2. Motor Driven~~	~~2~~	~~2~~	~~2~~	~~1, 2~~*	~~26~~
~~c~~e. Safety Injection	See Functional Unit 1 above for all Safety Injection initiating functions and requirements.				
~~a~~f. Automatic Actuation Relay Logic ~~and Actuation Relays~~	2	~~1~~	~~2~~	1, 2, 3	J~~30~~ A3.3-35 R-13

Table 3.3.2-1 Funct 6b

Table 3.3.2-1 Funct 6d

Table 3.3.2-1 Note f

Table 3.3.2-1 Funct 6e

Table 3.3.2-1 Funct 6c

Table 3.3.2-1 Funct 6a

~~TABLE TS.3.5-2B~~
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~~TABLE TS.3.5-2B (Page 5 of 9) (Overflow)~~

* ~~This function may be by passed during alignment and operation of the AFW system for SG level control~~ ~~The Auxiliary Feedwater auto start of the Turbine and Motor Driven AFW pumps caused by the Trip of Both Main Feedwater Pumps maybe bypassed during Startup and Shutdown Operations when the Main Feedwater Pumps are not required to supply feedwater to the Steam Generators~~.

A3.3-48

Table 3.3.2-1 Note g

TABLE TS.3.5-2B (Page 6 of 9)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

A3.3-05

L3.3-132

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FUNCTIONAL UNIT	~~REQUIRED~~ ~~TOTAL NO. OF~~ CHANNELS	~~CHANNELS~~ ~~TO TRIP~~	~~MINIMUM~~ ~~CHANNELS~~ ~~OPERABLE~~	APPLICABLE MODES	ACTION
8. LOSS OF POWER ~~Note: Separate Condition entry is allowed for each Function~~					A3.3-150
LCO3.3.4 a. Degraded Voltage 4kV Safeguards Bus	2~~4~~/Bus ~~(2/phase on 2 phases)~~	~~2/Bus (1/phase on 2 phases)~~	~~3/Bus~~	1, 2, 3, 4 (a)	31, 32, 33 M3.3-52
LCO3.3.4 b. Undervoltage 4kV Safeguards Bus	2~~4~~/Bus ~~(2/phase on 2 phases)~~	~~2/Bus (1/phase on 2 phases)~~	~~3/Bus~~	1, 2, 3, 4 (a)	31, 32, 33 M3.3-52
LCO3.3.4 ~~c. Automatic Load Sequencers~~	~~2~~			~~1, 2, 3, 4 (a)~~	~~31, 32, 33~~ A3.3-151

~~Table TS.3.5-2B Page 5 of 9 (Overflow Part)~~

R-7

9. BORIC ACID STORAGE TANK						
a. Lo-Lo Level	2 channel with 2 sensors per channel	1 sensor per channel in both channels	2 sensors in one channel	1, 2, 3, 4	34	A3.3-50
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4		

TABLE TS.3.5-2B
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M3.3-52

LCO3.3.4 (a) When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources - Shutdown."

LCO3.3.6

Add LCO 3.3.6, "Control Room Special Ventilation System", Required Actions, and SRs.

M3.3-159

LCO3.3.7

Add LCO 3.3.7, "Spent Fuel Building Ventilation System", Required Actions, and SRs

M3.3-160

R-13

Action Statements

ACTION 20: With ~~the number of OPERABLE channels~~ one train inoperable~~less than the Total Number of Channels~~, restore the inoperable train~~channel~~ to OPERABLE status within 6 hours or be in at least MODE 3 ~~HOT SHUTDOWN~~ within 12~~the next 6~~ hours and in MODE 5 ~~COLD SHUTDOWN~~ within 42~~the following 30~~ 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.

LCO3.3.2 Cond C

A3.3-18

A3.3-21

A3.3-29

ACTION 21: With one or more containment pressure ~~the number of OPERABLE~~ channels ~~less than the Total Number of Channels~~ inoperable, operation may proceed provided the inoperable channel(s) is placed in the tripped condition within 6 hours and one ~~the Minimum~~ Channels per set is OPERABLE ~~requirement is met~~ or be in MODE 3 in 12 hours and MODE 4 in 18 hours. One inoperable channel may be bypassed at a time for up to 4 hours for surveillance testing per Specification 4.1.

LCO3.3.2 Cond E

A3.3-18

L3.3-22

R-13

ACTION 22: With one required radiation monitoring channel inoperable, restore the affected channel to OPERABLE within 4 hours. With one or more manual or automatic actuation trains inoperable or two radiation monitoring channels inoperable or Required Actions and Completion Time of Condition A not met~~, the number of OPERBLE channels less than the Total Number of Channels,~~ operation may continue provided the

LCO3.3.5 Cond A

LCO3.3.5 Cond B and

L3.3-53

A3.3-146

R-13

R-7

~~TABLE TS.3.5-2B~~
~~Page 7 of 9~~
~~Rev 111 8/10/94~~

~~TABLE 3.5-2B (Page 7 of 9) (Overflow)~~

LCO3.3.5 Cond B and Cond. C

containment inservice purge supply and exhaust valves are maintained closed (as required by ITS LCO 3.6.3 and 3.9.4).

A3.3-146

A3.3-54

R-7

ACTION 23: With one ~~the number of OPERABLE~~ channels or train inoperable ~~one less than the Total Number of Channels~~, restore the inoperable channel to OPERABLE status within 48 hours or be in at least MODE 3 ~~HOT SHUTDOWN~~ within ~~54~~the next ~~6~~ hours and in MODE 5 ~~COLD SHUTDOWN~~ within ~~84~~the following ~~30~~ hours.

LCO3.3.2 Cond B

A3.3-18

A3.3-21

A3.3-29

ACTION 24: With one channel inoperable ~~the number of OPERABLE channels one less than the Total Number of Channels~~, operation in the applicable MODE may proceed provided the following conditions are satisfied:

LCO3.3.2 Cond D,H

A3.3-18

R-13

a. The inoperable channel is placed in the tripped condition within 6 hours

LCO3.3.2 Cond D,H

or be in MODE 3 within 12 hours, and,

L3.3-22

R-13

LCO3.3.2 Cond D

be in MODE 4 within 18 hours.

b. ~~The Minimum Channels OPERABLE requirement is met; however,~~ the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.1.

A3.3-18

~~TABLE NS-3.5-2B Page 7 of 9 (Overflow) Rev 1!1 8/10/94~~

TABLE 3.5-2B (Page 8 of 9)

Action Statements

ACTION 25: 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. Operation in MODE 3 ~~HOT SHUTDOWN~~ may proceed provided the main steam isolation valves are closed, or ~~if not~~, be in at least MODE 4 ~~INTERMEDIATE SHUTDOWN~~ within 18~~the following 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.

LCO3.3.2 Cond G

A3.3-18

A3.3-21

R-13

A3.3-29

A3.3-142

R-6

ACTION 26: With ~~the number of OPERABLE channels~~ one channel inoperable ~~less than the Total Number of Channels~~, declare the associated auxiliary feedwater pump inoperable and take the action required by specification 3.4.2.

LCO3.3.2 Cond K

A3.3-18

R-13

R-6

ACTION 27: With one ~~the number of OPERABLE~~ channels ~~inoperable one less than the Total Number of Channels~~, restore the inoperable channel to OPERABLE status within 48 hours or be in at least MODE 3 ~~HOT SHUTDOWN~~ within 54~~the next 6~~ hours and be in MODE 4 in 60 hours ~~close the associated valve~~.

LCO3.3.2 Cond F

A3.3-18

A3.3-21

M3.3-170

R-13

~~TABLE TS.3.5-2B~~
~~Page 8 of 9~~
~~Rev 111 8/10/94~~

~~TABLE 3.5-2B (Page 8 of 9) (Overflow)~~

ACTION 28: 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. Operation in MODE 3 may continue provided the main steam isolation valves are closed, or be in at least MODE 4 within 18 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~~.

LCO3.3.2 Cond G

A3.3-18

A3.3-21

A3.3-29

R-13

M3.3-60

A3.3-18

ACTION 29: With one channel inoperable (Condition H: or both channel(s) inoperable on one bus)~~the number of OPERABLE channels less than the Total Number of Channels~~, operation in the applicable MODE may proceed provided the following conditions are satisfied:

LCO3.3.2 Cond D,I

A3.3-18

R-13

a. The inoperable channel(s) is placed in the tripped condition within 6 hours·

LCO3.3.2 Cond D,I

~~or be in MODE 3 within 12 hours~~, and,

L3.3-22

R-13

LCO3.3.2 Cond D

~~be in MODE 4 within 18 hours.~~

b. ~~The Minimum Channels OPERABLE requirement is met; however,~~ one inoperable channel may be bypassed at a time for up to 4 hours for surveillance testing of other channels per Specification 4.1

A3.3-18

~~TABLE 3.5-2B (Page 8 of 9)(Overflow) Rev 1-1, 8/10/95~~

TABLE 3.5-2B (Page 9 of 9)

Action Statements

ACTION 30: With one ~~the number of OPERABLE train channels~~ inoperable ~~one less than the Total Number of Channels~~, declare the associated auxiliary feedwater ~~pump~~ train inoperable and take the action required by Specification 3.4.2. ~~However,~~ one train ~~channel~~ may be bypassed for up to 8 hours for surveillance testing per ~~Specification 4.1,~~ provided the other channel is OPERABLE.

LCO3.3.2 Cond J

A3.3-18

A3.3-55

R-13

ACTION 31: With one or more Functions with ~~the number of OPERABLE channels~~ one channel per bus inoperable ~~less than the Total Number of Channels~~, operation in the applicable MODE may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours.

LCO3.3.4 Cond A

R-6

A3.3-18

ACTION 32: With one or more Functions with ~~the number of OPERABLE channels~~ two channels per bus inoperable ~~less than the Total Number of Channels~~, operation in the applicable MODE may proceed provided the following conditions are satisfied:

a. One inoperable channel is placed in the bypassed condition within 6 hours, and,

b. The other inoperable channel is placed in the tripped condition within 6 hours, and,

c. Verify All of the channels associated with the redundant sequencer ~~4kV Safeguards Bus~~ are OPERABLE.

LCO3.3.4 Cond B

A3.3-18

R-13

~~TABLE TS.3.5-2B~~
~~Page 9 of 9~~
~~Rev 143 3/17/99~~

~~TABLE 3.5-2B (Page 9 of 9) (Overflow)~~

ACTION 33: If the requirements of ACTIONS 30 or 31 cannot be met within the time specified, or with one or more Functions with ~~the number of OPERABLE channels~~ three channels per bus inoperable ~~less than the Total Number of Channels~~, declare the associated load sequencer ~~diesel generator(s)~~ inoperable and take the ACTION required by Specification 3.7.B.

LCO3.3.4 Cond C

A3.3-18

M3.3-57

R-13

New Action Statements D and E for the load sequencer with appropriate Required Actions and Completion Times.

LCO3.3.4 Cond D and E

M3.3-61

A3.3-50

R-13

~~ACTION 34:With the number of OPERABLE channels less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the tripped condition within 6 hours and the Minimum Channels OPERABLE requirement is met. Restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

~~ACTION 35:With one channel inoperable, restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

~~ACTION 36:Two channels may be inoperable for up to 1 hour for surveillance testing per Specification 4.1. Restore at least one channel to operable status within this 1 hour or initiate the action necessary to place the affected unit in HOT SHUTDOWN, and be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

~~TABLE TS.3.5-2B Page 9 of 9 (Overflow) Rev 1#3 - 3/17/99~~

3.8.A.1.c. The core subcritical neutron flux shall be continuously monitored by at least two neutron monitors, each with continuous visual indication in the control room and one with audible indication in the containment, which are in service whenever core geometry is being changed. When core geometry is not being changed, at least one neutron flux monitor shall be in service.

d. The plant shall be in the REFUELING condition.

e. During movement of fuel assemblies 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.

f. At least one residual heat removal pump shall be OPERABLE and running. The pump may be shut down for up to one hour to facilitate movement of fuel or core components.

g. If the water level above the top of the reactor vessel flange is less than 20 feet, except for control rod unlatching/latching operations or upper internals removal/replacement, both residual heat removal loops shall be OPERABLE.

h. Direst communication between the control room and the operating floor of the containment shall be available whenever CORE ALTERATIONS are taking place.

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

Addressed Elsewhere

j. The ~~radiation monitors~~Containment Ventilation Isolation Instrumentation for each Function, including the high radiation in Exhaust Air monitors Function 3, ~~which initiate isolation of the Containment Purge System~~ shall be ~~tested and verified to be~~ OPERABLE in accordance with Table 3.3.5-1. ~~prior to CORE ALTERATIONS.~~

A3.3-149

LCO3.3.5 and APPLICABILITY

L3.3-168

R-13

Addressed Elsewhere

2. If any of the above conditions are not met, CORE ALTERATIONS shall cease. Work shall be initiated to correct the violated conditions so that the specifications are met, and no operations which may increase the reactivity of the core shall be performed.

3. If Specification 3.8.A.1.f or 3.8.A.1.g cannot be satisfied, all fuel handling operations in containment shall be suspended, the requirements of Specification 3.8.A.1.a.1) shall be satisfied, at least one door in each personnel air lock shall be closed, and no reduction in reactor coolant boron concentration shall be made.

TABLE TS.4.1-1B (Page 1 of 7)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A3.3-00 R-2 A3.

FUNCTIONAL UNIT	CHECK	CALIBRATE	~~FUNCTIONAL TEST~~	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. SAFETY INJECTION					
Table 3.3.2-1 a. Manual Initiation	N.A.	N.A.	R(20) SR3.3.2.5	N.A.	1, 2, 3, 4
Table 3.3.2-1 ~~c~~b. High Containment Pressure	S SR3.3.2.1	R(27) SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2, 3, ~~4~~ L3.3-36
Table 3.3.2-1 ~~e~~c. Steam Line Low Pressure	S SR3.3.2.1	R(27) SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2, 3(21)
Table 3.3.2-1 d. Pressurizer Low Pressure	S SR3.3.2.1	R(27) SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2, 3(21) A3.3-35
Table 3.3.2-1 ~~b~~e. Automatic Actuation Relay Logic ~~and Actuation Relays~~	N.A.	N.A.	R M(22) SR3.3.2.2 SR3.3.2.8	N.A.	1, 2, 3, 4 M3.3-171 R-13
2. CONTAINMENT SPRAY					
Table 3.3.2-1 a. Manual Initiation	N.A.	N.A.	R(28) SR3.3.2.4	N.A.	1, 2, 3, 4
Table 3.3.2-1 ~~c~~b. Hi-Hi Containment Pressure	S SR3.3.2.1	R(27) SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2, 3, ~~4~~ R-2 L3.3-37
Table 3.3.2-1 ~~b~~e. Automatic Actuation Relay Logic ~~and Actuation Relays~~	N.A.	N.A.	R M(22) SR3.3.2.2 SR3.3.2.8	N.A.	1, 2, 3, 4 A3.3-35 M3.3-171 R-13

~~TABLE TS.4.1-1B (Page 1 of 7)~~ ~~REV 111 8/10/94~~

TABLE TS.4.1-1B (Page 2 of 7)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A3.3-72

FUNCTIONAL UNIT	CHECK	CALIBRATE	~~FUNCTIONAL TEST~~	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3. CONTAINMENT ISOLATION					
Table 3.3.2-1 Func 3c — ~~c~~a. Safety Injection	See Functional Unit 1 above for all Safety Injection Surveillance Requirements				
Table 3.3.2-1 Func 3a — ~~a~~b. Manual	N.A.	N.A.	R(28) SR3.3.2.4	N.A.	1, 2, 3, 4
Table 3.3.2-1 Func 3b — ~~b~~c. Automatic Relay Actuation Logic ~~and Actuation Relays~~	N.A.	N.A.	R M(22) SR3.3.2.2 SR3.3.2.8	N.A.	1, 2, 3, 4
~~4.~~ CONTAINMENT VENTILATION ISOLATION					
Table 3.3.5-1 Func 5 — ~~5~~a. Safety Injection	See Functional Unit 1 above for all Safety Injection Surveillance Requirements				
Table 3.3.5-1 Func 1 — ~~1~~b. Manual	N.A.	N.A.	R SR3.3.5.5	N.A.	See Note (26)

A3.3-35

M3.3-171

R-2

R-13

R-13

~~TABLE TS.4.1-1B (Page 2 of 7) REV 111 8/10/94~~

~~TABLE TS.4.1 1B (Page 2 of 7) (Overflow)~~

Table 3.3.5-1 Func 6	~~e~~6. Manual Containment Spray	See Functional Unit 2a above for all Manual Containment Spray Surveillance Requirements					
Table 3.3.5-1 Func 4	~~4~~d. Manual Containment Isolation	See Functional Unit 3b above for all Manual Containment Isolation Surveillance Requirements					
Table 3.3.5-1 Func 3	~~3~~e. High Radiation in Exhaust Air	~~SD~~ (25) SR3.3.5.1	R SR3.3.5.6	M SR3.3.5.3	N.A.	See Note (26)	M3.3-145
Table 3.3.5-1 Func 2	~~2~~f. Automatic Actuation Relay Logic ~~and Actuation Relays~~	N.A.	N.A.	R M (22) SR3.3.5.2 SR3.3.5.4	N.A.	See Note (26)	A3.3-35 M3.3-171

R-13

~~TABLE TS.4.1 1B (Page 2 of 7) (Overflow) REV 11.1 8/10/99~~

TABLE TS.4.1-1B (Page 3 of 7)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHECK	CALIBRATE	~~FUNCTIONAL~~ ~~TEST~~	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
~~4~~5. STEAM LINE ISOLATION					
Table 3.3.2-1 Func 4a — a. Manual	N.A.	N.A.	R[28] SR3.3.2.4	N.A.	1, 2[23], 3[23]
Table 3.3.2-1 Func 4c — c~~b~~. Hi-Hi Containment Pressure	S SR3.3.2.1	R[27] SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2[23], 3[23]
Table 3.3.2-1 Func 4e — e~~e~~. Hi-Hi Steam Flow with Safety Injection					
1. Hi-Hi Steam Flow	S SR3.3.2.1	R[27] SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2[23], 3[23]
2. Safety Injection	See Functional Unit 1 above for all Safety Injection Surveillance Requirements				
Table 3.3.2-1 Func 4d — d. Hi Steam Flow and 2 of 4 Lo-Lo T_{avg} with Safety Injection					
1. Hi Steam Flow	S SR3.3.2.1	R[27] SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2[23], 3[23]
2. Lo-Lo T_{avg}	S SR3.3.2.1	R[27] SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2[23], 3[24]
3. Safety Injection	See Functional Unit 1 above for all Safety Injection Surveillance Requirements				
Table 3.3.2-1 Func 4b — b~~e~~. Automatic Actuation Relay Logic ~~and Actuation Relays~~	N.A.	N.A.	R M[22] SR3.3.2.2 SR3.3.2.7	N.A.	1, 2[23], 3[23]

A3.3-72
L3.3-42
L3.3-42
R-2
L3.3-42
R-2
R-13
R-13
L3.3-42
R-7
R-2
L3.3-42
M3.3-171
A3.3-35
R-13

~~TABLE TS.4.1-1B (Page 3 of 7)~~

TABLE TS.4.1-1B (Page 4 of 7)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A3.3-72

FUNCTIONAL UNIT	CHECK	CALIBRATE	~~FUNCTIONAL TEST~~	RESPONSE TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED	
~~5~~6. FEEDWATER ISOLATION						
Table 3.3.2-1 Func 5b — ~~b~~a. Hi-Hi Steam Generator Level	S SR3.3.2.1	R[27] SR3.3.2.6	Q SR3.3.2.3	N.A.	1, 2[29]	L3.3-45 / R-6
Table 3.3.2-1 Func 5c — ~~c~~b. Safety Injection	See Functional Unit 1 above for all Safety Injection Surveillance Requirements					
~~c. Reactor Trip with 2 of 4 Low T_{avg} (Main Valves Only)~~						
~~1. Reactor Trip~~	~~N.A.~~	~~N.A.~~	~~R~~	~~N.A.~~	~~1, 2~~	LR3.3-154 / R-12
~~2. Low T_{avg}~~	~~S~~	~~R~~	~~Q~~	~~N.A.~~	~~1, 2~~	
Table 3.3.2-1 Func 5a — ~~a~~d. Automatic Actuation Relay Logic ~~and Actuation Relays~~	N.A.	N.A.	R M[22] SR3.3.2.2 SR3.3.2.7	N.A.	1, 2[29], 3[29]	M3.3-106 / M3.3-171 / A3.3-35 / R-13

~~TABLE TS.4.1-1B (Page 4 of 7) REV 111 8/10/94~~

~~TABLE TS 4.1-1B (Page 7 of 7) (Overflow)~~

Table 3.3.2-1

(24) When reactor coolant system average temperature is greater than 520°F and either main steam isolation valve is open.

~~(25) See Table 4.17-2.~~

A3.3-107

(26) Table 3.3.5-1 Applicability

MODES 1, 2, 3, 4 and during irradiated fuel movement Whenever ~~CONTAINMENT INTEGRITY is required and either of~~ the containment inservice purge systems~~s~~ is not isolated~~are in operation~~. During movement of irradiated fuel assemblies within containment when the containment purge or inservice purge systems are not isolated.

A3.3-39

R-13

R-12

SR3.3.2.6 Note (27)

~~Not Used~~ This surveillance shall include verification that the time constants are adjusted to the prescribed values.

M3.3-105

SR3.3.2.4 Note (28)

~~Not Used~~ Verification of setpoint not required.

A3.3-109

Table 3.3.2-1 (29)

~~Not Used~~ Except when all MFRVs and MFRV bypass valves are closed and de-activated or isolated by a closed manual valve.

L3.3-45

R-12

Table 3.3.2-1

(EE) This function may be bypassed during alignment and operation of the AFW System for SG level control.

A3.3-48

~~TABLE TS 4.1-1B (Page 7 of 7) (Overflow) Rev. 11a 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~~					LR3.3-156
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 R3.3-115
~~16. Emergency Plan Radiation Instruments~~ (35)	~~M~~	~~R~~	~~M~~	~~N.A.~~	~~1, 2, 3, 4, 5, 6~~
~~17. Seismic Monitors~~	~~R~~	~~R~~	~~N.A.~~	~~N.A.~~	~~1, 2, 3, 4, 5, 6~~ R3.3-115
					LR3.3-116
SR3.3.1.12 18. Coolant Flow - RTD Bypass Flowmeter	~~S~~	R SR3.3.1.12	~~M~~	N.A.	1, 2, ~~3~~ (34) 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
~~20. Reactor Gap Exhaust R Air Temperature~~	~~S~~ ~~N.A.~~	~~N.A.~~ ~~1, 2, 3, 4~~			R3.3-115
SR3.3.3.1 SR3.3.3.2 21. Post-Accident Monitoring Instruments (Table TS.3.15-1) (36)	M SR3.3.3.1	R (41) SR3.3.3.2	~~N.A.~~	N.A.	1, 2 A3.3-143
~~22. Deleted~~					

R-7 R-12 R-7 R-7 R-7 R-7 R-13

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

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

L3.3-117

~~(34) When either main steam isolation valve is open.~~

A3.3-123

~~(35) Includes those instruments named in the emergency procedure.~~

~~(36) Except for containment hydrogen monitors and refueling water storage tank level which are separately specified in this table.~~

~~(37) When RHR is in operation.~~

Addressed Elsewhere

(38) When the reactor coolant system average temperature is less than the Over Pressure Protection System Enable Temperature specified in the PTLR.

(39) Whenever CONTAINMENT INTEGRITY is required.

(40) Not used.

(41) Neutron detectors are excluded from CHANNEL CALIBRATION

A3.3-143

R-13

R-7

~~TABLE TS.4.1-1C (Page 4 of 4) (Overflow) REV 135 5/4/98~~

NSHD category	Change number 3.3-	Discussion of Change
A	009	Table 3.5-1, Function 10. The actual title for the time delays has been included to provide clarity on which time delays are under consideration. The time range for degraded voltage DG start time delay (Time Delay 2) has been revised to clarify the actual time delay allowed by CTS. Since no change in plant operating requirements or testing have been made this is an administrative change.
	010	Not used.
	011	Not used.

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 6 hours, thus this is a more restrictive change. The 6 hours is within the limits found in WCAP-10271, Section 4.1.2 "Increased Test and Maintenance" which states, " ... instrumentation and breakers be extended from 2 hours to 4 hours and that maintenance times be extended to 12 hours." The 6 hours in the ITS is well within the limits allowed by the WCAP. In addition, the 6 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
M	052	Table 3.5-2B, Function 8. A new condition of applicability is provided for the loss of power function which requires this function to be OPERABLE, "When associated DG is required to be OPERABLE by LCO 3.8.2, 'AC Sources - Shutdown'." Since this change places additional TS requirements on plant operations, this is a more restrictive change. This change is acceptable since it is generally consistent with current plant practices and does not cause the plant to be operated in an unsafe manner.
L	053	Table 3.5-2B, Action 22. In conformance with the guidance of NUREG-1431, this action statement has been modified to allow this system to continue operating for up to 4 hours with one channel of radiation monitoring inoperable. The three radiation monitoring channels are configured so one channel monitors gaseous radiation in containment exhaust air, with the other two monitoring either gaseous or particulate containment exhaust air radiation. These two channels provide input to the other train, either of which will actuate the train. Since the containment radiation monitors measure gaseous and particulate parameters, a failure of a single channel could result in a loss of the radiation monitoring Function for certain events. Consequently, the failed channel must be restored to OPERABLE status. The 4 hours allowed to restore the affected channel is justified by the low likelihood of events occurring during this interval, and recognition that the remaining train will respond to the events. Since this change may allow additional operating flexibility, this is a less restrictive change. This change is acceptable since it is usual to allow some time to operate with one train of equipment inoperable when the redundant train is operable and able to perform the safety function.
A	054	Table 3.5-2B, Action 22. Since this system is normally blind flanged and therefore not operating, this action statement is modified to reference the specifications which govern its operation. This change is only a clarification which does not change any specification requirements or affect plant operations, therefore; this is an administrative change.

NSHD category	Change number 3.3-	Discussion of Change
A	055	Table 3.5-2B, Action 30. CTS requires declaring the affected auxiliary feedwater (AFW) pump inoperable when one channel of AFW logic is inoperable. The CTS provision for a channel inoperable has been replaced with a provision for a train to be inoperable. This change is an administrative change since the AFW logic is a collection of relays for which the term "train" is more appropriate than "channel"; this changed terminology does not involve any more or less equipment.; and this change does not involve any changes in plant operations. The CTS requirement to declare an AFW pump inoperable has been replaced in the ITS with a requirement to declare an AFW train inoperable. Since both trains of AFW have a single AFW pump and the train is inoperable if the pump is inoperable, declaring an AFW pump inoperable is equivalent to declaring an AFW train inoperable. Therefore, this change is also an administrative change.
	056	Not used.

NSHD category	Change number 3.3-	Discussion of Change
M	057	Table 3.5-2B, Action 33. This Action Statement has been revised to take the required action when three channels per bus are inoperable since the definition of channels has been redefined in the LCO to be more technically correct. Also, CTS requirements to declare the DGs out of service have been revised to declare the load sequencer out of service. These changes have been made to be more consistent with the philosophy of NUREG-1431 and provide an improved response to these plant conditions. Since this change will impact more plant equipment, this is a more restrictive change. This change will assure that the plant is maintained in a safe condition and does introduce any new safety concerns.
	058	Not used.

NSHD category	Change number 3.3-	Discussion of Change
	119	Not used.
	120	Not used.
	121	Not used.
	122	Not used.
A	123	Table 4.1-1C, Notes 35, 36 and 37. These notes are not included in the ITS since the functions to which they relate have been relocated or the note has been made inapplicable due to the format of the ITS. Since no substantive changes have been made in technical requirements or plant operations, this is an administrative change.
	124	Not used.

NSHD category	Change number 3.3-	Discussion of Change
L	138	CTS Table 4.1-1A, Function 6b. CTS requires quarterly verification in MODES 3, 4 and 5 that P-6 and P-10 are in their required state for existing plant conditions associated with a COT on the source range neutron flux (Modes 3, 4 and 5 with the reactor trip breakers closed and control rods capable of withdrawal) instrumentation . ITS requires verification that P-6 and P-10 are in their required state for existing plant conditions associated with the COT on power range, flux low, intermediate range and source range (MODE 2 below P-6). This change is consistent with the guidance of NUREG-1431. Since this change does not require verification of interlocks associated with the source range instrumentation in Modes 3, 4, and 5, this is a less restrictive change. This change is acceptable because these interlocks do not function in Modes 3, 4, and 5 and, per the requirements of ITS SR 3.3.1.8, the verification will be performed prior to or soon after entry into Modes 1 and 2 when the interlocks are required to perform their function. See M3.3-73.
LR	139	Table 4.1-1A, Note 6. CTS describes a test requirement as a, "Single point comparison . . ." of incore to excore nuclear instrumentation for axial off-set. ITS does not include this descriptive clause in the SR requirement statement. This method is discussed in detail in USAR Section 7.3.4.8. Since the USAR is under the regulatory controls of 10 CFR 50.59, changes in methodology are controlled and thus, this clause is unnecessary in the TS description. Since this change is not included in ITS and is described in the USAR, this change is a less restrictive change, relocation. This change is consistent with the guidance of NUREG-1431.
	140	Not used.

NSHD category	Change number 3.3-	Discussion of Change
A	146	CTS Table 3.5-2B, Action 22. CTS Action 22 states that "With the number of OPERABLE channels less than the Total Number of Channels, operation may continue provided the containment purge supply and exhaust valves are maintained closed." This Action applies to CTS Function 4.a Containment Ventilation Isolation - manual, 4.4 High Radiation in Exhaust Air, and 4.f Automatic Actuation Logic and Actuation Relays. CTS Action Statement 22 was revised as follows to be consistent with ISTS Condition A: with one radiation monitoring channel inoperable, restore inoperable channel to OPERABLE within 4 hours. Operation may continue provided the containment inservice purge supply and exhaust valves are maintained closed. Condition A only refers to the radiation monitors, CTS Table 3.5-2B, Function 4e. This is justified by DOC L3.3-53. CTS Action Statement 22 has further been revised to incorporate ISTS LCO 3.3.5, Condition B and Condition C by stating, "With one or more manual or automatic actuation trains inoperable or two radiation monitoring channels inoperable or Required Actions and Completion Time of Condition A not met, operation may continue provided the containment inservice purge supply and exhaust valves are maintained closed (as required by ITS LCO 3.6.3 and 3.9.4)." This Condition covers the rest of the Containment Ventilation Isolation instrumentation in CTS Table 3.5-2B, including the Manual and Automatic Actuation Relay Logic Containment Ventilation Isolation instrumentation functions. This change is considered to be an Administrative change since the Conditions in the ITS are essentially the same as the intent of the CTS and consistent with current plant operating practices.

NSHD category	Change number 3.3-	Discussion of Change
LR	156	(continued) be relocated to the TRM. Since the spray additive system is required by ITS to be OPERABLE, including system instrumentation, the NaOH caustic stand pipe level instrumentation is required by ITS to be checked, calibrated and tested for functionality. Therefore the SRs on this instrumentation can be relocated to the TRM. Even though this instrumentation is removed from the TS and relocated to the TRM, it will continue to be under the regulatory controls of 10CFR50.59. Since this SR is relocated from the TS, this is a less restrictive change.
LR	157	CTS Table 4.1-1C, Function 30. Table 4.1-1C, Function 30, Containment Temperature Monitors Table 4.1-1C, Function 30 requires a monthly channel check and a refueling outage calibration of containment temperature monitors. These instrumentation surveillances have been relocated to the TRM. This change is acceptable since CTS does not have any LCOs for containment temperature monitoring in MODES 1, 2, 3 and 4 which means there are no specifications for the number of operable instruments, action statements, nor temperature limits. The containment temperature monitors do not provide indication on the control board; these are only available as computer data points. Since this SR is relocated from the TS, this is a less restrictive change. This change is consistent with the guidance of NUREG-1431. This change is also acceptable since this instrumentation will continue to be checked in accordance with the TRM which is under the regulatory controls of 10 CFR 50.59.

NSHD category	Change number 3.3-	Discussion of Change
	158	Not used.
M	159	CTS 3.5. Add LCO 3.3.6, Required Actions, SRs and associated Bases for the Control Room Special Ventilation System. The addition of this specification is a more restrictive change since it requires additional testing and requirements on plant operations.
M	160	CTS 3.5. Add LCO 3.3.7, Required Actions, SRs and associated Bases for the Spent Fuel Pool Special Ventilation System. The addition of this specification is a more restrictive change since it requires additional testing and requirements on plant operations.
	161-167	Not used.

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. The accidents postulated to occur during core alteration, in addition to 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 imporoper location. These events have been evaluated for PI and do not result in fuel cladding integrity damage. 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 CHECK on a 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.

NSHD category	Change number 3.3-	Discussion of Change
	169	Not used.
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.

NSHD category	Change number 3.3-	Discussion of Change
M	171	CTS Table 4.1-1B, Functions 1e, 2c, 3c, 4f, 5e, 6d, 7f. CTS requires monthly Functional Tests of the Automatic Actuation Relay Logic for the ESF Systems. The Functional Test will also test those Master and Slave Relays which are a part of the system relay logic. Master and Slave Relays which are not a part of the system relay logic generally cannot be tested during plant operation and are tested each refueling outage. ITS specifically requires Master and Slave Relay Tests each refueling outage for those systems which have Master and Slave Relays which are not tested with the system logic. Since these are new explicit SR requirements, this is a more restrictive change. This change is acceptable since these tests are currently performed and do not cause any unsafe plant operations or testing.
M	172	CTS 2.3.A.3.b. The Allowable Value for steam generator (SG) low-low level was increased in accordance with the Prairie Island Setpoint Methodology as the result of assessment of the Westinghouse technical advisory NSAL 02-3. Since action must be taken at a higher SG level this is a more restrictive change. This change is acceptable since this will assure that that the plant is operated in a safe condition.