Commonwealth Edison Company
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ComEd

June 5, 2000

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

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

LaSalle County Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Revision A to Request for Technical Specifications Changes for Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, to Implement Improved Standard Technical Specifications

Reference: Letter from R. M. Krich (Commonwealth Edison Company) to U.S. NRC, "Request for Technical Specifications Changes for Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, to Implement Improved Standard Technical Specifications," dated March 3, 2000.

In the reference letter, in accordance with 10 CFR 50.90, "Application for amendment of license or construction permit," we proposed to amend Appendix A, Technical Specifications (TS) of Facility Operating License Nos. DPR-19, DPR-25, NPF-11, NPF-18, DPR-29 and DPR-30 for Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, respectively. The proposed changes revise the Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, current Technical Specifications (CTS) to a format and content consistent with NUREG-1433, Revision 1, "Standard Technical Specifications for General Electric Plants, BWR 4," and NUREG-1434, Revision 1, "Standard Technical Specifications for General Electric Plants, BWR 6," as applicable.

The reference letter identified that the supporting calculations for Allowable Values needed for the proposed Improved Technical Specifications (ITS) Section 3.3, "Instrumentation," had not been completed. The first group of these calculations was to be completed and any resulting changes to the proposed ITS Allowable Values and Surveillance Frequencies submitted by June 5, 2000. This revision to the reference letter provides the resulting changes to the associated ITS Allowable Values. Corresponding revisions to the proposed Dresden Nuclear Power Station, Units 2 and 3, and Quad Cities Nuclear Power Station, Units 1 and 2, Surveillance Frequencies are also provided. No other changes to the proposed Surveillance Frequencies were determined to be necessary. The affected pages of the reference letter have been revised to reflect these changes and are attached to this letter. This revision does not alter the previously provided information supporting a finding of no significant hazards consideration. The remaining calculations, which mainly involve time delay relays and mechanical devices, will be completed and any resulting changes to the ITS Allowable Values and Surveillance Frequencies submitted by September 15, 2000, as committed in our letter dated March 3, 2000. These remaining Allowable Values are annotated in this revision to the ITS submittal with square brackets.

The proposed changes have been reviewed and approved by the respective Plant Operations Review Committees and the Nuclear Safety Review Board in accordance with the Quality Assurance Program.

ComEd is notifying the State of Illinois of these license amendment requests by transmitting a copy of this letter, including attachments and enclosures, to the designated State Official.

Should you have any questions concerning this submittal, please contact Mr. J. V. Sipek at (630) 663-3741.

Respectfully,

R. M. Krich
Vice President - Regulatory Services

Attachments: Affidavit
Attachment 1 - Revision A to Dresden Improved Technical Specifications Document
Attachment 2 - Revision A to LaSalle Improved Technical Specifications Document
Attachment 3 - Revision A to Quad Cities Improved Technical Specifications Document

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - Dresden Nuclear Power Station w/o Attachments 2 and 3
NRC Senior Resident Inspector - LaSalle County Station w/o Attachments 1 and 3
NRC Senior Resident Inspector - Quad Cities Nuclear Power Station w/o Attachments 1 and 2
Office of Nuclear Facility Safety - Illinois Department of Nuclear Safety

STATE OF ILLINOIS	**)**	
COUNTY OF DUPAGE	**)**	
IN THE MATTER OF	**)**	
COMMONWEALTH EDISON (COMED) COMPANY	**)**	**Docket Nos.**
DRESDEN NUCLEAR POWER STATION - UNITS 2 and 3	**)**	**50- 237and 50-249**
LASALLE COUNTY STATION - UNITS 1 and 2	**)**	**50- 373 and 50-374**
QUAD CITIES NUCLEAR POWER STATION - UNITS 1 and 2	**)**	**50- 254 and 50-265**

SUBJECT: **Revision A to Request for Amendment to Technical Specifications for Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, to Implement Improved Standard Technical Specifications**

AFFIDAVIT

I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.

R. M. Krich
Vice President - Regulatory Services

Subscribed and sworn to before me, a Notary Public in and

for the State above named, this 5 day of

June, 2000.

OFFICIAL SEAL
JEFFERY A BATARA
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/24/02

Notary Public

ATTACHMENT 1

**Revision A to Dresden Nuclear Power Station, Units 2 and 3
Proposed Improved Technical Specifications Submittal
dated March 3, 2000**

REVISION A TO DRESDEN NUCLEAR POWER STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES

This attachment provides a brief summary of the changes in Revision A of the proposed Improved Technical Specifications (ITS) submittal for Dresden Nuclear Power Station, Units 2 and 3. The original Technical Specifications amendment request (i.e., Revision 0) was submitted to the NRC by letter dated March 3, 2000.

In the submittal of March 3, 2000, it was identified that the supporting calculations for Allowable Values needed for ITS Section 3.3, "Instrumentation," had not been completed. Commonwealth Edison (ComEd) Company committed to submit any changes to the ITS Allowable Values and Surveillance Frequencies resulting from the completion of the first group of calculations by June 5, 2000. Changes resulting from the first group of calculations are provided in this revision to the ITS submittal (i.e., Revision A). The remaining calculations, which mainly involve time delay relays and mechanical devices will be completed and any resulting changes to the associated ITS Allowable Values and Surveillance Frequencies will be submitted by September 15, 2000 as committed n the March 3, 2000, submittal. The corresponding remaining Allowable Values are annotated with square brackets. Minor corrections to ITS Section 3.3 of the March 3, 2000, submittal are also provided in this Revision A of the ITS submittal. The summary of the changes is provided below.

1. Changes to the Allowable Values from the first group of calculations have been made. These changes are the result of application of the ComEd Setpoint Methodology (i.e., Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy," submitted to the NRC by ComEd letter dated March 24, 2000) or General Electric Company Report NEDC-31336P-A, "General Electric Instrument Setpoint Methodology," dated September 1996 (for Nuclear Instrumentation System Functions only), and also includes assuming a 30 month calibration interval in the determination of the magnitude of drift used in the applicable setpoint calculations. The Allowable Values for the following ITS Instrumentation Functions were confirmed to be valid or were revised. The validated values or revised values are identified by the removal of the square brackets from the values.

   ITS Table 3.3.1.1-1, Functions 1.a, 2.a, 2.b, 2.c, 3, 4, 6, 7.a, 7.b, 9, and 10;
   ITS Table 3.3.2.1-1, Function 1.c;
   ITS Limiting Condition for Operation (LCO) 3.3.2.2, Surveillance Requirement (SR) 3.3.2.2.4;
   ITS LCO 3.3.4.1, SR 3.3.4.1.4;
   ITS Table 3.3.5.1-1, Functions 1.a, 1.b, 1.c, 1.d, 2.a, 2.b, 2.c, 2.d, 2.f, 2.g, 2.h, 3.a, 3.b, 3.c, 3.f, 4.a, 4.b, 4.d, 4.e, 5.a, 5.b, 5.d, and 5.e;
   ITS LCO 3.3.5.2, SR 3.3.5.2.2;
   ITS Table 3.3.6.1-1, Functions 1.a, 1.b, 1.d, 1.e, 2.a, 2.b, 2.c, 3.a, 3.c, 3.d, 4.a, 4.b, 5.b, 6.a, and 6.b;
   ITS Table 3.3.6.2-1, Functions 1, 2, 3, and 4;
   ITS Table 3.3.6.3-1, Functions 1.a and 2.a; and
   ITS LCO 3.3.7.1, SR 3.3.7.1.3.

REVISION A TO DRESDEN NUCLEAR POWER STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES (continued)

These changes affect ITS clean typed pages 3.3.1.1-8 through 3.3.1.1-10, 3.3.2.1-6, 3.3.2.2-3, 3.3.4.1-3, 3.3.5.1-9 through 3.3.5.1-13, 3.3.5.2-2, 3.3.6.1-5 through 3.3.6.1-7, 3.3.6.2-4, 3.3.6.3-2, 3.3.6.3-3, 3.3.7.1.3, and Bases page B 3.3.6.3-5; Improved Standard Technical Specifications (ISTS) markup pages 3.3-7 through 3.3-9, 3.3-20, 3.3-22, 3.3-35, 3.3-42 through 3.3-47, 3.3-50, 3.3-57 through 3.3-62, 3.3-66, 3.3-69, 3.3-70, and 3.3-73; and ISTS Bases markup page B 3.3-206. As a result of completion of the first group of calculations, the following CTS markup pages and Discussion of Changes (DOCs) have also been revised.

ITS 3.3.1.1, CTS markup page 16 of 17
ITS 3.3.1.1, CTS markup page 17 of 17
ITS 3.3.2.1, CTS markup page 2 of 12
ITS 3.3.2.2, CTS markup page 2 of 4
ITS 3.3.4.1, CTS markup page 3 of 5
ITS 3.3.5.1, CTS markup page 3 of 17
ITS 3.3.5.1, CTS markup page 4 of 17
ITS 3.3.5.1, CTS markup page 5 of 17
ITS 3.3.5.1, CTS markup page 13 of 17
ITS 3.3.5.2, CTS markup page 2 of 5
ITS 3.3.6.1, CTS markup page 4 of 12
ITS 3.3.6.1, CTS markup page 5 of 12
ITS 3.3.6.1, CTS markup page 6 of 12
ITS 3.3.6.1, CTS markup page 8 of 12
ITS 3.3.6.2, CTS markup page 4 of 10
ITS 3.3.6.2, CTS markup page 6 of 10
ITS 3.3.6.3, CTS markup page 1 of 2

ITS 3.3.1.1, DOC A.15 (pages 4 and 5)
ITS 3.3.1.1, DOC LA.5 (page 7)
ITS 3.3.1.1, DOC LE.1 (pages 10 and 11)
ITS 3.3.1.1, DOC LF.1, (page 12)
ITS 3.3.2.1, DOC LF.1 (pages 4 and 5)
ITS 3.3.2.2, DOC A.5 (page 2)
ITS 3.3.2.2, DOC LA.1 (page 3)
ITS 3.3.2.2, DOC LE.1 (page 5)
ITS 3.3.4.1, DOC A.5 (page 2)
ITS 3.3.4.1, DOC LA.2 (page 3)
ITS 3.3.4.1, DOC LE.1 (page 5)
ITS 3.3.5.1, DOC A.4 (page 2)
ITS 3.3.5.1, DOC LA.1 (page 6)
ITS 3.3.5.1, DOC LE.1 (pages 8 through 10)
ITS 3.3.6.1, DOC A.11 (pages 3 and 4)
ITS 3.3.6.1, DOC LA.2 (page 5)
ITS 3.3.6.1, DOC LE.1 (pages 7 through 10)
ITS 3.3.6.2, DOC A.7 (page 2)

REVISION A TO DRESDEN NUCLEAR POWER STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES (continued)

ITS 3.3.6.2, DOC LA.2 (page 3)
ITS 3.3.6.2, DOC LE.1 (page 6)
ITS 3.3.6.3, DOC M.2 (page 2)

2. A typographical error was corrected on ITS clean typed page B 3.3.6.2-2. In the ninth and eleventh lines of the paragraph in the Background section on this page, "Unit 1" was revised to "Unit 2" and "Unit 2" was revised to "Unit 3." A corresponding typographical error was also corrected on Insert Page B 3.3-185 of the ISTS markups.

3. A typographical error was also corrected on page 3 of the DOCs for ITS 3.3.6.2. In the first sentence of DOC LA.2, "Note (j)" was revised to "Note (i)." This change provides the proper reference to the Notes in CTS Table 3.2.A-1.

Attachment 1

DISCARD AND INSERTION INSTRUCTIONS

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
ITS page 3.3.1.1-8	ITS page 3.3.1.1-8
ITS page 3.3.1.1-9	ITS page 3.3.1.1-9
ITS page 3.3.1.1-10	ITS page 3.3.1.1-10
ITS page 3.3.2.1-6	ITS page 3.3.2.1-6
ITS page 3.3.2.2-3	ITS page 3.3.2.2-3
ITS page 3.3.4.1-3	ITS page 3.3.4.1-3
ITS page 3.3.5.1-9	ITS page 3.3.5.1-9
ITS Page 3.3.5.1-10	ITS Page 3.3.5.1-10
ITS Page 3.3.5.1-11	ITS Page 3.3.5.1-11
ITS Page 3.3.5.1-12	ITS Page 3.3.5.1-12
ITS Page 3.3.5.1-13	ITS Page 3.3.5.1-13
ITS Page 3.3.5.2-2	ITS Page 3.3.5.2-2
ITS Page 3.3.6.1-5	ITS Page 3.3.6.1-5
ITS Page 3.3.6.1-6	ITS Page 3.3.6.1-6
ITS Page 3.3.6.1-7	ITS Page 3.3.6.1-7
ITS Page 3.3.6.2-4	ITS Page 3.3.6.2-4
ITS Page 3.3.6.3-2	ITS Page 3.3.6.3-2
ITS Page 3.3.6.3-3	ITS Page 3.3.6.3-3
ITS Page 3.3.7.1-3	ITS Page 3.3.7.1-3
ITS Bases Page B 3.3.6.2-2	ITS Bases Page B 3.3.6.2-2
ITS Bases Page B 3.3.6.3-5	ITS Bases Page B 3.3.6.3-5
CTS Markup for Specification 3.3.1.1 page 16 of 17	CTS Markup for Specification 3.3.1.1 page 16 of 17
CTS Markup for Specification 3.3.1.1 page 17 of 17	CTS Markup for Specification 3.3.1.1 page 17 of 17
Discussion of Changes for ITS 3.3.1.1 pages 4, 5, 6, 7, 8, 10, 11, and 12	Discussion of Changes for ITS 3.3.1.1 pages 4, 5, 6, 7, 8, 10, 11, and 12
CTS Markup for Specification 3.3.2.1 page 2 of 12	CTS Markup for Specification 3.3.2.1 page 2 of 12
Discussion of Changes for ITS 3.3.2.1 pages 4 and 5	Discussion of Changes for ITS 3.3.2.1 pages 4 and 5
CTS Markup for Specification 3.3.2.2 page 2 of 4	CTS Markup for Specification 3.3.2.2 page 2 of 4
Discussion of Changes for ITS 3.3.2.2 pages 2 through 5	Discussion of Changes for ITS 3.3.2.2 pages 2 through 5
CTS Markup for Specification 3.3.4.1 page 3 of 5	CTS Markup for Specification 3.3.4.1 page 3 of 5

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
Discussion of Changes for ITS 3.3.4.1 pages 2 through 5	Discussion of Changes for ITS 3.3.4.1 pages 2 through 5
CTS Markup for Specification 3.3.5.1 page 3 of 17	CTS Markup for Specification 3.3.5.1 page 3 of 17
CTS Markup for Specification 3.3.5.1 page 4 of 17	CTS Markup for Specification 3.3.5.1 page 4 of 17
CTS Markup for Specification 3.3.5.1 page 5 of 17	CTS Markup for Specification 3.3.5.1 page 5 of 17
CTS Markup for Specification 3.3.5.1 page 13 of 17	CTS Markup for Specification 3.3.5.1 page 13 of 17
Discussion of Changes for ITS 3.3.5.1 pages 2, 3, 6, 8, 9 and 10	Discussion of Changes for ITS 3.3.5.1 pages 2, 3, 6, 8, 9 and 10
CTS Markup for Specification 3.3.5.2 page 2 of 5	CTS Markup for Specification 3.3.5.2 page 2 of 5
CTS Markup for Specification 3.3.6.1 page 4 of 12	CTS Markup for Specification 3.3.6.1 page 4 of 12
CTS Markup for Specification 3.3.6.1 page 5 of 12	CTS Markup for Specification 3.3.6.1 page 5 of 12
CTS Markup for Specification 3.3.6.1 page 6 of 12	CTS Markup for Specification 3.3.6.1 page 6 of 12
CTS Markup for Specification 3.3.6.1 page 8 of 12	CTS Markup for Specification 3.3.6.1 page 8 of 12
Discussion of Changes for ITS 3.3.6.1 pages 3 through 10	Discussion of Changes for ITS 3.3.6.1 pages 3 through 10
CTS Markup for Specification 3.3.6.2 page 4 of 10	CTS Markup for Specification 3.3.6.2 page 4 of 10
CTS Markup for Specification 3.3.6.2 page 6 of 10	CTS Markup for Specification 3.3.6.2 page 6 of 10
Discussion of Changes for ITS 3.3.6.2 pages 2, 3, 4, and 6	Discussion of Changes for ITS 3.3.6.2 pages 2, 3, 4, and 6
CTS Markup for Specification 3.3.6.3 page 1 of 2	CTS Markup for Specification 3.3.6.3 page 1 of 2
Discussion of Changes for ITS 3.3.6.3 page 2	Discussion of Changes for ITS 3.3.6.3 page 2

VOLUME 4	
SECTION 3.3	
DISCARD	**INSERT**
ISTS markup page 3.3-7	ISTS markup page 3.3-7
ISTS markup page 3.3-8	ISTS markup page 3.3-8
ISTS markup page 3.3-9	ISTS markup page 3.3-9
ISTS markup page 3.3-20	ISTS markup page 3.3-20
ISTS markup page 3.3-22	ISTS markup page 3.3-22
ISTS markup page 3.3-35	ISTS markup page 3.3-35
ISTS markup page 3.3-42	ISTS markup page 3.3-42
ISTS markup page 3.3-43	ISTS markup page 3.3-43
ISTS markup page 3.3-44	ISTS markup page 3.3-44
ISTS markup Insert Page 3.3-44	ISTS markup Insert Page 3.3-44
ISTS markup page 3.3-45	ISTS markup page 3.3-45
ISTS markup page 3.3-46	ISTS markup page 3.3-46
ISTS markup page 3.3-47	ISTS markup page 3.3-47
ISTS markup page 3.3-50	ISTS markup page 3.3-50
ISTS markup page 3.3-57	ISTS markup page 3.3-57
ISTS markup page 3.3-58	ISTS markup page 3.3-58
ISTS markup page 3.3-59	ISTS markup page 3.3-59
ISTS markup Insert Page 3.3-60	ISTS markup Insert Page 3.3-60
ISTS markup page 3.3-61	ISTS markup page 3.3-61
ISTS markup page 3.3-62	ISTS markup page 3.3-62
ISTS markup page 3.3-66	ISTS markup page 3.3-66
ISTS markup page 3.3-69	ISTS markup page 3.3-69
ISTS markup page 3.3-70	ISTS markup page 3.3-70
ISTS markup page 3.3-73	ISTS markup page 3.3-73
ISTS Bases markup Insert page B 3.3-185	ISTS Bases markup Insert page B 3.3-185
ISTS Bases markup page B 3.3-206	ISTS Bases markup page 3.3-206

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux – High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 121/125 divisions of full scale
	5[a]	3	H	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 121/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.18	NA
	5[a]	3	H	SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.18	NA
2. Average Power Range Monitors					
a. Neutron Flux – High, Setdown	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.7 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.18	≤ 17.1% RTP
b. Flow Biased Neutron Flux – High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 0.58 W + 63.5% RTP and ≤ 122% RTP[b]

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) 0.58 W + 59.2% and ≤ 118.5% RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Fixed Neutron Flux – High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 122% RTP
d. Inop	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.18	NA
3. Reactor Vessel Steam Dome Pressure – High	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 1054 psig
4. Reactor Vessel Water Level – Low	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	≥ 10.24 inches
5. Main Steam Isolation Valve – Closure	1, 2(c)	8	F	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	[≤ 10% closed]
6. Drywell Pressure – High	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.13 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 1.94 psig

(continued)

(c) With reactor pressure ≥ 600 psig.

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level – High					
a. Thermal Switch (Unit 2) Float Switch (Unit 3)	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 37.9 gallons (Unit 2) ≤ 39.1 gallons (Unit 3)
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 37.9 gallons (Unit 2) ≤ 39.1 gallons (Unit 3)
b. Differential Pressure Switch	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 37.9 gallons (Unit 2) ≤ 39.1 gallons (Unit 3)
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 37.9 gallons (Unit 2) ≤ 39.1 gallons (Unit 3)
8. Turbine Stop Valve – Closure	≥ 45% RTP	4	E	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	[≤ 10% closed]
9. Turbine Control Valve Fast Closure, Trip Oil Pressure – Low	≥ 45% RTP	2	E	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	≥ 466 psig
10. Turbine Condenser Vacuum – Low	1, 2(c)	2	F	SR 3.3.1.1.5 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.18 SR 3.3.1.1.19	≥ 21.15 inches Hg vacuum
11. Reactor Mode Switch – Shutdown Position	1,2	1	G	SR 3.3.1.1.16 SR 3.3.1.1.18	NA
	5(a)	1	H	SR 3.3.1.1.16 SR 3.3.1.1.18	NA
12. Manual Scram	1,2	1	G	SR 3.3.1.1.8 SR 3.3.1.1.18	NA
	5(a)	1	H	SR 3.3.1.1.8 SR 3.3.1.1.18	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(c) With reactor pressure ≥ 600 psig.

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
a. Upscale	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.5	As specified in the COLR
b. Inop	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.5	NA
c. Downscale	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.5	≥ 4.1% RTP
2. Rod Worth Minimizer	1(b), 2(b)	1	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.6 SR 3.3.2.1.8 SR 3.3.2.1.9	NA
3. Reactor Mode Switch – Shutdown Position	(c)	2	SR 3.3.2.1.7	NA

(a) THERMAL POWER ≥ 30% RTP and no peripheral control rod selected.

(b) With THERMAL POWER ≤ 10% RTP.

(c) Reactor mode switch in the shutdown position.

SURVEILLANCE REQUIREMENTS

----------------------------------NOTE----------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided Feedwater System and main turbine high water level trip capability is maintained.

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.2.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.2.2.3	Calibrate the trip units.	92 days
SR 3.3.2.2.4	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 53.25 inches.	24 months
SR 3.3.2.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker and valve actuation.	24 months

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains ATWS-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.4.1.2	Calibrate the trip units.	92 days
SR 3.3.4.1.3	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.1.4	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level – Low Low $\geq$ -54.15 inches with time delay set to $\geq$ [8 seconds and $\leq$ 10 seconds]; and b. Reactor Vessel Steam Dome Pressure – High: $\leq$ 1231 psig.	24 months
SR 3.3.4.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months

Table 3.3.5.1-1 (page 1 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Vessel Water Level − Low Low	1,2,3, 4[(a)], 5[(a)]	4[(b)]	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure − High	1,2,3	4[(b)]	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Reactor Steam Dome Pressure − Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 308.5 psig and ≤ 341.7 psig
	4[(a)], 5[(a)]	2	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 308.5 psig and ≤ 341.7 psig
d. Core Spray Pump Discharge Flow − Low (Bypass)	1,2,3, 4[(a)], 5[(a)]	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 802 gpm and ≤ 992 gpm
e. Core Spray Pump Start-Time Delay Relay	1, 2, 3 4[(a)], 5[(a)]	1 per pump	C	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 14 seconds]
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level − Low Low	1,2,3, 4[(a)], 5[(a)]	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure − High	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Reactor Steam Dome Pressure − Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 308.5 psig and ≤ 341.7 psig
	4[(a)], 5[(a)]	2	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 308.5 psig and ≤ 341.7 psig

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS − Shutdown."

(b) Also required to initiate the associated diesel generator (DG).

Table 3.3.5.1-1 (page 2 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
d. Reactor Steam Dome Pressure – Low (Break Detection)	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 802 psig and ≤ 895 psig
e. Low Pressure Coolant Injection Pump Start – Time Delay Relay Pumps B and D	1,2,3, $4^{(a)}$, $5^{(a)}$	1 per pump	C	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 11 seconds]
f. Low Pressure Coolant Injection Pump Discharge Flow – Low (Bypass)	1,2,3, $4^{(a)}$, $5^{(a)}$	1 per loop	E	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1107 gpm
g. Recirculation Pump Differential Pressure–High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 5.9 psid
h. Recirculation Riser Differential Pressure–High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 2.0 psid
i. Recirculation Pump Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 0.5 seconds]
j. Reactor Steam Dome Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 2 seconds]
k. Recirculation Riser Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 0.5 seconds]

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

Table 3.3.5.1-1 (page 3 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level — Low Low	1, $2^{(c)}$, $3^{(c)}$	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure — High	1, $2^{(c)}$, $3^{(c)}$	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Reactor Vessel Water Level — High	1, $2^{(c)}$, $3^{(c)}$	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 46.2 inches
d. Contaminated Condensate Storage Tank (CCST) Level — Low	1, $2^{(c)}$, $3^{(c)}$	2 per CCST	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	[≥ 10.8 ft for CCST 2/3 A and ≥ 7.3 ft for CCST 2/3 B]
e. Suppression Pool Water Level — High	1, $2^{(c)}$, $3^{(c)}$	2	D	SR 3.3.5.1.2 SR 3.3.5.1.6	[≤ 15 ft 5 inches]
f. High Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1, $2^{(c)}$, $3^{(c)}$	1	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 616 gpm
g. Manual Initiation	1, $2^{(c)}$, $3^{(c)}$	1	C	SR 3.3.5.1.6	NA

(continued)

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 4 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level – Low Low	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure – High	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Automatic Depressurization System Initiation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 120 seconds]
d. Core Spray Pump Discharge Pressure – High	1, $2^{(c)}$, $3^{(c)}$	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure – High	1, $2^{(c)}$, $3^{(c)}$	4	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 10 minutes]

(continued)

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 5 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B					
a. Reactor Vessel Water Level — Low Low	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure — High	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Automatic Depressurization System Initiation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 120 seconds]
d. Core Spray Pump Discharge Pressure — High	1, $2^{(c)}$, $3^{(c)}$	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure — High	1, $2^{(c)}$, $3^{(c)}$	4	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	[≤ 10 minutes]

(c) With reactor steam dome pressure > 150 psig.

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the Reactor Vessel Pressure—High Function maintains IC initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.2.1	Perform CHANNEL FUNCTIONAL TEST.	31 days
SR 3.3.5.2.2	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 1064 psig with time delay set to ≤ [17] seconds.	92 days
SR 3.3.5.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

A

Table 3.3.6.1-1 (page 1 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level – Low Low	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -56.77 inches
b. Main Steam Line Pressure – Low	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 831 psig
c. Main Steam Line Pressure – Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	[≥ 0.1 seconds and ≤ 0.5 seconds]
d. Main Steam Line Flow – High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 160.5 psid (Unit 2) ≤ 117.1 psid (Unit 3)
e. Main Steam Line Tunnel Temperature – High	1,2,3	2 per trip string	D	SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 189°F
2. Primary Containment Isolation					
a. Reactor Vessel Water Level – Low	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 10.24 inches
b. Drywell Pressure – High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 1.81 psig
c. Drywell Radiation – High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 77 R/hr

(continued)

Table 3.3.6.1-1 (page 2 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System Isolation					
a. HPCI Steam Line Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 290.16% of rated steam flow (Unit 2) ≤ 288.23% of rated steam flow (Unit 3)
b. HPCI Steam Line Flow – Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	[≥ 3 seconds and ≤ 9 seconds]
c. HPCI Steam Supply Line Pressure – Low	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 104 psig
d. HPCI Turbine Area Temperature – High	1,2,3	4(a)	F	SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 189°F
4. Isolation Condenser System Isolation					
a. Steam Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 290.76% of rated steam flow
b. Return Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 30.2 inches water (Unit 2) ≤ 13.7 inches water (Unit 3)

(continued)

(a) All four channels must be associated with a single trip string.

Table 3.3.6.1-1 (page 3 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. Reactor Water Cleanup System Isolation					
a. SLC System Initiation	1,2	1	H	SR 3.3.6.1.6	NA
b. Reactor Vessel Water Level − Low	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 10.24 inches
6. Shutdown Cooling System Isolation					
a. Recirculation Line Water Temperature − High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 346°F
b. Reactor Vessel Water Level − Low	3,4,5	2(b)	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 10.24 inches

(b) In MODES 4 and 5, provided Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required.

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low	1,2,3, (a)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.5 SR 3.3.6.2.6	≥ 10.24 inches
2. Drywell Pressure – High	1,2,3	2	SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.6	≤ 1.81 psig
3. Reactor Building Exhaust Radiation – High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.6	≤ 14.9 mR/hr
4. Refueling Floor Radiation – High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.6	≤ 100 mR/hr

(a) During operations with a potential for draining the reactor vessel.

(b) During CORE ALTERATIONS and during movement of irradiated fuel assemblies in secondary containment.

SURVEILLANCE REQUIREMENTS

-----------------------------------NOTE-----------------------------------
Refer to Table 3.3.6.3-1 to determine which SRs apply for each Function.

SURVEILLANCE		FREQUENCY
SR 3.3.6.3.1	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.3.2	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.3.3	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.6.3-1 (page 1 of 1)
Relief Valve Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Set Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.3	≤ 1110.5 psig
b. Reactuation Time Delay	2 per valve	SR 3.3.6.3.2 SR 3.3.6.3.3	≥ [8.5] seconds and ≤ [16.5] seconds
2. Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.3	≤ 1133.5 psig

SURVEILLANCE REQUIREMENTS

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

When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the CREV System Instrumentation alarm capability is maintained.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.1.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.7.1.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be $\leq$ 14.9 mR/hr.	92 days

BASES

BACKGROUND (continued)

isolation function. For both Reactor Building Exhaust Radiation—High and Refueling Floor Radiation—High Functions, the secondary containment isolation trip system logic receives input from four channels. Two channels of Reactor Building Exhaust Radiation—High are located in each of the unit reactor building exhaust ducts and two channels of Refueling Floor Radiation—High are located where they can monitor the environment of each of the unit spent fuel pools. The output of the channels associated with Unit 2 are provided to one trip system while the output of the channels associated with Unit 3 are provided to the other trip system. The output from these channels are arranged in two one-out-of-two trip system logics for each Function to initiate the secondary containment isolation function. Any Reactor Building Exhaust Radiation—High or Refueling Floor Radiation—High channel will initiate the secondary containment isolation function. Initiating the secondary containment isolation function provides an input to both secondary containment Train A and Train B logic. Either train initiates isolation of all secondary containment isolation valves and provides a start signal to the associated SGT subsystem.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The isolation signals generated by the secondary containment isolation instrumentation are implicitly assumed in the safety analyses of References 2 and 3 to initiate closure of the SCIVs and start the SGT System to limit offsite doses.

Refer to LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)," and LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," Applicable Safety Analyses Bases for more detail of the safety analyses.

The secondary containment isolation instrumentation satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii). Certain instrumentation Functions are retained for other reasons and are described below in the individual Functions discussion.

The OPERABILITY of the secondary containment isolation instrumentation is dependent on the OPERABILITY of the individual instrumentation channel Functions. Each Function

(continued)

BASES

ACTIONS (continued)

B.1

If the Required Action and associated Completion Time of Condition A is not met, or two or more relief valves are inoperable due to inoperable channels, the relief valves may be incapable of performing their intended relief or low set function. Therefore, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 with 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

As noted at the beginning of the SRs, the SRs for each LLS instrumentation Function are located in the SRs column of Table 3.3.6.3-1.

SR 3.3.6.3.1 and SR 3.3.6.3.2

CHANNEL CALIBRATION is a complete check of the instrument loop and sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency of every 92 days for SR 3.3.6.3.1 is based on the assumption of a 92 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of once every 24 months for SR 3.3.6.3.2 is based on the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. A

(continued)

3.3.1.1-1

TABLE ~~2.2.A-1~~

LSSS 2.2

REACTOR PROTECTION SYSTEM INSTRUMENTATION ~~SETPOINTS~~

	Functional ~~Unit~~	~~Trip Setpoint~~ Allowable Value A.10	
1.	1. Intermediate Range Monitor:		
1.a	a. Neutron Flux - High	≤120/125 divisions of full scale	LF.1
1.b	b. Inoperative	NA	
2.	2. Average Power Range Monitor:		
2.a	a. Setdown Neutron Flux - High	≤15% of RATED THERMAL POWER	LF.1
2.b	b. Flow Biased Neutron Flux - High		
	1) Dual Recirculation Loop Operation		
	a) Flow Biased	≤0.58W[a] + 62%, with a maximum of	LA.4, LF.1
	b) High Flow Maximum	≤120% of RATED THERMAL POWER	LF.1
2.b	2) Single Recirculation Loop Operation		
	a) Flow Biased	≤0.58W[a] + 58.5%, with a maximum of	LA.4, LF.1
	b) High Flow Maximum	≤116.5% of RATED THERMAL POWER	LF.1
2.c	c. Fixed Neutron Flux - High	≤120% of RATED THERMAL POWER	LF.1
2.d	d. Inoperative	NA	
3.	3. Reactor Vessel Steam Dome Pressure - High	≤1060 psig	LF.1
4.	4. Reactor Vessel Water Level - Low	≥144 inches ~~above top of active fuel[b]~~	A.15, LA.5, LF.1
5.	5. Main Steam Line Isolation Valve - Closure	[≤10% closed]	LF.1
	6. Deleted		

LA.4

a ~~W shall be the recirculation loop flow expressed as a percentage of the recirculation loop flow which produces a rated core flow of 98 million lbs/hr.~~

b ~~The top of active fuel is defined to be 360 inches above vessel zero.~~ LA.5 A.15

3.3.1.1-1

TABLE ~~2.2.A-1~~ (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION ~~SETPOINTS~~ A.10

Functional ~~Unit~~	~~Trip Setpoint~~ Allowable Value
6. 7. Drywell Pressure - High	≤2 psig LF.1
7. 8. Scram Discharge Volume Water Level - High	≤40.4 gallons (Unit 2) LF.1 ≤41 gallons (Unit 3) LF.1
8. 9. Turbine Stop Valve - Closure	≤10% closed LF.1
~~10. Turbine EHC Control Oil Pressure - Low~~	~~≥900 psig~~ A.8
9. 11. Turbine Control Valve Fast Closure	≥460 psig EHC fluid pressure LF.1
10. 12. Turbine Condenser Vacuum - Low	≥21 inches Hg vacuum LF.1
11. 13. Reactor Mode Switch Shutdown Position	NA
12. 14. Manual Scram	NA

ADMINISTRATIVE

A.11 (cont'd) Action, a significantly more conservative requirement to insert the control rod(s) and maintain insertion is imposed. No longer would the provision to withdraw or leave withdrawn one or more control rods for up to 1 hour exist. However, with this conservatism comes the understanding that if best efforts to insert the control rod(s) exceeds 1 hour, no LER will be required.

This interpretation of the Actions intent is supported by the BWR ISTS, NUREG-1433, Rev. 1. Because this is an enhanced presentation of the existing intent, the proposed change is considered administrative.

A.12 The CHANNEL FUNCTIONAL TEST Surveillance Frequency of "S/U" and Note (c) of CTS Table 4.1.A-1 for Functions 1.a and 2.a, "within 24 hours before startup, if not performed within the previous 7 days," is redundant to the requirements of proposed SR 3.0.4, which requires the periodic weekly Surveillance to be performed and current prior to entry into the applicable operational conditions. Once the applicable conditions are entered, the periodic weekly Surveillance Frequency provides adequate assurance of OPERABILITY, if required. Therefore, the removal of this Frequency is considered administrative. This is consistent with the current wording of the Note (c) of CTS Table 4.1.A-1 (the weekly CHANNEL FUNCTIONAL TEST may be used to fulfill this requirement).

A.13 The CHANNEL CHECK associated with CTS Table 4.1.A-1 Function 2.b (proposed ITS Table 3.3.1.1-1 Function 2.b) is every 12 hours (S) and every 24 hours (D). Since both Frequencies are not necessary, the daily (D) Frequency has been deleted and the proposed Frequency is every 12 hours. Since this change will not increase or decrease the number of times the Surveillance must be performed this change is considered administrative. The proposed Frequency is consistent with BWR ISTS, NUREG-1433, Rev. 1, and the current requirements for other instrumentation within the CTS.

A.14 In ITS 3.3.1.1, "RPS Instrumentation," the CTS 2.2 Limiting Safety System Settings (Setpoints) Table 2.2.A-1 has been combined with the current RPS Technical Specification (CTS 3.1.A). The information in CTS Table 2.2.A-1 is located in ITS Table 3.3.1.1-1. Changes made to the information are described in comments below. Since this change involves no design change but is only a difference of nomenclature and presentation preference, this change is considered administrative.

A.15 The Trip Setpoint for Functional Unit 4, Reactor Vessel Water Level - Low, in Table 2.2.A-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS Table 3.3.1.1-1 for Function 4 is associated with "instrument zero." This change has been made for human factors

ADMINISTRATIVE

A.15 (cont'd) considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.10 and LF.1, therefore this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS Table 4.1.A-1 requires a 92 day CHANNEL FUNCTIONAL TEST of Functional Unit 8.b, Scram Discharge Volume Water Level - High (Thermal Switch and Float Switch). The Table does not require a CHANNEL CALIBRATION. A new Surveillance has been added (SR 3.3.1.1.17) to this Functional Unit to ensure the associated channels are calibrated properly. This CHANNEL CALIBRATION must be performed at a 24 month Frequency. This new SR represents an additional restriction on plant operation.

M.2 The Frequency of the CHANNEL CHECK requirement of CTS Table 4.1.A-1 Function 4, Reactor Vessel Water Level - Low, has been increased from every 24 hours to 12 hours. This change to the CTS constitutes a more restrictive change to help ensure this Function is maintained OPERABLE. This change is consistent with BWR ISTS, NUREG-1433, Rev. 1, and the current requirements for other instrumentation within the CTS.

M.3 A Surveillance has been added (proposed SR 3.3.1.1.14) to verify the automatic enabling of the Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, Control Oil Pressure—Low Functions at ≥ 45% RTP. This SR ensures that the associated RPS scram Functions are not inadvertently bypassed with power ≥ 45% RTP. This new SR represents an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details in CTS 3.1.A Action footnotes a and b, relating to placing channels in trip, are proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.1.1 ensure inoperable channels are placed in trip or the unit is placed in a non-applicable MODE or condition, as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable RPS channels. As such, these relocated details are not

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The LPRM inputs for OPERABILITY of the APRM (CTS Table 3.1.A-1 Note (e)) are proposed to be relocated to the Bases. The Bases states that if sufficient LPRMs are not available (the same number as in CTS Table 3.1.A-1, Note (e)), then the associated APRM is inoperable. The Bases requires at least 50% of the LPRM inputs to each required APRM consistent with the current requirement that an inoperable APRM channel is one that has less than 50% of the normal complement of LPRM inputs. In addition, the Bases requires at least two LPRM inputs from each of the four axial levels. As such, these details are not necessary in the RPS Instrumentation Table 3.3.1.1-1. The definition of OPERABILITY suffices. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.3 Details of the methods for performing CTS 4.1.A.1, the IRM and APRM CHANNEL CHECK (CTS Table 4.1.A-1 Note (b), for at least ½ decade) is proposed to be relocated to the Bases. These details are not necessary to ensure the OPERABILITY of the RPS Instrumentation. The requirements of ITS 3.3.1.1 and the associated Surveillance Requirements are adequate to ensure the RPS instrumentation are maintained OPERABLE. Specifically, SRs 3.3.1.1.6 and 3.3.1.1.7 continue to require SRM/IRM and IRM/APRM overlap to be verified. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.4 CTS Table 2.2.A-1 Note (a) states that the APRM Flow-Biased Neutron Flux—High scram value varies as a function of recirculation loop drive flow (W). This detail of system description is proposed to be relocated to the Bases. ITS 3.3.1.1 and associated SRs will ensure that the Allowable Value is maintained properly. This detail is not necessary to ensure the Allowable Value is maintained properly. As such, this relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.5 The details in CTS Table 2.2.A-1, footnote (b), that the Reactor Vessel Water Level—Low Function setting (Functional Unit 4) is referenced to a level above the top of active fuel, and that the top of active fuel is defined to be 360 inches

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.5 (cont'd) above vessel zero, is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS Table 3.3.1.1-1 for Function 4 has been changed to the value associated with "instrument zero," as discussed in Discussion of Change A.15. This detail is not necessary to ensure the OPERABILITY of this RPS Function. The requirements of ITS 3.3.1.1, including the proposed Surveillance Requirements, are adequate to ensure the RPS Function remains OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LD.1 The Frequencies for performing the RPS LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.1.A.2 (proposed SR 3.3.1.1.18) and the RPS RESPONSE TIME TEST of CTS 4.1.A.3 (proposed SR 3.3.1.1.19) have been extended from 18 months to 24 months. These SRs ensure that RPS logic will function as designed in response to an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the Surveillance Test interval for the RPS LSFT and RESPONSE TIME TEST is acceptable because the RPS is verified to be operating properly throughout the operating cycle by the performance of CHANNEL FUNCTIONAL TESTS and, in some cases, CHANNEL CHECKS. This testing ensures that a significant portion of the RPS circuitry is operating properly and will detect significant failures of this circuitry. Additional justification for extending the Surveillance Test interval is that the RPS network, including the actuating logic, is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd)

logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LD.2

The Frequency for performing the CTS 4.1.A.1 CHANNEL FUNCTIONAL TEST for CTS Table 4.1.A-1 Functional Unit 13, Reactor Mode Switch—Shutdown Position Function (proposed SR 3.3.1.1.16) has been extended from 18 months to 24 months. The Reactor Mode Switch Shutdown Position provides manual trip capability of the Reactor Protection System that is redundant to the automatic protective instrumentation channels and to the Manual Scram pushbuttons. The proposed change will allow this Surveillance to extend its Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that this test normally passes its Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the Surveillance Test interval for the Reactor Mode Switch— Shutdown Position is acceptable due to the system redundancy and because the RPS System is verified to be operating properly throughout the operating cycle by the performance of CHANNEL CHECKS and CHANNEL FUNCTIONAL TESTS on the other trip functions. This testing ensures that a significant portion of the RPS circuitry is operating properly and will detect significant failures of this circuitry. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 1.a, Intermediate Range Monitor (IRM) Neutron Flux—High

This function is performed by a fission chamber, voltage preamplifier, and a mean square voltage-wide range monitor. The equipment is supplied by General Electric. It is required to be OPERABLE in MODES 2 and 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies to minimize the consequences of a control rod withdrawal error. During these modes of operation other surveillances are performed more frequently which will detect major deviation in the system. The equipment drift was evaluated utilizing a qualitative analysis. The results of this analysis support 24 month fuel cycle surveillance interval extension.

Functional Unit 4, Reactor Vessel Water Level—Low

This function is performed by Rosemount 1153DB4PAN Transmitters and Rosemount 710DU Master Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 5, Main Steam Isolation Valve—Closure

This function is performed by NAMCO EA740-500 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Functional Unit 8.a, Scram Discharge Volume Water Level—High, Differential Pressure Switch

This function is performed by ITT-Barton Model 764 and Rosemount 1153DB4 differential pressure transmitters and Rochester Instruments Model ET 1214 trip units. The trip units were evaluated by inspection for drift, the trip units have never required readjustment during calibration. The transmitters' drift was determined by quantitative analysis. The drift value determined was used in

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 9, Turbine Stop Valve—Closure

This function is performed by NAMCO SL4 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Functional Unit 11, Turbine Control Valve Fast Closure

This function is performed by ITT NEO-DYN 100P57C3 and Barksdale TC9622-3 Pressure Switches. The Barksdale Switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. The ITT NEO-DYN switches were recently installed in the plant and a sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis. The vendors drift specification was used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24 month surveillance frequency. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy") or NEDC-31336P-A, "General Electric Instrument Setpoint Methodology," dated September 1996 (for Nuclear Instrumentation System Functions only). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the ComEd or General Electric (GE) Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the ComEd or GE Instrument Setpoint Methodology.

Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1, or the methodology described in NEDC-31336P-A (for Nuclear Instrumentation System Functions only). The EPRI guidance and GE methodology were used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

A.1

Table 3.3.2.1-1

TABLE 3.2.E-1

CONTROL ROD BLOCK INSTRUMENTATION

Allowable Value — A.2

Function Functional Unit	Allowable Value ~~Trip Setpoint~~	Minimum CHANNEL(s) per Trip Function[a]	Applicable OPERATIONAL MODE(s)	ACTION	
1. 1. ROD BLOCK MONITORS[c] — LA.1					
a. a. Upscale	As specified in the COLR	2	1[d]	50	A, B
b. b. Inoperative	NA	2	1[d]	50	A, B
c. c. Downscale	~~≥5/125 of full scale~~ — LF.1	2	1[d] — A.3	50	A, B
~~2. AVERAGE POWER RANGE MONITORS~~ — R.1					
~~a. Flow Biased Neutron Flux - High~~					
~~1. Dual Recirculation Loop Operation~~	~~≤(0.58W + 50)[e]~~	~~4~~	~~1~~	~~51~~	
~~2. Single Recirculation Loop Operation~~	~~≤(0.58W + 46.5)[e]~~	~~4~~	~~1~~	~~51~~	
~~b. Inoperative~~	~~NA~~	~~4~~	~~1, 2, 5[h]~~	~~51~~	
~~c. Downscale~~	~~≥3/125 of full scale~~	~~4~~	~~1~~	~~51~~	
~~d. Startup Neutron Flux - High~~	~~≤12/125 of full scale~~	~~4~~	~~2, 5[h]~~	~~51~~	

A

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) automatically bypassed and cannot generate a rod block. Therefore, the Applicabilities for the RBM Functions have been modified to be ≥ 30% RTP and no peripheral control rod selected, consistent with the design and CTS Table 3.2.E-1 Note (a) (see Discussion of Change A.3 above). As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 Details in Table 4.2.E-1 Function 1 footnote c, CTS 4.3.L.2.a and b, and CTS 4.3.L.3.a and b of the methods for performing Surveillances are proposed to be relocated to the Bases. The requirements proposed to be relocated are procedural details that are not necessary for assuring control rod block instrumentation OPERABILITY. The Surveillance Requirements of ITS 3.3.2.1 provide adequate assurance the control rod block instrumentation are maintained OPERABLE. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy") or NEDC-31336P-A, "General Electric Instrument Setpoint Methodology," dated September 1996 (for Nuclear Instrumentation System Functions only). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd)

accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the ComEd or General Electric (GE) Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the ComEd or GE Instrument Setpoint Methodology.

Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1, or the methodology described in NEDC-31336P-A (for Nuclear Instrumentation System Functions only). The EPRI guidance and GE methodology were used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

"Specific"

L.1 The Surveillance Frequency of "S/U" and Note (b), "within 7 days prior to startup," associated with the CHANNEL FUNCTIONAL TEST of the RBM Functions in CTS Table 4.3.E-1 is deleted. The requirements of CTS 4.0.A and 4.0.D (ITS SR 3.0.1 and SR 3.0.4) require the Surveillance to be performed and current prior to entry into the applicable Operational Conditions. Additionally, once the applicable Conditions are entered, the periodic Surveillance Frequency (92) days) has been determined to provide adequate assurance of RBM OPERABILITY per the reliability analysis of NEDO-30851P-A, "Technical Specifications Improvement Analysis for BWR Control Rod Block Instrumentation," dated October 1988. Also, the increased testing prior to startup increases the wear on the instruments, thereby reducing overall reliability. Therefore, an additional Surveillance other than the quarterly Surveillance (ITS SR 3.3.2.1.1) is not needed to assure the instruments will perform their associated safety function.

TABLE 3.2.J-1

FEEDWATER PUMP TRIP INSTRUMENTATION

Allowable Value A.2

LA.1

Functional Unit	~~Trip Setpoint~~[(a)]	Minimum CHANNEL(s)[(b)]	ACTION
Reactor Vessel Water Level -High	≤ ~~201~~ inches	~~2~~ 4	90 A, B, C

LCO 3.3.2.2

A.5 A.4 LF.1

A

add proposed ACTIONS Note A.3

ACTION

~~ACTION 90 - a. With the number of OPERABLE CHANNEL(s) one less than required by the Minimum CHANNEL(s) requirement, restore the inoperable CHANNEL to OPERABLE status within 7 days or place the inoperable CHANNEL in the tripped condition within the next 8 hours.~~

~~b. With the number of OPERABLE CHANNEL(s) two less than required by the Minimum CHANNEL(s) requirement, restore at least one of the inoperable CHANNEL(s) to OPERABLE status within 72 hours or be in at least STARTUP within the next 8 hours.~~

INSERT ACTION 90

A.4

A.1

A.5

~~a Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ LA.1

b A CHANNEL may be placed in an inoperable status for up to ~~2~~ 6 hours for required surveillance without placing the CHANNEL in the tripped condition. A.4

Note to Surveillance Requirements

A

ITS 3.3.2.2

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ADMINISTRATIVE (continued)

A.4 These changes to CTS 3/4.2.J are provided in the Dresden ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter JMHLTR 00-0002, dated January 11, 2000. The changes identified are consistent with the allowances in GENE-770-06-1-A, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service times for Selected Instrumentation Technical Specifications," December 1992. As such, these changes are considered to be administrative.

A.5 The Trip Setpoint for Reactor Vessel Water Level – High, in Table 3.2.J-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS SR 3.3.2.2.4 is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS 3/4.2.J requires the Feedwater Pump Trip Reactor Water Level — High Function Channels to be OPERABLE. The feedwater flow runout transient requires both feedwater system and main turbine trip capability to ensure the safety analysis is met. The closure of the turbine stop valves results in a Reactor Protection System Trip. Therefore, the requirement of this Specification has been changed to require these channels to be capable of also tripping the main turbine. The Specification title, LCO and Required Actions have been modified to reflect this change as indicated in proposed ITS 3.3.2.2. This change is more restrictive since it imposes additional restrictions on plant operations. This change is necessary to ensure the transient analysis is met.

M.2 CTS 4.2.J.2 requires the performance of a LOGIC SYSTEM FUNCTIONAL TEST of all CHANNEL(s). This requirement is retained in ITS SR 3.3.2.2.5, however additional testing is imposed to ensure the trip of the feedwater pump breakers and closure of the turbine stop valves. This change is necessary since LOGIC SYSTEM FUNCTIONAL TEST would not require the actuation of the components since these components are normally tested in the system Specification. In this case, there is no system Specification, therefore the breakers and valves must be tested along with this test, to help ensure complete testing of the assumed safety function.

M.3 Not used.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.4 The Frequency of the CHANNEL CHECK and CHANNEL FUNCTIONAL TEST requirements of CTS Table 4.2.J-1 for the Reactor Vessel Water Level — High Functional Unit have been increased from every 24 hours to every 12 hours and from 18 months to 92 days, respectively. These changes to the CTS requirements constitute more restrictive changes to help ensure that the Reactor Vessel Water Level — High Functional Unit is maintained OPERABLE. These changes are consistent with BWR ISTS, NUREG-1433, Rev. 1, and the current requirements for other instrumentation within the CTS.

M.5 A new Surveillance has been added (proposed ITS SR 3.3.2.2.3) to calibrate the trip units of the Reactor Vessel Water Level — High Function every 92 days. This change is consistent with the trip unit calibration requirements for the ATWS-RPT and ECCS instrumentation (proposed ITS SRs 3.3.4.1.2 and 3.3.5.1.3) since the Feedwater System and Main Turbine High Water Level trip instrumentation is the same as that used for the ATWS-RPT and ECCS Reactor Vessel Water Level — Low Low trip instrumentation. This change to the Reactor Vessel Water Level — High Function ensures that the associated channels are calibrated at the proper interval. This new SR represents an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.J-1 Note (a) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS SR 3.3.2.2.4 is associated with "instrument zero," as discussed in Discussion of Change A.5. This detail is not necessary to ensure the OPERABILITY of the Feedwater System and Main Turbine High Water Level Instrumentation. The requirements of ITS 3.3.2.2 and its associated SRs are adequate to ensure the associated reactor vessel water level instrumentation is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59. A

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.J.2 (proposed SR 3.3.2.2.5) has been extended from 18 months to 24 months. This surveillance ensures the Feedwater System/Main Turbine High Water Level trip function will operate properly during the corresponding transients of the UFSAR where this function is required, such as a Feedwater

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd)

Controller Failure. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that this test normally passes the Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The Feedwater System/Main Turbine High Water Level instrumentation is tested on a more frequent basis during the operating cycle in accordance with a CHANNEL CHECK (proposed SR 3.3.2.2.1). This surveillance will detect significant failures of the circuitry. In addition, since these water level channels provide indication to the control room (Panel 902(3)-5), deviations will be detected and repaired during plant operation. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the Feedwater System/Main Turbine High Water Level trip circuit design, the daily CHANNEL CHECK surveillance performed during the operating cycle and the ability to detect deviations during operation, and the review of historical and surveillance data, it is shown that the impact, if any, on system availability is minimal as a result of this change. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of CTS 4.2.J.1 and Table 4.2.J-1 (proposed SR 3.3.2.2.4) has been extended from 18 months to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

The CHANNEL CALIBRATION Surveillance is performed to ensure that at a previously evaluated setpoint actuation takes place to provide the required safety function. Extending the SR Frequency is acceptable because the instrumentation purchased for these functions are highly reliable and meet the design criteria of safety related equipment.

Furthermore, the impacted Feedwater System and Main Turbine High Water Level Trip Instrumentation have been evaluated based on manufacturer and model number to determine that the instrumentation's actual drift falls within the assumed design allowance in the associated setpoint calculation. This function is performed by Rosemount 1153DB4PA level transmitters and GE 184C5988G100-G799 analog trip units. The channels are checked daily (proposed SR 3.3.2.2.1). This more frequent testing requirement remains unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Bailey bistable switches with respect to drift. The Bailey SRUs are non calibratable devices and were evaluated utilizing a qualitative analysis (i.e., engineering judgment). The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A

A.1

TABLE 3.2.C-1

ATWS - RPT INSTRUMENTATION

A.4

	Functional Unit		Allowable Values Trip Setpoint(a)	Minimum CHANNEL(s) per TRIP SYSTEM(a)
LCO 3.3.4.1.a	1. Reactor Vessel Water Level - Low Low	SR 3.3.4.1.4.a	≥84 inches(b)	LCO 3.3.4.1 2
LCO 3.3.4.1.b	2. Reactor Vessel Pressure - High	SR 3.3.4.1.4.b	≤1250 psig	2

Steam Dome

A.5

LA.2

LF.1

Note to Surveillance Requirements

Insert CTS 3.2.C-1 Note a

A.3

a ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the TRIP SYSTEM in the tripped condition provided at least one OPERABLE CHANNEL in the same TRIP SYSTEM is monitoring that parameter.~~

b Includes a time delay of $8 \le t \le 10$ seconds.

SR 3.3.4.1.4.a

A.5

c ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~

LA.2

ITS 3.3.4.1

A

ADMINISTRATIVE

A.4 (cont'd) trip setpoints specified in CTS Table 3.2.C-1 for the ATWS-RPT instrumentation Functions or the Allowable Values specified in ITS 3.3.4.1 (see Discussion of Change LF.1 below for proposed changes to the trip setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.5 The Trip Setpoint for Functional Unit 1, Reactor Vessel Water Level - Low Low, in Table 3.2.C-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS SR 3.3.4.1.4.a is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.4 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The ATWS trip logic uses a two-out-of-two logic for each trip Function in both trip systems. The reactor recirculation pumps will trip when one trip system actuates. Therefore, when a channel associated with one Trip Function (e.g., Reactor Water Level - Low Low) is inoperable in both trip systems, the ATWS-RPT trip capability is lost for that Function. Similarly, if channels associated with both Trip Functions are inoperable in both trip systems, the ATWS-RPT trip capability is lost for both ATWS-RPT trip Functions. CTS 3.2.C Action 2 and 4 address the condition with channels inoperable in both trip systems. Under these conditions the ATWS-RPT trip capability is lost for one and two Trip Functions, respectively. In the ITS, these conditions will require entry into proposed ITS 3.3.4.1 ACTION B and ACTION C, respectively. The Completion Times (72 hours and 1 hour, respectively) are consistent with the current actions for loss of trip function capability in CTS 3.2.C Actions 5 and 6, respectively. Since the current allowances have been deleted, this change is considered more restrictive on plant operations but necessary to limit the time the plant is allowed to operate with a loss of trip capability.

M.2 If the channels are inoperable due to a trip breaker that will not open, placing the channels in the tripped condition, as required by CTS 3.2.C Action 2 will not accomplish the intended restoration of the functional capability. Therefore, a Note is added to ITS 3.3.4.1 Required Action A.2 to prevent proposed Required Action A.2 (place channel in trip) from being used in these conditions. This new Note will ensure the functional capability of the ATWS-RPT is restored (by restoring the inoperable channel) within the allowed Completion Time when a

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) trip breaker is inoperable. In addition, the LOGIC SYSTEM FUNCTIONAL TEST in CTS 4.2.C.2 (proposed ITS SR 3.3.4.1.5) has been revised to include breaker actuation. This added requirement will ensure the complete testing of the assumed function. These changes are more restrictive on plant operation and necessary to ensure that ATWS-RPT Functions are adequately maintained.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details in CTS 3.2.C Action footnote a, relating to placing channels in trip, are proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.4.1 ensure inoperable channels are placed in trip or the unit is placed in a non-applicable MODE or condition, as appropriate. In addition, the Bases for Required Actions A.1 and A.2 indicate that the channels are not required to be placed in the trip condition, and directs entry into the appropriate Condition. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable ATWS-RPT Instrumentation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail in CTS Table 3.2.C-1 Note (c) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS SR 3.3.4.1.4.a has been changed to the value associated with "instrument zero," as discussed in Discussion of Change A.5. This detail is not necessary to ensure the OPERABILITY of the ATWS-RPT instrumentation. The requirements of ITS 3.3.4.1 and the Surveillances are adequate to ensure the ATWS-RPT reactor vessel water level instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.C.2 (proposed SR 3.3.4.1.5) has been extended from 18 months to 24 months. This SR ensures that ATWS-RPT System will function as designed to ensure proper response during an analyzed event. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that this test normally passes the Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the SR interval for this function is acceptable because the ATWS-RPT logic is tested every 92 days by the Channel Functional Test in CTS 4.2.C.1 and Table 4.2.C-1 (proposed SR 3.3.4.1.3). This testing of the ATWS-RPT System ensures that a significant portion of the circuitry is operating properly and will detect significant failures of this circuitry. The ATWS-RPT System including the actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the above discussion, the impact, if any, of this change on system availability is minimal. This historical review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is small from a change to a 24 month operating cycle. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of CTS 4.2.C.1 and Table 4.2.C-1 Trip Functions 1 and 2 (proposed SR 3.3.4.1.4) has been extended from 18 months to 24 months. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The CHANNEL CALIBRATION Surveillance is performed to ensure that a previously evaluated setpoint actuation takes place to provide the required safety function. Extending the SR Frequency is acceptable because the ATWS-RPT initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted ATWS-RPT instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1, Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1151DP4PAN and 1151DB4PAN Transmitters, General Electric 184C5988G131 Master Trip Units, and Rosemount 710DU Slave Trip Units. The General Electric and Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 2, Reactor Vessel Pressure - High

This function is performed by Rosemount 1151P9E22 Transmitters and Rosemount 710DU Master Trip Units. The Rosemount Master Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Master Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Table 3.3.5.1-1

TABLE 3.2.B-1

EMERGENCY CORE COOLING SYSTEMS ACTUATION INSTRUMENTATION

Allowable Value A.2 LA.1 A.4 (Note 2 to Surveillance Requirements M.2 LF.1 add max Allowable Value

Table 3.3.5.1-1 Note(a)

	Function Functional Unit	Trip Setpoint[e]	Minimum CHANNEL(s) per Trip Function[a]	Applicable OPERATIONAL MODE(s)	ACTION
	1. CORE SPRAY (CS) SYSTEM				
1.a	a. Reactor Vessel Water Level - Low Low[b]	≥84 inches	4	1, 2, 3, 4[c], 5[c]	30 B
1.b	b. Drywell Pressure - High[b][f] A.6 Note b to Table 3.3.5.1-1	≤2 psig	4	1, 2, 3	30 B
1.c	c. Reactor Vessel Pressure - Low (Permissive)	≥300 psig & ≤350 psig	2	1, 2, 3 4[c], 5[c]	31 C 32 B
1.d	d. CS Pump Discharge Flow - Low (Bypass)	≥750 gpm	1/loop	1, 2, 3, 4[c], 5[c]	33 E

add Core Spray Pump Start-Time Delay Relay (Function 1.e) M.1

Table 3.3.5.1-1 Note (a)

	2. LOW PRESSURE COOLANT INJECTION (LPCI) SUBSYSTEM				
2.a	a. Reactor Vessel Water Level - Low Low	≥84 inches	4	1, 2, 3, 4[c], 5[c]	30 B
2.b	b. Drywell Pressure - High[f] A.6	≤2 psig	4	1, 2, 3	30 B
2.c	c. Reactor Vessel Pressure - Low (Permissive)	≥300 psig & ≤350 psig	2	1, 2, 3 4[c], 5[c]	31 C 32 B
2.f	d. LPCI Pump Discharge Flow - Low (Bypass)	≥1000 gpm	1/loop	1, 2, 3, 4[c], 5[c]	33 E

LF.1

A

A.1

A

M.1

add proposed Functions 2.d, 2.e, 2.g, 2.h, 2.i, 2.j and 2.k

2/3A Condensate Storage Tank	[≥ 10.8']	2	1,2,3	35	A.15
2/3B Condensate Storage Tank	[≥ 7.3']	2	1,2,3	35	LF.1

DRESDEN - UNITS 2 & 3

Table 3.3.5.1-1 **TABLE 3.2.B-1 (Continued)**

INSTRUMENTATION

ECCS ACTUATION INSTRUMENTATION

A.2 Allowable Value LA.1

Note 2 to Surveillance Requirements

Table 3.3.5.1 Note (c) A.4

	Function Functional Unit	Trip Setpoint(a)	Minimum CHANNEL(s) per Trip Function(a)	Applicable OPERATIONAL MODE(s)	ACTION		
3	3. HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM(d)						A
3.a	a. Reactor Vessel Water Level - Low Low	≥84 inches LF.1	4	1, 2, 3	35	37B	A
3.b	b. Drywell Pressure - High(f) A.6	≤2 psig	4	1, 2, 3	35	37B	
3.d	c. Condensate Storage Tank Level - Low(f) LA.2	~~≥10,000 gal~~	~~2~~	~~1, 2, 3~~	~~35~~	A.15	
3.e	d. Suppression Chamber Water Level - High(f)	[≤15' 5"] above bottom of chamber LA.1	2	1, 2, 3	35	D	A.1
3.c	e. Reactor Vessel Water Level - High (Trip)	≤194 inches LF.1	~~1~~ 2 M.8	1, 2, 3	31	C	A
3.f	f. HPCI Pump Discharge Flow - Low (Bypass)	≥600 gpm	1	1, 2, 3	33	E	
3.g	g. Manual Initiation	NA	1 (system) A.7	1, 2, 3	34	C	
4	4. AUTOMATIC DEPRESSURIZATION SYSTEM - TRIP SYSTEM 'A'(d) Table 3.3.5.1 Note (c)				A.8		
4.a	a. Reactor Vessel Water Level - Low Low	≥84 inches LF.1	2	1, 2, 3	~~30~~ 3B	F	A
4.b	b. Drywell Pressure - High(f) A.6	≤2 psig	2	1, 2, 3	~~30~~ 3B	F	
4.c	c. Initiation Timer	[≤120 sec]	1	1, 2, 3	31	G	
4.f	d. Low Low Level Timer	[≤10 min] A.8	1	1, 2, 3	31	G	
4.d	e. CS Pump Discharge Pressure - High (Permissive)	≥100 psig & ≤150 psig	~~1~~ 2/pump	1, 2, 3	31	G	A
4.e	f. LPCI Pump Discharge Pressure - High (Permissive)	≥100 psig & ≤150 psig	~~1~~ 2/pump	1, 2, 3	31	G	

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ECCS Actuation 3/4.2.B

ITS 3.3.5.1

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Table 3.3.5.1-1

TABLE 3.2.B-1 (Continued)

ECCS ACTUATION INSTRUMENTATION

A.2 Allowable Value   LA.1   A.4   Note 2 to Surveillance Requirements   Table 3.3.5.1-1 Note (c)   A.8   LF.1   A.1   A

Function Functional Unit	Trip Setpoint[b]	Minimum CHANNEL(s) per Trip Function[a]	Applicable OPERATIONAL MODE(s)	ACTION
5. **5. AUTOMATIC DEPRESSURIZATION SYSTEM - TRIP SYSTEM 'B'[d]**				
5.a a. Reactor Vessel Water Level - Low Low	≥84 inches	2	1, 2, 3	38 → 30 F
5.b b. Drywell Pressure - High[f] A.6	≤2 psig	2	1, 2, 3	30 F
5.c c. Initiation Timer	[≤120 sec]	1	1, 2, 3	31 G
5.f d. Low Low Level Timer	[≤10 min]	1	1, 2, 3	31 G
5.d e. CS Pump Discharge Pressure - High (Permissive)	≥100 psig & ≤150 psig	A.8 2 → 1/pump	1, 2, 3	31 G
5.e f. LPCI Pump Discharge Pressure - High (Permissive)	≥100 psig & ≤150 psig	2 → 1/pump	1, 2, 3	31 G
6. LOSS OF POWER				
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	2930 ± 146 volts decreasing voltage	2/bus	1, 2, 3, 4[e], 5[e]	36
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	≥ 3784 volts (Unit 2)[g][h] ≥ 3832 volts (Unit 3)[g][h]	2/bus	1, 2, 3, 4[e], 5[e]	36

A.9 moved to ITS 3.3.8.1

TABLE 3.2.B-1 (Continued)

ECCS ACTUATION INSTRUMENTATION A.8

TABLE NOTATION

Insert CTS Table 3.2.B-1 Note (a)

(a) ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the associated Functional Unit maintains ECCS initiation capability.~~

Note (b) to Table 3.3.5.1-1 (b) Also actuates the associated emergency diesel generator.

Note (a) to Table 3.3.5.1-1 (c) When the system is required to be OPERABLE per Specification 3.5.B.

Note (c) to Table 3.3.5.1-1 (d) Not required to be OPERABLE when reactor steam dome pressure is ≤150 psig.

(e) Required when the associated diesel generator is required to be OPERABLE per Specification 3.9.B. A.9 moved to ITS 3.3.8.1

A.6

(f) ~~This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.~~

(g) With no LOCA signal present, there is an additional time delay of 5±0.25 minutes. A.9 moved to ITS 3.3.8.1

(h) ~~Reactor water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ A.4 A LA.1

(i) ~~Provides signal to pump suction valves only.~~ LA.2

(j) There is an inherent time delay of 7 ± 1.4 seconds on degraded voltage. A.9 moved to ITS 3.3.8.1

ADMINISTRATIVE (continued)

A.4 The Trip Setpoint for Functional Units 1.a, 2.a, 3.a, 4.a, and 5.a, Reactor Vessel Water Level – Low Low, and Functional Unit 3.e, Reactor Vessel Water Level-High (Trip), in Table 3.2.B-1 is referenced to the top of active fuel. The reference value for the associated Allowable Values specified in ITS Table 3.3.5.1-1 is to "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative. A

A.5 Not used.

A.6 CTS Table 3.2.B-1 Note (f) and CTS Table 4.2.B-1 Note (d) state that the Drywell Pressure—High Function (Functional Unit 1.b, 2.b, 3.b, 4.b, and 5.b) is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required in MODE 2 (i.e., when Special Test Exception 3.12.A is being used). These notes are deleted from CTS Table 3.2.A-1 and 4.2.A-1 since the only applicable condition in which these notes would be needed has been deleted (see Discussion of Changes for CTS: 3/4.12.A, in ITS Section 3.10). Therefore, Note (f) of CTS Table 3.2.B-1 and Note (d) of CTS Table 4.2.B-1 are no longer applicable and the change is considered administrative.

A.7 The detail in CTS Table 3.2.B-1 Functional Unit 3.g, HPCI Manual Initiation, that there is one channel "per system" has been deleted since there is only one HPCI System per unit. Since the Specifications apply equally to Units 2 and 3, this Note is not necessary. Since its removal is editorial, this change is administrative.

A.8 These changes to CTS 3/4.2.B are provided in the Dresden ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter JMHLTR 00-0002, dated January 11, 2000. The changes identified are consistent with the allowances in NEDC-30936P-A, Part 1 and Part 2, "Technical Specification Improvement Methodology With Demonstration for BWR ECCS Actuation Instrumentation," December 1988. As such, these changes are considered to be administrative.

A.9 The technical content of the requirements of CTS Table 3.2.B-1 Functional Units 6.a and 6.b and Table 4.2.B-1 Functional Units 5.a and 5.b, including associated Notes and Actions, are being moved to ITS 3.3.8.1, "Loss of Power Instrumentation," in accordance with the format of the BWR ISTS, NUREG-1433, Rev. 1. Any technical changes to these requirements are addressed in the Discussion of Changes for ITS: 3.3.8.1, in this Section.

ADMINISTRATIVE (continued)

A.10 CTS Table 3.2.B-1 Action 35 requires placing the inoperable channel in trip when a HPCI Condensate Storage Tank Level—Low or a HPCI Suppression Chamber Water Level—High channel is inoperable. A new Required Action has been added, ITS 3.3.5.1 Required Action D.2.2, to allow the HPCI pump suction to be aligned to the suppression pool in lieu of tripping the channel, if a Condensate Storage Tank Level—Low or Suppression Pool Water Level—High channel is inoperable. Since this proposed action results in the same condition as if the channel were tripped (tripping one channel results in the suction being aligned to the suppression chamber), this change is considered administrative.

A.11 CTS Table 4.2.B-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 3.g, the HPCI Manual Initiation Function, every 18 months. CTS 4.2.B.2 and proposed SR 3.3.5.1.6 require a LOGIC SYSTEM FUNCTIONAL TEST (LSFT) every 18 months (changed to 24 months - see Discussion of Change LD.1 below). Since the LSFT is a complete test of the logic, including the Manual Initiation switches, there is no need to require a CFT. Therefore, ITS 3.3.5.1 only requires an LSFT, and this change is considered administrative.

A.12 CTS Table 4.2.B-1 requires both a CHANNEL FUNCTIONAL TEST and a CHANNEL CALIBRATION of Functional Unit 4.c, ADS Initiation Timer, and Functional Unit 4.d, ADS Low Low Level Timer, (ITS Table 3.3.5.1-1 Functions 4.c, 5.c, 4.f, and 5.f) to be performed every 18 months. Since the CFT is included in the CTS and ITS definition of CHANNEL CALIBRATION and the CFT and the CHANNEL CALIBRATION are performed at the same Frequency, the CFT has been deleted for these Functions. The CHANNEL CALIBRATION will include the required testing of the CFT, therefore, this change is considered administrative.

A.13 CTS Table 3.2.B-1 Action 32 (for Functional Units 1.c and 2.c in MODES 4 and 5) requires the channels to be placed in the tripped condition within 24 hours. If this Action is not performed the CTS does not provide default actions, such as immediately declare the associated ECCS subsystem(s) inoperable. In this condition, ITS 3.3.5.1 ACTION H will require the associated supported subsystems to be declared inoperable immediately. CTS Table 3.2.B-1 Action 32 applies to the Reactor Vessel Pressure-Low (Permissive) Functions in MODES 4 and 5 whenever the supported systems are required to be OPERABLE as indicated in CTS Table 3.2.B-1 Note (c). Since CTS 3.0.C does not apply in MODES 4 and 5, the only alternative is to declare the associated supported subsystems inoperable. Therefore, this change is considered administrative.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.B-1 Note (h) related to the reference point of the Trip Setpoint of the reactor vessel water level instrumentation and the detail for CTS Table 3.2.B-1 for Functional Unit 3.d (Suppression Chamber Water Level) that the Trip Setpoint is referenced above the bottom of the chamber are proposed to be relocated to the UFSAR. The reference value for the associated Allowable Values for Reactor Vessel Water Level Functions specified in ITS Table 3.3.5.1-1 is to "instrument zero," as discussed in Discussion of Change A.4. This detail is not necessary to ensure the OPERABILITY of the ECCS instrumentation. The requirements of ITS 3.3.5.1 and the associated Surveillances are adequate to ensure the ECCS instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 The system design detail specified in CTS Table 3.2.B-1, footnote (i), is proposed to be relocated to the Bases. Details relating to system design (e.g., valves associated with isolation signals) are unnecessary in the LCO. This detail is not necessary to ensure the OPERABILITY of the ECCS Instrumentation. The requirements of ITS 3.3.5.1 and the associated Surveillance Requirements are adequate to ensure the ECCS instruments are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.B.2 and the CHANNEL FUNCTIONAL TEST for the HPCI Manual Initiation and the ADS Initiation and Low Low Level Timer Functions specified in CTS Table 4.2.B-1 (changes made in Discussion of Changes A.11 and A.12 above) has been extended from 18 months to 24 months in proposed SR 3.3.5.1.6. This SR ensures that ECCS logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

Extending the SR Frequency is acceptable because the ECCS network along with the ECCS initiation logic is designed to be single failure proof and therefore is highly reliable. Furthermore, the impacted ECCS instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Units 1.a, 2.a: CS/LPCI Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1153DB4PA Transmitters, General Electric 184C5988C Master Trip Units, and Rosemount 710DU Slave Trip Units. The General Electric and Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 1.d, 2.d: CS/LPCI Discharge Flow - Low (Bypass)

This function is performed by Rosemount 1153DB3 and 1153DB5 Transmitters and 710DU Master Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) **Functional Unit 3.a:** HPCI Reactor Vessel Water Level—Low Low

This function is performed by Rosemount 1153DB4 Transmitters and General Electric 184G5988 Master Trip Units and Rosemount 710DU Slave Trip Units. The General Electric and Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.c: Condensate Storage Tank Level — Low

This function is performed by an SOR 12N6-B4-U8-C1A-TTNQ switch. These switches have recently been installed in the plant. Since these are new instruments it was not possible to perform a drift analysis using historical data. The calibration frequency is being extended based on an extrapolation of vendor drift to support a 24 month fuel cycle surveillance interval. Plant setpoints or Allowable Values will be adjusted as necessary to support the fuel cycle calibration requirements.

Functional Unit 3.e: HPCI Reactor Vessel Water Level—High

This function is performed by Rosemount 1153DB4PAN Transmitters and General Electric 184G5988 Master Trip Units and Rosemount 710DU Slave Trip Units. The General Electric and Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) **Functional Unit 4.a:** Reactor Vessel Water Level—Low Low

This function is performed by Rosemount 1153DB4PAN Transmitters and General Electric 184G5988 Master Trip Units and Rosemount 710DU Slave Trip Units. The General Electric and Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24-month fuel cycle does not affect the Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 4.c: ADS Initiation Timer

This function is performed by Agastat ETR 1403 series relays. The Agastat relays' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis will support a 24 month surveillance interval or the interval will be adjusted to a value supported by the analysis.

Functional Unit 4.d: ADS Low Low Level Timer

This function is performed by Agastat ETR 1403 and ETRI 1403 series relays. The Agastat relays' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis will support a 24 month surveillance interval or the interval will be adjusted to a value supported by the analysis.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on

A.1

TABLE 3.2.D-1

ISOLATION CONDENSER ACTUATION INSTRUMENTATION

SR 3.3.5.2.2

A.2 Allowable Value

LF.1

M.1 time delay [≤ 17 seconds]

Function

A.5

Note to Surveillance Requirements

Functional Unit	~~Trip Setpoint~~	Minimum CHANNEL(s) per TRIP SYSTEM[a]	ACTION
LCO 3.3.5.2 Reactor Vessel Pressure - High	≤1070 psig	2 ~~4~~ LCO 3.3.5.2	40 A & B

A

ACTION

Insert CTS 3.2.D Action A.6

~~ACTION 40 - With the number of OPERABLE CHANNEL(s) less than required by the Minimum CHANNEL(s) per TRIP SYSTEM requirement:~~

~~a. With one CHANNEL inoperable, place the inoperable CHANNEL in the tripped condition within one hour or declare the isolation condenser system inoperable.~~

~~b. With more than one CHANNEL inoperable, declare the isolation condenser system inoperable.~~

Insert CTS 3.2.D Note A.6

~~a A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the TRIP SYSTEM in the tripped condition provided at least one OPERABLE CHANNEL in the same TRIP SYSTEM is monitoring that parameter.~~

ITS 3.3.5.2

Table 3.3.6.1-1

TABLE 3.2.A-1

ISOLATION ACTUATION INSTRUMENTATION

A.6 Allowable Value

LA.2

Note 2 to Surveillance Requirements

A.11

	Function / Functional Unit	~~Trip Setpoint~~[a]	Minimum CHANNEL(s) per TRIP SYSTEM[a]	Applicable OPERATIONAL MODE(s)	ACTION
2.	1. PRIMARY CONTAINMENT ISOLATION				
2.a	a. Reactor Vessel Water Level - Low	≥144 inches	2	1, 2, 3	20 G
2.b	b. Drywell Pressure - High[a]	≤2 psig	2	1, 2, 3	20 G
2.c	c. Drywell Radiation - High	≤100 R/hr	1	1, 2, 3	23 F
	2. SECONDARY CONTAINMENT ISOLATION				
	a. Reactor Vessel Water Level - Low[c]	≥144 inches	2	1, 2, 3 & *	24
	b. Drywell Pressure - High[k,d]	≤2 psig	2	1, 2, 3	24
	c. Reactor Building Ventilation Exhaust Radiation - High[c]	≤10 mR/hr	2	1, 2, 3 & **	24
	d. Refueling Floor Radiation - High[c]	≤100 mR/hr	2	1, 2, 3 & **	24
1.	3. MAIN STEAM LINE (MSL) ISOLATION				
1.a	a. Reactor Vessel Water Level - Low Low	≥84 inches	2	1, 2, 3	21 D
	b. Deleted				
1.b	c. MSL Pressure - Low	≥825 psig	2	1	22 E
1.d	d. MSL Flow - High	≤120% of rated	2/line	1, 2, 3	21 D
1.e	e. MSL Tunnel Temperature - High	≤200°F	~~2 of 4 in each of 2 sets~~ 2 per trip string	1, 2, 3	21 D

LF.1

A.4

Moved to ITS 3.3.6.2 A.5

A.1

A

Add proposed Function 1.c M.1

A.10

DRESDEN - UNITS 2 & 3

Table 3.3.6.1-1

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

INSTRUMENTATION

A.6 Allowable Value

LA.2

A.11

Note 2 to Surveillance Requirements

Function Functional Unit		Trip Setpoint[a]	Minimum CHANNEL(s) per TRIP SYSTEM[a]	Applicable OPERATIONAL MODE(s)	ACTION
5 4.	REACTOR WATER CLEANUP SYSTEM ISOLATION				
5.a a.	Standby Liquid Control System Initiation[m] LA.3	NA	~~NA~~ 1 M.2	1, 2, ~~3~~ L.2	23 H
5.b b.	Reactor Vessel Water Level - Low	≥144 inches	2	1, 2, 3	23 F
4 5.	ISOLATION CONDENSER ISOLATION				
4.a a.	Steam Flow - High	≤300% of rated steam flow	1	1, 2, 3	23 F
4.b b.	Return Flow - High	≤32 (Unit 2)/ ≤14.8 (Unit 3) inches water diff.	1	1, 2, 3	23 F
3 6.	HIGH PRESSURE COOLANT INJECTION ISOLATION		M.3		
3.a a.	Steam Flow - High	≤300% of rated steam flow[h]	1	1, 2, 3	23 F
3.c b.	~~Reactor Vessel~~ Steam Supply Line Pressure - Low	≥100 psig	2	1, 2, 3	23 F
3.d c.	Area Temperature - High	≤200°F	4[i]	1, 2, 3	23 F

LF.1

Add proposed Function 3b

LF.1

A

A

A

A.1

Table 3.3.6.1-1

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

A.6 Allowable Value

LA.2

A.11

Note 2 to Surveillance Requirement

	Function Functional Unit	Allowable Value ~~Trip Setpoint~~(a)	Minimum CHANNEL(s) per TRIP SYSTEM(a)	Applicable OPERATIONAL MODE(s)	ACTION
6	7. SHUTDOWN COOLING ISOLATION				
6.b	a. Reactor Vessel Water Level - Low	≥144 inches	2 (b)	3, 4, 5	I 23
6.a	b. Recirculation Line Water Temperature - High (Cut-in Permissive)	≤350°F	2(a)	1, 2, 3	F 23

LF.1

L.3

A.9

Add proposed footnote (b)

L.5

A

A

A.1

Table 3.3.6.1-1

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

A.5 Moved to ITS 3.3.6.2

TABLE NOTATION

A.3

* During CORE ALTERATIONS or operations with a potential for draining the reactor vessel.

** When handling irradiated fuel in the secondary containment.

Insert CTS Table 3.2.A-1 Note

(a) A ~~CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the Functional Unit maintains isolation actuation capability.~~

(b) ~~Deleted~~

(c) Isolates the reactor building ventilation system and actuates the standby gas treatment system. A.5 Moved to ITS 3.3.6.2

(d) ~~This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.~~ A.4

(e) ~~Only one TRIP SYSTEM.~~ A.9

(f) ~~Closes only reactor water cleanup system isolation valves.~~ LA.3

(g) ~~Deleted~~

Allowable Value Function 3b (h) Includes a time delay of [3 ≤ t ≤ 9] seconds. LF.1

A.11

(i) ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ LA.2

A

Note (a) to Table 3.3.6.1-1 (j) All four switches in either of 2 groups for each trip system.

ADMINISTRATIVE

A.8 (cont'd) setpoints, but are based on switch manipulation. The LSFT (proposed SR 3.3.6.1.6), which applies to ITS Table 3.3.6.1-1 Function 5.a (SLC System Initiation), tests all contacts and will provide proper testing of the channels tested by a CFT. In addition, by definition the CHANNEL CALIBRATION includes a CHANNEL FUNCTIONAL TEST. The CHANNEL FUNCTIONAL TESTs for Functional Units 3.e and 6.c are performed at the same frequency as the CHANNEL CALIBRATIONS for Functional Units 3.e and 6.c. Therefore, these deletions are considered administrative.

A.9 CTS Table 3.2.A-1 (Isolation Actuation Instrumentation) provides footnote "e" for Functional Unit 7.b (Recirculation Line Water Temperature - High) stating that "only one TRIP SYSTEM" is provided. The provisions of footnote "e" are not retained for proposed ITS Table 3.3.6.1-1, Function 6.a. The two required channels provide inputs to a single trip string which in turn provides input to two trip systems. Since this change does not change the number of OPERABLE channels required for the Function per trip system and a description of the logic is provided in the Bases, this change is considered administrative.

A.10 CTS 3.2.A and CTS Table 3.2.A-1 require Functional Unit 3.e, Main Steam Line (MSL) Tunnel Temperature—High, to have at least 2 channels (of the 4) in each of 2 sets OPERABLE per trip system. It is proposed to clarify this requirement by replacing the words "2 of 4 in each of 2 sets" with "2 per trip string" such that the requirement is consistent with the terminology used in BWR ISTS, NUREG-1433, Rev. 1, for describing other similar trip logic schemes. The MSL Tunnel Temperature—High Functional Unit includes a total of 16 temperature switches, four for each steam tunnel area. One channel from each steam tunnel area inputs to one of four trip strings. Two trip strings make up a trip system and both trip systems must trip to cause an isolation. According to the CTS terminology, a "set" refers to the four area temperature switches that are arranged in a series contact scheme. Each "set" of four temperature switch contacts open on high temperature to actuate (de-energize) a logic relay. The BWR ISTS would refer to this trip logic scheme as a "trip string." Thus, the CTS terminology for a "set" is equivalent to the BWR ISTS terminology for a "trip string." Furthermore, since there are two trip strings per trip system, the minimum channel requirement of "2 of 4 in each of 2 sets" is equivalent to the proposed requirement of "2 per trip string." This change is considered a presentation preference change since it serves only to clarify an existing requirement by using the BWR ISTS terminology. As such, this change is administrative.

A.11 The Trip Setpoint for Functional Units 1.a, 4.b, and 7.a, Reactor Vessel Water Level - Low, and Functional Unit 3.a, Reactor Vessel Water Level-Low Low, in Table 3.2.A-1 is referenced to the top of active fuel. The reference value for the

ADMINISTRATIVE

A.11 (cont'd) associated Allowable Values specified in ITS Table 3.3.6.1-1 is to "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.6 and LF.1, therefore this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 An additional Function has been added, ITS Table 3.3.6.1-1 Function 1.c. This Function is the Main Steam Line Low Pressure—Timer (or Time Delay). This Function is required to ensure the OPERABILITY of the current and proposed MSL Pressure—High Function (CTS Table 3.2.A-1 Function 3.c and ITS Table 3.3.6.1-1 Function 1.b). This Function provides a time delay for the MSL Pressure—High Function to ensure an inadvertent main steam line isolation does not occur during transients which result in reactor steam dome pressure pertubations. However, the delay is limited to ensure proper operation during pressure regulator failure event. Appropriate ACTIONS and Surveillance Requirements have also been added. This change is an additional restriction on plant operation necessary to ensure the design basis accident analysis assumptions are satisfied.

M.2 The minimum required channels for the Standby Liquid Control System Initiation Function in CTS Table 3.2.A-1 (Functional Unit 4.a) is NA. For the same Function in the ITS (ITS Table 3.3.6.1-1 Function 5.a) the required channels per trip system is specified to be 1. The switch provides trip signal inputs to one trip system in any position other than "OFF." For this Specification, the SLC initiation switch is considered to provide 1 channel input into the trip system. Since the requirement is more explicit, this change is considered more restrictive on plant operations.

M.3 CTS Table 3.2.A-1 Note (h) requires Functional Unit 6.a (HPCI Steam Flow—High) to be OPERABLE including a time delay of $3 \leq t \leq 9$ seconds. In ITS 3.3.6.1, the HPCI Steam Flow Function is retained as Function 3.a. The time delay feature has been included as a new Function. This Function has been added as ITS 3.3.6.1 Function 3.b, HPCI Steam Flow Time Delay. Surveillances and Required Actions have also been added, consistent with the current requirements for the flow Function. Since the proposed requirements are explicit to when the Surveillances must be performed, this change is considered more restrictive. This change is consistent with BWR ISTS, NUREG-1434, Rev. 1.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.4 The Frequency of the CHANNEL CALIBRATION requirement for CTS Table 4.2.A-1, Functional Unit 3.d, Main Steam Line Flow — High has been increased from 18 months to 92 days (proposed ITS SR 3.3.6.1.4). The proposed Frequency is acceptable since it is consistent with current plant calculations. This change to the CTS requirement constitutes a more restrictive change to help ensure that the Main Steam Line Flow — High Functional Unit is maintained OPERABLE.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details in CTS 3.2.A Action 2 footnote a, relating to placing channels in trip, are proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.6.1 ensure inoperable channels are placed in trip (which effectively trips the trip system) or remedial actions are taken to compensate for the inoperability, as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable primary containment isolation instrumentation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail CTS Table 3.2.A-1 Note (i) related to the reference setting of the level instrumentation is proposed to be relocated to the UFSAR. The reference value for the associated Allowable Values specified in ITS Table 3.3.6.1-1 is to "instrument zero," as discussed in Discussion of Change A.11. This detail is not necessary to ensure the OPERABILITY of the primary containment isolation instrumentation. The requirements of ITS 3.3.6.1 and the Surveillances are adequate to ensure the primary containment isolation instrumentation is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.3 The detail in CTS 3.2.A-1 Note (f) that the Standby Liquid Control System Initiation Function channel closes only reactor water cleanup system isolation valves is proposed to be relocated to the Bases. The requirement in proposed LCO 3.3.6.1 that the primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE, the listed Function for the SLC System Initiation in Table 3.3.6.1-1, and the proposed Surveillances will ensure this Function is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.3 (cont'd) health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.A.2 (proposed SR 3.3.6.1.6) and the CHANNEL FUNCTIONAL TEST (CFT) for the MSL Tunnel Temperature—High, SLC System Initiation (changed to LSFT in Discussion of Change A.8 above), and HPCI Area Temperature—High Functions specified in CTS Table 4.2.A-1 has been extended from 18 months to 24 months. This SR ensures that Isolation Actuation Instrumentation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24-month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their surveillances at the current frequency. An evaluation has been performed using this data and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Most instrument channels are tested on a more frequent basis during the operating cycle in accordance with CTS 4.2.A.1, the CFT. This testing of the isolation instrumentation ensures that a significant portion of the Isolation Actuation Instrumentation circuitry is operating properly and will detect significant failures of this circuitry. The PCIVs including the actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LD.1 (cont'd) Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of current Surveillance 4.2.A and Table 4.2.A-1 (proposed SR 3.3.6.1.5) has been extended from 18 months to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). The subject SR ensures that the Isolation instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the Primary Containment Isolation System along with the Isolation initiation logic is designed to be single failure proof and, therefore, is highly reliable. Furthermore, the impacted Isolation instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PAN Transmitters and 710DU Master and Slave Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. A A

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 1.c: Drywell Radiation—High

This function is performed by a General Atomic RD-23 Radiation Detector, General Atomic RP-2C Radiation Monitor, Moore Industries MVT Isolators, and Bailey Model 50-73211 and Yokogawa UR100 4152 recorders. These instruments were evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

Functional Unit 3.a: Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1153DB4PAN Transmitters and 710DU Master and Slave Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.e: Main Steam Line Tunnel Temperature - High

This function is performed by United Electric Controls F-100 Type 7BS temperature switches. The United Electric Controls instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 4.b: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PAN Transmitters and 710DU Master Trip and Slave Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 6.a: HPCI Steam Line Flow - High

This function is performed by Rosemount 1153DB5PA Transmitters and 710DU Master Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6: HPCI Steam Line Flow - Timer

This function is performed by Agastat E7022 PC002 relays. The Agastat relays' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis will support a 24 month surveillance interval or the interval will be adjusted to a value supported by the analysis.

Functional Unit 6.b: Reactor Vessel Pressure - Low

This function is performed by Rosemount 1153GB7PA Transmitters and 710DU Master Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 6.c: HPCI Area Temperature - High

This function is performed by United Electric Controls F100 Type 7BS temperature switches. The United Electric Controls instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 7.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB7PA Transmitters and 710DU Master and Slave Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 7.b: Recirculation Line Water Temperature—High (Cut-In Permissive)

This function is performed by General Electric GE/MAC Type 550 MV/I Transmitters, General Electric GE/MAC Type 560 Alarm Units, Weston Model 2436 Digital Panel Meters, and General Electric GE/MAC Type 531 and Yokogawa UR100 4152 recorders. The General Electric Alarm Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the General Electric Alarm Units with respect to drift. The General Electric Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

A

A.1

A

Table 3.3.6.2-1

TABLE 3.2.A-1

ISOLATION ACTUATION INSTRUMENTATION

A.6 LA.2 A.7

Functional Unit	Allowable Value Trip Setpoint(a)	Minimum CHANNEL(s) per TRIP SYSTEM(a)	Applicable OPERATIONAL MODE(s)	ACTION
1. PRIMARY CONTAINMENT ISOLATION (See ITS 3.3.6.1)				
a. Reactor Vessel Water Level - Low	≥144 inches	2	1, 2, 3	20
b. Drywell Pressure - High(d)	≤2 psig	2	1, 2, 3	20
c. Drywell Radiation - High	≤100 R/hr	1	1, 2, 3	23
2. SECONDARY CONTAINMENT ISOLATION				
1 a. Reactor Vessel Water Level - Low(c)	≥144 inches LF.1	2	1, 2, 3 & * L.1	C 24
2 b. Drywell Pressure - High(c,d)	≤2 psig LF.1	2	1, 2, 3	C 24
3 c. Reactor Building Ventilation Exhaust Radiation - High(c)	≤10 mR/hr LF.1	2	1, 2, 3 & * #	C 24
4 d. Refueling Floor Radiation - High(c)	≤100 mR/hr LF.1	2	1, 2, 3 & * #	C 24
3. MAIN STEAM LINE (MSL) ISOLATION (See ITS 3.3.6.1)				
a. Reactor Vessel Water Level - Low Low	≥84 inches	2	1, 2, 3	21
b. Deleted				
c. MSL Pressure - Low	≥825 psig	2	1	22
d. MSL Flow - High	≤120% of rated	2/line	1, 2, 3	21
e. MSL Tunnel Temperature - High	≤200°F	2 of 4 in each of 2 sets	1, 2, 3	21

M.1 add CORE ALTERATIONS

add during OPDRVs M.2

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

L.1

TABLE NOTATION

Note (a) to Table 3.3.6.2-1 * During CORE ALTERATIONS or operations with a potential for draining the reactor vessel.

add CORE ALTERATIONS M.1

Note (b) to Table 3.3.6.2-1 ** When handling irradiated fuel in the secondary containment.

INSERT CTS Table 3.2.A-1 Note (a) A3

(a) ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the Functional Unit maintains isolation actuation capability.~~

(b) ~~Deleted~~

(c) ~~Isolates the reactor building ventilation system and actuates the standby gas treatment system.~~ LA.3

(d) ~~This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.~~ A.5

(e) Only one TRIP SYSTEM.

(f) Closes only reactor water cleanup system isolation valves.

(g) ~~Deleted~~

(h) Includes a time delay of $3 \leq t \leq 9$ seconds.

See ITS 3.3.6.1

A.7

(i) ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ LA.2

(j) All four switches in either of 2 groups for each trip system. See ITS 3.3.6.1

ADMINISTRATIVE (continued)

A.5 CTS Table 3.2.A-1 Note (d) and CTS Table 4.2.A-1 Note (b) state that the Drywell Pressure—High Function (Functional Unit 2.b) is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required in MODE 2 (i.e., when Special Test Exception 3.12.A is being used). These notes are deleted from CTS Table 3.2.A-1 and 4.2.A-1 since the only applicable condition in which these notes would be needed has been deleted (see Discussion of Changes for CTS: 3/4.12.A, in ITS Section 3.10). Therefore, Note (d) of CTS Table 3.2.A-1 and Note (b) of CTS Table 4.2.A-1 are no longer required and the change is considered administrative.

A.6 CTS 3.2.A requires the isolation actuation instrumentation setpoints to be set consistent with the Trip Setpoint values shown in Table 3.2.A-1. CTS 3.2.A Action 1 requires the CHANNEL to be declared inoperable when the setpoint is less conservative than the value shown in the Trip Setpoint column of Table 3.2.A-1. Table 3.2.A-1 includes a "Trip Setpoint" column. It is proposed to re-label this column as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1 (ISTS Table 3.3.6.2-1). In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.2.A-1 are applied as the Operability limit for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip setpoints specified in CTS Table 3.2.A-1 for the isolation actuation instrumentation Functions or the Allowable Values specified in ITS Table 3.3.6.2-1 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.7 The Trip Setpoint for Functional Unit 2.a, Reactor Vessel Water Level - Low, in Table 3.2.A-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS Table 3.3.6.2-1 for Function 1 is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.6 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The Applicability for CTS Table 3.2.A-1 and 4.2.A-1 Functional Units 2.c and 2.d has been revised to include CORE ALTERATIONS as indicated in ITS Table 3.3.6.2-1 footnote (b). This proposed Applicability is consistent with the

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) Applicability for the Standby Gas Treatment System in CTS 3.7.P (ITS 3.6.4.3). This change is more restrictive but necessary to ensure radiation releases due to postulated fuel failures (due to a postulated dropped fuel assembly during CORE ALTERATIONS) are maintained within analysis assumptions.

M.2 The Applicability for CTS Table 3.2.A-1 and 4.2.A-1 Functional Units 2.c and 2.d have been revised to include when performing operations that have a potential for draining the reactor vessel, as indicated in ITS Table 3.3.6.2-1 Note (a). This proposed Applicability, for ITS Table 3.3.6.2-1 Functions 3 and 4, is consistent with the Applicability for the Standby Gas Treatment System in CTS 3.7.P (ITS 3.6.4.3). This change represents and additional restriction on the plant operation necessary to ensure offsite dose limits are not exceeded if core damage occurs during an inadvertent drain down event.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details in CTS 3.2.A Action 2 footnote a, relating to placing channels in trip, are proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.6.2 ensure inoperable channels are placed in trip (which effectively trips the trip system) or remedial actions are taken to compensate for the inoperability, as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable secondary containment isolation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail in CTS Table 3.2.A-1 Note (i) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS Table 3.3.6.2-1 for Function 1 has been changed to the value associated with "instrument zero," as discussed in Discussion of Change A.7. This detail is not necessary to ensure the OPERABILITY of the secondary containment isolation instrumentation. The requirements of ITS 3.3.6.2 and the Surveillances are adequate to ensure the reactor vessel water level instrumentation for secondary containment isolation is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LA.3 System design and operational details of current Table 3.2.A-1 and 4.2.A-1 Note (c) are proposed to be relocated to the Bases. Details relating to system design and operation (e.g., specific valves and systems affected) are unnecessary in the LCO. These details are not necessary to ensure the OPERABILITY of the secondary containment isolation instrumentation. The requirements of ITS 3.3.6.2 and the associated Surveillance Requirements are adequate to ensure the secondary containment isolation instruments are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.4 The details in CTS 4.7.P.4.b.2 relating to methods for performing the LOGIC SYSTEM FUNCTIONAL TEST (simulated automatic operation) and the system functional test of SGT system (use of simulated signals), respectively, are proposed to be relocated to the Bases. These details are not necessary to ensure the OPERABILITY of the secondary containment isolation instrumentation. The requirements of ITS 3.3.6.2 and the associated Surveillance Requirements are adequate to ensure the secondary containment isolation instruments are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.A.2 and CTS 4.7.P.4.b (proposed SR 3.3.6.2.6) has been extended from 18 months to 24 months. These SRs ensure that Secondary Containment Isolation Instrumentation and Standby Gas Treatment (SGT) actuation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The SCIVs and SGT System including the automatic actuating

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Extending the SR Frequency is acceptable because the isolation initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted isolation instrumentation has been evaluated based on make, manufacturer, and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraph, listed by CTS Functional Unit number, identifies by make, manufacturer and model number the drift evaluation performed:

Functional Unit 2.a: Reactor Vessel Water Level—Low

This function is performed by Rosemount 1153DB4PAN Transmitters and 710DU Master and Slave Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

A.1

Instrumentation

PRIMARY SYSTEM BOUNDARY — Relief Valves Instrumentation 3/4.6.F

A.3

3.6 - LIMITING CONDITIONS FOR OPERATION	4.6 - SURVEILLANCE REQUIREMENTS
F. Relief Valves Instrumentation	F. Relief Valves Instrumentation — add proposed SR 3.3.6.3 Note
LCO 3.3.6.3 / Table 3.3.6.3-1 Function 1.b — 5 reactor coolant system relief valves and the reactuation time delay of two relief valves shall be OPERABLE with the following settings:	Table 3.3.6.3-1 Functions 1.a and 2.a / Table 3.3.6.3-1 Function 1.b — 1. The relief valve function and the reactuation time delay function instrumentation shall be demonstrated OPERABLE by performance of a:
Table 3.3.6.3-1 Functions 1.a and 2.a — Relief Function ~~Setpoint~~ (psig) Allowable Value — A.2	a. ~~CHANNEL FUNCTIONAL TEST of the relief valve function at least once per 18 months, and a~~ — A.4 — 24 — LD.1
Open — LF.1 ≤ 1112 psig ≤ 1112 psig ≤ 1135 psig ≤ 1135 psig ≤ 1135 psig[(a)] — See ITS 3.4.3	SR 3.3.6.3.1 SR 3.3.6.3.2 SR 3.3.6.3.3 b. CHANNEL CALIBRATION and LOGIC SYSTEM FUNCTIONAL TEST of the entire system at least once per 18 months. — 92 days — M.2 — 24 — LD.1 — LE.1 — A
	~~2. Deleted.~~

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 3.

add proposed Table 3.3.6.3-1 Function 1.b time delay Allowable Value — M.1

ACTION:

1. With one or more relief valves open, provided that suppression pool average water temperature is <110°F, take action to close the open relief valve(s); if suppression pool average water temperature is ≥110°F place the reactor mode switch in the Shutdown position. — See ITS 3.4.3

a Target Rock combination safety/relief valve. — See ITS 3.4.3

ADMINISTRATIVE

A.4 (cont'd) LSFT (ITS SR 3.3.6.3.2) will test all components in the actuation logic of each relief valve. Since the testing requirements are not altered, this change is considered a presentation preference only. As such, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS 3.6.F and CTS 4.6.F.1 require the OPERABILITY of the reactuation time delay function instrumentation, but do not specify an Allowable Value for the time delay. Proposed ITS Table 3.3.6.3-1 Function 1.b includes an Allowable Value for the time delay to ensure the OPERABILITY of the low set relief function. The Allowable Value has been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). The methodologies used are consistent with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. The proposed Allowable Value is based on the assumption of a 24 month calibration interval (plus an additional allowance of 25%) in the determination of the magnitude of equipment drift in the setpoint analysis. This change represents an additional restriction on plant operation.

M.2 CTS 4.6.F.1.b requires a CHANNEL CALIBRATION at least once each 18 months for both the relief valve function and the reactuation time delay function. Proposed ITS SR 3.3.6.3.1 has been added to require a CHANNEL CALIBRATION once each 92 days for the relief valve function (ITS Table 3.3.6.3-1 Functions 1.a and 2.a). The proposed Frequency is acceptable since it is consistent with the calibration interval assumed in the determination of the magnitude of the equipment drift in the setpoint analysis. This change to the CTS constitutes a more restrictive change to help ensure this Function is maintained OPERABLE.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST for CTS 4.6.F.1.b (ITS SR 3.3.6.3.3), including the CHANNEL FUNCTIONAL TEST for CTS 4.6.F.1.a, has been extended from 18 months to 24 months. This change extends the testing associated with the relief valve function and the reactuation time delay function. This SR ensures that the Relief Valve Instrumentation logic will function as designed to ensure proper response during

all changes are 1 unless otherwise identified

<CTS>

16 TSTF-264 changes not adopted

<T3.1.A-1>
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<T2.2.A-1>
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Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
14 1. Intermediate Range Monitors					
a. Neutron Flux — High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.17 SR 3.3.1.1.18 add SR 3.3.1.1.5	≤ 121/125 divisions of full scale
	5(a)	3	H	SR 3.3.1.1.4 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 121/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.4 SR 3.3.1.1.18	NA
	5(a)	3	H	SR 3.3.1.1.4 SR 3.3.1.1.18	NA
2. Average Power Range Monitors					
a. Neutron Flux — High, Setdown	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.18	≤ 17.1% RTP
b. Flow Biased ~~Simulated Thermal Power~~ Neutron Flux — High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 add SR 3.3.1.1.14 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 0.58 W + 63.5% RTP and ≤ 122% RTP(b)

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) 0.58 W + 59.2% ~~≤ 0.58 W~~ RTP and ≤ 118.5% when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

all changes are 1 unless otherwise identified

<CTS>

<T3.1.A-1>
<T4.1.A-1>
<T2.2.A-1>

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Fixed Neutron Flux — High	1	[2]	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.13 SR 3.3.1.1.17 add SR 3.3.1.1.5	≤ ~~[120]~~ 122% RTP 3
~~d. Downscale~~ 7	~~1~~	~~[2]~~	~~F~~	~~SR 3.3.1.1.8~~ ~~SR 3.3.1.1.9~~ ~~SR 3.3.1.1.15~~	~~≥ [3]% RTP~~ 7
~~e.~~ d. Inop	1,2	[2]	G	SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.15	NA 3
3. Reactor Vessel Steam Dome Pressure — High	1,2	[2]	G	~~SR 3.3.1.1.1~~ 8 ~~SR 3.3.1.1.9~~ ~~SR 3.3.1.1.10~~ 7 ~~SR 3.3.1.1.13~~ SR 3.3.1.1.15 SR 3.3.1.1.17 add SR 3.3.1.1.8 18 add SR 3.3.1.1.13 18	≤ [1054] psig
4. Reactor Vessel Water Level — Low ~~Level 3~~ 9	1,2 ,2(c) 13	[2]	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≥ ~~[10]~~ 10.24 inches
5. Main Steam Isolation Valve — Closure	1	[8]	F	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ [10]% closed
6. Drywell Pressure — High	1,2	[2]	G	~~SR 3.3.1.1.1~~ 8 SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ ~~SR 3.3.1.1.13~~ SR 3.3.1.1.15 add SR 3.3.1.1.13 5 add SR 3.3.1.1.19 12	≤ ~~[1.92]~~ 1.94 psig

(continued)

(c) With reactor pressure ≥ 600 psig. 13

all changes are [1] unless otherwise identified

<CTS>

<T3.1.A-1>
<T4.1.A-1>
<T2.2.A-1>
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Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level — High					
a. ~~Resistance Temperature Detector~~ Thermal Switch (Unit 2) Float Switch (Unit 3)	1,2	2	G	~~SR 3.3.1.1.1~~ SR 3.3.1.1.8 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 add SR 3.3.1.1.5	≤ ~~[57.15] gallons~~ ≤ 37.9 gallons (Unit 2) ≤ 39.1 gallons (Unit 3)
	5(a)	2	H	~~SR 3.3.1.1.1~~ SR 3.3.1.1.8 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[57.15] gallons~~
b. ~~Float~~ Differential Pressure Switch	1,2	2	G	SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[57.15] gallons~~
	5(a)	2	H	SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[57.15] gallons~~
8. Turbine Stop Valve — Closure	≥ ~~[5]~~ 45% RTP	4	E	SR 3.3.1.1.8 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ [10]% closed
9. Turbine Control Valve Fast Closure, Trip Oil Pressure — Low	≥ ~~[30]~~ 45% RTP	2	E	SR 3.3.1.1.8 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17	≥ ~~[600]~~ 466 psig
10. Turbine Condenser Vacuum — Low	1,2(c)	2	F	SR 3.3.1.1.5 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.18 SR 3.3.1.1.19	≥ 21.15 inches Hg vacuum
~~10.~~ 11. Reactor Mode Switch — Shutdown Position	1,2	~~[1]~~ 1	G	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
	5(a)	~~[1]~~ 1	H	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
~~11.~~ 12. Manual Scram	1,2	~~[1]~~ 1	G	SR 3.3.1.1.8 SR 3.3.1.1.15	NA
	5(a)	~~[1]~~ 1	H	SR 3.3.1.1.8 SR 3.3.1.1.15	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(c) With reactor pressure ≥ 600 psig

<CTS>

<T3.2.E-1>
<DOC M.1>
<T4.2.E-1>
<DOC M.2>
<3.3.L>
<Appl 3.3.L>
<3.3.M>
<Appl 3.3.M>
<DOC M.6>

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
a. Low Power Range — Upscale	(a)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.4 (5) SR 3.3.2.1.7 (4)	≤ [115.5/125] divisions of full scale As specified in the COLR
b. Intermediate Power Range — Upscale	(b)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7	≤ [109.7/125] divisions of full scale
c. High Power Range — Upscale	(c),(d)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7	≤ [105.9/125] divisions of full scale
(b) d. Inop	(a) (d),(e)	[2]	SR 3.3.2.1.1	NA
(c) e. Downscale	(a) (d),(e)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.7 (4) SR 3.3.2.1.5	≥ [93/125] divisions of full scale 4.1% RTP
f. Bypass Time Delay	(d),(e)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.7	≤ [2.0] seconds
2. Rod Worth Minimizer	1(f),2(f) (b)	[1]	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.5 (6) SR 3.3.2.1.8	NA
3. Reactor Mode Switch — Shutdown Position	(g) (c)	[2]	SR 3.3.2.1.6 (7) SR 3.3.2.1.9	NA

(a) THERMAL POWER ≥ [29] 30% and ≤ [64]% RTP and MCPR < 1.70. RTP and no peripheral control rod selected

(b) THERMAL POWER > [64]% and ≤ [84]% RTP and MCPR < 1.70.

(c) THERMAL POWER > [84]% and < 90% RTP and MCPR < 1.70.

(d) THERMAL POWER ≥ 90% RTP and MCPR < 1.40.

(e) THERMAL POWER ≥ [64]% and < 90% RTP and MCPR < 1.70.

(b) (f) With THERMAL POWER ≤ [10]% RTP.

(c) (g) Reactor mode switch in the shutdown position.

3 4 5 6 A

<CTS>

SURVEILLANCE REQUIREMENTS

NOTE

When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided ~~feedwater~~ System and main turbine high water level trip capability is maintained. 1

	SURVEILLANCE	FREQUENCY	
<4.2.J.1> 2 <T4.2.J.1>	SR 3.3.2.2.1 Perform CHANNEL CHECK.	12 ~~24~~ hours	2
<4.2.J.1> <T4.2.J.1>	SR 3.3.2.2.2 Perform CHANNEL FUNCTIONAL TEST.	[92] days	
7 <4.2.J.1> <T4.2.J.1> 2	SR 3.3.2.2.4 ~~3~~ Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ ~~58.0~~ 53.25 inches.	24 ~~18~~ months	2 A
7 <4.2.J.2> 2	SR 3.3.2.2.5 ~~4~~ Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker and ~~valve~~ actuation.	24 ~~18~~ months	6
<DOC M.5>	SR 3.3.2.2.3 Calibrate the trip units	92 days	7

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.2.C.1> <T4.2.C-1> 5	1 1 3 5 SR 3.3.4.2.2 Perform CHANNEL FUNCTIONAL TEST.	[92] days
<4.2.C.1> <T4.2.C-1> <T4.2.C-1 Footnote (a)>	1 1 2 5 SR 3.3.4.2.3 Calibrate the trip units.	[92] days 3
<4.2.C.1> <T3.2.C-1> <T3.2.C-1 Footnote (b)> <T4.2.C-1> <T4.2.C-1 Footnote (a)>	1 1 SR 3.3.4.2.4 Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low 1 [Level 2]: ≥ [-47] -54.15 inches 3 1 and b. Reactor Vessel Steam Dome Pressure—High: ≤ [1095] 1231 psig. 2	24 [18] months 3
<4.2.C.2>	1 1 SR 3.3.4.2.5 Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 [18] months 3

with time delay set to [≥ 8 seconds] and [≤ 10 seconds]; and 4

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<T3.2.B-1>
<T4.2.B-1>
<DOC M.1>

Table 3.3.5.1-1 (page 1 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System		3			
a. Reactor Vessel Water Level — Low Low ~~Low~~, ~~Level 1~~ 5	1,2,3, 4(a), 5(a)	~~[4]~~(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 3 SR 3.3.5.1.5 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[-113]~~ -54.15 inches 3
b. Drywell Pressure — High	1,2,3	~~[4]~~(b)	B	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ 6 SR 3.3.5.1.4 6 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≤ ~~[1.92]~~ 1.81 psig 3
c. Reactor Steam Dome Pressure — Low (~~Injection~~ Permissive) 5	1,2,3	~~[4]~~ 2	C 6	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ 6 SR 3.3.5.1.4 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[390]~~ 308.5 psig and ≤ ~~[500]~~ 341.7 psig 3
	4(a), 5(a)	~~[4]~~ 2	B 6	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ 6 SR 3.3.5.1.4 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[390]~~ 308.5 psig and ≤ ~~[500]~~ 341.7 psig 3
Insert Function 1.e 1					
d. Core Spray Pump Discharge Flow — Low (Bypass)	1,2,3, 4(a), 5(a)	[2] ~~[1 per pump]~~	E 6	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ ~~[?]~~ 802 gpm and ≤ ~~[?]~~ 992 gpm 3
~~e. Manual Initiation~~ 2	~~1,2,3, 4(a), 5(a)~~	~~[2] [1 per subsystem]~~	~~C~~	~~SR 3.3.5.1.6~~	~~NA~~
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level — Low Low ~~Low~~, ~~Level 1~~ 5	1,2,3, 4(a), 5(a)	~~[4]~~(b) 5	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 3 SR 3.3.5.1.5 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[-113]~~ -54.15 inches 3

(continued)

(a) When associated ECCS 7 subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS — Shutdown" 7.

(b) Also required to initiate the associated [diesel generator (DG) ~~and isolate the associated plant service water (PSW) turbine building (T/B) isolation valves~~]. 3

<CTS>

<T3.2.B.1>
<T4.2.B.1>
<DOC M.1>

Table 3.3.5.1-1 (page 2 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)		3			
b. Drywell Pressure — High	1,2,3	~~[4]~~ 6 5	B	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~[SR 3.3.5.1.3]~~ 6 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4 SR 3.3.5.1.4 6	≤ ~~[1.92]~~ 1.81 psig 3
c. Reactor Steam Dome Pressure — Low (~~Injection~~ Permissive) 5	1,2,3	~~[4]~~ 2	C	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~[SR 3.3.5.1.3]~~ ~~SR 3.3.5.1.5~~ 6 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[390]~~ 308.5 psig and ≤ ~~[500]~~ 341.7 psig 3
	$4^{(a)}$, $5^{(a)}$	~~[4]~~ 2	B	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~[SR 3.3.5.1.3]~~ ~~SR 3.3.5.1.5~~ 6 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[390]~~ 308.5 psig and ≤ ~~[500]~~ 341.7 psig 3
d. Reactor Steam Dome Pressure — Low (~~Recirculation~~ ~~Discharge Valve~~ ~~Permissive~~) Break Detection 5	~~$1^{(c)}$, $2^{(c)}$, $3^{(c)}$~~ 1, 2, 3 5	~~[4]~~	~~B~~ D 5	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~[SR 3.3.5.1.3]~~ SR 3.3.5.1.5 SR 3.3.5.1.6	≥ ~~[335]~~ 802 psig and ≤ 898 psig 3
~~e. Reactor Vessel Shroud Level — Level 0~~ 10	~~1,2,3~~	~~[2]~~	~~B~~	~~SR 3.3.5.1.1~~ ~~SR 3.3.5.1.2~~ ~~[SR 3.3.5.1.3]~~ ~~SR 3.3.5.1.5~~ ~~SR 3.3.5.1.6~~	~~≥ [-202] inches~~
~~f.~~ e. Low Pressure Coolant Injection Pump Start — Time Delay Relay 3 10 Pumps ~~A~~, B ~~,~~ and D 5 Pump C	1,2,3, $4^{(a)}$, $5^{(a)}$	~~1 per pump~~ [4]	C	SR 3.3.5.1.5 SR 3.3.5.1.6	8 ~~≥ 9 seconds and ≤ 11 seconds~~ ~~≤ 1 second~~ 5 3

(continued)

(a) When associated ECCS ~~subsystem(s)~~ 7 are required to be OPERABLE per LCO 3.5.2. 7

~~(b) Also required to initiate the associated DG and isolate the associated PSW T/B isolation valve[s].~~ 5

~~(c) With associated recirculation pump discharge valve open.~~ 5

A A A A

<CTS>

<T3.2.B-1>
<T4.2.B-1>
<DOC M.1>

Insert Functions 2.g, 2h, 2.i, 2.j and 2.k — 1

Table 3.3.5.1-1 (page 3 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
~~g.~~ f. Low Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1,2,3, $4^{(a)}$, $5^{(a)}$	[4] [1 per ~~pump~~] 1 per loop 3	E	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.3 SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ ~~[ ]~~ 1107 gpm ~~and ≤ [ ] gpm~~ 3 A
~~h. Manual Initiation~~ 2	~~1,2,3, $4^{(a)}$, $5^{(a)}$~~	~~[2] [1 per subsystem]~~	~~C~~	~~SR 3.3.5.1.6~~	~~NA~~
3. High Pressure Coolant Injection (HPCI) System		3			
a. Reactor Vessel Water Level — Low Low, ~~Level 2~~ 5	1, $2^{(c)}$, $3^{(c)}$ 5	~~4~~	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 3 SR 3.3.5.1.5 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≥ ~~[-47]~~ -54.15 inches 3 A
b. Drywell Pressure — High	1, $2^{(c)}$, $3^{(c)}$	~~4~~	B	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.4 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.4~~ 6 SR 3.3.5.1.6 ~~SR 3.3.5.1.7~~ 4	≤ ~~[1.92]~~ 1.81 psig 3 A
c. Reactor Vessel Water Level — High, ~~Level 8~~ 5	1, $2^{(c)}$, $3^{(c)}$	~~2~~	C	SR 3.3.5.1.1 SR 3.3.5.1.2 3 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.5 SR 3.3.5.1.6 4 ~~SR 3.3.5.1.7~~	≤ ~~[56.5]~~ 46.2 inches 3 A
5 Contaminated d. Condensate Storage Tank Level — Low (CCST) 5	1, $2^{(c)}$, $3^{(c)}$ 5	~~2~~ 2 per CCST	D	3 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ SR 3.3.5.1.6	~~[≥ [0] inches]~~ 10.8 ft for CCST 2/3 A and ≥ 7.3 ft for CCST 2/3 B 3 <DI 227>
e. Suppression Pool Water Level — High	1, $2^{(c)}$, $3^{(c)}$ 5	~~2~~	D	~~SR 3.3.5.1.1~~ 6 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ 6 SR 3.3.5.1.6	[≤ ~~[154]~~ inches] 15 ft 5 inches 3

(continued)

(a) When the associated ECCS 7 subsystem(s) are required to be OPERABLE per LCO 3.5.2 7.

5 ~~(b)~~ (c) With reactor steam dome pressure > ~~[150]~~ 150 psig. 3

<CTS>

<DOC M.1>

1

INSERT Functions 2.g, 2.h, 2.i, 2.j, and 2.k

g. Recirculation Pump Differential Pressure–High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	$\geq$ 5.9 psid	A
h. Recirculation Riser Differential Pressure–High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	$\leq$ 2.0 psid	A
i. Recirculation Pump Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.5 SR 3.3.5.1.6	[$\leq$ 0.5 seconds]	
j. Reactor Steam Dome Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.5 SR 3.3.5.1.6	[$\leq$ 2 seconds]	
k. Recirculation Riser Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.5 SR 3.3.5.1.6	[$\leq$ 0.5 seconds]	

<CTS>

<T3.2.B-1>
<T4.2.B-1>

Table 3.3.5.1-1 (page 4 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System (continued)		3			
f. High Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1, 2(c), 3(c)	~~1~~	E	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.4 SR 3.3.5.1.6	≥ [ ] 6/6 gpm ~~and ≤ [ ] gpm~~
g. Manual Initiation	1, 2(d), 3(c)	~~1~~	C	SR 3.3.5.1.6	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1, 2(c), 3(c)	~~2~~	F	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.5 SR 3.3.5.1.6	≥ [-113] -54.15 inches
b. Drywell Pressure — High	1, 2(c), 3(c)	~~2~~	F	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.4 SR 3.3.5.1.6	≤ [1.92] 1.81 psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	~~1~~	G	~~SR 3.3.5.1.5~~ SR 3.3.5.1.6	[≤ [120] 120 seconds]
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1, 2(d), 3(d)	[1]	F	SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6	≥ [10] inches
~~e.~~ d. Core Spray Pump Discharge Pressure — High	1, 2(c), 3(c)	~~2~~	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.4 SR 3.3.5.1.6	≥ [137] 101.5 psig and ≤ [ ] 148.5 psig

(continued)

(c) With reactor steam dome pressure > ~~150~~ psig.

<CTS>

<T3.2.B-1>
<T4.2.B-1>

Table 3.3.5.1-1 (page 5 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. ADS Trip System A (continued)		5			
e ~~f~~. Low Pressure Coolant Injection Pump Discharge Pressure - High	1, 2(c), 3(c)	~~[4]~~ 6	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4; SR 3.3.5.1.2; ~~SR 3.3.5.1.3~~; ~~SR 3.3.5.1.5~~; SR 3.3.5.1.6	≥ ~~[112]~~ 101.5 psig and ≤ ~~[ ]~~ 148.5 psig
f ~~g~~. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2(c), 3(c)	~~[2]~~ 1	G	~~SR 3.3.5.1.5~~; SR 3.3.5.1.6	[≤ ~~[13] minutes~~] 120 seconds
~~h. Manual Initiation~~	~~1, 2(d), 3(d)~~	~~[2]~~	~~G~~	~~SR 3.3.5.1.6~~	~~NA~~
5. ADS Trip System B					
a. Reactor Vessel Water Level - Low Low ~~Low, Level 1~~	1, 2(c), 3(c)	~~[2]~~	F	SR 3.3.5.1.1; SR 3.3.5.1.2; ~~SR 3.3.5.1.3~~; SR 3.3.5.1.5; SR 3.3.5.1.6	≥ ~~[-113]~~ -54.15 inches
b. Drywell Pressure - High	1, 2(c), 3(c)	~~[2]~~	F	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4; SR 3.3.5.1.2; ~~SR 3.3.5.1.3~~; ~~SR 3.3.5.1.5~~; SR 3.3.5.1.6	≤ ~~[1.92]~~ 1.81 psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	~~[1]~~	G	~~SR 3.3.5.1.5~~; SR 3.3.5.1.6	[≤ ~~[120]~~ 120 seconds]
~~d. Reactor Vessel Water Level - Low, Level 3 (Confirmatory)~~	~~1, 2(d), 3(d)~~	~~[1]~~	~~F~~	~~SR 3.3.5.1.1; SR 3.3.5.1.2; [SR 3.3.5.1.3]; SR 3.3.5.1.5; SR 3.3.5.1.6~~	~~≥ [10] inches~~
d ~~e~~. Core Spray Pump Discharge Pressure - High	1, 2(c), 3(c)	~~[2]~~	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4; SR 3.3.5.1.2; ~~SR 3.3.5.1.3~~; ~~SR 3.3.5.1.5~~; SR 3.3.5.1.6	≥ ~~[137]~~ 101.5 psig and ≤ ~~[ ]~~ 148.5 psig

(continued)

(c ~~d~~) With reactor steam dome pressure > ~~[150]~~ psig.

<CTS>

<T3.2.B-1>
<T4.2.B-1>

Table 3.3.5.1-1 (page 6 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B (continued)		3			
e ~~g~~. Low Pressure Coolant Injection Pump Discharge Pressure — High	1, 2(c), 3(c)	~~[4]~~	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 SR 3.3.5.1.4	≥ ~~[112]~~ 101.5 psig and ≤ ~~[]~~ 148.5 psig
f ~~g~~. Automatic Depressurization System Low ~~Water~~ Low Level Actuation Timer	1, 2(c), 3(c)	~~2~~ 1	G	~~SR 3.3.5.1.5~~ SR 3.3.5.1.6	[~~≥ [13]~~ ≤ 10 minutes]
~~h. Manual Initiation~~	~~1, 2(d), 3(d)~~	~~[2]~~	~~G~~	~~SR 3.3.5.1.6~~	~~NA~~

(c) ~~(d)~~ With reactor steam dome pressure > ~~[150]~~ psig.

all changes are [1] unless otherwise identified

<CTS>

SURVEILLANCE REQUIREMENTS

------------------------------------NOTES------------------------------------ [3]

1. ~~Refer to Table 3.3.5.2-1 to determine which SRs apply for each RCIC Function.~~

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed ~~as follows: (a)~~ for up to 6 hours ~~for Functions 2 and 5; and (b) for up to 6 hours for Functions 1, 3, and 4~~ provided the ~~associated~~ Reactor Vessel Pressure – High Function maintains RCIC initiation capability.

SURVEILLANCE	FREQUENCY
~~SR 3.3.5.2.1 Perform CHANNEL CHECK.~~	~~12 hours~~
<4.2.D.1> <T4.2.D-1> SR 3.3.5.2.~~2~~ 1 Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ 31 days [2]
~~SR 3.3.5.2.3 Calibrate the trip units.~~	~~[92] days~~
<4.2.D.1> <T3.2.D-1> <T4.2.D-1> SR 3.3.5.2.~~4~~ 2 Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 1064 psig with time delay set to [≤ 17 seconds].	92 days [2]
~~SR 3.3.5.2.5 Perform CHANNEL CALIBRATION.~~	~~[18] months~~
<4.2.D.2> SR 3.3.5.2.~~6~~ 3 Perform LOGIC SYSTEM FUNCTIONAL TEST.	~~[18]~~ 24 months [2]

[A]

<CTS>

<T3.2.A-1>
<DOC M.1>
<T4.2.A-1>

Table 3.3.6.1-1 (page 1 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level — Low Low ~~Low~~, ~~Level 1~~	1,2,3	~~[2]~~	D	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 ~~SR 3.3.6.1.8~~	≥ ~~[-113]~~ -56.77 inches
b. Main Steam Line Pressure — Low	1	~~[2]~~	E	~~[SR 3.3.6.1.1]~~ ~~SR~~ 3.3.6.1.2~~]~~ SR 3.3.6.1.4 SR 3.3.6.1.~~7~~ 6 ~~SR 3.3.6.1.8~~	≥ ~~[825]~~ 831 psig
~~c.~~ d. Main Steam Line Flow — High	1,2,3	~~[2]~~ per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ SR 3.3.1.1.4 SR 3.3.6.1.~~7~~ 6 ~~SR 3.3.6.1.8~~	≤ ~~[138]% rated steam flow~~ 160.5 psid (Unit 2) ≤ 117.1 psid (Unit 3)
~~d. Condenser Vacuum — Low~~	~~1, 2[(a)], 3[(a)]~~	~~[2]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.4~~ ~~SR 3.3.6.1.7~~	~~≥ [7] inches Hg vacuum~~
e. Main Steam ~~Tunnel~~ Line Temperature — High	1,2,3	~~[8]~~ 2 per trip string	D	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 ~~SR 3.3.6.1.8~~	≤ ~~[194]~~ 189 °F
~~f. Main Steam Tunnel Differential Temperature — High~~	~~1,2,3~~	~~[2]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [ ] °F~~
~~g. Turbine Building Area Temperature — High~~	~~1,2,3~~	~~[32]~~	~~D~~	~~[SR 3.3.6.1.1]~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [200] °F~~
~~h. Manual Initiation~~	~~1,2,3~~	~~[1]~~	~~G~~	~~SR 3.3.6.1.7~~	~~NA~~
c. Main Steam Line Pressure - Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ [0.1] seconds and ≤ [0.5] seconds

(continued)

~~(a) With any turbine [stop valve] not closed.~~

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<CTS>

<T3.2.A-1>
<DOC M.3>
<T4.2.A-1>
<T3.2.A-1 Footnote (h)>

Table 3.3.6.1-1 (page 2 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation					
a. Reactor Vessel Water Level — Low, ~~Level 3~~ 7	1,2,3	~~[2]~~	~~H~~ G 3	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ 5 SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 3 ~~SR 3.3.6.1.8~~ 6	≥ ~~[10]~~ 10.24 inches 5
b. Drywell Pressure — High	1,2,3	5 ~~[2]~~	~~H~~	9 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ 8 ~~SR 3.3.6.1.6~~ SR 3.3.6.1.~~7~~ 6 ~~SR 3.3.6.1.8~~ 6	~~≤ [1.92]~~ psig ≤ 1.81 5 Add SR 3.3.6.1.4 10 3
c. Drywell Radiation — High	1,2,3	~~[1]~~	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 3	≤ ~~[138]~~ 77 R/hr 5
~~d. Reactor Building Exhaust Radiation — High~~	~~1,2,3~~	~~[2]~~	~~H~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7 SR 3.3.6.1.8~~	~~≤ [60] mR/hr~~ 3
~~e. Refueling Floor Exhaust Radiation — High~~	~~1,2,3~~	~~[2]~~	~~H~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7 SR 3.3.6.1.8~~	~~≤ [20] mR/hr~~
~~f. Manual Initiation~~	~~1,2,3~~	~~[1 per group]~~	~~G~~	~~SR 3.3.6.1.7~~	~~NA~~
3. High Pressure Coolant Injection (HPCI) System Isolation		5			
a. HPCI Steam Line Flow — High	1,2,3	~~[1]~~	F	9 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ 5 SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 3 6 ~~SR 3.3.6.1.8~~	~~≤ [303]% rated steam flow~~ ≤ 290.16% of rated steam flow (Unit 2) ≤ 288.23% of rated steam flow (Unit 3) 5

3 Insert Function 3.b

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(continued)

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<T3.2.A-1>
<T4.2A-1>

Table 3.3.6.1-1 (page 3 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System Isolation (continued)					
3 c ~~b~~. HPCI Steam Supply Line Pressure — Low	1,2,3	5 ~~2~~ 4	F	~~[SR 3.3.6.1.1]~~ 9 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ 5 SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 3 ~~[SR 3.3.6.1.8]~~ 6	≥ ~~[100]~~ 104 psig 5
~~c. HPCI Turbine Exhaust Diaphragm Pressure — High~~ 3	~~1,2,3~~	~~[2]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [20] psig~~
~~d. Drywell Pressure — High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~ ~~[SR 3.3.6.1.8]~~	~~≤ [1.92] psig~~
3 d ~~e~~. HPCI ~~Pipe Penetration~~ ~~Room~~ Turbine Area 7 Temperature — High	1,2,3	~~[2]~~ 4(a) 5	F	~~[SR 3.3.6.1.1]~~ 9 11 ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ 8 SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 3	≤ ~~[169]~~ 189 °F 5
~~f. Suppression Pool Area Ambient Temperature — High~~ 3	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [169] °F~~
~~g. Suppression Pool Area Temperature — Time Delay Relays~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.5~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≥ [NA] [minutes]~~
~~h. Suppression Pool Area Differential Temperature — High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [42] °F~~
~~i. Emergency Area Cooler Temperature — High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [169] °F~~
~~[j. Manual Initiation~~	~~1,2,3~~	~~[1 per group]~~	~~G~~	~~SR 3.3.6.1.7~~	~~NA]~~

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(continued)

(a) All four channels must be associated with a single trip string. 5

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<T 3.2.A-1>
<T 4.2.A-1>

Insert Function 4

4. Isolation Condenser System Isolation					
a. Steam Flow—High	1, 2, 3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 290.76% of rated steam flow
b. Return Flow—High	1, 2, 3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 30.2 inches water (Unit 2) ≤ 13.7 inches water (Unit 3)

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<T4.2.A-1>

Table 3.3.6.1-1 (page 5 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. RCIC System Isolation (continued)					
[i. RCIC Equipment Room Temperature — High	1,2,3	[1]	F	[SR 3.3.6.1.1] SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.4 SR 3.3.6.1.7	≤ [ ]°F]
[j. RCIC Equipment Room Differential Temperature — High	1,2,3	[1]	F	[SR 3.3.6.1.1] SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.4 SR 3.3.6.1.7	≤ [ ]°F]
[k. Manual Initiation	1,2,3	[1 per group]	G	SR 3.3.6.1.7	NA]
5. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow — High	1,2,3	[1]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7 SR 3.3.6.1.8	≤ [79] gpm
b. Area Temperature — High	1,2,3	[3] [1 per room]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7 [SR 3.3.6.1.8]	≤ [150]°F
c. Area Ventilation Differential Temperature — High	1,2,3	[3] [1 per room]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7 [SR 3.3.6.1.8]	≤ [67]°F
a. ~~d.~~ SLC System Initiation	1,2	1 ~~[2]~~ (b)	I H	SR 3.3.6.1.6 ~~7~~	NA
b. ~~e.~~ Reactor Vessel Water Level — Low Low, ~~Level 2~~	1,2,3	~~[2]~~	F	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.5 ~~4~~ SR 3.3.6.1.6 ~~7~~ ~~[SR 3.3.6.1.8]~~	≥ ~~[-47]~~ 10.24 inches
[f. Manual Initiation	1,2,3	[1 per group]	G	SR 3.3.6.1.7	NA]

~~(b) SLC System Initiation only inputs into one of the two trip systems.~~

(continued)

3 4 3 3 5 3 5 7 5 3 7 3 5 A

<CTS>

<T3.2.A-1>
<T4.2.A-1>

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6. Shutdown Cooling System Isolation					
a. ~~Reactor Steam Dome Pressure - High~~ Recirculation Line Water Temperature - High	1,2,3	~~[1]~~ 2	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.5~~ SR 3.3.6.1.6 SR 3.3.6.1.7	≤ ~~[145] psig~~ 346°F
b. Reactor Vessel Water Level - Low, ~~Level 3~~	3,4,5	~~[2]~~ 2 (b)	~~J~~ I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ ~~[3.0]~~ 10.24 inches

(b) ~~(c)~~ ~~Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System integrity maintained.~~

In MODES 4 and 5, provided Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required.

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all changes are 4 unless otherwise identified

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<T3.2.A-1>
<T4.2.A-1>

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low ~~Low, Level 2~~ 1	1,2,3, [(a)]	[2]	SR 3.3.6.2.1 SR 3.3.6.2.2 [SR 3.3.6.2.3] SR 3.3.6.2.5 SR 3.3.6.2.6 5 ~~SR 3.3.6.2.7~~	≥ ~~[-47]~~ 10.24 inches
2. Drywell Pressure — High	1,2,3	[2]	~~SR 3.3.6.2.1~~ SR 3.3.6.2.2 6 ~~[SR 3.3.6.2.3]~~ ~~SR 3.3.6.2.5~~ 6 SR 3.3.6.2.4 SR 3.3.6.2.6 ~~SR 3.3.6.2.7~~ 5	≤ ~~[1.92]~~ 1.81 psig
3. Reactor Building Exhaust Radiation — High	1,2,3, [(a),(b)]	[2]	SR 3.3.6.2.1 SR 3.3.6.2.2 6 ~~SR 3.3.6.2.5~~ SR 3.3.6.2.6 ~~SR 3.3.6.2.7~~ 5	≤ ~~[60]~~ 14.9 mR/hr
4. Refueling Floor ~~Exhaust~~ 1 Radiation — High	1,2,3, [(a),(b)]	[2]	SR 3.3.6.2.1 SR 3.3.6.2.2 [SR 3.3.6.2.4] SR 3.3.6.2.6 ~~SR 3.3.6.2.7~~ 5	≤ ~~[20]~~ 100 mR/hr
~~5. Manual Initiation~~ 2	~~1,2,3, [(a),(b)]~~	~~[1 per group]~~	~~SR 3.3.6.2.6~~	~~NA~~

(a) During operations with a potential for draining the reactor vessel.

(b) During [CORE ALTERATIONS and during] movement of irradiated fuel assemblies in [secondary] containment.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.3.3	------------------NOTE------------------ Only required to be performed prior to entering MODE 2 during each scheduled outage > 72 hours when entry is made into primary containment. --- Perform CHANNEL FUNCTIONAL TEST for portions of the channel inside primary containment.	[92] days 1
SR 3.3.6.3.4	Perform CHANNEL FUNCTIONAL TEST.	[92] days
SR 3.3.6.3.5	Calibrate the trip unit.	[92] days
<4.6.F.1.b> SR 3.3.6.3.6 2	Perform CHANNEL CALIBRATION.	[18] 24 months 2
<4.6.F.1.b> 1 SR 3.3.6.3.7 3	Perform LOGIC SYSTEM FUNCTIONAL TEST.	[18] months

<4.6.F.1.b> SR 3.3.6.3.1	Perform CHANNEL CALIBRATION.	92 days 1 A

All changes $\boxed{1}$ unless otherwise identified

<CTS>

<3.6.F>
<4.6.F>
<DOC M.1>

Table 3.3.6.3-1 (page 1 of 1)
Relief Valve ~~Low-Low Set~~ Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
~~1. Reactor Steam Dome Pressure—High~~	~~[1 per LLS valve]~~	~~[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7~~	~~≤ [1054] psig~~
~~2. Low-Low Set Pressure Setpoints~~	~~[2 per LLS valve]~~	~~[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7~~	~~Low: Open ≤ [1010] psig Close ≤ [860] psig Medium-Low: Open ≤ [1025] psig Close ≤ [875] psig Medium-High: Open ≤ [1040] psig Close ≤ [890] psig High: Open ≤ [1050] psig Close ≤ [900] psig~~
~~3. Tailpipe Pressure Switch~~	~~[22] [2 per S/RV]~~	~~[SR 3.3.6.3.1] SR 3.3.6.3.2 [SR 3.3.6.3.3] SR 3.3.6.3.6 [SR 3.3.6.3.7]~~	~~≥ [80] psig and ≤ [100] psig~~
1. Low Set Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.3	≤ 1110.5 psig
b. Reactuation Time Delay	2 per valve	SR 3.3.6.3.2 SR 3.3.6.3.3	[≥ 10 seconds and ≤ 16.5 seconds]
2. Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.3	≤ 1133.5 psig

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ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
2 <DOC M.1> B ~~D~~. (continued)	B.2 ~~D~~.3 Declare ~~associated~~ 2 CREV 1 ~~[MCREC] sub~~system inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

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

~~1. Refer to Table 3.3.7.1-1 to determine which SRs apply for each [MCREC] Function.~~ 2

2 ~~2~~ 1. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided ~~the associated Function maintains [MCREC] initiation~~ the CREV System Instrumentation alarm capability is maintained. 2

	SURVEILLANCE	FREQUENCY
<DOC M.1>	SR 3.3.7.1.1 Perform CHANNEL CHECK.	12 hours
<DOC M.1>	SR 3.3.7.1.2 Perform CHANNEL FUNCTIONAL TEST.	~~[~~92~~]~~ days 1
	~~SR 3.3.7.1.3 Calibrate the trip units.~~	~~[92] days~~ 3
3 <DOC M.1>	SR 3.3.7.1.~~4~~3 Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 14.9 mR/hr 2	~~[18] months~~ 92 days 1
	~~SR 3.3.7.1.5 Perform LOGIC SYSTEM FUNCTIONAL TEST.~~	~~[18] months~~ 4

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Insert BKGD-1

For both the Reactor Vessel Water Level — Low and Drywell Pressure — High Function, the secondary containment isolation logic receives input from four channels. One channel associated with each Function inputs to one of four trip strings. Two trip strings make up a trip system and both trip systems must trip to initiate the secondary containment isolation function. Any channel will trip the associated trip string. Any trip string will trip the associated trip system. The trip strings are arranged in a one-out-of-two taken twice logic to initiate the secondary containment isolation function. For both Reactor Building Exhaust Radiation — High and Refueling Floor Radiation — High Functions, the secondary containment isolation trip system logic receives input from four channels. Two channels of Reactor Building Exhaust Radiation — High are located in each of the unit reactor building exhaust ducts and two channels of Refueling Floor Radiation — High are located where they can monitor the environment of each of the unit spent fuel pools. The output of the channels associated with Unit 2 are provided to one trip system while the output of the channels associated with Unit 3 are provided to the other trip system. The output from these channels are arranged in two one-out-of-two trip system logics for each Function to initiate the secondary containment isolation function. Any Reactor Building Exhaust Radiation — High or Refueling Floor Radiation — High channel will initiate the secondary containment isolation function. Initiating the secondary containment isolation function provides an input to both secondary containment Train A and Train B logic. Either train initiates isolation of all secondary containment isolation valves and provides a start signal to the associated SGT subsystem.

all changes are [1] unless otherwise identified

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.6.3.~~6~~ 1 (continued) and SR 3.3.6.3.2

calibrations consistent with the plant specific setpoint methodology.

The Frequency of every 92 days for SR 3.3.6.3.1 is based on the assumption of a 31 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

The Frequency of once every ~~18~~ 24 months for SR 3.3.6.3.~~6~~ 2 is based on the assumption of a~~n~~ ~~18~~ month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.6.3.~~7~~ 3

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required actuation logic for a specified channel. The system functional testing performed in LCO 3.4.3, "Safety/Relief Valves ~~(S/RVs)~~" and LCO 3.6.1.~~8~~ 6, "~~Low-~~Low Set ~~(LLS) Safety/~~Relief Valves ~~(S/RVs)~~," ~~for S/RVs~~ and overlaps this test to provide complete testing of the assumed safety function. [2]

The Frequency of once every ~~18~~ 24 months for SR 3.3.6.3.~~7~~ 3 is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the ~~18~~ 24 month Frequency.

REFERENCES

1. U FSAR, ~~Figure [ ]~~ Section 5.2.2 [5]
2. U FSAR, Section ~~[5.5.17]~~ 6.2.1.3.4
3. ~~GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," February 1991.~~ UFSAR, Chapter 15. [2]

ATTACHMENT 2

Revision A to LaSalle County Station, Units 1 and 2
Proposed Improved Technical Specifications Submittal
dated March 3, 2000

REVISION A TO LASALLE COUNTY STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES

This attachment provides a brief summary of the changes in Revision A of the proposed Improved Technical Specifications (ITS) submittal for LaSalle County Station, Units 1 and 2. The original Technical Specifications amendment request (i.e., Revision 0) was submitted to the NRC by letter dated March 3, 2000.

In the submittal of March 3, 2000, it was identified that the supporting calculations for Allowable Values needed for ITS Section 3.3, "Instrumentation," had not been completed. Commonwealth Edison (ComEd) Company committed to submit any changes to the ITS Allowable Values and Surveillance Frequencies resulting from the completion of the first group of calculations by June 5, 2000. Changes resulting from the first group of calculations are provided in this revision to the ITS submittal (i.e., Revision A). The remaining calculations, which mainly involve time delay relays and mechanical devices will be completed and any resulting changes to the associated ITS Allowable Values and Surveillance Frequencies will be submitted by September 15, 2000 as committed in the March 3, 2000, submittal. The corresponding remaining Allowable Values are annotated with square brackets. Minor corrections to ITS Section 3.3 of the March 3, 2000, submittal are also provided in this Revision A of the ITS submittal. The summary of the changes is provided below.

1. Changes to the Allowable Values from the first group of calculations have been made. These changes are the result of application of the ComEd Setpoint Methodology (i.e., Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy," submitted to the NRC by ComEd letter dated March 24, 2000) and also includes assuming a 30 month calibration interval in the determination of the magnitude of drift used in the applicable setpoint calculations. The Allowable Values for the following ITS Instrumentation Functions were confirmed to be valid or were revised. The validated values or revised values are identified by the removal of the square brackets from the values.

    ITS Table 3.3.1.1-1, Functions 1.a, 2.a, 2.b, 2.c, 3, 4, 6, 7.a, 7.b, and 9;
    ITS Table 3.3.2.1-1, Function 1.c;
    ITS Limiting Condition for Operation (LCO) 3.3.2.2, Surveillance Requirement (SR) 3.3.2.2.3;
    ITS LCO 3.3.4.1.a.2, SR 3.3.4.1.2.b;
    ITS LCO 3.3.4.2, SR 3.3.4.2.3;
    ITS Table 3.3.5.1-1, Functions 1.a, 1.b, 1.d, 1.e, 1.f, 1.g, 2.a, 2.b, 2.d, 2.e, 2.f, 3.a, 3.b, 3.c, 3.d, 3.e, 4.a, 4.b, 4.d, 4.e, 4.f, 5.a, 5.b, 5.d, and 5.e;
    ITS Table 3.3.5.2-1, Functions 1 and 2;
    ITS Table 3.3.6.1-1, Functions 1.a, 1.b, 1.c, 1.d, 1.e, 2.a, 2.b, 2.c, 2.d, 2.e, 2.f, 3.a, 3.c, 3.d, 3.e, 3.f, 3.g, 3.h, 3.i, 4.c, 4.d, 4.e, 4.f, 4.g, 4.h, 4.i, 4.j, 4.k, 5.a, and 5.b;
    ITS Table 3.3.6.2-1, Functions 1, 2, 3, and 4; and
    ITS LCO 3.3.7.1, SR 3.3.7.1.3.

    These changes affect ITS clean typed pages 3.3.1.1-7 through 3.3.1.1-9, 3.3.2.1-6, 3.3.2.2-3, 3.3.4.1-3, 3.3.4.2-3, 3.3.5.1-8 through 3.3.5.1-11, 3.3.5.2-4, 3.3.6.1-6 through 3.3.6.1-9, 3.3.6.2-4, and 3.3.7.1-2; and Improved Standard Technical

REVISION A TO LASALLE COUNTY STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES (continued)

Specification (ISTS) markup pages 3.3-7 through 3.3-9, Insert page 3.3-19f, Insert page 3.3-19h, 3.3-29, 3.3-33, 3.3-41 through 3.3-45, 3.3-49, 3.3-56 through 3.3-61, 3.3-65, and 3.3-78. As a result of completion of the first group of calculations, the following Discussion of Changes (DOCs) have also been revised.

ITS 3.3.1.1, DOC LE.1 (pages 13 and 14)
ITS 3.3.2.2, DOC LE.1 (page 4)
ITS 3.3.4.1, DOC LE.1 (page 7)
ITS 3.3.4.2, DOC LE.1 (pages 4 and 5)
ITS 3.3.5.1, DOC LE.1 (pages 8 through 11)
ITS 3.3.5.2, DOC LE.1 (page 6)
ITS 3.3.6.1, DOC A.7 (page 2)
ITS 3.3.6.1, DOC LE.1 (pages 14 through 21)
ITS 3.3.6.2, DOC LE.1 (page 8)

2. A typographical error was corrected on ITS clean typed page 3.3.5.1-5. Condition "A. (continued)" was changed to Condition "D. (continued)."

3. A typographical error was corrected on ITS clean typed page B 3.3.1.1-15. In the last line of the second paragraph on the page, "scam" was changed to "scram."

4. An editorial correction was made to the Current Technical Specifications (CTS) markup pages for ITS 3.3.5.1. This correction removed the "Add Lower Limit" annotation from the Low Pressure Coolant Injection Pump Start Delay Timer Function on CTS markup pages 7 of 30, 8 of 30, 22 of 30, and 23 of 30. The lower limit for this Function is not included in the ITS or the CTS.

5. An editorial correction was made to the CTS markup pages for ITS 3.3.5.2. On CTS markup pages 4 of 10, 5 of 10, 9 of 10, and 10 of 10, annotation for DOC "M.2" is revised to "M.1."

6. An editorial correction was made to a CTS markup page for ITS 3.3.6.1. On CTS markup page 30 of 34, annotation DOC "LA.2" was added. This annotation was inadvertently not included on this page.

7. An editorial correction was made to the CTS markup pages for ITS 3.3.8.1. On CTS markup pages 4 of 14, 5 of 14, 11 of 14, and 12 of 14, annotation for DOC "LA.2" is revised to "LA.1."

Attachment 2

DISCARD AND INSERTION INSTRUCTIONS

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
ITS page 3.3.1.1-7 through 3.3.1.1-9	ITS page 3.3.1.1-7 through 3.3.1.1-9
ITS page 3.3.2.1-6	ITS page 3.3.2.1-6
ITS page 3.3.2.2-3	ITS page 3.3.2.2-3
ITS page 3.3.4.1-3	ITS page 3.3.4.1-3
ITS page 3.3.4.2-3	ITS page 3.3.4.2-3
ITS page 3.3.5.1-5	ITS page 3.3.5.1-5
ITS pages 3.3.5.1-8 through 3.3.5.1-11	ITS pages 3.3.5.1-8 through 3.3.5.1-11
ITS page 3.3.5.2-4	ITS page 3.3.5.2-4
ITS pages 3.3.6.1-6 through 3.3.6.1-9	ITS pages 3.3.6.1-6 through 3.3.6.1-9
ITS page 3.3.6.2-4	ITS page 3.3.6.2-4
ITS page 3.3.7.1-2	ITS page 3.3.7.1-2
ITS Bases page B 3.3.1.1-15	ITS Bases page B 3.3.1.1-15
Discussion of Changes for ITS 3.3.1.1 pages 13 and 14	Discussion of Changes for ITS 3.3.1.1 pages 13 and 14
Discussion of Changes for ITS 3.3.2.2 page 4	Discussion of Changes for ITS 3.3.2.2 page 4
Discussion of Changes for ITS 3.3.4.1 page 7	Discussion of Changes for ITS 3.3.4.1 page 7
Discussion of Changes for ITS 3.3.4.2 pages 4 and 5	Discussion of Changes for ITS 3.3.4.2 pages 4 and 5
CTS markup for Specification 3.3.5.1 page 7 of 30	CTS markup for Specification 3.3.5.1 page 7 of 30
CTS markup for Specification 3.3.5.1 page 8 of 30	CTS markup for Specification 3.3.5.1 page 8 of 30
CTS markup for Specification 3.3.5.1 page 22 of 30	CTS markup for Specification 3.3.5.1 page 22 of 30
CTS markup for Specification 3.3.5.1 page 23 of 30	CTS markup for Specification 3.3.5.1 page 23 of 30

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
Discussion of Changes for ITS 3.3.5.1 pages 8 through 11	Discussion of Changes for ITS 3.3.5.1 pages 8 through 11
CTS markup for Specification 3.3.5.2 page 4 of 10	CTS markup for Specification 3.3.5.2 page 4 of 10
CTS markup for Specification 3.3.5.2 page 5 of 10	CTS markup for Specification 3.3.5.2 page 5 of 10
CTS markup for Specification 3.3.5.2 page 9 of 10	CTS markup for Specification 3.3.5.2 page 9 of 10
CTS markup for Specification 3.3.5.2 page 10 of 10	CTS markup for Specification 3.3.5.2 page 10 of 10
Discussion of Changes for ITS 3.3.5.2 page 6	Discussion of Changes for ITS 3.3.5.2 page 6
CTS markup for Specification 3.3.6.1 page 30 of 34	CTS markup for Specification 3.3.6.1 page 30 of 34
Discussion of Changes for ITS 3.3.6.1 page 2	Discussion of Changes for ITS 3.3.6.1 page 2
Discussion of Changes for ITS 3.3.6.1 pages 14 through 21	Discussion of Changes for ITS 3.3.6.1 pages 14 through 21
Discussion of Changes for ITS 3.3.6.2 page 8	Discussion of Changes for ITS 3.3.6.2 page 8
CTS markup for Specification 3.3.8.1 page 4 of 14	CTS markup for Specification 3.3.8.1 page 4 of 14
CTS markup for Specification 3.3.8.1 page 5 of 14	CTS markup for Specification 3.3.8.1 page 5 of 14
CTS markup for Specification 3.3.8.1 page 11 of 14	CTS markup for Specification 3.3.8.1 page 11 of 14
CTS markup for Specification 3.3.8.1 page 12 of 14	CTS markup for Specification 3.3.8.1 page 12 of 14

VOLUME 4	
SECTION 3.3	
DISCARD	**INSERT**
ISTS markup pages 3.3-7 through 3.3-9	ISTS markup pages 3.3-7 through 3.3-9
ISTS markup insert page 3.3-19f	ISTS markup insert page 3.3-19f
ISTS markup insert page 3.3-19h	ISTS markup insert page 3.3-19h
ISTS markup page 3.3-29	ISTS markup page 3.3-29
ISTS markup page 3.3-33	ISTS markup page 3.3-33
ISTS markup page 3.3-41	ISTS markup page 3.3-41
ISTS markup insert page 3.3-41	ISTS markup insert page 3.3-41
ISTS markup page 3.3-42	ISTS markup page 3.3-42
ISTS markup insert page 3.3-42	ISTS markup insert page 3.3-42
ISTS markup pages 3.3-43 through 3.3-45	ISTS markup pages 3.3-43 through 3.3-45
ISTS markup page 3.3-49	ISTS markup page 3.3-49
ISTS markup pages 3.3-56 and 3.3-57	ISTS markup pages 3.3-56 and 3.3-57
ISTS markup insert page 3.3-57	ISTS markup insert page 3.3-57
ISTS markup pages 3.3-58 through 3.3-61	ISTS markup pages 3.3-58 through 3.3-61
ISTS markup page 3.3-65	ISTS markup page 3.3-65
ISTS markup page 3.3-78	ISTS markup page 3.3-78

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux — High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 123/125 divisions of full scale
	5[(a)]	3	H	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 123/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.4 SR 3.3.1.1.15	NA
	5[(a)]	3	H	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
2. Average Power Range Monitors					
a. Neutron Flux — High, Setdown	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ 20% RTP
b. Flow Biased Simulated Thermal Power — Upscale	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.15	≤ 0.62 W + 69.3% RTP and ≤ 115.5% RTP[(b)]
c. Fixed Neutron Flux — High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 120% RTP

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) Allowable Value is ≤ 0.55 W + 56.8% RTP and ≤ 112.3% RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
d. Inop	1,2	2	G	SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.15	NA
3. Reactor Vessel Steam Dome Pressure — High	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 1059.0 psig
4. Reactor Vessel Water Level — Low, Level 3	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≥ 11.0 inches
5. Main Steam Isolation Valve — Closure	1	8	F	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ [12]% closed
6. Drywell Pressure — High	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 1.93 psig
7. Scram Discharge Volume Water Level — High					
a. Transmitter/Trip Unit	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 767 ft 8.55 in elevation
	5(a)	2	H	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 767 ft 8.55 in elevation

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level — High (continued)					
b. Float Switch	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 767 ft 8.55 in elevation
	5(a)	2	H	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 767 ft 8.55 in elevation
8. Turbine Stop Valve — Closure	≥ 25% RTP	4	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ [7]% closed
9. Turbine Control Valve Fast Closure, Trip Oil Pressure — Low	≥ 25% RTP	2	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17	≥ 425.5 psig
10. Reactor Mode Switch — Shutdown Position	1,2	2	G	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
	5(a)	2	H	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
11. Manual Scram	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.15	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
a. Upscale	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.5	As specified in the COLR
b. Inop	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.5	NA
c. Downscale	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.5	≥ 1.25% RTP
2. Rod Worth Minimizer	$1^{(b)}, 2^{(b)}$	1	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.6 SR 3.3.2.1.8 SR 3.3.2.1.9	NA
3. Reactor Mode Switch — Shutdown Position	(c)	2	SR 3.3.2.1.7	NA

(a) THERMAL POWER ≥ 30% RTP and no peripheral control rod selected.

(b) With THERMAL POWER ≤ 10% RTP.

(c) Reactor mode switch in the shutdown position.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be $\leq$ 59.5 inches.	24 months
SR 3.3.2.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker and valve actuation.	24 months

SURVEILLANCE REQUIREMENTS

---NOTE---
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.1	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.1.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. TSV – Closure ≤ [7]% closed. b. TCV – Fast Closure, Trip Oil Pressure – Low: ≥ 425.5 psig.	24 months
SR 3.3.4.1.3	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	24 months
SR 3.3.4.1.4	Verify TSV – Closure and TCV – Fast Closure, Trip Oil Pressure – Low Functions are not bypassed when THERMAL POWER is ≥ 25% RTP.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

-----NOTE-----
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains ATWS-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.4.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.2.3	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level — Low Low, Level 2: $\geq$ -54 inches; and b. Reactor Steam Dome Pressure — High: $\leq$ 1147 psig.	24 months
SR 3.3.4.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	24 months

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. (continued)	D.3	--------NOTE--------- Only applicable for Functions 1.g and 2.f. ---------------------	
		Restore channel to OPERABLE status.	24 hours
	AND		
	D.4	Restore channel to OPERABLE status.	7 days
E. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	E.1	Declare Automatic Depressurization System (ADS) valves inoperable.	1 hour from discovery of loss of ADS initiation capability in both trip systems
	AND		
	E.2	Place channel in trip.	96 hours from discovery of inoperable channel concurrent with HPCS or reactor core isolation cooling (RCIC) inoperable AND 8 days

(continued)

Table 3.3.5.1-1 (page 1 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, 4(a),5(a)	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -147.0 inches
b. Drywell Pressure — High	1,2,3	2(b)	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.77 psig
c. LPCI Pump A Start — Time Delay Relay	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≤ [6] seconds
d. Reactor Steam Dome Pressure — Low (Injection Permissive)	1,2,3	2	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
	4(a),5(a)	2	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
e. LPCS Pump Discharge Flow — Low (Bypass)	1,2,3, 4(a),5(a)	1	D	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≥ 1240 gpm and ≤ 1835 gpm
f. LPCI Pump A Discharge Flow — Low (Bypass)	1,2,3, 4(a),5(a)	1	D	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≥ 1330 gpm and ≤ 2144 gpm
g. LPCS and LPCI A Injection Line Pressure—Low (Injection Permissive)	1,2,3	1 per valve	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
	4(a),5(a)	1 per valve	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
h. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.5	NA

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS—Shutdown."

(b) Also required to initiate the associated diesel generator (DG).

Table 3.3.5.1-1 (page 2 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI B and LPCI C Subsystems					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, $4^{(a)}$, $5^{(a)}$	$2^{(b)}$	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -147.0 inches
b. Drywell Pressure — High	1,2,3	$2^{(b)}$	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.77 psig
c. LPCI Pump B Start — Time Delay Relay	1,2,3, $4^{(a)}$, $5^{(a)}$	1	C	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≤ [6] seconds
d. Reactor Steam Dome Pressure — Low (Injection Permissive)	1,2,3	2	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
	$4^{(a)}$, $5^{(a)}$	2	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
e. LPCI Pump B and LPCI Pump C Discharge Flow — Low (Bypass)	1,2,3, $4^{(a)}$, $5^{(a)}$	1 per pump	D	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≥ 1330 gpm and ≤ 2144 gpm
f. LPCI B and LPCI C Injection Line Pressure—Low (Injection Permissive)	1,2,3	1 per valve	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
	$4^{(a)}$, $5^{(a)}$	1 per valve	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig
g. Manual Initiation	1,2,3, $4^{(a)}$, $5^{(a)}$	1	C	SR 3.3.5.1.5	NA

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

(b) Also required to initiate the associated DG.

Table 3.3.5.1-1 (page 3 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Core Spray (HPCS) System					
a. Reactor Vessel Water Level — Low Low, Level 2	1,2,3, 4(a),5(a)	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -83 inches
b. Drywell Pressure — High	1,2,3	4(b)	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.77 psig
c. Reactor Vessel Water Level — High, Level 8	1,2,3, 4(a),5(a)	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 66.5 inches
d. HPCS Pump Discharge Pressure — High (Bypass)	1,2,3, 4(a),5(a)	1	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 113.2 psig
e. HPCS System Flow Rate — Low (Bypass)	1,2,3, 4(a),5(a)	1	D	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≥ 1380 gpm and ≤ 1704 gpm
f. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.5	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2(c),3(c)	2	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -147.0 inches
b. Drywell Pressure — High	1,2(c),3(c)	2	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.77 psig
c. ADS Initiation Timer	1,2(c),3(c)	1	F	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≤ [117] seconds

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

(b) Also required to initiate the associated DG.

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 4 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. ADS Trip System A (continued)					
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1,2(c),3(c)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 11.0 inches
e. LPCS Pump Discharge Pressure — High	1,2(c),3(c)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 131.2 psig and ≤ 271.0 psig
f. LPCI Pump A Discharge Pressure — High	1,2(c),3(c)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 105.0 psig and ≤ 128.6 psig
g. ADS Drywell Pressure Bypass Timer	1,2(c),3(c)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≤ [9.5] minutes
h. Manual Initiation	1,2(c),3(c)	2	F	SR 3.3.5.1.5	NA
5. ADS Trip System B					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2(c),3(c)	2	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -147.0 inches
b. Drywell Pressure — High	1,2(c),3(c)	2	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.77 psig
c. ADS Initiation Timer	1,2(c),3(c)	1	F	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≤ [117] seconds
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1,2(c),3(c)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 11.0 inches
e. LPCI Pumps B & C Discharge Pressure — High	1,2(c),3(c)	2 per pump	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 105.0 psig and ≤ 128.6 psig
f. ADS Drywell Pressure Bypass Timer	1,2(c),3(c)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≤ [9.5] minutes
g. Manual Initiation	1,2(c),3(c)	2	F	SR 3.3.5.1.5	NA

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, Level 2	4	B	SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4	≥ -83 inches
2. Reactor Vessel Water Level — High, Level 8	2	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4	≤ 66.5 inches
3. Condensate Storage Tank Level — Low	2	D	SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4	≥ [715 ft 8] inches
4. Manual Initiation	1	C	SR 3.3.5.2.4	NA

Table 3.3.6.1-1 (page 1 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -137.0 inches
b. Main Steam Line Pressure — Low	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 826.5 psig
c. Main Steam Line Flow — High	1,2,3	2 per MSL	D	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 128.0 psid
d. Condenser Vacuum — Low	1,2[(a)], 3[(a)]	2	D	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ 3.8 inches Hg vacuum
e. Main Steam Line Tunnel Differential Temperature — High	1,2,3	2	D	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 66.4°F
f. Manual Initiation	1,2,3	2	G	SR 3.3.6.1.5	NA
2. Primary Containment Isolation					
a. Reactor Vessel Water Level — Low Low, Level 2	1,2,3	2	H	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ -58.0 inches
b. Drywell Pressure — High	1,2,3	2	H	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.93 psig
c. Reactor Building Ventilation Exhaust Plenum Radiation-High	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 42 mR/hr
d. Fuel Pool Ventilation Exhaust Radiation—High	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 42 mR/hr

(continued)

(a) With any turbine stop valve not closed.

Table 3.3.6.1-1 (page 2 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation (continued)					
e. Reactor Vessel Water Level—Low Low Low, Level 1	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ -137.0 inches
f. Reactor Vessel Water Level—Low, Level 3	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ 11.0 inches
g. Manual Initiation	1,2,3	1	G	SR 3.3.6.1.5	NA
3. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≤ 176.0 inches water
b. RCIC Steam Line Flow—Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ [3] seconds and ≤ [7] seconds
c. RCIC Steam Supply Pressure — Low	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ 58.2 psig
d. RCIC Turbine Exhaust Diaphragm Pressure — High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 300 inches water
e. RCIC Equipment Room Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 291.0°F
f. RCIC Equipment Room Differential Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 189.0°F
g. RCIC Steam Line Tunnel Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 277.0°F
h. RCIC Steam Line Tunnel Differential Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 155.0°F
i. Drywell Pressure — High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.77 psig

(continued)

Table 3.3.6.1-1 (page 3 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. RCIC System Isolation (continued)					
j. Manual Initiation	1,2,3	1(b)	G	SR 3.3.6.1.5	NA
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow — High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ [85] gpm
b. Differential Flow — Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ [46] seconds
c. RWCU Heat Exchanger Areas Temperature-High	1,2,3	1 per area	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 157.0°F
d. RWCU Heat Exchanger Areas Ventilation Differential Temperature — High	1,2,3	1 per area	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 38.5°F
e. RWCU Pump and Valve Area Temperature — High	1,2,3	1 per area	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 209.0°F
f. RWCU Pump and Valve Area Differential Temperature — High	1,2,3	1 per area	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 91.0°F
g. RWCU Holdup Pipe Area Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 209.0°F
h. RWCU Holdup Pipe Area Ventilation Differential Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 91.0°F
i. RWCU Filter/ Demineralizer Valve Room Area Temperature—High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 209.0°F
j. RWCU Filter/ Demineralizer Valve Room Area Ventilation Differential Temperature — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 91.0°F

(continued)

(b) Only inputs into one of two trip systems.

Table 3.3.6.1-1 (page 4 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. RWCU System Isolation (continued)					
k. Reactor Vessel Water Level — Low Low, Level 2	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	$\geq$ -58.0 inches
l. Standby Liquid Control System Initiation	1,2	2(b)	I	SR 3.3.6.1.5	NA
m. Manual Initiation	1,2,3	1	G	SR 3.3.6.1.5	NA
5. RHR Shutdown Cooling System Isolation					
a. Reactor Vessel Water Level — Low, Level 3	3,4,5	2(c)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	$\geq$ 11.0 inches
b. Reactor Vessel Pressure — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	$\leq$ 143 psig
c. Manual Initiation	1,2,3	1	G	SR 3.3.6.1.5	NA

(b) Only inputs into one of two trip systems.

(c) Only one trip system required in MODES 4 and 5 with RHR Shutdown Cooling System integrity maintained.

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES AND OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, Level 2	1,2,3,(a)	2	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≥ -58.0 inches
2. Drywell Pressure — High	1,2,3	2	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 1.93 psig
3. Reactor Building Ventilation Exhaust Plenum Radiation — High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 42 mR/hr
4. Fuel Pool Ventilation Exhaust Radiation — High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≤ 42 mR/hr
5. Manual Initiation	1,2,3, (a),(b)	1	SR 3.3.6.2.4	NA

(a) During operations with a potential for draining the reactor vessel.

(b) During CORE ALTERATIONS, and during movement of irradiated fuel assemblies in the secondary containment.

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1	Place the associated CRAF subsystem in the pressurizaton mode of operation.	1 hour
	<u>OR</u>		
	B.2	Declare associated CRAF subsystem inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

-----------------------------------NOTE-----------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains CRAF subsystem initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.1.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.7.1.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be $\leq$ 11.0 mR/hr.	24 months
SR 3.3.7.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

5. Main Steam Isolation Valve — Closure (continued)

The reactor scram reduces the amount of energy required to be absorbed and, along with the actions of the ECCS, ensures that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46.

MSIV closure signals are initiated from position switches located on each of the eight MSIVs. Each MSIV has two position switches; one inputs to RPS trip system A while the other inputs to RPS trip system B. Thus, each RPS trip system receives an input from eight Main Steam Isolation Valve — Closure channels, each consisting of one position switch. The logic for the Main Steam Isolation Valve — Closure Function is arranged such that either the inboard or outboard valve on three or more of the main steam lines (MSLs) must close in order for a scram to occur. In addition, certain combinations of valves closed in two lines will result in a half scram. A

The Main Steam Isolation Valve — Closure Allowable Value is specified to ensure that a scram occurs prior to a significant reduction in steam flow, thereby reducing the severity of the subsequent pressure transient.

Sixteen channels of the Main Steam Isolation Valve — Closure Function with eight channels in each trip system are required to be OPERABLE to ensure that no single instrument failure will preclude the scram from this Function on a valid signal. This Function is only required in MODE 1 since, with the MSIVs open and the heat generation rate high, a pressurization transient can occur if the MSIVs close. In MODE 2, the heat generation rate is low enough so that the other diverse RPS functions provide sufficient protection.

6. Drywell Pressure — High

High pressure in the drywell could indicate a break in the RCPB. A reactor scram is initiated to minimize the possibility of fuel damage and to reduce the amount of energy being added to the coolant and the drywell. The

(continued)

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Based on the above discussion, the impact, if any, of this change on system availability is minimal.

Functional Unit 4, Reactor Vessel Water Level—Low, Level 3 (currently 18 months)

This function is performed by Rosemount 1153DB4 Transmitters and Rosemount 710DU Master Trip Units. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 5, Main Steam Isolation Valve - Closure (currently 18 months)

This function is performed by NAMCO EA740 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Functional Unit 7, Primary Containment Pressure - High (currently 92 days)

This function is performed by Static-O-Ring Pressure Switches 12N6-B4-NX-C1A-JJTTX7. The Static-O-Ring Pressure Switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 8, Scram Discharge Volume Water Level—High, Float Switch and Scram Discharge Volume Water Level—High, Transmitter/Trip Limit (currently 18 months)

This function is performed by Model 751 float switches manufactured by Magnetrol. These devices are mechanical devices that require mechanical setting at the proper level only; drift is not applicable to these devices. Therefore, an increase in surveillance intervals to accommodate a 24 month fuel cycle does not affect the level switches with respect to drift.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) The transmitter/trip unit function is performed by Rosemount 1153DB4 Transmitters and Bailey 745 Trip Units. The Rosemount Transmitters' and Bailey trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 9, Turbine Stop Valve—Closure (currently 18 months)

This function is performed by NAMCO EA170, EA180, and EA740 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Functional Unit 10, Turbine Control Valve Fast Closure, Trip Oil Pressure—Low (currently 18 months)

This function is performed by Static-O-Ring Pressure Switches 9N6-B45-NX-C1A-JJTTX8. The Static-O-Ring Pressure Switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24 month surveillance frequency. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Allowable Values to the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1434, Rev. 1. These Allowable Values have been established

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) Based on the above discussion, the impact, if any, of this change on system availability is minimal.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of CTS 4.3.8.1 and Table 4.3.8.1-1 Trip Function 1.a (proposed SR 3.3.2.2.3) has been extended from 18 months to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The CHANNEL CALIBRATION Surveillance is performed to ensure that at a previously evaluated setpoint actuation takes place to provide the required safety function. Extending the SR Frequency is acceptable because the instrumentation purchased for these functions are highly reliable and meet the design criteria of safety related equipment. The instrumentation is designed with redundant and independent channels which provide means to verify proper instrumentation performance during operation, and adequate redundancy to ensure a high confidence of system performance even with the failure of a single component.

Furthermore, the impacted Feedwater System and Main Turbine High Water Level Trip Instrumentation have been evaluated based on manufacturer and model number to determine that the instrumentation's actual drift falls within the assumed design allowance in the associated setpoint calculation. This function is performed by Rosemount 1151DP4 differential pressure transmitters and Bailey 745 bistable switches. The Rosemount transmitters' and Bailey bistable switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. A

Based on the design of the instrumentation and drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Extending the surveillance interval is acceptable since the CHANNEL FUNCTIONAL TESTS are performed during the operating cycle more frequently than the CHANNEL CALIBRATION Surveillance. These CHANNEL FUNCTIONAL TESTS detect failures of the instrumentation channels. Gross instrumentation failures are detected by alarms or by a comparison with redundant and independent indications. Instrumentation purchased for these functions are highly reliable and meet the design criteria of safety related equipment. The instrumentation is designed with redundant and independent channels which provide means to verify proper instrumentation performance during operation and adequate redundancy to ensure a high confidence of system performance even with the failure of a single component.

Furthermore, the impacted EOC-RPT instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs listed by CTS Trip Function, identify by make, manufacturer and model number the drift evaluation performed.

Trip Function 1, Turbine Stop Valve—Closure

This function is performed by NAMCO EA170, EA180, EA740 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Trip Function 2, Turbine Control Valve—Fast Closure

This function is performed by Static-O-Ring Pressure Switches 9N6-B45-NX-C1A-JJTTX8. The Static-O-Ring switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. A A

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the Logic System Functional Test interval represents no significant change in the overall safety system unavailability."

Based on the above discussion, the impact, if any, of this change on system availability is minimal.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of CTS 4.3.4.1.1 and Table 4.3.4.1-1 Trip Functions 1 and 2 (proposed SR 3.3.4.2.3) has been extended to 24 months. The proposed change will allow this Surveillance to extend its Surveillance Frequency to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The CHANNEL CALIBRATION Surveillance is performed to ensure that a previously evaluated setpoint actuation takes place to provide the required safety function. Extending the SR Frequency is acceptable because the ATWS-RPT initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted ATWS-RPT instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraph, listed by CTS Trip Function, identifies by make, manufacturer and model number the drift evaluation performed:

Trip Function 1, Reactor Vessel Water Level - Low Low, Level 2 (currently 18 months)

This function is performed by Rosemount 1153DB5 Transmitters and GE 184C5988G132 Trip Units. The Rosemount Transmitters' and GE trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. A A

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

Trip Function 2, Reactor Vessel Pressure - High (currently 92 days)

This function is performed by Rosemount 1153GB9 Transmitters and Rosemount 710DU Trip Units. The Rosemount Transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Allowable Values to the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1434, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety

Table 3.3.5.1-1

TABLE 3.3.3-2

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

LF.1

LA.1

M.4

add upper limit

FUNCTION TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
A. DIVISION 1 TRIP SYSTEM (LA.3)		
1. RHR-A (LPCI MODE) AND LPCS SYSTEM		
a. a. Reactor Vessel Water Level - Low Low Low, Level 1	≥- 129 inches*	≥- 136 inches*
b. b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
e. c. LPCS Pump Discharge Flow-Low	≥ 750 gpm	≥ 640 gpm
g. d. LPCS and LPCI A Injection Valve Injection Line-Low Pressure Interlock	500 psig	500 ± 20 psig
d. e. LPCS and LPCI A Injection Valve Reactor Pressure-Low Pressure Interlock	500 psig	500 ± 20 psig
c. f. LPCI Pump A Start Time Delay Relay	≤ 5 seconds	≤ 6 seconds
f. g. LPCI Pump A Discharge Flow-Low	≥ 1000 gpm	≥ 550 gpm
h h. Manual Initiation	NA	NA
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "A"		add upper limit (M.4)
a. a. Reactor Vessel Water Level - Low Low Low, Level 1	≥- 129 inches*	≥- 136 inches*
b. b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
c. c. Initiation Timer	≤ 105 seconds	≤ 117 seconds
d d. Reactor Vessel Water Level-Low, Level 3	≥ 12.5 inches*	≥ 11 inches*
e e. LPCS Pump Discharge Pressure-High	≥ 146 psig, increasing	≥ 136 psig, increasing
f. f. LPCI Pump A Discharge Pressure-High	≥ 119 psig, increasing	≥ 106 psig, increasing
h g. Manual Initiation	NA	NA
g h. Drywell Pressure Bypass Timer	≤ 9.0 minutes	Footnote (a)
i. Manual Inhibit	NA	NA

A

add upper limit M.4

R.1

(a) The sum of the time delays associated with the ADS initiation timer and the drywell pressure bypass time shall be less than or equal to 687 seconds.

M.5 add explicit limit

LA SALLE - UNIT 1

Table 3.3.5.1-1

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTION TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
B. DIVISION 2 TRIP SYSTEM LA.3	LA.1	LF.1
2 1. RHR B AND C (LPCI MODE)		
a. a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -129 inches*	≥ -136 inches*
b. b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
f. c. LPCI B and C Injection Valve Injection Line-Low Pressure Interlock	500 psig	500 psig ±20 psig
c. d. LPCI Pump B Start Time Delay Relay	≤ 5 seconds	≤ 6 seconds
e. e. LPCI Pump Discharge Flow-Low	≥ 1000 gpm	≥ 550 gpm
g. f. Manual Initiation	NA	NA
d. g. LPCI B and C Injection Valve Reactor Pressure Low Pressure Interlock	500 psig	500 ± 20 psig
		add upper limit M4
5 2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "B"		
a. a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -129 inches*	≥ -136 inches*
b. b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
c. c. Initiation Timer	≤ 105 seconds	≤ 117 seconds
d. d. Reactor Vessel Water Level-Low, Level 3	≥ 12.5 inches*	≥ 11 inches*
e. e. LPCI Pump B and C Discharge Pressure-High	≥ 119 psig, increasing	≥ 106 psig, increasing
g. f. Manual Initiation	NA	NA
f. g. Drywell Pressure Bypass Timer	≤ 9.0 minutes	Footnote (a) add explicit limit
h. Manual Inhibit	NA	NA

A

M.4 add upper limit

R.1

(a) The sum of the time delays associated with the ADS initiation timer and the drywell pressure bypass time shall be less than or equal to 687 seconds.

M.5

Table 3.3.5.1-1

TABLE 3.3.3-2

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

LF.1 LA.1 LA.3

	FUNKTION TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE	
	A. DIVISION 1 TRIP SYSTEM			
	1. RHR-A (LPCI MODE) AND LPCS SYSTEM			
a.	a. Reactor Vessel Water Level - Low Low Low, Level 1	>- 129 inches*	>- 136 inches*	
b.	b. Drywell Pressure - High	< 1.69 psig	< 1.89 psig	
e	c. LPCS Pump Discharge Flow-Low	> 750 gpm	> 640 gpm	add upper limit M.4
g	d. LPCS and LPCI A Injection Valve Injection Line-Low Pressure Interlock	500 psig	500 ± 20 psig	
d	e. LPCS and LPCI A Injection Valve Reactor Pressure-Low Pressure Interlock	500 psig	500 ± 20 psig	
c.	f. LPCI Pump A Start Time Delay Relay	< 5 seconds	< 6 seconds	
f.	g. LPCI Pump A Discharge Flow-Low	> 1000 gpm	> 550 gpm	add upper limit M.4 A.1
h	h. Manual Initiation	N.A.	N.A.	
4	**2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "A"**			
a.	a. Reactor Vessel Water Level - Low Low Low, Level 1	>- 129 inches*	>- 136 inches*	
b	b. Drywell Pressure - High	< 1.69 psig	< 1.89 psig	
c.	c. Initiation Timer	< 105 seconds	< 117 seconds	add upper limits M.4
d.	d. Reactor Vessel Water Level-Low, Level 3	> 12.5 inches*	> 11 inches*	
e.	e. LPCS Pump Discharge Pressure-High	> 146 psig, increasing	> 136 psig, increasing	
f.	f. LPCI Pump A Discharge Pressure-High	> 119 psig, increasing	> 106 psig, increasing	
h.	g. Manual Initiation	N.A.	N.A.	
g.	h. Drywell Pressure Bypass Timer	< 9.0 minutes	Footnote (a)	
	i. Manual Inhibit	N.A.	N.A.	R.1

(a) The sum of the time delays associated with the ADS initiation timer and the drywell pressure bypass timer shall be less than or equal to 687 seconds.

M.5 add explicit limit

Table 3.3.5.1-1

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

LA.1 LF.1 LA.3

Function TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
B. DIVISION 2 TRIP SYSTEM		
2. 1. RHR B AND C (LPCI MODE)		
a. a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ 129 inches*	≥ 136 inches*
b. b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
f. c. LPCI B and C Injection Valve Injection Line Low Pressure Interlock	500 psig	500 ± 20 psig
c. d. LPCI Pump B Start Time Delay Relay	≤ 5 seconds	≤ 6 seconds
e. e. LPCI Pump Discharge Flow-Low	≥ 1000 gpm	≥ 550 gpm
g. f. Manual Initiation	N.A.	N.A.
d. g. LPCI B and C Injection Valve Reactor Pressure-Low Pressure Interlock	500 psig	500 ± 20 psig
5. 2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "B"		
a. a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ 129 inches*	≥ 136 inches*
b. b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
c. c. Initiation Timer	≤ 105 seconds	≤ 117 seconds
d. d. Reactor Vessel Water Level-Low, Level 3	≥ 12.5 inches*	≥ 11 inches*
e. e. LPCI Pump B and C Discharge Pressure-High	≥ 119 psig, increasing	≥ 106 psig, increasing
g. f. Manual Initiation	N.A.	N.A.
f. g. Drywell Pressure Bypass Timer	≤ 9.0 minutes	Footnote (a)
h. Manual Inhibit	N.A.	N.A.

add upper limit M.4

add upper limit

add explicit limit

R.1

A

A.1

(a) The sum of the time delays associated with the ADS initiation timer and the drywell pressure bypass timer shall be less than or equal to 687 seconds.

M.5

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 The Frequencies for performing CHANNEL CALIBRATIONS of CTS 4.3.3.1 and CTS Table 4.3.3.1-1 for Trip Functions A.1.a, A.1.b, A.1.d, A.1.e, B.1.a, B.1.b, B.1.c, B.1.g, A.2.a, A.2.b, A.2.d, A.2.e, A.2.f, , B.2.a, B.2.b, B.2.d, B.2.e, C.1.a, C.1.b, C.1.c, and C.1.f have been extended 24 months. The proposed change will allow these Surveillances to extend their Surveillance Frequency to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

Extending the SR Frequency is acceptable because the ECCS network along with the ECCS initiation logic is designed to be single failure proof and therefore is highly reliable. Furthermore, the impacted ECCS instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Trip Function number, identify by make, manufacturer and model number the drift evaluations performed:

Trip Functions A.1.a, B.1.a: LPCS/LPCI Reactor Vessel Water Level - Low Low Low, Level 1 (currently 18 months)

This function is performed by Rosemount 1154DH5 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.1.b, A.2.b, B.1.b, B.2.b, C.1.b: Drywell Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 12N6-B4-NX-C1A-JTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) **Trip Functions A.1.d, B.1.c:** LPCS/LPCI Injection Valve Injection Line Pressure Low Interlock (currently 18 months)

This function is performed by Static-O-Ring 5N6-E45-NX-C1A-TTX6 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.1.e, B.1.g: LPCS/LPCI Injection Valve Reactor Pressure Low Interlock (currently 18 months)

This function is performed by Static-O-Ring 5N6-E45-NX-C1A-TTX6 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.2.a, B.2.a: ADS Reactor Vessel Water Level - Low Low Low, Level 1 (currently 18 months)

This function is performed by Rosemount 1154DH5 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.2.d, B.2.d: ADS Reactor Vessel Water Level - Low, Level 3, (Permissive) (currently 18 months)

This function is performed by Rosemount 1154DH4 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) **Trip Functions A.2.e:** LPCS Pump Discharge Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 6N6-B45-U8-C1A-JJTTNQ and 6N6-B45-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.2.f: LPCI Pump A Discharge Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 6N6-B45-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions B.2.e: LPCI Pump B and C Discharge Pressure - High (currently 18 months)

This function is performed by Static-O-Ring 6N6-B45-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function C.1.a: HPCS Reactor Vessel Water Level - Low Low, Level 2 (currently 18 months)

This function is performed by Rosemount 1154DH5 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function C.1.c: HPCS Reactor Vessel Water Level - High, Level 8 (currently 18 months)

This function is performed by Rosemount 1154DH4 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions C.1.f: HPCS Pump Discharge Pressure - High (currently 92 day)

This function is performed by Static-O-Ring 6N6-B45-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

A.1

Table 3.3.5.2-1
TABLE 3.3.5-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTION FUNCTIONAL UNITS	~~TRIP SETPOINT~~	ALLOWABLE VALUE
1. a. Reactor Vessel Water Level - Low Low, Level 2	~~≥ - 50 inches*~~	≥ - 57 inches*
2. b. Reactor Vessel Water Level - High, Level 8	~~≤ 55.5 inches*~~	≤ 56 inches*
4. c. Manual Initiation	~~NA~~	NA

add proposed Function 3

~~*See Bases Figure B 3/4 3-1.~~

LF.1

LA.3

M.1

A.6

A

A.1

Table 3.3.5.2-1

TABLE ~~4.3.5.1-1~~

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTION ~~FUNCTIONAL UNITS~~	SR 3.3.5.2.1 CHANNEL CHECK	SR 3.3.5.2.2 CHANNEL FUNCTIONAL TEST	SR 3.3.5.2.3 CHANNEL CALIBRATION
1. ~~a.~~ Reactor Vessel Water Level - Low Low, Level 2	NA	Q	~~R~~ 24 months
2. ~~b.~~ Reactor Vessel Water Level - High, Level 8	S	Q	~~R~~ 24 months
4. ~~c.~~ Manual Initiation	NA	~~R~~	NA

LE.1

A.5

add proposed Function 3

M.1

A

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ITS 3.3.5.2

A.1

Table 3.3.5.2-1

TABLE 3.3.5-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTION FUNCTIONAL UNITS	~~TRIP SETPOINT~~	ALLOWABLE VALUE
1. a. Reactor Vessel Water Level - Low Low, Level 2	~~≥ - 50 inches*~~	≥ - 57 inches*
2. b. Reactor Vessel Water Level - High, Level 8	~~≤ 55.5 inches*~~	≤ 56 inches*
4. c. Manual Initiation	~~NA~~	NA

LF.1

LA.3

add proposed function 3

M.1

A

~~*See Bases Figure B 3/4 3-1~~

A.6

ITS 3.3.5.2

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A.1

Table 3.3.5.2-1

TABLE 4.3.5.1-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTION FUNCTIONAL UNITS	SR 3.3.5.2.1 CHANNEL CHECK	SR 3.3.5.2.2 CHANNEL FUNCTIONAL TEST	SR 3.3.5.2.3 CHANNEL CALIBRATION	
1. a. Reactor Vessel Water Level - Low Low, Level 2	NA	Q	~~R~~ 24 months	LE.1
2. b. Reactor Vessel Water Level - High, Level 8	S	Q	~~R~~ 24 months	LE.1
4. c. Manual Initiation	NA	~~R~~	NA	A.5

add proposed Function 3 — M.1

A

ITS 3.3.5.2

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TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs listed by CTS Table 4.3.5.1-1 Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit a, Reactor Vessel Water Level—Low Low, Level 2

This function is performed by Rosemount 1153DH5 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit b, Reactor Vessel Water Level—High, Level 8

This function is performed by Rosemount 1153DH4 Transmitters and 710DU Master Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is small from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Allowable Values to the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1434, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint

A.1

TABLE 3.3.2-3

ISOLATION SYSTEM INSTRUMENTATION RESPONSE TIME

TRIP FUNCTION	RESPONSE TIME (Seconds)#
A. AUTOMATIC INITIATION	
1. PRIMARY CONTAINMENT ISOLATION	
a. Reactor Vessel Water Level	
1) Low, Level 3	N/A
2) Low Low, Level 2	N/A
3) Low Low Low, Level 1	≤ 1.0*#
b. Drywell Pressure - High	N/A
c. Main Steam Line	
1) DELETED	
2) Pressure - Low	≤ 2.0*#
3) Flow - High	≤ 0.5*#
d. DELETED	
e. Condenser Vacuum - Low	N/A
f. Main Steam Line Tunnel ΔTemperature - High	N/A
2. SECONDARY CONTAINMENT ISOLATION	N/A
a. Reactor Building Vent Exhaust Plenum Radiation - High	
b. Drywell Pressure - High	
c. Reactor Vessel Water Level - Low, Level 2	
d. Fuel Pool Vent Exhaust Radiation - High	
3. REACTOR WATER CLEANUP SYSTEM ISOLATION	N/A
a. ΔFlow - High	
b. Heat Exchanger Area Temperature - High	
c. Heat Exchanger Area Ventilation ΔT-High	
d. SLCS Initiation	
e. Reactor Vessel Water Level - Low Low, Level 2	
f. Pump and Valve Area Temperature - High	
g. Pump and Valve Area Ventilation ΔT - High	
h. Holdup Pipe Area Temperature - High	
i. Holdup Pipe Area Ventilation ΔT - High	

Note to SR 3.3.6.1.6

LA2

A

ADMINISTRATIVE

A.5 (cont'd) 3.3.6.1-1. The appropriate individual Functions are placed with the proper isolation. Since the current requirements are maintained (except as addressed in the Discussion of Changes below). This change is considered to be administrative in nature.

A.6 The requirements identified in CTS Tables 3.3.2-1, 3.3.2-2, 3.3.2-3, and 4.3.2.1-1 related to Secondary Containment Isolation (as described in footnotes (c), (e), **, and # to Table 3.3.2-1 and footnotes ** and # to Table 4.3.2.1-1) have been moved to ITS 3.3.6.2, Secondary Containment Isolation Instrumentation. Any technical changes to these requirements are addressed in the Discussion of Changes for ITS 3.3.6.2.

A.7 CTS Table 3.3.2-2 identifies the Allowable Value for the RCIC Steam Line Flow — High trip function as "≤ 295% of rated flow, 185" H_2O". These are equivalent values and considered redundant. Only the Allowable Value in terms of inches water is retained for ITS Table 3.3.6.1-1, Function 3.a. (The CTS Allowable Value of "185" H_2O" is revised to "169 inches water" per Discussion of Change LF.1 below.) This value provides sufficient detail to ensure adequate health and safety of the public. Since there is no change in requirement, this is a change in presentation only and is considered administrative. A

A.8 An action to "declare the affected system inoperable," as presented in CTS Table 3.3.2-1 Actions 22, 25, and 26, is an unnecessary reminder that other Technical Specifications may be affected. This is essentially a "cross reference" between Technical Specifications that has been determined to be adequately provided through training. In addition, the definition of "OPERABILITY in ITS Section 1.1 would also ensure that the affected systems rendered inoperable by isolation of an affected line are declared inoperable. Therefore, this deletion is administrative.

A.9 CTS Table 3.3.2-1 for SLCS Initiation does not specify the minimum OPERABLE channels per trip system. The specified value in the Table is NA. Since two channels (one from each SLC pump) provide input into the logic circuit, 2 channels have been included in proposed ITS Table 3.3.6.1-1 (Function 4.l), however footnote (b) has been added which states that the channels only input into one of two trip systems, consistent with CTS Table 3.3.2-1 footnote (f). This logic arrangement will ensure that no single instrument failure can preclude the isolation function since the LaSalle 1 and 2 accident analysis requires both SLC pumps to be manually started to inject boron. Since this addition simply clarifies the current interpretation of the existing requirement, this change is considered administrative.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Surveillance Frequency to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in proposed SR 3.0.2). The subject SR ensures that the Isolation instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the Primary Containment Isolation System along with the Isolation initiation logic is designed to be single failure proof and, therefore, is highly reliable. Furthermore, the impacted Isolation instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Trip Function number, identify by make, manufacturer and model number the evaluations performed:

Trip Function A.1.a.1), A.6.a: Reactor Vessel Water Level - Low, Level 3 (currently 18 months)

This function is performed by Rosemount 1153DB4 Transmitters and 710DU Master and Slave Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.1.a.2), A.2.c, A.3.e: Reactor Vessel Water Level - Low Low, Level 2 (currently 18 months)

This function is performed by Rosemount 1153DB5 Transmitters and 710DU Master and Slave Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Trip Function A.1.a.3): Reactor Vessel Water Level - Low Low Low, Level 1 (currently 18 months)

This function is performed by Rosemount 1153DB5 Transmitters and 710DU Master and Slave Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.1.b, A.2.b: Drywell Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 12N6-BX-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.1.e: Condenser Vacuum - Low (currently 92 days)

This function is performed by Static-O-Ring 54N6-B118-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.1.f: Main Steam Line Tunnel Differential Temperature - High (currently 18 months)

This function is performed by thermocouples and Riley 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Trip Function A.2.a: Reactor Building Vent Exhaust Plenum Radiation - High (currently 18 months)

This function is performed by GE 194X927G01 detectors and GE 129B2802G011 radiation monitors. These instruments were evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

Trip Function A.2.d: Fuel Pool Vent Exhaust Radiation—High (currently 18 months)

This function is performed by GE 194X927G01 detectors, GE 129B2802G011 radiation monitors and Yokogawa 4156-500-32 recorder. These instruments were evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

Trip Function A.3.a: RWCU System Differential Flow - High (currently 18 months)

This function is performed by Rosemount 1153DB4, 1153DB5 Transmitters, Bailey 750 Square Root Extractors, Bailey 752 Summers, Bailey 745 Flow Switches and GE type 180 indicators. The Bailey 750 and 752 instruments and the GE 180 indicators were evaluated utilizing a qualitative analysis (i.e., engineering judgment). The Rosemount Transmitters' and Bailey 745 Flow Switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.3.b: RWCU Heat Exchanger Area Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF and 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) **Trip Function A.3.c**: RWCU Heat Exchanger Area Ventilation Differential Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF and 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.3.f: RWCU Pump and Valve Area Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.3.g: RWCU Pump and Valve Area Ventilation Differential Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

LE.1 (cont'd)

Trip Function A.3.h: RWCU Holdup Pipe Area Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.3.i: RWCU Holdup Pipe Area Ventilation Differential Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.3.j: RWCU Filter/Demineralizer Valve Room Area Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Trip Function A.3.k: RWCU Filter/Demineralizer Valve Room Area Ventilation Differential Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.4.b: RCIC Steam Supply Pressure - Low (currently 92 days)

This function is performed by Static-O-Ring 6N6-B5-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.4.c: RCIC Turbine Exhaust Diaphragm Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 6N6-B5-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.4.d: RCIC Equipment Room Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF and 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.4.e: RCIC Steam Line Tunnel Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF and 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.4.f: RCIC Steam Line Tunnel Differential Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF and 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.4.g: RCIC Isolation Drywell Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 12N6-B4-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Trip Function A.4.h: RCIC Equipment Room Differential Temperature - High (currently 92 days)

This function is performed by thermocouples and Riley 86PEGF and 86VEFF temperature switches. The thermocouples are not calibratable, therefore, no drift evaluation was performed. The Riley instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Functions A.6.b: Reactor Vessel (RHR Cut-in Permissive) Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 5N6-BX-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24 month surveillance frequency. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Allowable Values to the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1434, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) **Trip Functions A.2.a, A.2.d:** Reactor Building Vent Exhaust Plenum Radiation—High and Fuel Pool Vent Exhaust Radiation—High (currently 18 months)

This function is performed by GE 194X927G01 detectors and GE 129B2802G011 radiation monitors. These instruments were evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

Trip Functions A.2.b: Drywell Pressure - High (currently 92 days)

This function is performed by Static-O-Ring 12N6-BX-NX-C1A-JJTTX7 pressure switches. The Static-O-Ring pressure switches' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Trip Function A.2.c: Reactor Vessel Water Level - Low Low, Level 2 (currently 18 months)

This function is performed by Rosemount 1153DB5 Transmitters and 710DU Master and Slave Trip Units. The Rosemount transmitters' and trip units' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

A.2 LOP

Table 3.3.8.1-1

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

~~TRIP~~ FUNCTION	TRIP SETPOINT LA.2	ALLOWABLE VALUE LF.1
C. DIVISION 3 TRIP SYSTEM		
1. HPCS SYSTEM		
a. Reactor Vessel Water Level - Low Low, Level 2	≥- 50 inches*	≥- 57 inches*
b. Drywell Pressure - High	≤ 1.69 psig	≤ 1.89 psig
c. Reactor Vessel Water Level - High, Level 8	≤ 55.5 inches*	≤ 56 inches*
d. Deleted		
e. Deleted		
f. Pump Discharge Pressure - High	≥ 120 psig	≥ 110 psig
g. HPCS System Flow Rate - Low	≥ 1000 gpm	≥ 900 gpm
h. Manual Intiation	NA	NA
D. LOSS OF POWER		
1. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)#		
a. 4.16 kV Buses	LA.1	LF.1
1.a 1) Divisions 1 and 2	~~2625 ± 131 volts with ≤ 10 seconds time delay~~	2625 ± 262 volts with ≤ 11 seconds time delay
	~~2496 ± 125 volts with ≥ 4 seconds time delay~~	2496 ± 250 volts with ≥ 3 seconds time delay
2.a and 2.b 2) Division 3	~~2870 ± 143 volts with ≤ 10 seconds time delay~~	2870 ± 287 volts with ≥ 2 seconds time delay and ≤ 11 seconds time delay (M.3)

<SEE ITS 3.3.5.1> (items C.1.a through C.1.h)

<SEE ITS 3.3.5.1>

*See Bases Figure B 3/4 3-1.

LA.3

~~#These are inverse time delay voltage relays or instantaneous voltage relays with a time delay. The voltages shown are the maximum that will not result in a trip. Lower voltage conditions will result in decreased trip times.~~

A.1

A

A.2

LOP

Table 3.3.8.1-1

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

Function TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
2. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)		
a. 4.16 kV Buses		
1) Divisions 1, 2 and 3	~~≥3863 and ≤3877 volts with 10 ± 1 seconds time delay with LOCA signal or 5 ± 0.5 minutes time delay without LOCA signal~~	≥3814 and ≤3900 volts with 10 ± 1 seconds time delay with LOCA signal or 5 ± 0.5 minutes time delay without LOCA signal

1.b, 1.c, 1.d,
2.c, 2.d, 2.e

LA.1

LF.1

A.1

A

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ITS 3.3.8.1

LOP — A.2

Table 3.3.8.1-1

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTION

TRIP FUNCTION	TRIP SETPOINT — LA.1	ALLOWABLE VALUE — LF.1
C. DIVISION 3 TRIP SYSTEM		
1. HPCS SYSTEM		
a. Reactor Vessel Water Level - Low Low, Level 2	>- 50 inches*	>- 57 inches*
b. Drywell Pressure - High	< 1.69 psig	< 1.89 psig
c. Reactor Vessel Water Level - High, Level 8	< 55.5 inches*	< 56 inches*
d. Deleted		
e. Deleted		
f. Pump Discharge Pressure - High	> 120 psig	> 110 psig
g. HPCS System Flow Rate - Low	> 1000 gpm	> 900 gpm
h. Manual Intiation	N.A.	N.A.
D. LOSS OF POWER		
1. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)#	LA.2	LF.1
a. 4.16 kV Buses		
1.a 1) Divisions 1 and 2	~~2625 ± 131 volts with < 10 second time delay~~	2625 ± 262 volts with < 11 second time delay
	~~2496 ± 125 volts with > 4 second time delay~~	2496 ± 250 volts with > 3 second time delay
2.a and 2.b 2) Division 3	~~2870 ± 143 volts with < 10 second time delay~~	2870 ± 287 volts with < 11 second time delay

<SEE ITS 3.3.5.1>

A

A.1

≥ 2 seconds time delay and — M.3

TABLE NOTATIONS

LA.3

<SEE ITS 3.3.5.1>

*See Bases Figure B 3/4 3-1.

~~#These are inverse time delay voltage relays or instantaneous voltage relays with a time delay. The voltages shown are the maximum that will not result in a trip. Lower voltage conditions will result in decreased trip times.~~

N.A. Not Applicable

<SEE ITS 3.3.5.1>

LOP A.2

Table 3.3.8.1-1

TABLE 3.3.3-2 (Continued)

~~EMERGENCY CORE COOLING SYSTEM ACTUATION~~ INSTRUMENTATION SETPOINTS

Function TRIP FUNCTION	~~TRIP SETPOINT~~	ALLOWABLE VALUE
D. LOSS OF POWER (Continued)		
2. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)		
a. 4.16 kV Buses		
1) Divisions 1, 2 and 3 1.b, 1.c, 1.d, 2.c, 2.d, 2.e	~~≥3863 and ≤3877 volts with 10 ± 1 seconds time delay with LOCA signal or 5 ± 0.5 minutes time delay without LOCA signal~~ LA.1	LF.1 ≥3814 and ≤3900 volts with 10 ± 1 seconds time delay with LOCA signal or 5 ± 0.5 minutes time delay without LOCA signal

A.1

A

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ITS 3.3.8.1

<CTS>

<Table 3.3.1-1>

<Table 4.3.1.1-1>

<Table 2.2.1-1>

11

TSTF-264 changes not adopted

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux – High	2	~~3~~ 1 [1]	G [2] ~~H~~	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~122~~ 123 [1] /125 divisions of full scale A
	5(a)	~~3~~ 1 [1]	H [2] ~~I~~	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~122~~ 123 [1] /125 divisions of full scale A
b. Inop	2	~~3~~ 1	G [2] ~~H~~	SR 3.3.1.1.4 SR 3.3.1.1.15	NA
	5(a)	~~3~~ 1	~~I~~ H [2]	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
2. Average Power Range Monitors					
a. Neutron Flux – High, Setdown	2	~~3~~ 2 [1]	~~H~~ G [2]	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.15	≤ ~~20~~ 20% RTP [1] A
b. Flow Biased Simulated Thermal Power – ~~High~~ Upscale [5]	1	~~3~~ 2 [1]	~~G~~ F [2]	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.15 ~~SR 3.3.1.1.17~~ [10]	≤ ~~0.66 W + 67%~~ 0.62 W + 69.3 [1] % RTP and ≤ ~~113%~~ 115.5 RTP [(b)] A

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

~~(b) Allowable Value is~~ ~~≤ 0.66 W + 43%~~ ~~RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."~~ [1]

≤ 0.55 W + 56.8 % RTP and ≤ 112.3 % [1] A

<Table 3.3.1.1-1>
<Table 4.3.1.1-1>
<Table 2.2.1-1>

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Fixed Neutron Flux — High	1	2 1 ~~[2]~~	F 2 ~~G~~	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ ~~[~~120~~]~~% RTP 1
d. Inop	1,2	2 1 ~~[2]~~	G 2 ~~H~~	SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.15	NA
3. Reactor Vessel Steam Dome Pressure — High	1,2	~~[2]~~ 1	G 2 ~~H~~	~~SR 3.3.1.1.1~~ 4 SR 3.3.1.1.9 ~~[SR 3.3.1.1.10]~~ SR 3.3.1.1.~~13~~ 10 4 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ ~~[1079.7]~~ 1059.0 1 psig
4. Reactor Vessel Water Level — Low, Level 3	1,2	~~[2]~~ 1	G 2 ~~H~~	SR 3.3.1.1.1 SR 3.3.1.1.9 4 ~~[SR 3.3.1.1.10]~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≥ ~~[10.8]~~ 11.0 1 inches
~~5. Reactor Vessel Water Level — High, Level 8~~ 2	~~≥ 25% RTP~~	~~[2]~~	~~G~~	~~SR 3.3.1.1.1~~ ~~SR 3.3.1.1.9~~ ~~[SR 3.3.1.1.10]~~ ~~SR 3.3.1.1.13~~ ~~SR 3.3.1.1.15~~ ~~SR 3.3.1.1.17~~	~~≤ [54.1] inches~~ 2
5 2 ~~6~~. Main Steam Isolation Valve — Closure	1	~~[8]~~ 1	F 2 ~~G~~	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ ~~7~~ 12 1 % closed
6 2 ~~7~~. Drywell Pressure — High	1,2	~~[2]~~ 1	G 2 ~~H~~	~~SR 3.3.1.1.1~~ 4 SR 3.3.1.1.9 ~~[SR 3.3.1.1.10]~~ SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[1.43]~~ 1.93 1 psig

(continued)

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<Table 3.3.1-1>
<Table 4.3.1.1-1>
<Table 2.2.1-1>

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

7 - 2 FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
~~8~~ 7. Scram Discharge Volume Water Level - High					
a. Transmitter/Trip Unit	1,2	~~2~~ 1	G - 2 ~~F~~	4 ~~SR 3.3.1.1.1~~ SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[67]% of full scale~~ 767 ft 8.55 in elevation - 1 A
	5(a)	~~2~~ 1	H - 2 ~~G~~	4 ~~SR 3.3.1.1.1~~ SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[67]% of full scale~~ 767 ft 8.55 in elevation - 1 A
b. Float Switch	1,2	~~2~~ 1	G - 2 ~~F~~	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[65] inches~~
	5(a)	~~2~~ 1	H - 2 ~~G~~	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[65] inches~~
8 - 2 ~~8~~ Turbine Stop Valve - Closure ~~Trip Oil Pressure - Low~~ 5	≥ ~~[40]~~ 25 - 1 % RTP	~~4~~ 1	E	SR 3.3.1.1.9 4 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17	≥ ~~[37] psig~~ [7]% closed - 1
9 - 2 ~~10~~ Turbine Control Valve Fast Closure, Trip Oil Pressure - Low	≥ ~~[40]~~ 25 - 1 % RTP	~~2~~ 1	E	SR 3.3.1.1.9 4 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17	≥ ~~[42]~~ 425.5 - 1 psig A
10 - 2 ~~11~~. Reactor Mode Switch - Shutdown Position	1,2	~~2~~ 1	G - 2 ~~F~~	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
	5(a)	~~2~~ 1	H - 2 ~~G~~	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
11 - 2 ~~12~~. Manual Scram	1,2	~~2~~ 1	G - 2 ~~F~~	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
	5(a)	~~2~~ 1	H - 2 ~~G~~	SR 3.3.1.1.5 SR 3.3.1.1.15	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

<CTS>

INSERT BWR/4 ISTS 3.3.2.1 1
(CONTINUED)

<Table 3.3.6-1>
<DOC M.5>
<Table 3.3.6-1, footnote *>
<Table 3.3.6-2>
<Table 4.3.6-1>
<LCO 3.1.4.1>
<Appl 3.1.4.1>
<LCO 3.1.4.3>
<Appl 3.1.4.3>

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
6 a. ~~Low Power Range~~ - Upscale	(a)	3 ~~[2]~~	SR 3.3.2.1.1 SR 3.3.2.1.~~4~~ 4 SR 3.3.2.1.~~7~~ 5 4	~~≤ [115.5/125] divisions of full scale~~ as specified in the COLR 6
5 ~~b. Intermediate Power Range - Upscale~~	~~(b)~~	~~[2]~~	~~SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7~~	~~≤ [109.7/125] divisions of full scale~~
~~c. High Power Range - Upscale~~	~~(c),(d)~~	~~[2]~~	~~SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7~~	~~≤ [105.9/125] divisions of full scale~~
5 b. ~~d.~~ Inop	5 (a) ~~(d),(e)~~	3 ~~[2]~~	SR 3.3.2.1.1 SR 3.3.2.1.5 5	NA
3 c. ~~e.~~ Downscale	5 (a) ~~(d),(e)~~	3 ~~[2]~~	SR 3.3.2.1.1 SR 3.3.2.1.~~7~~ 4 4	~~≥ [93/125] divisions of full scale~~ ≥ 1.25% RTP 6 A
5 ~~f. Bypass Time Delay~~	~~(d),(e)~~	~~[2]~~	~~SR 3.3.2.1.1 SR 3.3.2.1.7~~	~~≤ [2.0] seconds~~
2. Rod Worth Minimizer	1~~(f)~~,2~~(f)~~ (b) 5	3 ~~[1]~~	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.~~5~~ 6 4 ~~SR 3.3.2.1.8~~ SR 3.3.2.1.9 7	NA
3. Reactor Mode Switch - Shutdown Position	~~(g)~~ (c) 5	3 ~~[2]~~	SR 3.3.2.1.~~6~~ 7 4	NA

5

(a) THERMAL POWER ≥ ~~29%~~ 30% RTP and ~~≤ [64]% RTP and MCPR < 1.70~~ no peripheral control rod selected

~~(b) THERMAL POWER > [64]% and ≤ [84]% RTP and MCPR < 1.70.~~

~~(c) THERMAL POWER > [84]% and < 90% RTP and MCPR < 1.70.~~

~~(d) THERMAL POWER ≥ 90% RTP and MCPR < 1.40.~~

~~(e) THERMAL POWER ≥ [64]% and < 90% RTP and MCPR < 1.70.~~

(b) ~~(f)~~ With THERMAL POWER ≤ ~~[10]~~% RTP.

(c) ~~(g)~~ Reactor mode switch in the shutdown position.

<INSERT ITS 3.3.2.2 (BWR/4 ISTS 3.3.2.2)> 8

Insert Page 3.3-19f

<CTS>

Insert BWR/4 ISTS 3.3.2.2 [1]
(continued)

System [2]

SURVEILLANCE REQUIREMENTS

<Table 3.3.8-1, footnote *>

-----NOTE-----
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided feedwater and main turbine high water level trip capability is maintained. System [2]

	SURVEILLANCE	FREQUENCY
<4.3.8-1> <Table 4.3.8.H>	SR 3.3.2.2.1 Perform CHANNEL CHECK.	~~24~~ 12 hours [3]
<4.3.8.1> <Table 4.3.8.1-1>	SR 3.3.2.2.2 Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days [3]
<4.3.8.1> <Table 3.3.8-2> <Table 4.3.8.1.1-1>	SR 3.3.2.2.3 Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ ~~[58.0]~~ 59.5 [3] inches.	~~[18]~~ 24 [3] months
<4.3.8 2>	SR 3.3.2.2.4 Perform LOGIC SYSTEM FUNCTIONAL TEST (,) [6] including ~~[valve]~~ breaker and [3] actuation.	~~[18]~~ 24 [3] months

[A]

Insert Page 3.3-19 h

<CTS>

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------
<Table 3.3.4.2-1, footnote (a)> When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains EOC-RPT trip capability. 3

	SURVEILLANCE	FREQUENCY
<4.3.4.2.1> <Table 4.3.4.2.1-1>	SR 3.3.4.1.1 Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days 2
	~~[SR 3.3.4.1.2 Calibrate the trip units.~~	~~[92] days]~~ 4
<4.3.4.2.1> <Table 4.3.4.2.1-1> <Table 4.3.4.2.1-2>	SR 3.3.4.1 ~~3~~ 2 4 Perform CHANNEL CALIBRATION. The Allowable Values shall be: 1 a. TSV — Closure ~~Trip Oil Pressure—Low~~ 1 ≥ ~~[37] psig~~ ≤ [7%] closed 2 b. TCV Fast Closure, Trip Oil Pressure—Low: ≥ ~~[42]~~ 425.5 psig.	~~[18]~~ 24 months 2
<4.3.4.2.2>	SR 3.3.4.1 ~~4~~ 3 4 Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	~~[18]~~ 24 months 2
<Table 4.3.4.2.1-1, footnote (a)>	SR 3.3.4.1 ~~5~~ 4 Verify TSV — Closure ~~Trip Oil Pressure—Low~~ and TCV Fast Closure, Trip Oil Pressure—Low Functions are not bypassed when THERMAL POWER is ≥ ~~[40]~~ 25 % RTP. 1 2	~~[18]~~ 24 months

(continued)

A

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY	
<4.3.4.1.1> <Table 4.3.4.1-1>	SR 3.3.4.2.2 Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days 2	
	~~SR 3.3.4.2.3 Calibrate the trip units.~~	~~[92] days~~	3
<4.3.4.1.1> <Table 3.3.4.1-2> <Table 4.3.4.1-1>	SR 3.3.4.2. ~~4~~ 3 [3] Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low, Level 2: ≥ ~~[-43.8]~~ -54 inches; and b. Reactor Steam Dome Pressure—High: ≤ ~~[1102]~~ 1147 psig.	~~[18]~~ 24 months 2	A A
<4.3.4.1.2>	SR 3.3.4.2. ~~5~~ 4 Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	~~[18]~~ 24 months 2	

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 1 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems		5			5 A
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, 4(a), 5(a)	~~2~~(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≥ ~~152.5~~ -147.0 inches
b. Drywell Pressure — High	1,2,3	~~2~~(b)	B	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≤ ~~1.44~~ 1.77 psig A
c. LPCI Pump A Start — Time Delay Relay	1,2,3, 4(a), 5(a)	~~1~~	C	SR 3.3.5.1.2 ~~SR 3.3.5.1.6~~ SR 3.3.5.1.~~6~~ 5 4	~~≥ 1.1 seconds and~~ ≤ ~~6.25~~ 6 seconds 3 4 10
d. Reactor Steam Dome Pressure — Low (Injection Permissive)	1,2,3	~~1~~ 2	D ~~B~~ 1	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≥ ~~482~~ 490 psig and ≤ ~~532~~ 522 psig A
	4(a), 5(a)	~~1~~ 2	B	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≥ ~~482~~ 490 psig and ≤ ~~532~~ 522 psig
e. ~~[~~LPCS Pump Discharge Flow — Low (Bypass)~~]~~ 5	1,2,3, 4(a), 5(a)	~~1~~	D ~~E~~ 3	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 5 4	≥ ~~[ ]~~ 1240 gpm and ≤ ~~[ ]~~ 1835 gpm
f. ~~[~~LPCI Pump A Discharge Flow — Low (Bypass)~~]~~	1,2,3, 4(a), 5(a)	~~1~~	D ~~E~~	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 4 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 5 4	≥ ~~[ ]~~ 1330 gpm and ≤ ~~[ ]~~ 2144 gpm
~~[~~ h ~~g~~. Manual Initiation ~~]~~ 2	1,2,3, 4(a), 5(a)	~~[1]~~	C 8	SR 3.3.5.1.~~8~~ 5 4	NA 5

(continued) 9

(a) When associated ECCS 9 subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS — Shutdown".

(b) Also required to initiate the associated ~~[Technical Specifications (TS) required functions]~~ diesel generator (DG) 5.

Insert Function 1.g 2

Insert Function 1.g

g.	LPCS and LPCI A Injection Line Pressure—Low (Injection Permissive)	1,2,3	1 per valve	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	$\geq$ 490 psig and $\leq$ 522 psig	A
		4(a),5(a)	1 per valve	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	$\geq$ 490 psig and $\leq$ 522 psig	A

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 2 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE 5
2. LPCI B and LPCI C Subsystems		5			
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, 4(a), 5(a)	~~2~~(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.4 SR 3.3.5.1.5 4 6 ~~SR 3.3.5.1.7~~	≥ ~~[-152.5]~~ -147.0 inches A
b. Drywell Pressure — High	1,2,3	~~2~~(b)	B	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.4 SR 3.3.5.1.5 4 6 ~~SR 3.3.5.1.7~~	≤ ~~[1.44]~~ 1.77 psig A
c. LPCI Pump B Start — Time Delay Relay	1,2,3, 4(a), 5(a)	~~1~~	C	SR 3.3.5.1.2 SR 3.3.5.1.3 4 SR 3.3.5.1.5 4	~~≥ [ ] seconds and~~ 10 ≤ [5.25] seconds 6
d. Reactor Steam Dome Pressure — Low (Injection Permissive)	1,2,3	~~3~~ 2	D 1	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.4 6 SR 3.3.5.1.5 4 ~~SR 3.3.5.1.7~~	≥ ~~[452]~~ 490 psig and ≤ ~~[536]~~ 522 psig A
	4(a), 5(a)	~~3~~ 2	B	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.4 6 SR 3.3.5.1.5 4 ~~SR 3.3.5.1.7~~	≥ ~~[452]~~ 490 psig and ≤ ~~[536]~~ 522 psig
e. 5 ~~[~~LPCI Pump B and LPCI Pump C Discharge Flow — Low (Bypass)~~]~~	1,2,3, 4(a), 5(a)	(2) ~~[1 per pump]~~	3 D	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 8 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.5 4	≥ ~~[ ]~~ 1330 gpm and ≤ ~~[ ]~~ 2144 gpm
~~f.~~ 9 2 Manual Initiation	1,2,3, 4(a), 5(a)	~~1~~	8 C	4 SR 3.3.5.1.5 4	NA 8 5

Insert Function 2.f 2

(continued)

(a) When associated ECCS 9 subsystem(s) are required to be OPERABLE per LCO 3.5.2 9.

(b) Also required to initiate the associated ~~[TS required functions]~~ DG 5.

Insert Function 2.f

f.	LPCI B and LPCI C Injection Line Pressure—Low (Injection Permissive)	1,2,3	1 per valve	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig	A
		4(a),5(a)	1 per valve	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 490 psig and ≤ 522 psig	A

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 3 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE 5
3. High Pressure Core Spray (HPCS) System		5			
a. Reactor Vessel Water Level — Low Low, Level 2	1,2,3, 4(a), 5(a)	~~4~~ 4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 4 ~~[SR 3.3.5.1.3]~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5 6 ~~SR 3.3.5.1.7~~	≥ ~~[-43.8]~~ -83 inches
b. Drywell Pressure — High	1,2,3	~~4~~ 4(b)	B	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~[SR 3.3.5.1.3]~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5 6 ~~SR 3.3.5.1.7~~	≤ ~~[1.44]~~ 1.77 psig
c. Reactor Vessel Water Level — High, Level 8	1,2,3, 4(a), 5(a)	~~[2]~~	C	SR 3.3.5.1.1 SR 3.3.5.1.2 4 ~~[SR 3.3.5.1.3]~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5	≤ ~~[55.7]~~ 66.5 inches
~~d. Condensate Storage Tank Level — Low~~	~~1,2,3, 4(c), 5(c)~~	~~[2]~~	~~D~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≥ [-3] inches~~ 3
~~e. Suppression Pool Water Level — High~~	~~1,2,3~~	~~[2]~~	~~D~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≤ [7.0] inches~~
3 d ~~f.~~ ~~[~~HPCS Pump Discharge Pressure — High (Bypass)~~]~~ 5	1,2,3, 4(a), 5(a)	~~[1]~~ 3 D ~~E~~	8 ~~SR 3.3.5.1.1~~	SR 3.3.5.1.2 4 ~~[SR 3.3.5.1.3]~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5	≥ ~~[45]~~ 113.2 psig
e ~~g.~~ ~~[~~HPCS System Flow Rate — Low (Bypass)~~]~~	1,2,3, 4(a), 5(a)	~~[1]~~ 3 D ~~E~~	8 ~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.3	SR 3.3.5.1.2 4 ~~[SR 3.3.5.1.3]~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 5 4	≥ ~~[ ]~~ 1380 gpm and ≤ ~~[ ]~~ 1704 gpm
3 f ~~h.~~ ~~Manual Initiation~~	1,2,3, 4(a), 5(a)	~~[1]~~	C	8 SR 3.3.5.1.~~6~~	NA 5

(continued)

(a) When associated ECCS 9 subsystem(s) are required to be OPERABLE per LCO 3.5.2 9.

(b) Also required to initiate the associated ~~[TS required functions]~~ DG 5.

~~(c) When HPCS is OPERABLE for compliance with LCO 3.5.2, "ECCS — Shutdown," and aligned to the condensate storage tank while tank water level is not within the limit of SR 3.5.2.2.~~ 3

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 4 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2(d),3(d)	2	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ [-152.5] inches -147.0
b. Drywell Pressure — High	1,2(d),3(d)	2	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ [1.44] psig 1.77
c. ADS Initiation Timer	1,2(d),3(d)	1	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ [117] seconds
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1,2(d),3(d)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ [10.8] inches 11.0
e. LPCS Pump Discharge Pressure — High	1,2(d),3(d)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ [125] psig and ≤ [165] psig 131.2 271.0
f. LPCI Pump A Discharge Pressure — High	1,2(d),3(d)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ [115] psig and ≤ [135] psig 105.0 128.6
g. ADS Bypass Timer (High Drywell Pressure)	1,2(d),3(d)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ [9.4] minutes 9.5
h. Manual Initiation	1,2(d),3(d)	2	F	SR 3.3.5.1.6	NA

(continued)

(d) With reactor steam dome pressure > [150] psig.

(c) 3

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 5 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B	(c) 3	5			5
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2(d),3(d)	~~2~~	E 3	SR 3.3.5.1.1 SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5	≥ ~~-152.5~~ -147.0 inches A
b. Drywell Pressure — High	1,2(d),3(d)	~~2~~	E 3	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5	≤ ~~1.44~~ 1.77 psig A
c. ADS Initiation Timer	1,2(d),3(d)	~~1~~	F 3 E	SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ SR 3.3.5.1.~~6~~ 3 5 4	≤ [117] seconds
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1,2(d),3(d)	~~1~~	E	SR 3.3.5.1.1 SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 4 SR 3.3.5.1.~~6~~ 5	≥ ~~10.8~~ 11.0 inches A
e. LPCI Pumps B & C Discharge Pressure — High	1,2(d),3(d)	(4) ~~2 per pump~~	3 F	8 ~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 4	≥ ~~115~~ 105.0 psig A and ≤ ~~135~~ 128.6 psig A
f. ~~ADS~~ Bypass Timer ~~(High Drywell Pressure)~~ 7	1,2(d),3(d)	~~2~~	F 3 F	SR 3.3.5.1.2 5 ~~SR 3.3.5.1.4~~ SR 3.3.5.1.~~6~~ 3 4	≤ ~~9.4~~ 9.5 minutes
~~g. Manual Initiation~~	1,2(d),3(d) (c) 3	~~2~~		SR 3.3.5.1.~~6~~ 5	NA 5

~~(d)~~ (c) 3 With reactor steam dome pressure > ~~150~~ 5 psig.

<CTS>

<Table 3.3.5-1>
<Table 3.3.5-2>
<Table 4.3.5.1-1>

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, Level 2	~~4~~ 1	B	~~SR 3.3.5.2.1~~ 4 SR 3.3.5.2.2 ~~[SR 3.3.5.2.3]~~ SR 3.3.5.2.~~4~~ 3 SR 3.3.5.2.~~5~~ 4 2	≥ ~~[-41.6]~~ -83 inches 1
2. Reactor Vessel Water Level — High, Level 8	~~2~~ 1	C	SR 3.3.5.2.1 SR 3.3.5.2.2 ~~[SR 3.3.5.2.3]~~ SR 3.3.5.2.~~4~~ 3 SR 3.3.5.2.~~5~~ 4 2	≤ ~~[55.7]~~ 66.5 inches 1
3. Condensate Storage Tank Level — Low	~~2~~ 1	D	~~SR 3.3.5.2.1~~ 4 SR 3.3.5.2.2 ~~[SR 3.3.5.2.3]~~ SR 3.3.5.2.~~4~~ 3 SR 3.3.5.2.~~5~~ 4 2	≥ ~~[3]~~ 715 ft 8 inches 1
~~[4. Suppression Pool Water Level — High~~	~~[2]~~	~~D~~	~~SR 3.3.5.2.1~~ ~~SR 3.3.5.2.2~~ ~~[SR 3.3.5.2.3]~~ ~~SR 3.3.5.2.4~~ ~~SR 3.3.5.2.5~~	~~≤ [7.0] inches]~~ 2
[~~5~~ 4. Manual Initiation 2	~~1~~ 1	C	SR 3.3.5.2.~~5~~ 4 2	NA] 1

A
A

<CTS Table 3.3.2-1>

Table 3.3.6.1-1 (page 1 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3	~~2~~	D	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6	≥ ~~-152.5~~ -137.0 inches
b. Main Steam Line Pressure — Low	1	~~2~~	E	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ ~~SR 3.3.6.1.5~~ SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 SR 3.3.6.1.3	≥ ~~837~~ 826.5 psig
c. Main Steam Line Flow — High	1,2,3	~~2~~ per MSL	D	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ ~~SR 3.3.6.1.5~~ SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 SR 3.3.6.1.3	≤ ~~176.5~~ 128.0 psi~~g~~ d
d. Condenser Vacuum — Low	1,2(a), 3(a)	~~2~~	D	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≥ ~~[8]~~ 3.8 inches Hg vacuum
~~e. Main Steam Tunnel Temperature — High~~	~~1,2,3~~	~~[8]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.5~~ ~~SR 3.3.6.1.6~~	~~≤ [191] °F~~
~~f~~ e. Main Steam ~~Tunnel~~ Line Differential Temperature — High	1,2,3	~~2~~	D	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[104]~~ 66.4 °F
~~g~~ f. Manual Initiation	1,2,3	~~2~~	G	SR 3.3.6.1.~~7~~ 5	NA
2. Primary Containment Isolation					
a. Reactor Vessel Water Level — Low Low, Level 2	1,2,3	~~2~~	H	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 ~~SR 3.3.6.1.7~~	≥ ~~-43.8~~ -58.0 inches

(continued)

(a) With any turbine ~~stop valve~~ not closed.

<CTS Table 3.3.2-1>

Table 3.3.6.1-1 (page 2 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation (continued)		4			
b. Drywell Pressure - High	1,2,3	~~[2]~~	H	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 5 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.5 4 5 SR 3.3.6.1.6 5 10 ~~SR 3.3.6.1.7~~	≤ ~~[1.43]~~ psig 1.93 4
c. Reactor Vessel Water Level - Low Low Low, Level 1 (ECCS Divisions 1 and 2)	1,2,3	[2]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ [-152.5] inches
d. Drywell Pressure - High (ECCS Divisions 1 and 2)	1,2,3	[2]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [1.44] psig
e. Reactor Vessel Water Level - Low Low, Level 2 (HPCS)	1,2,3	[4]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ [-43.8] inches
f. Drywell Pressure - High (HPCS)	1,2,3	[4]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [1.44] psig
Reactor Building 9 ~~g.~~ c 8 ~~Containment and Drywell~~ Ventilation Exhaust Plenum 9 Radiation-High	1,2,3	~~[2]~~	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 4 5 SR 3.3.6.1.6 5 10 ~~SR 3.3.6.1.7~~	≤ ~~[6.0]~~ mR/hr 42.0 4

8 A A

(continued)

(b) During CORE ALTERATIONS, movement of irradiated fuel assemblies in [primary or secondary containment], or operations with a potential for draining the reactor vessel. 3

Insert Functions 2.d, 2.e, 2.f 8

Insert 2.d, 2.e, and 2.f

d.	Fuel Pool Ventilation Exhaust Radiation—High	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 42 mR/hr	A
e.	Reactor Vessel Water Level—Low Low Low, Level 1	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ -137.0 inches	A
f.	Reactor Vessel Water Level—Low, Level 3	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≥ 11.0 inches	A

⟨CTS Table 3.3.2-i⟩

Table 3.3.6.1-1 (page 3 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation (continued)		4			
	[(b)]	[2]	K	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [4.0] mR/hr
~~8~~. Manual Initiation	1,2,3	~~2~~ 1	G	SR 3.3.6.1.~~8~~ 5	NA
3. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow — High	1,2,3	1	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ ~~SR 3.3.6.1.5~~ SR 3.3.6.1.~~6~~ 5 ~~SR 3.3.6.1.7~~ SR 3.3.6.1.3	≤ ~~[64]~~ 176 inches water
b. RCIC Steam Line Flow — Time Delay	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 3 SR 3.3.6.1.~~6~~ 5	≥ [3] seconds and ≤ [7] seconds
c. RCIC Steam Supply ~~Line~~ Pressure — Low	1,2,3	~~1~~ 2	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 ~~SR 3.3.6.1.7~~	≥ ~~[53]~~ 58.2 psig
d. RCIC Turbine Exhaust Diaphragm Pressure — High	1,2,3	2	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[20] psig~~ 300 inches water
e. RCIC Equipment Room ~~Ambient~~ Temperature — High	1,2,3	1	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[191]~~ 241.0 °F
f. RCIC Equipment Room Differential Temperature — High	1,2,3	1	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[126]~~ 189.0 °F

(continued)

(b) During CORE ALTERATIONS, movement of irradiated fuel assemblies in [primary or secondary containment], or operations with a potential for draining the reactor vessel.

<CTS Table 3.3.2-1>

Table 3.3.6.1-1 (page 4 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. RCIC System Isolation (continued)		4			
g. ~~Main~~ RCIC Steam Line Tunnel ~~Ambient~~ Temperature – High [9]	1,2,3	~~1~~	F	[10] ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 [5]	≤ ~~[191]~~ 277.0 °F [A]
h. ~~Main~~ RCIC Steam Line Tunnel Differential Temperature – High	1,2,3	~~1~~	F	[10] ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 [5]	≤ ~~[?]~~ 155.0 °F [A]
~~i. Main Steam Line Tunnel Temperature Timer~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6~~	~~≤ [30] minutes~~ [8]
~~j. RHR Equipment Room Ambient Temperature – High~~	~~1,2,3~~	~~[1 per room]~~	~~F~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6~~	~~≤ [171]°F~~
~~k. RHR Equipment Room Differential Temperature – High~~	~~1,2,3~~	~~[1 per room]~~	~~F~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6~~	~~≤ [102]°F~~
~~l. RCIC/RHR Steam Line Flow – High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6~~	~~≤ [43] inches water~~
~~m~~ i. Drywell Pressure – High [B]	1,2,3	~~[2]~~ 2	F	[10] ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 [5] ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 [5] ~~SR 3.3.6.1.7~~	≤ ~~[1.44]~~ 1.77 psig [A]
~~n~~ j. Manual Initiation	1,2,3	~~[2]~~ 1(b)	G	SR 3.3.6.1.~~6~~ 5	NA [4]
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow – High	1,2,3	~~1~~	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 [5] [10] ~~SR 3.3.6.1.7~~	≤ ~~[89]~~ 85 gpm
b. Differential Flow – Timer	1,2,3	~~1~~	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.~~6~~ 5 [5]	≤ ~~[?]~~ 46 seconds

(continued)

(b) Only inputs into one of two trip systems. [4]

⟨CTS Table 3.3.2-1⟩

Table 3.3.6.1-1 (page 5 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE 4
4. RWCU System Isolation (continued)		4			
c. RWCU Heat Exchanger ~~Equipment Room~~ Areas 9 Temperature-High	1,2,3	~~1~~ 1 per area	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~126~~ 157.0 °F
d. RWCU Heat Exchanger ~~Equipment Room~~ Areas Ventilation Differential Temperature − High	1,2,3	~~1~~ 1 per area	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~66~~ 38.5 °F
e. RWCU Pump and Valve ~~Rooms~~ Area 9 Temperature − High	1,2,3	(1) ~~1~~ per ~~room~~ area	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~176~~ 209.0 °F
f. RWCU Pump ~~Rooms~~ Area Differential Temperature − High	1,2,3	(1) ~~1~~ per ~~room~~ area	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~118~~ 91.0 °F
g. RWCU ~~Valve Nest Room~~ Holdup Pipe Area 9 Temperature − High	1,2,3	~~1~~	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~141~~ 209.0 °F
h. RWCU ~~Valve Nest Room~~ Differential Temperature − High Ventilation 9	1,2,3	~~1~~	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~76~~ 91.0 °F
i. ~~Main Steam Line Tunnel Ambient~~ RWCU Filter/Demineralizer Valve Room Area Temperature − High	1,2,3	~~1~~	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~191~~ 209.0 °F
j. ~~Main Steam Line Tunnel~~ Differential Temperature − High Ventilation 9	1,2,3	~~1~~	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~4 SR 3.3.6.1.~~6~~5 5	≤ ~~104~~ 91.0 °F
k. Reactor Vessel Water Level − Low Low, Level 2	1,2,3	~~2~~ 9	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 5 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~4 5 SR 3.3.6.1.~~6~~5 10 ~~SR 3.3.6.1.7~~	≥ ~~-43.8~~ -58.0 inches
l. Standby Liquid Control System Initiation	1,2	2(b) ~~1~~	I	SR 3.3.6.1.~~6~~5 6	NA
~~m. Manual Initiation~~	1,2,3	~~2~~ 1	G	SR 3.3.6.1.~~6~~	NA 4

(b) Only inputs into one of two trip systems. 4

(continued)

<CTS Table 3.3.2-1>

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. RHR Shutdown Cooling System Isolation [9]					
~~a. RHR Equipment Room Ambient Temperature - High~~	2,3	[1 per room]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ [171] °F [B]
~~b. RHR Equipment Room Differential Temperature - High~~	2,3	[1 per room]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ [102] °F [B]
~~c.~~ a. [8] Reactor Vessel Water Level - Low, Level 3	3,4,5	~~[2]~~ 1 [4] (c)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ [10] SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 [5] ~~SR 3.3.6.1.7~~	≥ ~~[10.8]~~ 11.0 inches [4]
~~d.~~ b. Reactor ~~Steam Dome~~ Vessel [9] Pressure - High	1,2,3	~~[2]~~ 1	F	~~SR 3.3.6.1.1~~ [10] SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ [5] SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 [5]	≤ ~~[150]~~ 143 psig
~~e. Drywell Pressure - High~~	1,2,3	[2]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6	≤ [1.43] psig [B]

(c) Only one trip system required in MODES 4 and 5 with RHR Shutdown Cooling System integrity maintained.

c. Manual Initiation	1, 2, 3	1	G	SR 3.3.6.1.5	[B]

A
A

<CTS>

<Table 3.3.2-1>
<Table 3.3.3-2>
<Table 4.3.2.1-1>

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES AND OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, Level 2	1,2,3,~~(a)~~	2 ~~2~~	~~SR 3.3.6.2.1~~ SR 3.3.6.2.2 ~~SR 3.3.6.2.3~~ SR 3.3.6.2.~~4~~ 3 SR 3.3.6.2.~~5~~ 4 ~~SR 3.3.6.2.6~~	≥ ~~-43.8~~ -58.0 inches
2. Drywell Pressure — High	1,2,3	2 ~~2~~	~~SR 3.3.6.2.1~~ SR 3.3.6.2.2 ~~SR 3.3.6.2.3~~ SR 3.3.6.2.~~4~~ 3 SR 3.3.6.2.~~5~~ 4 ~~SR 3.3.6.2.6~~	≤ ~~1.43~~ 1.93 psig
3. Reactor Building ~~Fuel Handling Area~~ Ventilation Exhaust Plenum Radiation — High ~~High~~	1,2,3, ~~(a),(b)~~	2 ~~2~~	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.~~4~~ 3 SR 3.3.6.2.~~5~~ 4 ~~SR 3.3.6.2.6~~	≤ ~~6.0~~ 42.0 mR/hr
4. Fuel ~~Handling Area~~ Pool Ventilation ~~Sweep~~ Exhaust Radiation — High ~~High~~	1,2,3, ~~(a),(b)~~	2 ~~2~~	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.~~4~~ 3 SR 3.3.6.2.~~5~~ 4 ~~SR 3.3.6.2.6~~	≤ ~~35~~ 42.0 mR/hr
~~5. Manual Initiation~~	~~1,2,3, (a),(b)~~	~~1 per group~~	~~SR 3.3.6.2.5~~ 4	~~NA~~

(a) During operations with a potential for draining the reactor vessel.

(b) During ~~CORE ALTERATIONS, and during~~ movement of irradiated fuel assemblies in the ~~primary or~~ secondary containment~~.~~

A
A
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A

<CTS>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<T 3.3.7.1-1 Act 70.b> <T 3.3.7.1-1 Act 70.c> ~~A~~ B [2]. (continued)	[2] ~~A~~ B.2 Declare associated ~~CRPA~~ CRAF [1] subsystem inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

<T 3.3.7.1-1 fnote * *>

------------------------------------NOTE~~S~~ [2]------------------------------------

~~1. Refer to Table 3.3.7.1-1 to determine which SRs apply for each Function.~~ [2]

~~2.~~ When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains ~~[CRPA]~~ CRAF subsystem [4] initiation capability.

SURVEILLANCE			FREQUENCY
<4.3.7.1> <T 4.3.7.1-1>	SR 3.3.7.1.1	Perform CHANNEL CHECK.	12 hours
<4.3.7.1> <T 4.3.7.1-1>	SR 3.3.7.1.2	Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days [1]
	~~[SR 3.3.7.1.3~~	~~Calibrate the trip units.~~	~~[92] days]~~ [5]
<4.3.7.1> <T 3.3.7.1-1> <T 4.3.7.1-1>	SR 3.3.7.1.~~4~~ 3 [5]	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 11.0 mR/hr. [2]	[~~18~~ 24] months [1]
<4.7.2.d.2>	SR 3.3.7.1.~~5~~ 4 [5]	Perform LOGIC SYSTEM FUNCTIONAL TEST.	~~[18]~~ 24 months [1]

[A]

ATTACHMENT 3

Revision A to Quad Cities Nuclear Power Station, Units 1 and 2
Proposed Improved Technical Specifications Submittal
dated March 3, 2000

REVISION A TO QUAD CITIES NUCLEAR POWER STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES

This attachment provides a brief summary of the changes in Revision A of the proposed Improved Technical Specifications (ITS) submittal for Quad Cities Nuclear Power Station, Units 1 and 2. The original Technical Specifications amendment request (i.e., Revision 0) was submitted to the NRC by letter dated March 3, 2000.

In the submittal of March 3, 2000, it was identified that the supporting calculations for Allowable Values needed for ITS Section 3.3, "Instrumentation," had not been completed. Commonwealth Edison (ComEd) Company committed to submit any changes to the ITS Allowable Values and Surveillance Frequencies resulting from the completion of the first group of calculations by June 5, 2000. Changes resulting from the first group of calculations are provided in this revision to the ITS submittal (i.e., Revision A). The remaining calculations, which mainly involve time delay relays and mechanical devices will be completed and any resulting changes to the associated ITS Allowable Values and Surveillance Frequencies will be submitted by September 15, 2000 as committed in the March 3, 2000, submittal. The corresponding remaining Allowable Values are annotated with square brackets. Minor corrections to ITS Section 3.3 of the March 3, 2000, submittal are also provided in this Revision A of the ITS submittal. The summary of the changes is provided below.

1. Changes to the Allowable Values from the first group of calculations have been made. These changes are the result of application of the ComEd Setpoint Methodology (i.e., Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy," submitted to the NRC by ComEd letter dated March 24, 2000) or General Electric Company Report NEDC-31336P-A, "General Electric Instrument Setpoint Methodology," dated September 1996 (for Nuclear Instrumentation System Functions only), and also includes assuming a 30 month calibration interval in the determination of the magnitude of drift used in the applicable setpoint calculations. The Allowable Values for the following ITS Instrumentation Functions were confirmed to be valid or were revised. The validated values or revised values are identified by the removal of the square brackets from the values.

   ITS Table 3.3.1.1-1, Functions 1.a, 2.a, 2.b, 2.c, 3, 4, 6, 7.a, 7.b, 9, and 10;
   ITS Table 3.3.2.1-1, Function 1.c;
   ITS Limiting Condition for Operation (LCO) 3.3.2.2, Surveillance Requirement (SR) 3.3.2.2.3;
   ITS LCO 3.3.4.1, SR 3.3.4.1.4;
   ITS Table 3.3.5.1-1, Functions 1.a, 1.b, 1.c, 1.d, 2.a, 2.b, 2.c, 2.d, 2.f, 2.g, 2.h, 3.a, 3.b, 3.c, 3.f, 4.a, 4.b, 4.d, 4.e, 5.a, 5.b, 5.d, and 5.e;
   ITS Table 3.3.5.2-1, Functions 1 and 2;
   ITS Table 3.3.6.1-1, Functions 1.a, 1.b, 1.d, 1.e, 2.a, 2.b, 2.c, 3.a, 3.c, 3.d, 3.e, 4.a, 4.c, 4.d, 5.b, 6.a, and 6.b;
   ITS Table 3.3.6.2-1, Functions 1, 2, 3, and 4;
   ITS Table 3.3.6.3-1, Functions 1.a and 2.a;
   ITS Table 3.3.7.1-1, Functions 1, 2, 3, 4, and 5;
   ITS LCO 3.3.7.2, SR 3.3.7.2.4.

REVISION A TO QUAD CITIES NUCLEAR POWER STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES (continued)

These changes affect ITS clean typed pages 3.3.1.1-7 through 3.3.1.1-9, 3.3.2.1-6, 3.3.2.2-2, 3.3.4.1-3, 3.3.5.1-8 through 3.3.5.1-13, 3.3.5.2-4, 3.3.6.1-5 through 3.3.6.1-7, 3.3.6.2-4, 3.3.6.3-3, 3.3.7.1.4, 3.3.7.2-3, and Bases pages B3.3.2.2-5, B3.3.5.1-41, B3.3.5.1-42, and B3.3.6.2-6; and Improved Standard Technical Specifications (ISTS) markup pages 3.3-7 through 3.3-9, 3.3-20, 3.3-22, 3.3-35, 3.3-41 through 3.3-47, 3.3-51, 3.3-57 through 3.3-62, 3.3-66, 3.3-70, 3.3-74, Insert page 3.3.7.2-3, and ISTS Bases markup pages B3.3-62, B3.3-137, and B3.3-138. In addition, page 1 of the ITS 3.3.5.1 Justification for Deviations from NUREG-1433, Revision 1, has been modified. As a result of completion of the first group of calculations, the following Current Technical Specifications (CTS) markup pages and Discussion of Changes (DOCs) have also been revised.

ITS 3.3.1.1, CTS markup pages 11 of 16 and 15 of 16
ITS 3.3.2.2, CTS markup pages 2 of 3 and 3 of 3
ITS 3.3.4.1, CTS markup page 3 of 5
ITS 3.3.5.1, CTS markup pages 1 of 17, 13 of 17, 15 of 17, 16 of 17, and 17 of 17
ITS 3.3.5.2, CTS markup page 2 of 7
ITS 3.3.6.1, CTS markup pages 8 of 12 and 10 of 12
ITS 3.3.6.2, CTS markup page 6 of 10
ITS 3.3.7.1, CTS markup page 6 of 9
ITS 3.3.7.2, CTS markup page 1 of 1

ITS 3.3.1.1, DOC A.15 (page 5)
ITS 3.3.1.1, DOC M.1 (page 5)
ITS 3.3.1.1, DOC LA.5 (page 7)
ITS 3.3.1.1, DOC LE.1 (pages 10 through 12)
ITS 3.3.1.1, DOC LF.1 (pages 12 through 13)
ITS 3.3.2.1, DOC LF.1 (pages 4 and 5)
ITS 3.3.2.2, DOC A.3 (page 1)
ITS 3.3.2.2, DOC M.4 (page 2)
ITS 3.3.2.2, DOC LA.1 (page 3)
ITS 3.3.4.1, DOC A.5 (page 2)
ITS 3.3.4.1, DOC LA.2 (page 3)
ITS 3.3.4.1, DOC LE.1 (pages 5 and 6)
ITS 3.3.5.1, DOC A.4 (page 2)
ITS 3.3.5.1, DOC M.1 (page 4)
ITS 3.3.5.1, DOC M.3 (page 4)
ITS 3.3.5.1, DOC M.5 (page 5)
ITS 3.3.5.1, DOC LA.1 (page 5)
ITS 3.3.5.1, DOC LD.1 (page 6)
ITS 3.3.5.1, DOC LE.1 (page 7)
ITS 3.3.5.2, DOC A.3 (page 1)
ITS 3.3.5.2, DOC LA.1 (page 3)
ITS 3.3.6.1, DOC A.12 (page 4)
ITS 3.3.6.1, DOC M.5 (page 5)
ITS 3.3.6.1, DOC LA.2 (page 6)

REVISION A TO QUAD CITIES NUCLEAR POWER STATION PROPOSED IMPROVED TECHNICAL SPECIFICATIONS SUMMARY OF CHANGES (continued)

ITS 3.3.6.1, DOC LE.1 (pages 8 through 11)
ITS 3.3.6.2, DOC A.7 (page 2)
ITS 3.3.6.2, DOC LA.2 (page 3)
ITS 3.3.6.2, DOC LE.1 (page 6)
ITS 3.3.6.3, DOC LE.1 (page 4)
ITS 3.3.7.1, DOC A.7 (page 2)
ITS 3.3.7.1, DOC LA.2 (page 4)
ITS 3.3.7.1, DOC LE.1 (page 6)
ITS 3.3.7.2, DOC A.7 (page 2)

2. In ITS Table 3.3.6.1-1, the Channel Calibration Frequency associated with the Main Steam Line Flow - High Function (i.e., Function 3) of Main Steam Line Isolation Instrumentation is once per 92 days. The Frequency of the Channel Calibration for Function 1.d of ITS Table 3.3.6.1-1 should be once per 24 months. The 24 month Frequency for the Channel Calibration is supported by the setpoint calculation for the Allowable Value associated with Function 1.d of ITS Table 3.3.6.1-1. As a result, SR 3.3.6.1.4 (i.e., the 92 day Channel Calibration) is changed to SR 3.3.6.1.5 (i.e., the 24 month Channel Calibration) for Function 1.d in ITS Table 3.3.6.1-1, ITS 3.3.6.1 DOC LE.1 has been modified, and ITS 3.3.6.1 DOC M.5 has been deleted. This change affects clean typed ITS page 3.3.6.1-5, CTS markup page 10 of 12 for ITS 3.3.6.1, ITS 3.3.6.1 DOCs (pages 5 and 9), and ISTS markup page 3.3-57.

3. In ITS Table 3.3.5.1-1, the Channel Calibration Frequency associated with the High Pressure Coolant Injection Pump Discharge Flow – Low (Bypass) (i.e., Function 3.f) of Emergency Core Cooling System Instrumentation is once per 24 months. The Frequency of the Channel Calibration for Function 3.f of ITS Table 3.3.5.1-1 should be once per 92 days. The 92 day Frequency for the Channel Calibration is supported by the setpoint calculation for the Allowable Value associated with Function 3.f of ITS Table 3.3.5.1-1. As a result, SR 3.3.5.1.7 (i.e., the 24 month Channel Calibration) is changed to SR 3.3.5.1.6 (i.e., the 92 day Channel Calibration) for Function 3.f in ITS Table 3.3.5.1-1 and new DOC M.3 is added. This change affects clean typed ITS page 3.3.5.1-12, CTS markup page 15 of 17 for ITS 3.3.5.1, ITS 3.3.5.1 DOCs (page 4), and ISTS markup page 3.3-45.

4. In ITS Table 3.3.1.1-1, the Channel Calibration Frequency associated with the Scram Discharge Volume Water Level - High, Thermal Switch (i.e, Function 7.a) of Reactor Protection System Instrumentation is once per 92 days. The Frequency of the Channel Calibration for Function 7.a of ITS Table 3.3.1.1-1 should be once per 24 months. The 24 month Frequency for the Channel Calibration is supported by the setpoint calculation for the Allowable Value associated with Function 7.a of ITS Table 3.3.1.1-1. As a result, SR 3.3.1.1.12

(i.e., the 92 day Channel Calibration) is changed to SR 3.3.1.1.16 (i.e., the 24 month Channel Calibration) for Function 7.a in ITS Table 3.3.1.1-1 and DOC M.1 has been revised. This change affects clean typed ITS page 3.3.1.1-9, CTS markup page 11 of 16 for ITS 3.3.1.1, ITS 3.3.1.1 DOCs (page 5), and ISTS markup page 3.3-9.

5. In ITS Table 3.3.5.1-1, the Channel Calibration Frequency associated with the Reactor Steam Dome Pressure - Low (Break Detection) (i.e., Function 2.d) of Emergency Core Cooling System Instrumentation is once per 24 months. The Frequency of the Channel Calibration for Function 2.d of ITS Table 3.3.5.1-1 should be once per 184 days. The 184 day Frequency for the Channel Calibration is supported by the setpoint calculation for the Allowable Value associated with Function 2.d of ITS Table 3.3.5.1-1. As a result, a new SR has been added (new SR 3.3.5.1.7, a 184 day Channel Calibration), and therefore the subsequent SRs have been renumbered (i.e., SR 3.3.5.1.7 and SR 3.3.5.1.8 have been renumbered as SR 3.3.5.1.8 and SR 3.3.5.1.9, respectively). The change affects clean typed ITS pages 3.3.5.1-8 through 3.3.5.1-13, CTS markup pages 15 through 17, ITS 3.3.5.1 DOCs M.1, M.5, and LD.1, ISTS markup pages 3.3.41 through 3.3.47, and ISTS Bases markup pages B 3.3-137 and B 3.3-138.

6. In ITS SR 3.3.2.2.3, the Channel Calibration Frequency associated with the Feedwater System and Main Turbine High Water Level Trip is once per 92 days. The Frequency of the Channel Calibration for this Function of ITS SR 3.3.2.2.3 should be once per 12 months. The 12 month Frequency for the Channel Calibration is supported by the setpoint calculation for the Allowable Value associated with this Function. As a result, the 92 day Frequency of SR 3.3.2.2.3 (i.e., the Channel Calibration) is changed to a 12 month Frequency and ITS 3.3.2.2 DOC M.4 has been modified. This change affects clean typed ITS page 3.3.2.2-2 and Bases page B 3.3.2.2-5, CTS markup page 3 of 3 for ITS 3.3.2.2, ITS 3.3.2.2 DOCs (page 2), ISTS markup page 3.3-22, and ISTS markup page B 3.3-62.

7. In ITS Table 3.3.5.1-1, the Channel Calibration Frequency associated with the Recirculation Pump Differential Pressure-High (Break Detection) (i.e., Function 2.g) and Recirculation Riser Differential Pressure-High (Break Detection) (i.e., Function 2.h) of Emergency Core Cooling System Instrumentation is once per 92 days. The Frequency of the Channel Calibration for Functions 2.g and 2.h of ITS Table 3.3.5.1-1 should be once 24 months. The 24 month Frequency for the Channel Calibration is supported by the setpoint calculations for the Allowable Values associated with Functions 2.g and 2.h of ITS Table 3.3.5.1-1. As a result, SR 3.3.5.1.6 (i.e., the 92 day Channel Calibration) is changed to SR 3.3.5.1.8 (i.e., the 24 month Channel Calibration) for Functions 2.g and 2.h in ITS Table 3.3.5.1-1 and DOC M.1 has been modified. This change affects clean typed ITS page 3.3.5.1-22, ITS 3.3.5.1 DOC M.1 (page 4), and ISTS Insert page 3.3-44.

Attachment 3

DISCARD AND INSERTION INSTRUCTIONS

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
ITS page 3.3.1.1-7	ITS page 3.3.1.1-7
ITS page 3.3.1.1-8	ITS page 3.3.1.1-8
ITS page 3.3.1.1-9	ITS page 3.3.1.1-9
ITS page 3.3.2.1-6	ITS page 3.3.2.1-6
ITS page 3.3.2.2-2	ITS page 3.3.2.2-2
ITS page 3.3.4.1-3	ITS page 3.3.4.1-3
ITS Page 3.3.5.1-8	ITS Page 3.3.5.1-8
ITS Page 3.3.5.1-9	ITS Page 3.3.5.1-9
ITS Page 3.3.5.1-10	ITS Page 3.3.5.1-10
ITS Page 3.3.5.1-11	ITS Page 3.3.5.1-11
ITS Page 3.3.5.1-12	ITS Page 3.3.5.1-12
ITS Page 3.3.5.1-13	ITS Page 3.3.5.1-13
ITS Page 3.3.5.2-4	ITS Page 3.3.5.2-4
ITS Page 3.3.6.1-5	ITS Page 3.3.6.1-5
ITS Page 3.3.6.1-6	ITS Page 3.3.6.1-6
ITS Page 3.3.6.1-7	ITS Page 3.3.6.1-7
ITS Page 3.3.6.2-4	ITS Page 3.3.6.2-4
ITS Page 3.3.6.3-3	ITS Page 3.3.6.3-3
ITS Page 3.3.7.1-4	ITS Page 3.3.7.1-4
ITS Page 3.3.7.2-3	ITS Page 3.3.7.2-3
ITS Bases Page 3.3.2.2-5	ITS Bases Page 3.3.2.2-5
ITS Bases Page 3.3.5.1-41	ITS Bases Page 3.3.5-41
ITS Bases Page 3.3.5.1-42	ITS Bases Page 3.3.5-42
ITS Bases Page 3.3.6.2-6	ITS Bases Page 3.3.6.2-6
CTS Markup for Specification 3.3.1.1 page 11 of 16	CTS Markup for Specification 3.3.1.1 page 11 of 16
CTS Markup for Specification 3.3.1.1 page 15 of 16	CTS Markup for Specification 3.3.1.1 page 15 of 16
Discussion of Changes for ITS 3.3.1.1 pages 5, 7, 10, 11, 12, and 13	Discussion of Changes for ITS 3.3.1.1 pages 5, 7, 10, 11, 12, and 13
Discussion of Changes for ITS 3.3.2.1 pages 4 and 5.	Discussion of Changes for ITS 3.3.2.1 pages 4 and 5.
CTS Markup for Specification 3.3.2.2 page 2 of 3	CTS Markup for Specification 3.3.2.2 page 2 of 3

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SECTION 3.3	
DISCARD	INSERT
CTS Markup for Specification 3.3.2.2 page 3 of 3	CTS Markup for Specification 3.3.2.2 page 3 of 3
Discussion of Changes for ITS 3.3.2.2 pages 1, 2, and 3	Discussion of Changes for ITS 3.3.2.2 pages 1, 2, and 3
CTS Markup for Specification 3.3.4.1 page 3 of 5	CTS Markup for Specification 3.3.4.1 page 3 of 5
Discussion of Changes for ITS 3.3.4.1 pages 2, 3, 4, 5, 6, and 7	Discussion of Changes for ITS 3.3.4.1 pages 2, 3, 4, 5, 6, and 7
CTS Markup for Specification 3.3.5.1 page 1 of 17	CTS Markup for Specification 3.3.5.1 page 1 of 17
CTS Markup for Specification 3.3.5.1 page 13 of 17	CTS Markup for Specification 3.3.5.1 page 13 of 17
CTS Markup for Specification 3.3.5.1 page 15 of 17	CTS Markup for Specification 3.3.5.1 page 15 of 17
CTS Markup for Specification 3.3.5.1 page 16 of 17	CTS Markup for Specification 3.3.5.1 page 16 of 17
CTS Markup for Specification 3.3.5.1 page 17 of 17	CTS Markup for Specification 3.3.5.1 page 17 of 17
Discussion of Changes for ITS 3.3.5.1 pages 2, 3, 4, 5, 6, and 7	Discussion of Changes for ITS 3.3.5.1 pages 2, 3, 4, 5, 6, and 7
CTS Markup for Specification 3.3.5.2 page 2 of 7	CTS Markup for Specification 3.3.5.2 page 2 of 7
Discussion of Changes for ITS 3.3.5.2 pages 1, 2, 3, and 4	Discussion of Changes for ITS 3.3.5.2 pages 1, 2, 3, and 4
CTS Markup for Specification 3.3.6.1 page 8 of 12	CTS Markup for Specification 3.3.6.1 page 8 of 12
CTS Markup for Specification 3.3.6.1 page 10 of 12	CTS Markup for Specification 3.3.6.1 page 10 of 12
Discussion of Changes for ITS 3.3.6.1 pages 4, 5, 6, 8, 9, 10, and 11	Discussion of Changes for ITS 3.3.6.1 pages 4, 5, 6, 8, 9, 10, and 11
CTS Markup for Specification 3.3.6.2 page 6 of 10	CTS Markup for Specification 3.3.6.2 page 6 of 10
Discussion of Changes for ITS 3.3.6.2 pages 2, 3, 4, and 6	Discussion of Changes for ITS 3.3.6.2 pages 2, 3, 4, and 6
Discussion of Changes for ITS 3.3.6.3 page 4	Discussion of Changes for ITS 3.3.6.3 page 4
CTS Markup for Specification 3.3.7.1 page 6 of 9	CTS Markup for Specification 3.3.7.1 page 6 of 9

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
Discussion of Changes for ITS 3.3.7.1 pages 2, 4, 5, and 6	Discussion of Changes for ITS 3.3.7.1 pages 2, 4, 5, and 6
CTS Markup for Specifications 3.3.7.2 page 1 of 1	CTS Markup for Specifications 3.3.7.2 page 1 of 1
Discussion of Changes for ITS 3.3.7.2 pages 2, 3, 4 and 5	Discussion of Changes for ITS 3.3.7.2 pages 2, 3, 4, and 5

VOLUME 4	
SECTION 3.3	
DISCARD	**INSERT**
ISTS markup page 3.3-7	ISTS markup page 3.3-7
ISTS markup page 3.3-8	ISTS markup page 3.3-8
ISTS markup page 3.3-9	ISTS markup page 3.3-9
ISTS markup page 3.3-20	ISTS markup page 3.3-20
ISTS markup page 3.3-22	ISTS markup page 3.3-22
ISTS markup page 3.3-35	ISTS markup page 3.3-35
ISTS markup page 3.3-41	ISTS markup page 3.3-41
ISTS markup page 3.3-42	ISTS markup page 3.3-42
ISTS markup Insert Page 3.3-42	ISTS markup Insert Page 3.3-42
ISTS markup page 3.3-43	ISTS markup page 3.3-43
ISTS markup page 3.3-44	ISTS markup page 3.3-44
ISTS markup Insert Page 3.3-44	ISTS markup Insert Page 3.3-44
ISTS markup page 3.3-45	ISTS markup page 3.3-45
ISTS markup page 3.3-46	ISTS markup page 3.3-46
ISTS markup page 3.3-47	ISTS markup page 3.3-47
ITS 3.3.5.1, Justification for Deviations from NUREG-1433, Revision 1, page 1	ITS 3.3.5.1, Justification for Deviations from NUREG-1433, Revision 1, page 1
ISTS markup page 3.3-51	ISTS markup page 3.3-51
ISTS markup page 3.3-57	ISTS markup page 3.3-57
ISTS markup page 3.3-58	ISTS markup page 3.3-58
ISTS markup Insert Page 3.3-58	ISTS markup Insert Page 3.3-58
ISTS markup page 3.3-59	ISTS markup page 3.3-59
ISTS markup page 3.3-60	ISTS markup page 3.3-60
ISTS markup Insert Page 3.3-60	ISTS markup Insert Page 3.3-60
ISTS markup page 3.3-61	ISTS markup page 3.3-61
ISTS markup page 3.3-62	ISTS markup page 3.3-62
ISTS markup page 3.3-66	ISTS markup page 3.3-66
ISTS markup page 3.3-70	ISTS markup page 3.3-70

VOLUME 4	
SECTION 3.3	
DISCARD	**INSERT**
ISTS markup page 3.3-74	ISTS markup page 3.3-74
ISTS markup page 3.3.7.2-3	ISTS markup page 3.3.7.2-3
ISTS Bases markup page 3.3-62	ISTS Bases markup page 3.3-62
ISTS Bases markup page 3.3-137	ISTS Bases markup page 3.3-137
ISTS Bases markup page 3.3-138	ISTS Bases markup page 3.3-138

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux – High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 121/125 divisions of full scale
	5(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 121/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.17	NA
	5(a)	3	H	SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.17	NA
2. Average Power Range Monitors					
a. Neutron Flux – High, Setdown	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.7 SR 3.3.1.1.9 SR 3.3.1.1.14 SR 3.3.1.1.17	≤ 17.1% RTP
b. Flow Biased Neutron Flux – High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 0.58 W + 63.4% RTP and ≤ 122% RTP(b)

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) 0.58 W + 59.1% and ≤ 118.4% RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Fixed Neutron Flux – High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 122% RTP
d. Inop	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.17	NA
3. Reactor Vessel Steam Dome Pressure – High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1050 psig
4. Reactor Vessel Water Level – Low	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 11.8 inches
5. Main Steam Isolation Valve – Closure	1	8	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	[≤ 10% closed]
6. Drywell Pressure – High	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 2.43 psig

(continued)

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level − High					
a. Thermal Switch	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 38.9 gallons
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 38.9 gallons
b. Differential Pressure Switch	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 32.3 gallons
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 32.3 gallons
8. Turbine Stop Valve − Closure	≥ 45% RTP	4	E	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	[≤ 10% closed]
9. Turbine Control Valve Fast Closure, Trip Oil Pressure − Low	≥ 45% RTP	2	E	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 474 psig
10. Turbine Condenser Vacuum − Low	1	2	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 21.8 inches Hg vacuum
11. Reactor Mode Switch − Shutdown Position	1,2	1	G	SR 3.3.1.1.15 SR 3.3.1.1.17	NA
	5(a)	1	H	SR 3.3.1.1.15 SR 3.3.1.1.17	NA
12. Manual Scram	1,2	1	G	SR 3.3.1.1.8 SR 3.3.1.1.17	NA
	5(a)	1	H	SR 3.3.1.1.8 SR 3.3.1.1.17	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
a. Upscale	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.5	As specified in the COLR
b. Inop	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.5	NA
c. Downscale	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.5	≥ 3.8% RTP
2. Rod Worth Minimizer	1(b),2(b)	1	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.6 SR 3.3.2.1.8 SR 3.3.2.1.9	NA
3. Reactor Mode Switch – Shutdown Position	(c)	2	SR 3.3.2.1.7	NA

(a) THERMAL POWER ≥ 30% RTP and no peripheral control rod selected.

(b) With THERMAL POWER ≤ 10% RTP.

(c) Reactor mode switch in the shutdown position.

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 2 hours.

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	24 hours
SR 3.3.2.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 54.4 inches.	12 months
SR 3.3.2.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker and valve actuation.	24 months

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains ATWS-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.4.1.2	Calibrate the trip units.	31 days
SR 3.3.4.1.3	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.1.4	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level — Low Low $\geq$ -56.3 inches with time delay set to $\geq$ [8] seconds and $\leq$ [10] seconds; and b. Reactor Vessel Steam Dome Pressure — High: $\leq$ 1219 psig.	24 months
SR 3.3.4.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months

SURVEILLANCE REQUIREMENTS

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

1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c, 3.f, and 3.g; and (b) for up to 6 hours for Functions other than 3.c, 3.f, and 3.g provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.5.1.2	Perform CHANNEL FUNCTIONAL TEST.	31 days
SR 3.3.5.1.3	Perform CHANNEL CALIBRATION.	60 days
SR 3.3.5.1.4	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.1.5	Calibrate the trip unit.	92 days
SR 3.3.5.1.6	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.1.7	Perform CHANNEL CALIBRATION.	184 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.8	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.1.9	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.5.1-1 (page 1 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Vessel Water Level – Low Low	1,2,3, $4^{(a)}$, $5^{(a)}$	$4^{(b)}$	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure – High	1,2,3	$4^{(b)}$	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Reactor Steam Dome Pressure – Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig
	$4^{(a)}$, $5^{(a)}$	2	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig
d. Core Spray Pump Discharge Flow – Low (Bypass)	1,2,3, $4^{(a)}$, $5^{(a)}$	1 per pump	E	SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 577 gpm and ≤ 830 gpm
e. Core Spray Pump Start-Time Delay Relay	1, 2, 3 $4^{(a)}$, $5^{(a)}$	1 per pump	C	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 10 seconds]
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level – Low Low	1,2,3, $4^{(a)}$, $5^{(a)}$	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure – High	1,2,3	4	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Reactor Steam Dome Pressure – Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig
	$4^{(a)}$, $5^{(a)}$	2	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS – Shutdown."

(b) Also required to initiate the associated diesel generator (DG).

Table 3.3.5.1-1 (page 2 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
d. Reactor Steam Dome Pressure – Low (Break Detection)	1,2,3	4	B	SR 3.3.5.1.4 SR 3.3.5.1.7 SR 3.3.5.1.9	≥ 868 psig and ≤ 891 psig
e. Low Pressure Coolant Injection Pump Start – Time Delay Relay Pumps B and D	1,2,3, $4^{(a)}$, $5^{(a)}$	1 per pump	C	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 5 seconds]
f. Low Pressure Coolant Injection Pump Discharge Flow – Low (Bypass)	1,2,3, $4^{(a)}$, $5^{(a)}$	1 per loop	E	SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 2526 gpm
g. Recirculation Pump Differential Pressure–High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 2.3 psid
h. Recirculation Riser Differential Pressure–High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.15 psid
i. Recirculation Pump Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 1.0 seconds]
j. Reactor Steam Dome Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 2.25 seconds]
k. Recirculation Riser Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 1.0 seconds]

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

Table 3.3.5.1-1 (page 3 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level − Low Low	1, 2[c], 3[c]	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure − High	1, 2[c], 3[c]	4	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Reactor Vessel Water Level − High	1, 2[c], 3[c]	2	C	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≤ 54.23 inches
d. Contaminated Condensate Storage Tank (CCST) Level − Low	1, 2[c], 3[c]	2	D	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	[≥ 10,000 gallons]
e. Suppression Pool Water Level − High	1, 2[c], 3[c]	2	D	SR 3.3.5.1.4 SR 3.3.5.1.9	[≤ 14 ft 8 inches]
f. High Pressure Coolant Injection Pump Discharge Flow − Low (Bypass)	1, 2[c], 3[c]	1	E	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 634 gpm
g. Manual Initiation	1, 2[c], 3[c]	1	C	SR 3.3.5.1.9	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level − Low Low	1, 2[c], 3[c]	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure − High	1, 2[c], 3[c]	2	F	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 120 seconds]

(continued)

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 4 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. ADS Trip System A (continued)					
d. Core Spray Pump Discharge Pressure – High	1, $2^{(c)}$, $3^{(c)}$	2	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.9 psig and ≤ 148.1 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure – High	1, $2^{(c)}$, $3^{(c)}$	4	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.7 psig and ≤ 146.9 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 9 minutes]
5. ADS Trip System B					
a. Reactor Vessel Water Level – Low Low	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure – High	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 120 seconds]
d. Core Spray Pump Discharge Pressure – High	1, $2^{(c)}$, $3^{(c)}$	2	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.9 psig and ≤ 148.1 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure – High	1, $2^{(c)}$, $3^{(c)}$	4	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.7 psig and ≤ 146.9 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ 9 minutes]

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low Low	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.6	≥ -56.78 inches
2. Reactor Vessel Water Level – High	2	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.6	≤ 54.23 inches
3. Contaminated Condensate Storage Tank (CCST) Level – Low	2	D	SR 3.3.5.2.4 SR 3.3.5.2.5 SR 3.3.5.2.6	[≥ 598 ft El.]
4. Suppression Pool Water Level – High	2	D	SR 3.3.5.2.4 SR 3.3.5.2.6	[≤ 14 ft 8 inches]
5. Manual Initiation	1	C	SR 3.3.5.2.6	NA

Table 3.3.6.1-1 (page 1 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level – Low Low	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -55.2 inches
b. Main Steam Line Pressure – Low	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 831 psig
c. Main Steam Line Pressure – Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	[≥ 0.1 seconds and ≤ 0.5 seconds]
d. Main Steam Line Flow – High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 138% rated steam flow
e. Main Steam Line Tunnel Temperature – High	1,2,3	2 per trip string	D	SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 198°F
2. Primary Containment Isolation					
a. Reactor Vessel Water Level – Low	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 11.8 inches
b. Drywell Pressure – High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 2.43 psig
c. Drywell Radiation – High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 70 R/hr

(continued)

Table 3.3.6.1-1 (page 2 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System Isolation					
a. HPCI Steam Line Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	$\leq$ 151% rated steam flow
b. HPCI Steam Line Flow – Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	[$\geq$ 3 seconds and $\leq$ 9 seconds]
c. HPCI Steam Supply Line Pressure – Low	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	$\geq$ 113.0 psig
d. Drywell Pressure – High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	$\leq$ 2.43 psig
e. HPCI Turbine Area Temperature – High	1,2,3	2	F	SR 3.3.6.1.5 SR 3.3.6.1.6	$\leq$ 169°F
4. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	$\leq$ 175% rated steam flow
b. RCIC Steam Line Flow – Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	[$\geq$ 3 seconds and $\leq$ 9 seconds]
c. RCIC Steam Supply Line Pressure – Low	1,2,3	4(a)	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	$\geq$ 54 psig
d. RCIC Turbine Area Temperature – High	1,2,3	2	F	SR 3.3.6.1.5 SR 3.3.6.1.6	$\leq$ 169°F

(continued)

(a) Only inputs into one trip system.

Table 3.3.6.1-1 (page 3 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. Reactor Water Cleanup System Isolation					
a. SLC System Initiation	1,2	1	H	SR 3.3.6.1.6	NA
b. Reactor Vessel Water Level – Low	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 11.8 inches
6. RHR Shutdown Cooling System Isolation					
a. Reactor Vessel Pressure – High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 130 psig
b. Reactor Vessel Water Level – Low	3,4,5	2(b)	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 11.8 inches

(b) In MODES 4 and 5, provided RHR Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required.

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level − Low	1,2,3, (a)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.5 SR 3.3.6.2.6	≥ 11.8 inches
2. Drywell Pressure − High	1,2,3	2	SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.6	≤ 2.43 psig
3. Reactor Building Exhaust Radiation − High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.6	≤ 9 mR/hr
4. Refueling Floor Radiation − High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.6	≤ 100 mR/hr

(a) During operations with a potential for draining the reactor vessel.

(b) During CORE ALTERATIONS and during movement of irradiated fuel assemblies in secondary containment.

Table 3.3.6.3-1 (page 1 of 1)
Relief Valve Set Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Set Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1108 psig
b. Reactuation Time Delay	2 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	[≥ 10 seconds and ≤ 16.5 seconds]
2. Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1128 psig

Table 3.3.7.1-1 (page 1 of 1)
Control Room Emergency Ventilation (CREV) System Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
1. Reactor Vessel Water Level − Low	1,2,3, (a)	2	C	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.3 SR 3.3.7.1.5 SR 3.3.7.1.6	≥ 11.8 inches	A
2. Drywell Pressure − High	1,2,3	2	C	SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.6	≤ 2.43 psig	A
3. Main Steam Line Flow − High	1,2,3	2 per MSL	B	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.5 SR 3.3.7.1.6	≤ 138% rated steam flow	A
4. Refueling Floor Radiation − High	1,2,3, (a),(b)	2	B	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.6	≤ 100 mR/hr	A
5. Reactor Building Ventilation Exhaust Radiation − High	1,2,3, (a),(b)	2	B	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.6	≤ 9 mR/hr	A

(a) During operations with a potential for draining the reactor vessel.

(b) During CORE ALTERATIONS and during movement of irradiated fuel assemblies in the secondary containment.

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided mechanical vacuum pump trip capability is maintained.

SURVEILLANCE		FREQUENCY
SR 3.3.7.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.7.2.3	------------------NOTE------------------ Radiation detectors are excluded. -- Perform CHANNEL CALIBRATION.	92 days
SR 3.3.7.2.4	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 7700 mR/hr.	24 months
SR 3.3.7.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST including mechanical vacuum pump breaker actuation.	24 months

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.2.1 (continued)

Agreement criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limits.

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

SR 3.3.2.2.2

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of 92 days is based on operating experience.

SR 3.3.2.2.3

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency is based upon the assumption of a 12 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. A

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1.1 (continued)

The Frequency is based upon 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 channels required by the LCO.

SR 3.3.5.1.2 and SR 3.3.5.1.4

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of 31 days for SR 3.3.5.1.2 is based on engineering judgement and the reliability of the equipment. The Frequency of 92 days for SR 3.3.5.1.4 is based on the reliability analyses of Reference 4.

SR 3.3.5.1.3, SR 3.3.5.1.6, SR 3.3.5.1.7, and SR 3.3.5.1.8

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency of SR 3.3.5.1.3 is based upon the assumption of a 60 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of SR 3.3.5.1.6 is based upon the assumption of a 92 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of SR 3.3.5.1.7 is based upon the assumption of a 184 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of SR 3.3.5.1.8 is based upon the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.1.5

Calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in Table 3.3.5.1-1. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analyses. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than the setting accounted for in the appropriate setpoint methodology.

The Frequency of 92 days is based on the reliability analysis of Reference 4.

SR 3.3.5.1.9

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required initiation logic for a specific channel. The system functional testing performed in LCO 3.5.1, LCO 3.5.2, LCO 3.8.1, and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety function.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency.

REFERENCES

1. UFSAR, Section 5.2.
2. UFSAR, Section 6.3.
3. UFSAR, Chapter 15.
4. NEDC-30936-P-A, "BWR Owners' Group Technical Specification Improvement Analyses for ECCS Actuation Instrumentation, Part 1 and Part 2," December 1988.

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

3, 4. Reactor Building Exhaust Radiation—High and Refueling Floor Radiation—High

High reactor building exhaust radiation or refuel floor radiation is an indication of possible gross failure of the fuel cladding. The release may have originated from the primary containment due to a break in the RCPB or the refueling floor due to a fuel handling accident. When Reactor Building Exhaust Radiation—High or Refueling Floor Radiation—High is detected, secondary containment isolation and actuation of the SGT System are initiated to support actions to limit the release of fission products as assumed in the UFSAR safety analyses (Refs. 2 and 3).

The Reactor Building Exhaust Radiation—High signals are initiated from radiation detectors that are located on the ventilation exhaust duct coming from the associated reactor building. Therefore, the channels must be declared inoperable if the associated reactor building ventilation exhaust duct is isolated. Refueling Floor Radiation—High signals are initiated from radiation detectors that are located to monitor the environment of the associated spent fuel storage pool. The signal from each detector is input to an individual monitor whose trip outputs are assigned to an isolation channel. Four channels of Reactor Building Exhaust Radiation—High Function and four channels of Refueling Floor Radiation—High Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Allowable Values are chosen to promptly detect gross failure of the fuel cladding. A

The Reactor Building Exhaust Radiation—High and Refueling Floor Radiation—High Functions are required to be OPERABLE in MODES 1, 2, and 3 where considerable energy exists in the RCS; thus, there is a probability of pipe breaks resulting in significant releases of radioactive steam and gas. In MODES 4 and 5, the probability and consequences of these events are low due to the RCS pressure and temperature limitations of these MODES; thus, these Functions are not required. In addition, the Functions are also required to

(continued)

3.3.1.1-1

TABLE 4.1.A-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Note 1 to SR 3.3.1.1.14 SR 3.3.1.1.16

Functional Unit	Applicable OPERATIONAL MODES	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST (SR 3.3.1.1.8, SR 3.3.1.1.10, SR 3.3.1.1.15, SR 3.3.1.1.5)	CHANNEL CALIBRATION(a) (SR 3.3.1.1.12, SR 3.3.1.1.16)
7. 8. Scram Discharge Volume Water Level - High	L.4 Note(a)	M.1 add proposed SR 3.3.1.1.16	A.3	LE.1 24 months
7.b a. ΔP Switch, and	1, 2, 5(k)	NA	Q-10	R-16
7.a b. Thermal Switch	1, 2, 5(k)	NA	Q-10	NA
8. 9. Turbine Stop Valve - Closure (M.3 add proposed SR 3.3.1.1.13)	(l) ≥ 45% RTP	NA	A.3 Q M-10	24 months R-16 LE.1
10. Deleted				
9. 11. Turbine Control Valve Fast Closure	(l)	NA	A.3 Q M-10	24 months R-16
10. 12. Turbine Condenser Vacuum - Low	1	NA	M-10	Q-12
11. 13. Reactor Mode Switch Shutdown Position	1, 2, 3/4, 5 (L.2)	NA	R-15 24 months LD.2	NA
12. 14. Manual Scram	1, 2, 3/4, 5 (L.2)	NA	M-8	NA

L.3 add proposed Note (a) to Table 3.3.1.1-1

A

A.1

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ITS 3.3.1.1

TABLE ~~2.2.A-1~~ 3.3.1.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION ~~SETPOINTS~~

	Function Functional Unit	~~Trip Setpoint~~ Allowable Values (A.10) (LF.1)
1.	1. Intermediate Range Monitor:	
1.a	a. Neutron Flux - High	≤120/125 divisions of full scale
1.b	b. Inoperative	NA
	2. Average Power Range Monitor:	
2.a	a. Setdown Neutron Flux - High	≤15% of RATED THERMAL POWER
2.b	b. Flow Biased Neutron Flux - High	
	1) Dual Recirculation Loop Operation	
	a) Flow Biased	≤0.58W~~a~~ + 62%, with a maximum of (LA.4)
	b) High Flow Clamped	≤120% of RATED THERMAL POWER
2.b	2) Single Recirculation Loop Operation	
	a) Flow Biased	≤0.58W~~a~~ + 58.5%, with a maximum of (LA.4)
	b) High Flow Clamped	≤116.5% of RATED THERMAL POWER
2.c	c. Fixed Neutron Flux - High	≤120% of RATED THERMAL POWER
2.d	d. Inoperative	NA
3	3. Reactor Vessel Steam Dome Pressure - High	≤1060 psig
4	4. Reactor Vessel Water Level - Low	≥144 inches ~~above top of active fuel~~ (LA.5) (A.15)
5	5. Main Steam Line Isolation Valve - Closure	≤10% closed
	~~6. Main Steam Line Radiation - High~~	~~≤15 x normal full power background (without hydrogen addition)~~ (A.8)

(LA.4)

~~a W shall be the recirculation loop flow expressed as a percentage of the recirculation loop flow which produces a rated core flow of 98 million lbs/hr.~~

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ADMINISTRATIVE (continued)

A.15 The Trip Setpoint for Functional Unit 4, Reactor Vessel Water Level - Low, in Table 2.2.A-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS Table 3.3.1.1-1 for Function 4 is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.10 and LF.1, therefore this change is considered administrative.

A.16 The requirements in CTS Table 4.1.A-1 Footnote (q) have been deleted since the instrument upgrades, referenced in the footnote, in both Units 1 and 2 have been completed. As such, this change is administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS Table 4.1.A-1 requires a 92 day CHANNEL FUNCTIONAL TEST of Functional Unit 8.b, Scram Discharge Volume Water Level - High (Thermal Switch). The Table does not require a CHANNEL CALIBRATION. A new Surveillance has been added (SR 3.3.1.1.16) to this Functional Unit to ensure the associated channels are calibrated properly. This CHANNEL CALIBRATION must be performed at a 24 month Frequency. This new SR represents an additional restriction on plant operation.

M.2 The Frequency of the CHANNEL CHECK requirement of CTS Table 4.1.A-1 Function 4, Reactor Vessel Water Level - Low, has been increased from every 24 hours to 12 hours. This change to the CTS constitutes a more restrictive change to help ensure this Function is maintained OPERABLE. This change is consistent with BWR ISTS, NUREG-1433, Rev. 1, and the current requirements for other instrumentation within the CTS.

M.3 A Surveillance has been added (proposed SR 3.3.1.1.13) to verify the automatic enabling of the Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, Control Oil Pressure—Low Functions at $\geq$ 45% RTP. This SR ensures that the associated RPS scram Functions are not inadvertently bypassed with power $\geq$ 45% RTP. This new SR represents an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LA.4 CTS Table 2.2.A-1 Note (a) states that the APRM Flow-Biased Neutron Flux—High scram value varies as a function of recirculation loop drive flow (W). This detail of system description is proposed to be relocated to the Bases. ITS 3.3.1.1 and associated SRs will ensure that the Allowable Value is maintained properly. This detail is not necessary to ensure the Allowable Value is maintained properly. As such, this relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.5 The detail in CTS Table 2.2.A-1 that the Reactor Vessel Water Level—Low Function setting (Functional Unit 4) is referenced to a level above the top of active fuel is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS Table 3.3.1.1-1 for Function 4 has been changed to the value associated with "instrument zero," as discussed in Discussion of Change A.15. This detail is not necessary to ensure the OPERABILITY of this RPS Function. The requirements of ITS 3.3.1.1, including the proposed Surveillance Requirements, are adequate to ensure the RPS Function remains OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59. B

LD.1 The Frequencies for performing the RPS LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.1.A.2 (proposed SR 3.3.1.1.17) and the RPS RESPONSE TIME TEST of CTS 4.1.A.3 (proposed SR 3.3.1.1.18) have been extended from 18 months to 24 months. These SRs ensure that RPS logic will function as designed in response to an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the Surveillance Test interval for the RPS LSFT and RESPONSE TIME TEST is acceptable because the RPS is verified to be operating properly throughout the operating cycle by the performance of

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The subject SR ensures that the RPS System will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the RPS system along with the RPS initiation logic is designed to be single failure proof and therefore is highly reliable. Furthermore, the impacted RPS instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1.a, Intermediate Range Monitor (IRM) Neutron Flux—High

This function is performed by a fission chamber, voltage preamplifier, and a mean square voltage-wide range monitor. The equipment is supplied by General Electric. It is required to be OPERABLE in MODES 2 and 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies to minimize the consequences of a control rod withdrawal error. During these modes of operation other surveillances are performed more frequently which will detect major deviation in the system. The equipment drift was evaluated utilizing a qualitative analysis. The results of this analysis support 24 month fuel cycle surveillance interval extension.

Functional Unit 3, Reactor Vessel Steam Dome Pressure—High

This function is performed by Rosemount 1153GD9 Transmitters and Rosemount 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters were recently installed in the plant and a sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis. The vendors drift specification was used to calculate a 30 month drift. The |A

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 4, Reactor Vessel Water Level—Low

This function is performed by Rosemount 1153DB4PA Transmitters and Rosemount 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 5, Main Steam Isolation Valve—Closure

This function is performed by NAMCO 180-21302 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Functional Unit 8.a, Scram Discharge Volume Water Level—High, Differential Pressure Switch

This function is performed by Barton Model 764 differential pressure transmitters and Rochester switches. The Rochester switches are functionally checked more frequently. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rochester switches with respect to drift. The Barton Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 9, Turbine Stop Valve—Closure

This function is performed by NAMCO EA700-90964 limit switches. Limit switches are mechanical devices that require mechanical adjustment only; drift is not applicable to these devices. Therefore, an increase in surveillance interval to accommodate a 24 month fuel cycle does not affect limit switches with respect to drift.

Functional Unit 11, Turbine Control Valve Fast Closure

This function is performed by Barksdale Pressure Switches TC9622-3 and TC9612-2. The Barksdale Pressure Switches (TC9622-3) drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. The Barksdale Pressure Switches (TC9612-2) were recently installed in the plant and a sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis. The vendors drift specification was used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24 month surveillance frequency. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy") or NEDC-31336P-A, "General Electric Instrument Setpoint Methodology," dated September 1996 (for Nuclear Instrumentation System Functions only). For most

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd) cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the ComEd or General Electric (GE) Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the ComEd or GE Instrument Setpoint Methodology.

Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1, or the methodology described in NEDC-31336P-A (for Nuclear Instrumentation System Functions only). The EPRI guidance and GE methodology were used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) Applicabilities for the RBM Functions have been modified to be $\geq$ 30% RTP and no peripheral control rod selected, consistent with the design and CTS Table 3.2.E-1 Note (a) (see Discussion of Change A.3 above). As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 Details in Table 4.2.E-1 Function 1 footnote c, CTS 4.3.L.2.a and b, and CTS 4.3.L.3.a and b of the methods for performing Surveillances are proposed to be relocated to the Bases. The requirements proposed to be relocated are procedural details that are not necessary for assuring control rod block instrumentation OPERABILITY. The Surveillance Requirements of ITS 3.3.2.1 provide adequate assurance the control rod block instrumentation are maintained OPERABLE. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy") or NEDC-31336P-A, "General Electric Instrument Setpoint Methodology," dated September 1996 (for Nuclear Instrumentation System Functions only). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd) uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the ComEd or General Electric (GE) Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the ComEd or GE Instrument Setpoint Methodology.

Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1, or the methodology described in NEDC-31336P-A (for Nuclear Instrumentation System Functions only). The EPRI guidance and GE methodology were used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

"Specific"

L.1 The Surveillance Frequency of "S/U" and Note (b), "within 7 days prior to startup," associated with the CHANNEL FUNCTIONAL TEST of the RBM Functions in CTS Table 4.3.E-1 is deleted. The requirements of CTS 4.0.A and 4.0.D (ITS SR 3.0.1 and SR 3.0.4) require the Surveillance to be performed and current prior to entry into the applicable Operational Conditions. Additionally, once the applicable Conditions are entered, the periodic Surveillance Frequency (92) days) has been determined to provide adequate assurance of RBM OPERABILITY per the reliability analysis of NEDO-30851P-A, "Technical Specifications Improvement Analysis for BWR Control Rod Block Instrumentation," dated October 1988. Also, the increased testing prior to startup increases the wear on the instruments, thereby reducing overall reliability. Therefore, an additional Surveillance other than the quarterly Surveillance (ITS SR 3.3.2.1.1) is not needed to assure the instruments will perform their associated safety function.

A.1

TABLE 3.2.J-1

FEEDWATER PUMP TRIP INSTRUMENTATION

Functional Unit	Allowable Value A.2 ~~Trip Setpoint~~[a]	Minimum CHANNEL(s)[b] Note to Surveillance Requirements	ACTION
Reactor Vessel Water Level -High L(CO 3.3.2.2)	≤201 inches LF.1	2	90 A,B

ACTION

ACTION 90 - ACTION A a. With the number of OPERABLE CHANNEL(s) one less than required by the Minimum CHANNEL(s) requirement, restore ~~the inoperable CHANNEL to OPERABLE status~~ trip capability M.3 within ~~7~~ 2 hours ~~days or place the inoperable CHANNEL in the tripped condition within the next 8 hours.~~

ACTION A b. With the number of OPERABLE CHANNEL(s) two less than required by the Minimum CHANNEL(s) requirement, restore ~~at least one of the inoperable CHANNEL(s) to OPERABLE status~~ trip capability M.3 within ~~72~~ 2 hours or be in at least ~~STARTUP~~ <25% L.1 within the next ~~6~~ 4 hours.

Required Action B.2

add proposed Required Action B.1 L.2

LA.1 A.3 A

a ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~

b A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition.

Note to Surveillance Requirements

ITS 3.3.2.2

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ITS 3.3.2.2

A.1

TABLE 4.2.J-1

**FEEDWATER PUMP TRIP INSTRUMENTATION
SURVEILLANCE REQUIREMENTS**

Functional Unit	SR 3.3.2.2.1 CHANNEL CHECK	SR 3.3.2.2.2 CHANNEL FUNCTIONAL TEST	SR 3.3.2.2.3 CHANNEL CALIBRATION
Reactor Vessel Water Level - High LCO 3.3.2.2	D — 1	E — 2 92 days	E — 2 12 months

M.4

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DISCUSSION OF CHANGES
ITS: 3.3.2.2 - FEEDWATER SYSTEM AND MAIN TURBINE HIGH WATER LEVEL TRIP INSTRUMENTATION

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 CTS 3.2.J requires the feedwater pump trip instrumentation setpoints to be set consistent with the Trip Setpoint values shown in Table 3.2.J-1. The CTS 3.2.J Action requires the CHANNEL to be declared inoperable when the setpoint is less conservative than the value shown in the Trip Setpoint column of Table 3.2.J-1. Table 3.2.J-1 includes a "Trip Setpoint" column. It is proposed to re-label this column as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1. In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.2.J-1 are applied as the Operability limits for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip setpoints specified in CTS Table 3.2.J-1 for the Reactor Vessel Water Level—High Function or the Allowable Value specified in ITS SR 3.3.2.2.3 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.3 The Trip Setpoint for Reactor Vessel Water Level - High, in Table 3.2.J-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS SR 3.3.2.2.2 is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS 3/4.2.J requires the Feedwater Pump Trip Reactor Water Level — High Function Channels to be OPERABLE. The feedwater flow runout transient requires both feedwater system and main turbine trip capability to ensure the safety analysis is met. The closure of the turbine stop valves results in a Reactor Protection System Trip. Therefore, the requirement of this Specification has been changed to require these channels to be capable of also tripping the main

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) turbine. The Specification title, LCO and Required Actions have been modified to reflect this change as indicated in proposed ITS 3.3.2.2. This change is more restrictive since it imposes additional restrictions on plant operations. This change is necessary to ensure the transient analysis is met.

M.2 CTS 4.2.J.2 requires the performance of a LOGIC SYSTEM FUNCTIONAL TEST of all CHANNEL(s). This requirement is retained in ITS SR 3.3.2.2.4, however additional testing is imposed to ensure the trip of the feedwater pump breakers and closure of the turbine stop valves. This change is necessary since LOGIC SYSTEM FUNCTIONAL TEST would not require the actuation of the components since these components are normally tested in the system Specification. In this case, there is no system Specification, therefore the breakers and valves must be tested along with this test, to help ensure complete testing of the assumed safety function.

M.3 CTS Table 3.2.J-1 Action 90.a allows 7 days to restore a channel to OPERABLE status and then allows an additional 8 hours to trip the channel if not restored to OPERABLE status. CTS Table 3.2.J-1 Action 90.b allows 72 hours to restore at least one channel to OPERABLE status when two channels are found to be inoperable. In ITS 3.3.2.2, both of these conditions have been combined into one ACTION which allows 2 hours to restore feedwater system and main turbine high water level trip capability (ITS 3.3.2.2 ACTION A). The Feedwater System and Main Turbine High Water Level Trip Instrumentation channel logic design is a two-out-of-two for trip actuation. Therefore, with any channel inoperable trip capability is lost. This 2 hour Completion Time is consistent with ITS 3.2.2 since this instrumentation's purpose is to preclude a MCPR violation. This change is an additional restriction on plant operation.

M.4 CTS Table 4.2.J-1 requires the performance of a CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION once per 18 months. ITS SR 3.3.2.2.2 and SR 3.3.2.2.3 require the performance of a CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION once per 92 days and 12 months, respectively. This change is consistent with current plant practice. The change represents an additional restriction on plant operation since the more restrictive surveillance frequencies of 92 days and 12 months, respectively, will be included in Technical Specifications. This change is necessary to ensure the associated instrumentation is maintained OPERABLE.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.J-1 Note (a) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS SR 3.3.2.2.2 is associated with "instrument zero," as discussed in Discussion of Change A.3. This detail is not necessary to ensure the OPERABILITY of the Feedwater System and Main Turbine High Water Level Instrumentation. The requirements of ITS 3.3.2.2 and its associated SRs are adequate to ensure the associated reactor vessel water level instrumentation is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.J.2 (proposed SR 3.3.2.2.4) has been extended from 18 months to 24 months. This surveillance ensures the Feedwater System/Main Turbine High Water Level trip function will operate properly during the corresponding transients of the UFSAR where this function is required, such as a Feedwater Controller Failure. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that this test normally passes the Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The Feedwater System/Main Turbine High Water Level trip function is tested on a more frequent basis during the operating cycle in accordance with a CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION (proposed SR 3.3.2.2.1, SR 3.3.2.2.2, and SR 3.3.2.2.3). These surveillances will detect significant failures of the circuitry. In addition, since these water level channels provide indication to the control room (Panel 901(2)-5), deviations will be detected and repaired during plant operation. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

ITS 3.3.4.1

A.1

TABLE 3.2.C-1

ATWS - RPT INSTRUMENTATION

Functional Unit	~~Trip~~ Setpoint[d] (Allowable Values — A.4)	Minimum OPERABLE CHANNEL(s) per TRIP SYSTEM[a] (Note to Surveillance Requirements)
LCO 3.3.4.1.a 1. Reactor Vessel Water Level - Low Low	SR 3.3.4.1.4.a ≥84 inches[c]	LCO 3.3.4.1 2
LCO 3.3.4.1.b 2. Reactor Vessel ~~Pressure~~ Steam Dome Pressure - High	SR 3.3.4.1.4.b ≤1250 psig (LF.1)	2

Insert CTS 3.2.C-1 Note a — A.3

a ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the TRIP SYSTEM in the tripped condition provided at least one OPERABLE CHANNEL in the same TRIP SYSTEM is monitoring that parameter.~~

b Includes a time delay of 8 ≤ t ≤ 10 seconds.

SR 3.3.4.1.4.a

c ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~

A.5 LA.2

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ADMINISTRATIVE

A.4 (cont'd) trip setpoints specified in CTS Table 3.2.C-1 for the ATWS-RPT instrumentation Functions or the Allowable Values specified in ITS 3.3.4.1 (see Discussion of Change LF.1 below for proposed changes to the trip setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.5 The Trip Setpoint for Functional Unit 1, Reactor Vessel Water Level – Low Low, in Table 3.2.C-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS SR 3.3.4.1.4.a is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.4 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The ATWS trip logic uses a two-out-of-two logic for each trip Function in both trip systems. The reactor recirculation pumps will trip when one trip system actuates. Therefore, when a channel associated with one Trip Function (e.g., Reactor Water Level - Low Low) is inoperable in both trip systems, the ATWS-RPT trip capability is lost for that Function. Similarly, if channels associated with both Trip Functions are inoperable in both trip systems, the ATWS-RPT trip capability is lost for both ATWS-RPT trip Functions. CTS 3.2.C Action 2 and 4 address the condition with channels inoperable in both trip systems. Under these conditions the ATWS-RPT trip capability is lost for one and two Trip Functions, respectively. In the ITS, these conditions will require entry into proposed ITS 3.3.4.1 ACTION B and ACTION C, respectively. The Completion Times (72 hours and 1 hour, respectively) are consistent with the current actions for loss of trip function capability in CTS 3.2.C Actions 5 and 6, respectively. Since the current allowances have been deleted, this change is considered more restrictive on plant operations but necessary to limit the time the plant is allowed to operate with a loss of trip capability.

M.2 If the channels are inoperable due to a trip breaker that will not open, placing the channels in the tripped condition, as required by CTS 3.2.C Action 2 will not accomplish the intended restoration of the functional capability. Therefore, a Note is added to ITS 3.3.4.1 Required Action A.2 to prevent proposed Required Action A.2 (place channel in trip) from being used in these conditions. This new Note will ensure the functional capability of the ATWS-RPT is restored (by restoring the inoperable channel) within the allowed Completion Time when a

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) trip breaker is inoperable. In addition, the LOGIC SYSTEM FUNCTIONAL TEST in CTS 4.2.C.2 (proposed ITS SR 3.3.4.1.5) has been revised to include breaker actuation. This added requirement will ensure the complete testing of the assumed function. These changes are more restrictive on plant operation and necessary to ensure that ATWS-RPT Functions are adequately maintained.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details in CTS 3.2.C Action footnote a, relating to placing channels in trip, are proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.4.1 ensure inoperable channels are placed in trip or the unit is placed in a non-applicable MODE or condition, as appropriate. In addition, the Bases for Required Actions A.1 and A.2 indicate that the channels are not required to be placed in the trip condition, and directs entry into the appropriate Condition. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable ATWS-RPT Instrumentation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail in CTS Table 3.2.C-1 Note (c) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS SR 3.3.4.1.4.a has been changed to the value associated with "instrument zero," as documented in Discussion of Change A.5. This detail is not necessary to ensure the OPERABILITY of the ATWS-RPT instrumentation. The requirements of ITS 3.3.4.1 and the Surveillances are adequate to ensure the ATWS-RPT reactor vessel water level instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59. A

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.C.2 (proposed SR 3.3.4.1.5) has been extended from 18 months to 24 months. This SR ensures that ATWS-RPT System will function as designed to ensure proper response during an analyzed event. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that this test normally passes the Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. Extending the SR interval for this function is acceptable because the ATWS-RPT logic is tested every 92 days by the Channel Functional Test in CTS 4.2.C.1 and Table 4.2.C-1 (proposed SR 3.3.4.1.3). This testing of the ATWS-RPT System ensures that a significant portion of the circuitry is operating properly and will detect significant failures of this circuitry. The ATWS-RPT System including the actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the above discussion, the impact, if any, of this change on system availability is minimal. This historical review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is small from a change to a 24 month operating cycle. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of CTS 4.2.C.1 and Table 4.2.C-1 Trip Functions 1 and 2 (proposed SR 3.3.4.1.4) has been extended from 18 months to 24 months. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The CHANNEL CALIBRATION Surveillance is performed to ensure that a previously evaluated setpoint actuation takes place to provide the required safety function. Extending the SR Frequency is acceptable because the ATWS-RPT initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted ATWS-RPT instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1, Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1151DP4 Transmitters, Amerace ETR14B3CC2004003 time delay relays, and General Electric Model 184C5988G131 Analog Trip Units. The General Electric Analog Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the General Electric Analog Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 2, Reactor Vessel Pressure - High

This function is performed by Rosemount 1151GP9 Transmitters and General Electric Model 184C5988G131 Trip Units (existing Rosemount trip units scheduled for replacement with the General Electric Trip Units during Q1R16 for Unit 1). The General Electric Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the General Electric Analog Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd) Instrument Setpoint Methodology. Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1. The EPRI guidance was used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

"Specific"

L.1 CTS 3.2.C Actions 2, 4, 5 and 6 require the unit to be placed in Startup (Mode 2) within 6 hours if the ATWS-RPT instrumentation is not restored within the allowed out-of-service times. The purpose of the ATWS-RPT instrumentation is to trip the recirculation pumps. Therefore, an additional Required Action is proposed, ITS 3.3.4.1 Required Action D.1, to allow removal of the associated recirculation pump breaker(s) from service in lieu of being in MODE 2 within 6 hours. Since this action accomplishes the functional purpose of the ATWS-RPT instrumentation and enables continued operation in a previously approved condition, this change does not have a significant effect on safe operation.

L.2 CTS 3.2.C Action 3 requires the associated Trip System to be declared inoperable when two reactor vessel water level channels or two reactor vessel pressure channels in the same Trip System are inoperable in one or two trip systems. Declaring the Trip System inoperable would require restoration of the inoperable channels, as required by CTS 3.2.C Action 5 or 6. Placing the inoperable channels in trip is not allowed as an option. ITS 3.3.4.1 Required Action A.1 provides an option to place all inoperable channels in the tripped condition. This conservatively compensates for the inoperable status, restores the single failure capability and provides the required initiation capability of the instrumentation. Therefore, providing this option does not impact safety. However, if this action would result in system actuation, then declaring the system inoperable is the preferred action.

3.2 - LIMITING CONDITIONS FOR OPERATION

B. Emergency Core Cooling Systems (ECCS) Actuation

LCO 3.3.5.1 The ECCS actuation instrumentation CHANNEL(s) shown in Table 3.2.B-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column.

Allowable Value A.2

APPLICABILITY:

As shown in Table 3.2.B-1.

add proposed ACTIONS Note A.3

ACTION:

ACTION A 1. With an ECCS actuation instrumentation CHANNEL trip setpoint less conservative than the value shown in the Trip Setpoint column of Table 3.2.B-1, declare the CHANNEL inoperable until the CHANNEL is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

Allowable Value A.2

ACTION A 2. With one or more ECCS actuation instrumentation CHANNEL(s) inoperable, take the ACTION required by Table 3.2.B-1.

A.8

~~3. With either ADS TRIP SYSTEM inoperable, restore the inoperable TRIP SYSTEM to OPERABLE status within:~~

~~a. 7 days provided that both the HPCI and RCIC systems are OPERABLE, or~~

~~b. 72 hours.~~

~~With the above provisions of this ACTION not met, be in at least HOT~~

4.2 - SURVEILLANCE REQUIREMENTS

B. ECCS Actuation

Note 1 to Surveillance Requirements 1. Each ECCS actuation instrumentation CHANNEL shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL MODE(s) and at the frequencies shown in Table 4.2.B-1.

SR 3.3.5.1.9 2. LOGIC SYSTEM FUNCTIONAL TEST(s) of all CHANNEL(s) shall be performed at least once per ~~18~~ 24 months. LD.1

3.3.5.1-1

TABLE 3.2.B-1 (Continued)

ECCS ACTUATION INSTRUMENTATION

A.8

TABLE NOTATION

Insert CTS Table 3.2.B-1 Note (a)

(a) ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the associated Functional Unit maintains ECCS initiation capability.~~

Note (b) to Table 3.3.5.1-1 (b) Also actuates the associated emergency diesel generator.

Note (a) to Table 3.3.5.1-1 (c) When the system is required to be OPERABLE per Specification 3.5.B.

Note (c) to Table 3.3.5.1-1 (d) Not required to be OPERABLE when reactor steam dome pressure is ≤150 psig.

(e) Required when the associated diesel generator is required to be OPERABLE per Specification 3.9.B. A.9 moved to ITS 3.3.8.1

(f) ~~This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.~~ A.6

(g) With no LOCA signal present, there is an additional time delay of 5±0.25 minutes. A.9 moved to ITS 3.3.8.1

(h) ~~Reactor water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ A.4 LA.1

(i) Provides signal to pump suction valves only. LA.2

(j) There is an inherent time delay of 7 ± 1.4 seconds on degraded voltage. A.9 moved to ITS 3.3.8.1

QUAD CITIES - UNITS 1 & 2

3/4.2-18

Amendment Nos. 171 & 167

INSTRUMENTATION

ECCS Actuation 3/4.2.B

JTS 3.3.5.1

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M.1

add Core Spray Pump Time Start - Time Delay Relay (Function 1.e)

3.3.5.1-1

TABLE ~~4.2.B-1~~

ECCS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	Functional Unit	CHANNEL CHECK (SR 3.3.5.1.1)	CHANNEL FUNCTIONAL TEST (SR 3.3.5.1.2, SR 3.3.5.1.4)	CHANNEL CALIBRATION (SR 3.3.5.1.3, SR 3.3.5.1.5, SR 3.3.5.1.6, SR 3.3.5.1.8)	Applicable OPERATIONAL MODE(s)
1	1. CORE SPRAY (CS) SYSTEM				
1.a	a. Reactor Vessel Water Level - Low Low	S - 1	M - 2	A.8 E B/M - 3	1, 2, 3, 4(a), 5(a) (Table 3.3.5.1 - Note (a))
1.b	b. Drywell Pressure - High(d) A.6	NA	M Q - 4 (A.8)	Q - 6	1, 2, 3
1.c	c. Reactor Vessel Pressure - Low (Permissive)	NA	M Q - 4 (A.8)	Q - 6	1, 2, 3, 4(a), 5(a)
1.d	d. CS Pump Discharge Flow - Low (Bypass)	NA	M Q - 4 (A.8)	8 - E(a) - 5 (24 months) LE.1	1, 2, 3, 4(a), 5(a)
	2. LOW PRESSURE COOLANT INJECTION (LPCI) SUBSYSTEM				
2.a	a. Reactor Vessel Water Level - Low Low	S - 1	M - 2	A.8 E B/M - 3	1, 2, 3, 4(a), 5(a) (Table 3.3.5.1 Note (a))
2.b	b. Drywell Pressure - High(d) A.6	NA	M Q - 4 (A.8)	Q - 6	1, 2, 3
2.c	c. Reactor Vessel Pressure - Low (Permissive)	NA	M Q - 4 (A.8)	Q - 6	1, 2, 3, 4(a), 5(a)
2.f	d. LPCI Pump Discharge Flow - Low (Bypass)	NA	M Q - 4 (A.8)	8 - E(a) - 5 (24 months) LE.1	1, 2, 3, 4(a), 5(a)
	3. HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM(d) (Table 3.3.5.1 Note (c))				
3.a	a. Reactor Vessel Water Level - Low Low	S - 1	M - 2	A.8 E B/M - 3	1, 2, 3
3.b	b. Drywell Pressure - High(d) A.6	NA	M Q - 4 (A.8)	Q - 6	1, 2, 3
3.d	c. Condensate Storage Tank Level - Low	NA	M Q - 4 (A.8)	NA (24 months) M.5	1, 2, 3
3.e	d. Suppression Chamber Water Level - High	NA	M Q - 4 (A.8)	NA	1, 2, 3
3.c	e. Reactor Vessel Water Level - High (Trip)	NA	M - 2	A.8 E B/M - 3	1, 2, 3
3.f	f. HPCI Pump Discharge Flow - Low (Bypass)	NA	A.8 M Q - 4	6 - E Q	1, 2, 3
3.g	g. Manual Initiation	NA	SR 3.3.5.1.8 - E A.11 LD.1	NA Q M.3	1, 2, 3

add Functions 2.d, 2.e, 2.g, 2.h, 2.i, 2.j and 2.k M.1

A.1

A

3.3.5.1-1

TABLE ~~4.2.B-1~~ (Continued)

ECCS ACTUATION INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

Table 3.3.5.1 Note (c)

	Functional Unit	CHANNEL CHECK (SR 3.3.5.1.1)	CHANNEL FUNCTIONAL TEST (SR 3.3.5.1.2, SR 3.3.5.1.4)	CHANNEL CALIBRATION (SR 3.3.5.1.3, SR 3.3.5.1.6, SR 3.3.5.1.8)	Applicable OPERATIONAL MODE(s)
	4. AUTOMATIC DEPRESSURIZATION SYSTEM(e)				
4.a/5.a	a. Reactor Vessel Water Level - Low Low	S-1	M-2	A.8 ~~B~~ B/M-3	1, 2, 3
4b/5.b	b. Drywell Pressure - High(e) A.6	NA	~~M~~ Q-4	Q-6	1, 2, 3
4.c/5.c	c. Initiation Timer	NA	A.8 LD.1 E A.12	8-E 24 months	1, 2, 3
4.f/5.f	d. Low Low Level Timer	NA	E A.12	8-E	1, 2, 3
4.d/5.d	e. CS Pump Discharge Pressure - High (Permissive)	NA	~~M~~ Q-4	Q-6 LE.1	1, 2, 3
4.e/5.e	f. LPCI Pump Discharge Pressure - High (Permissive)	NA	~~M~~ Q-4	Q-6	1, 2, 3
	5. LOSS OF POWER				
	a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	NA	E	E	1, 2, 3, 4(d), 5(d)
	b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	NA	E	E	1, 2, 3, 4(d), 5(d)

A.9 moved to ITS 3.3.8.1

A

A.1

ITS 3.3.5.1

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3.3.5.1-1

TABLE 4.2.B-1 (Continued)

ECCS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATION

Table 3.3.5.1-1 Note(c)

(a) Not required to be OPERABLE when reactor steam dome pressure is ≤150 psig.

Table 3.3.5.1-1 Note(a)

(b) When the system is required to be OPERABLE per Specification 3.5.B.

A.9 moved to ITS 3.3.8.1

(c) Required when the associated diesel generator is required to be OPERABLE per Specification 3.9.B.

A.6

(d) This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.

92 A.8

SR 3.3.5.1.5
SR 3.3.5.1.8

(e) Trip units are calibrated at least once per ~~31~~ 92 days and transmitters are calibrated at the frequency identified in the table. A

ADMINISTRATIVE (continued)

A.4 The Trip Setpoint for Functional Units 1.a, 2.a, 3.a, 4.a, and 5.a, Reactor Vessel Water Level – Low Low, and Functional Unit 3.e, Reactor Vessel Water Level-High (Trip), in Table 3.2.B-1 is referenced to the top of active fuel. The reference value for the associated Allowable Values specified in ITS Table 3.3.5.1-1 is to "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative.

A.5 Not used.

A.6 CTS Table 3.2.B-1 Note (f) and CTS Table 4.2.B-1 Note (d) state that the Drywell Pressure—High Function (Functional Unit 1.b, 2.b, 3.b, 4.b, and 5.b) is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required in MODE 2 (i.e., when Special Test Exception 3.12.A is being used). These notes are deleted from CTS Table 3.2.A-1 and 4.2.A-1 since the only applicable condition in which these notes would be needed has been deleted (see Discussion of Changes for CTS: 3/4.12.A, in ITS Section 3.10). Therefore, Note (f) of CTS Table 3.2.B-1 and Note (d) of CTS Table 4.2.B-1 are no longer applicable and the change is considered administrative.

A.7 The detail in CTS Table 3.2.B-1 Functional Unit 3.g, HPCI Manual Initiation, that there is one channel "per system" has been deleted since there is only one HPCI System per unit. Since the Specifications apply equally to Units 1 and 2, this Note is not necessary. Since its removal is editorial, this change is administrative.

A.8 These changes to CTS 3/4.2.B are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 27, 1999. The changes identified are consistent with the allowances in NEDC-30936P-A, Part 1 and Part 2, "Technical Specification Improvement Methodology With Demonstration for BWR ECCS Actuation Instrumentation," December 1988. As such, these changes are considered to be administrative.

A.9 The technical content of the requirements of CTS Table 3.2.B-1 Functional Units 6.a and 6.b and Table 4.2.B-1 Functional Units 5.a and 5.b, including associated Notes and Actions, are being moved to ITS 3.3.8.1, "Loss of Power Instrumentation," in accordance with the format of the BWR ISTS, NUREG-1433, Rev. 1. Any technical changes to these requirements are addressed in the Discussion of Changes for ITS: 3.3.8.1, in this Section.

ADMINISTRATIVE (continued)

A.10 CTS Table 3.2.B-1 Action 35 requires placing the inoperable channel in trip when a HPCI Condensate Storage Tank Level—Low or a HPCI Suppression Chamber Water Level—High channel is inoperable. A new Required Action has been added, ITS 3.3.5.1 Required Action D.2.2, to allow the HPCI pump suction to be aligned to the suppression pool in lieu of tripping the channel, if a Condensate Storage Tank Level—Low or Suppression Pool Water Level—High channel is inoperable. Since this proposed action results in the same condition as if the channel were tripped (tripping one channel results in the suction being aligned to the suppression chamber), this change is considered administrative.

A.11 CTS Table 4.2.B-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 3.g, the HPCI Manual Initiation Function, every 18 months. CTS 4.2.B.2 and proposed SR 3.3.5.1.8 require a LOGIC SYSTEM FUNCTIONAL TEST (LSFT) every 18 months (changed to 24 months - see Discussion of Change LD.1 below). Since the LSFT is a complete test of the logic, including the Manual Initiation switches, there is no need to require a CFT. Therefore, ITS 3.3.5.1 only requires an LSFT, and this change is considered administrative.

A.12 CTS Table 4.2.B-1 requires both a CHANNEL FUNCTIONAL TEST and a CHANNEL CALIBRATION of Functional Unit 4.c, ADS Initiation Timer, and Functional Unit 4.d, ADS Low Low Level Timer, (ITS Table 3.3.5.1-1 Functions 4.c, 5.c, 4.f, and 5.f) to be performed every 18 months. Since the CFT is included in the CTS and ITS definition of CHANNEL CALIBRATION and the CFT and the CHANNEL CALIBRATION are performed at the same Frequency, the CFT has been deleted for these Functions. The CHANNEL CALIBRATION will include the required testing of the CFT, therefore, this change is considered administrative.

A.13 CTS Table 3.2.B-1 Action 32 (for Functional Units 1.c and 2.c in MODES 4 and 5) requires the channels to be placed in the tripped condition within 24 hours. If this Action is not performed the CTS does not provide default actions, such as immediately declare the associated ECCS subsystem(s) inoperable. In this condition, ITS 3.3.5.1 ACTION H will require the associated supported subsystems to be declared inoperable immediately. CTS Table 3.2.B-1 Action 32 applies to the Reactor Vessel Pressure-Low (Permissive) Functions in MODES 4 and 5 whenever the supported systems are required to be OPERABLE as indicated in CTS Table 3.2.B-1 Note (c). Since CTS 3.0.C does not apply in MODES 4 and 5, the only alternative is to declare the associated supported subsystems inoperable. Therefore, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 Eight additional Functions have been added to help ensure the automatic actuation function of the ECCS subsystems to ensure the design basis events can be satisfied. These Functions are included in ITS Table 3.3.5.1-1 as follows:

Function 1.e, Core Spray Pump Start - Time Delay Relay,
Function 2.d, Reactor Steam Dome Pressure - Low (Break Detection),
Function 2.e, LPCI Pump Start - Time Delay Relay for Pumps B and D,
Function 2.g, Recirculation Pump Differential Pressure-High (Break Detection),
Function 2.h, Recirculation Riser Differential Pressure-High (Break Detection),
Function 2.i, Recirculation Pump Differential Pressure Time Delay-Relay (Break Detection),
Function 2.j, Reactor Steam Dome Pressure Time Delay-Relay (Break Detection), and
Function 2.k, Recirculation Riser Differential Pressure Time Delay-Relay (Break Detection)

Appropriate ACTIONS and Surveillances (SR 3.3.5.1.4, SR 3.3.5.1.7, SR 3.3.5.1.8 and SR 3.3.5.1.9, as applicable) have also been added. This is an additional restriction on plant operation necessary to help ensure the ECCS Instrumentation are maintained Operable. A

M.2 A maximum Allowable Value has been added for the CS Discharge Flow — Low (Bypass) Function (CTS Table 3.2.B-1 Functional Unit 1.d; ITS Table 3.3.5.1-1 Function 1.d) to ensure the valves will close to provide assumed ECCS flow to the core. The new Allowable Value is based upon the most recent setpoint calculations. This is an additional restriction on plant operation.

M.3 CTS Table 4.2.B-1 Functional Unit 3.f requires the performance of a CHANNEL CALIBRATION of the HPCI Pump Discharge Flow - Low (Bypass) once per 18 months. ITS Table 3.3.5.1-1 Function 3.f requires the performance of a CHANNEL CALIBRATION once per 92 days (SR 3.3.5.1.6). This change is consistent with current plant practice. The change represents an additional restriction on plant operation since the more restrictive surveillance frequency of 92 days will be included in Technical Specifications. This change is necessary to ensure the associated instrumentation is maintained OPERABLE. A

M.4 Not used.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.5 CTS Table 4.2.B-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 3.c, Condensate Storage Tank Level - Low every 92 days. The Table does not currently require a CHANNEL CALIBRATION. The channels associated with this Function include a level switch that must trip at the specified setpoint (Allowable Value, see Discussion of Change A.2). Therefore, the proposed test for OPERABILITY is a CHANNEL CALIBRATION (SR 3.3.5.1.8) at a Frequency of 24 months consistent with drift analysis assumptions in the plant setpoint methodology.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.B-1 Note (h) related to the reference point of the Trip Setpoint of the reactor vessel water level instrumentation and the detail for CTS Table 3.2.B-1 for Functional Unit 3.d (Suppression Chamber Water Level) that the Trip Setpoint is referenced above the bottom of the chamber are proposed to be relocated to the UFSAR. The reference value for the associated Allowable Values for Reactor Vessel Water Level Functions specified in ITS Table 3.3.5.1-1 is to "instrument zero," as discussed in Discussion of Change A.4. This detail is not necessary to ensure the OPERABILITY of the ECCS instrumentation. The requirements of ITS 3.3.5.1 and the associated Surveillances are adequate to ensure the ECCS instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 The system design detail specified in CTS Table 3.2.B-1, footnote (i), is proposed to be relocated to the Bases. Details relating to system design (e.g., valves associated with isolation signals) are unnecessary in the LCO. This detail is not necessary to ensure the OPERABILITY of the ECCS Instrumentation. The requirements of ITS 3.3.5.1 and the associated Surveillance Requirements are adequate to ensure the ECCS instruments are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.B.2 and the CHANNEL FUNCTIONAL TEST for the HPCI Manual Initiation and the ADS Initiation and Low Low Level Timer Functions specified in CTS Table 4.2.B-1 (changes made in Discussion of Changes A.11

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) and A.12 above) has been extended from 18 months to 24 months in proposed SR 3.3.5.1.9. This SR ensures that ECCS logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. ECCS systems are tested on a more frequent basis during the operating cycle in accordance with CTS 4.2.B.1 (proposed SRs 3.3.5.1.1, 3.3.5.1.2, 3.3.5.1.3, 3.3.5.1.4, 3.3.5.1.5, and 3.3.5.1.6). These SRs will ensure that a significant portion of the ECCS circuitry is operating properly and will detect significant failures of this circuitry. The ECCS network including the actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months: A

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 The Frequencies for performing CHANNEL CALIBRATIONS of CTS Table 4.2.B-1 for Functional Units 1.d, 2.d, 4.c and 4.d have been extended from 18 months to 24 months in proposed SR 3.3.5.1.8. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

Extending the SR Frequency is acceptable because the ECCS network along with the ECCS initiation logic is designed to be single failure proof and therefore is highly reliable. Furthermore, the impacted ECCS instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1.d, 2.d: CS/LPCI Discharge Flow - Low (Bypass)

This function is performed by Rosemount 1153DB3 Transmitters and 510DU/710DU Master Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

3.3.5.2-1

TABLE 3.2.D-1

REACTOR CORE ISOLATION COOLING ACTUATION INSTRUMENTATION

A.8 Allowable Value

Note 2 to Surveillance Requirement

LF.1 LA.1 D.1

	Functional Unit	Trip Setpoint[c]	Minimum CHANNEL(s) per Trip Function[a]	ACTION
1	1. Reactor Vessel Water Level - Low Low	≥84 inches	4	B 40
2	2. Reactor Vessel Level - High (Trip)	≤201 inches	2	C 41
3	3. Condensate Storage Tank Level - Low	≥588' El.	2[b] LA.2	D 42
4	4. Suppression Chamber Water Level - High	≤14'8" above bottom of chamber LA.1	2[b]	D 42
5	5. Manual Initiation	NA	1/system A.9	C 43

A.4

Insert CTS Table 3.2.D-1 Note (a)

a ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the Functional Unit maintains RCIC actuation capability.~~

b Provides signal to pump suction valves only. LA.2

c ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ LA.1 A.3

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 This proposed change to the CTS 3.2.D Actions provides more explicit instructions for proper application of the Actions for Technical Specification compliance. In conjunction with the proposed Specification 1.3, "Completion Times," the ITS 3.3.5.2 ACTIONS Note ("Separate Condition entry is allowed for each....") provides direction consistent with the intent of the existing Actions for an inoperable RCIC instrumentation channel. It is intended that each inoperable channel is allowed a certain time to complete the Required Actions. Since this change only provides more explicit direction of the current interpretation of the existing specifications, this change is considered administrative.

A.3 The Trip Setpoint for Functional Unit 1, Reactor Water Level - Low Low and Functional Unit 2, Reactor Vessel Level - High (Trip) in Table 3.2.D-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS Table 3.3.5.2-1 for Functions 1 and 2, is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.8 and LF.1, therefore this change is considered administrative.

A.4 These changes to CTS 3/4.2.D are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 27, 1999. The changes identified are consistent with the allowances in GENE-770-06-2-A, "Bases for Changes to Surveillance Test intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specification," December 1992. As such, the changes are administrative.

A.5 CTS Table 3.2.D-1 Action 42 requires placing the inoperable channel in trip when a Condensate Storage Tank Level—Low or Suppression Chamber Water Level—High channel is inoperable. A new Required Action has been added (ITS 3.3.5.2 Required Action D.2.2) to allow the RCIC pump suction to be aligned to the suppression pool in lieu of tripping the channel, if a Condensate Storage Tank Level—Low or Suppression Chamber Water Level—High channel is

ADMINISTRATIVE

A.5 (cont'd) inoperable. Since this proposed action results in the same condition as if a channel were tripped (tripping one channel results in the suction being aligned to the suppression pool), this change is considered administrative.

A.6 The column title in CTS Table 3.2.D-1 is on a per Function basis rather than the per Trip System basis indicated in CTS Table 3.2.D-1 and Actions 41 and 43. All required channels are specified in the column. Therefore, reference to Trip System has been deleted and replaced with Function as indicated in ITS Table 3.3.5.2-1 and the ITS 3.3.5.2 ACTIONS.

A.7 CTS Table 4.2.D-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 5, the Manual Initiation Function, every 18 months. CTS 4.2.D.2 and proposed SR 3.3.5.2.6 require a LOGIC SYSTEM FUNCTIONAL TEST (LSFT) every 18 months (changed to 24 months - see Discussion of Change LD.1 below). Since the LSFT is a complete test of the logic, including the Manual Initiation switches, there is no need to require a CFT. Therefore, ITS 3.3.5.2 only requires an LSFT, and this change is considered administrative.

A.8 CTS 3.2.D requires the RCIC System actuation instrumentation setpoints to be set consistent with the Trip Setpoint values shown in Table 3.2.D-1. CTS 3.2.D Action 1 requires the CHANNEL to be declared inoperable when the setpoint is less conservative than the value shown in the Trip Setpoint column of Table 3.2.D-1. Table 3.2.D-1 includes a "Trip Setpoint" column. It is proposed to re-label this column as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1 (ISTS Table 3.3.5.2-1). In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.2.D-1 are applied as the Operability limit for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip setpoints specified in CTS Table 3.2.D-1 for the RCIC System actuation instrumentation Functions or the Allowable Values specified in ITS Table 3.3.5.2-1 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.9 The detail in CTS Table 3.2.D-1 Functional Unit 5, RCIC Manual Initiation, that there is one channel "per system" has been deleted since there is only one RCIC System per unit. Since the Specifications apply equally to Units 1 and 2, this Note is not necessary. Since its removal is editorial, this change is administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 Not used.

M.2 CTS Table 4.2.D-1 requires a 92 day CHANNEL FUNCTIONAL TEST of Functional Unit 3, Condensate Storage Tank Level—Low. The Table does not currently require a CHANNEL CALIBRATION. The channels associated with this Function include a level switch which must trip at the specified setpoint Allowable Value (see Discussion of Changes A.8 and LF.1). Therefore, a CHANNEL CALIBRATION requirement is added at a Frequency of 24 months consistent with drift analysis assumptions in the plant setpoint methodology. This change represents an additional restriction on plant operation necessary to ensure these RCIC System instruments are maintained OPERABLE.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.D-1 Note (c) related to the reference setting of the reactor vessel water level instrumentation (CTS Table 3.2.D-1 Functional Units 1 and 2) and the detail for CTS Table 3.2.D-1 for Functional Unit 4 (Suppression Chamber Water Level) that the Trip Setpoint is referenced above the bottom of the chamber are proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS Table 3.3.5.2-1 for the reactor vessel water level instrumentation has been changed to the value associated with "instrument zero," as discussed in Discussion of Change A.3. These details are not necessary to ensure the OPERABILITY of the RCIC System instrumentation. The requirements of ITS 3.3.5.2 and the associated Surveillances are adequate to ensure the RCIC System instrumentation is maintained OPERABLE. Therefore, these relocated details are not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 System design and operation details specified in CTS Table 3.2.D-1, Note (b) (which indicates that the Condensate Storage Tank Level—Low and Suppression Chamber Water Level—High channels provide signals to pump suction valves) are proposed to be relocated to the Bases. Details relating to system design and operation are unnecessary in the LCO. These details are not necessary to ensure the OPERABILITY of the RCIC System Instrumentation. The requirements of ITS 3.3.5.2 and the associated Surveillance Requirements are adequate to ensure the RCIC System instruments are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.2 (cont'd) the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.D.2 and the CHANNEL FUNCTIONAL TEST for the RCIC Manual Initiation Function specified in CTS Table 4.2.D-1 Functional Unit 5 (changed to LSFT in Discussion Change A.7 above) has been extended from 18 months to 24 months in proposed SR 3.3.5.2.6. This SR ensures that RCIC logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that this test normally passes the Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The system function testing performed in ITS 3.5.3 overlaps this surveillance to provide complete testing of the safety function. The RCIC system is tested on a more frequent basis during the operating cycle in accordance with proposed SRs 3.3.5.2.1, 3.3.5.2.2, 3.3.5.2.3, 3.3.5.2.4, and 3.3.5.2.5. This testing of the RCIC system ensures that a significant portion of the RCIC circuitry is operating properly and will detect significant failures of this circuitry. RCIC system actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

A.5 moved to ITS 3.3.6.2 ITS 3.3.7.1

TABLE NOTATION

A.3

* During CORE ALTERATIONS or operations with a potential for draining the reactor vessel.

** When handling irradiated fuel in the secondary containment.

Insert CTS Table 3.2.A-1 Note (a)

(a) ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the Functional Unit maintains isolation actuation capability.~~ A.6

(b) Also trips the mechancal vacuum pump and isolates the steam jet air ejectors.

A.5 moved to ITS 3.3.6.2 3.3.7.1

(c) Isolates the reactor building ventilation system and actuates the standby gas treatment system.

(d) ~~This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.~~ A.4

Note (a) to Table 3.3.6.1-1

(e) Only one TRIP SYSTEM.

(f) ~~Closes only reactor water cleanup system isolation valves.~~ LA.3 A.9

Note b to Table 3.3.6.1-1

(g) Only one trip system required in OPERATIONAL MODE(s) 4 and 5 with RHR Shutdown Cooling System integrity maintained. ~~System integrity is maintained provided the piping is intact and no maintenance is being performed that has the potential for draining the reactor vessel through the system.~~ LA.4

(h) ~~Normal background is as measured during full power operation without hydrogen being injected.~~ A.6

Allowable value / functions 3.b, 4.b

(i) Includes a time delay of $3 \le t \le 9$ seconds. LF.1

A.12

(j) ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ LA.2

(k) Also isolates the control room ventilation system. A.5 moved to ITS 3.3.7.1

TABLE 4.2.A-1 3.3.6.1-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	Functional Unit	SR 3.3.6.1.1 CHANNEL CHECK	SR 3.3.6.1.2 CHANNEL FUNCTIONAL TEST	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5 CHANNEL CALIBRATION	Applicable OPERATIONAL MODE(s)
2.	1. PRIMARY CONTAINMENT ISOLATION		A.3	24 months	LE.1
2.a	a. Reactor Vessel Water Level - Low	S - 1	M Q - 2	5 E[a] - 3	1, 2, 3
2.b	b. Drywell Pressure - High[b] A.4	NA	M Q - 2	Q - 4	1, 2, 3
2.c	c. Drywell Radiation - High	S - 1	M Q - 2	E 5	1, 2, 3 A.5
	2. SECONDARY CONTAINMENT ISOLATION		A.3		moved to ITS 3.3.6.2 3.3.7.1 A.1
	a. Reactor Vessel Water Level - Low[c,d]	S	M Q	E[a]	1, 2, 3 & *
	b. Drywell Pressure - High[b,c,d]	NA	M Q	Q	1, 2, 3
	c. Reactor Building Ventilation Exhaust Radiation - High[c,d]	S	M Q	Q	1, 2, 3 & **
	d. Refueling Floor Radiation - High[c,d]	S	M Q	Q	1, 2, 3 & **
1	3. MAIN STEAM LINE (MSL) ISOLATION		A.3		A.6
1.a	a. Reactor Vessel Water Level - Low Low	S - 1	M Q - 2	5 E[a] - 3	1, 2, 3
	~~b. MSL Tunnel Radiation - High~~	~~S~~	~~M Q~~	~~E[a]~~	~~1, 2, 3~~
1.b	c. MSL Pressure - Low	NA	M Q - 2	Q - 4	1
1.d	d. MSL Flow - High[d] A.5	S - 1	M Q - 2	E 5	1, 2, 3 A
1.e	e. MSL Tunnel Temperature - High	NA	E A.10 24 months LD.1	E - 5 24 months LE.1	1, 2, 3

add proposed Function 1.c Surveillances M.1

ITS 3.3.6.1

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ADMINISTRATIVE

A.11 (cont'd) trip system and both trip systems must trip to cause an isolation. According to the CTS terminlogy, a "set" refers to the four area temperature switches that are arranged in a series contact scheme. Each "set" of four temperature switch contacts open on high temperature to actuate (de-energize) a logic relay. The BWR ISTS would refer to this trip logic scheme as a "trip string." Thus, the CTS terminology for a "set" is equivalent to the BWR ISTS terminology for a "trip string." Furthermore, since there are two trip strings per trip system, the minimum channel requirement of "2 of 4 in each of 2 sets" is equivalent to the proposed requirement of "2 per trip string." This change is considered a presentation preference change since it serves only to clarify an existing requirement by using the BWR ISTS terminology. As such, this change is administrative.

A.12 The Trip Setpoint for Functional Units 1.a, 4.b, and 7.a, Reactor Vessel Water Level - Low, and Functional Unit 3.a, Reactor Vessel Water Level-Low Low, in Table 3.2.A-1 is referenced to the top of active fuel. The reference value for the associated Allowable Values specified in ITS Table 3.3.6.1-1 is to "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.7 and LF.1, therefore this change is considered administrative. 6

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 An additional Function has been added, ITS Table 3.3.6.1-1 Function 1.c. This Function is the Main Steam Line Low Pressure—Timer (or Time Delay). This Function is required to ensure the OPERABILITY of the current and proposed MSL Pressure—High Function (CTS Table 3.2.A-1 Function 3.c and ITS Table 3.3.6.1-1 Function 1.b). This Function provides a time delay for the MSL Pressure—High Function to ensure an inadvertent main steam line isolation does not occur during transients which result in reactor steam dome pressure pertubations. However, the delay is limited to ensure proper operation during pressure regulator failure event. Appropriate ACTIONS and Surveillance Requirements have also been added. This change is an additional restriction on plant operation necessary to ensure the design basis accident analysis assumptions are satisfied.

M.2 An additional Function has been added, ITS Table 3.3.6.1-1 Function 3.d. This Function is an additional Drywell Pressure—High Function which isolates the HPCI turbine exhaust vacuum breaker isolation valves coincident with the Reactor Vessel Pressure—Low Function signals. Appropriate ACTIONS and Surveillance Requirements have also been added. This change is an additional

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) restriction on plant operation necessary to ensure the design basis accident analysis assumptions are satisfied.

M.3 The minimum required channels for the Standby Liquid Control System Initiation Function in CTS Table 3.2.A-1 (Functional Unit 4.a) is NA. For the same Function in the ITS (ITS Table 3.3.6.1-1 Function 5.a) the required channels per trip system is specified to be 1. The switch provides trip signal inputs to both trip systems in any position other than "OFF." For this Specification, the SLC initiation switch is considered to provide 1 channel input into each trip system. Since the requirement is more explicit, this change is considered more restrictive on plant operations.

M.4 CTS Table 3.2.A-1 Note (i) requires Function 5.a (RCIC Steam Flow—High) and Functional Unit 6.a (HPCI Steam Flow—High) to be OPERABLE including a time delay of $3 \leq t \leq 9$ seconds. In ITS 3.3.6.1, the RCIC and HPCI Steam Flow Functions are retained as Function 4.a and 3.a, respectively. The time delay feature has been included as a new Function. These Functions have been added as ITS 3.3.6.1 Functions 4.b, RCIC Steam Flow Time Delay, and 3.b, HPCI Steam Flow Time Delay. Surveillances and Required Actions have also been added, consistent with the current requirements for the flow Functions. Since the proposed requirements are explicit to when the Surveillances must be performed, this change is considered more restrictive. This change is consistent with NUREG-1434, Rev. 1.

A

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS 3.2.A Action 2 footnote a, relating to placing channels in trip, is proposed to be relocated to the BASES. The ACTIONS of ITS 3.3.6.1 ensure inoperable channels are placed in trip (which effectively trips the trip system) or remedial actions are taken to compensate for the inoperability as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable primary containment isolation

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) instrumentation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail in CTS Table 3.2.A-1 Note (j) related to the reference setting of the level instrumentation is proposed to be relocated to the UFSAR. The reference value for the associated Allowable Values specified in ITS Table 3.3.6.1-1 is to "instrument zero," as discussed in Discussion of Change A.12. This detail is not necessary to ensure the OPERABILITY of the primary containment isolation instrumentation. The requirements of ITS 3.3.6.1 and the Surveillances are adequate to ensure the primary containment isolation instrumentation is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59. 4

LA.3 The detail in CTS 3.2.A-1 Note (f) that the Standby Liquid Control System Initiation Function channel closes only reactor water cleanup system isolation valves is proposed to be relocated to the Bases. The requirement in proposed LCO 3.3.6.1 that the primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE, the listed Function for the SLC System Initiation in Table 3.3.6.1-1, and the proposed Surveillances will ensure this Function is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.4 The requirement in CTS Table 3.2.A-1 footnote (g) that RHR system integrity is maintained provided the piping is intact and no maintenance is being performed that has the potential for draining the reactor vessel through the system is proposed to be relocated to the Bases. The requirement in proposed ITS 3.3.6.1-1 footnote (b) that in MODES 4 and 5, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required provided RHR Shutdown Cooling System integrity is maintained (see Discussion of Change A.9 for modification of the trip system definition) is sufficient to ensure integrity is maintained. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of current Surveillance 4.2.A and Table 4.2.A-1 (proposed SR 3.3.6.1.5) has been extended from 18 months to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). The subject SR ensures that the Isolation instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the Primary Containment Isolation System along with the Isolation initiation logic is designed to be single failure proof and, therefore, is highly reliable. Furthermore, the impacted Isolation instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 1.c: Drywell Radiation - High

This function is performed by a General Atomic RD-23 Radiation Detector, General Atomic RP-2CM Radiation Monitor. This instrument was evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

Functional Unit 3.a: Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.d: Main Steam Line Flow-High

This function is performed by Barton 278 differential pressure indicating switches for Unit 1 and Barton 288A differential pressure indicating switches for Unit 2. Both types of Barton differential pressure indicating switches are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Barton differential pressure indicating switches with respect to drift. The switches' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.e: Main Steam Line Tunnel Temperature - High

This function is performed by Patel/Fenwal 01-170020-90 temperature switches. The Patel/Fenwal instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 4.b: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 5.c: RCIC Area Temperature - High

This function is performed by United Electric 88B type F7 temperature switches. The thermocouples are not required to be calibrated, therefore, no drift evaluation was performed. The United Electric instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6.a: HPCI Steam Line Flow - High

This function is performed by Rosemount 1153DB5PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6.a: HPCI Steam Line Flow - Timer

This function is performed by Agastat TR14D3B and TR14I3B relays. The Agastat relays' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis will support a 24 month surveillance interval or the interval will be adjusted to a value supported by the analysis.

Functional Unit 6.b: Reactor Vessel Pressure - Low

This function is performed by Rosemount 1153GB7PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6.c: HPCI Area Temperature - High

This function is performed by United Electric 88B type F7 temperature switches. The thermocouples are not required to be calibrated, therefore, no drift evaluation was performed. The United Electric instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 7.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

L.1

add CORE ALTERATIONS M.1

TABLE NOTATION

Note (a) to Table 3.3.6.2-1 * During CORE ALTERATIONS or operations with a potential for draining the reactor vessel. A.3

Note (b) to Table 3.3.6.2-1 ** When handling irradiated fuel in the secondary containment.

Insert CTS Table 3.2.A-1 Note (a)

(a) ~~A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the Functional Unit maintains isolation actuation capability.~~

(b) Also trips the mechanical vacuum pump and isolates the steam jet air ejectors. <see ITS 3.3.6.1>

(c) ~~Isolates the reactor building ventilation system and actuates the standby gas treatment system.~~ LA.3

(d) ~~This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.~~ A.5

(e) Only one TRIP SYSTEM. <see ITS 3.3.6.1>

(f) Closes only reactor water cleanup system isolation valves.

(g) Only one trip system requied in OPERATIONAL MODE(s) 4 and 5 with RHR Shutdown Cooling System integrity maintained. System integrity is maintained provided the piping is intact and no maintenance is being performed that has the potential for draining the reactor vessel through the system.

(h) Normal background is as measured during full power operation without hydrogen being injected.

(i) Includes a time delay of 3 ≤ t ≤ 9 seconds.

(j) ~~Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).~~ LA.2 A.7

(k) Also isolates the control room ventilation system. <see ITS 3.3.6.1>

ADMINISTRATIVE (continued)

A.5 CTS Table 3.2.A-1 Note (d) and CTS Table 4.2.A-1 Note (b) state that the Drywell Pressure—High Function (Functional Unit 2.b) is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required in MODE 2 (i.e., when Special Test Exception 3.12.A is being used). These notes are deleted from CTS Table 3.2.A-1 and 4.2.A-1 since the only applicable condition in which these notes would be needed has been deleted (see Discussion of Changes for CTS: 3/4.12.A, in ITS Section 3.10). Therefore, Note (d) of CTS Table 3.2.A-1 and Note (b) of CTS Table 4.2.A-1 are no longer required and the change is considered administrative.

A.6 CTS 3.2.A requires the isolation actuation instrumentation setpoints to be set consistent with the Trip Setpoint values shown in Table 3.2.A-1. CTS 3.2.A Action 1 requires the CHANNEL to be declared inoperable when the setpoint is less conservative than the value shown in the Trip Setpoint column of Table 3.2.A-1. Table 3.2.A-1 includes a "Trip Setpoint" column. It is proposed to re-label this column as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1 (ISTS Table 3.3.6.2-1). In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.2.A-1 are applied as the Operability limit for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip setpoints specified in CTS Table 3.2.A-1 for the isolation actuation instrumentation Functions or the Allowable Values specified in ITS Table 3.3.6.2-1 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.7 The Trip Setpoint for Functional Unit 2.a, Reactor Vessel Water Level – Low, in Table 3.2.A-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS Table 3.3.6.2-1 for Function 1 is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.6 and LF.1, therefore this change is considered administrative. △A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The Applicability for CTS Table 3.2.A-1 and 4.2.A-1 Functional Units 2.c and 2.d have been revised to include CORE ALTERATIONS as indicated in ITS Table 3.3.6.2-1 footnote (b). This proposed Applicability is consistent with the

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) Applicability for the Standby Gas Treatment System in CTS 3.7.P (ITS 3.6.4.3). This change is more restrictive but necessary to ensure radiation releases due to postulated fuel failures (due to a postulated dropped fuel assembly during CORE ALTERATIONS) are maintained within analysis assumptions.

M.2 The Applicability for CTS Table 3.2.A-1 and 4.2.A-1 Functional Units 2.c and 2.d have been revised to include when performing operations that have a potential for draining the reactor vessel, as indicated in ITS Table 3.3.6.2-1 Note (a). This proposed Applicability, for ITS Table 3.3.6.2-1 Functions 3 and 4, is consistent with the Applicability for the Standby Gas Treatment Systems in CTS 3.7.P (ITS 3.6.4.3). This change represents an additional restriction on plant operation necessary to ensure offsite dose limits are not exceeded if core damage occurs during an inadvertent drain down event.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS 3.2.A Action 2 footnote a, relating to placing channels in trip, is proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.6.2 ensure inoperable channels are placed in trip (which effectively trips the trip system) or remedial actions are taken to compensate for the inoperability, as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable secondary containment isolation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail in CTS Table 3.2.A-1 Note (j) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS Table 3.3.6.2-1 for Function 1 has been changed to the value associated with "instrument zero," as documented in Discussion of Change A.7. This detail is not necessary to ensure the OPERABILITY of the secondary containment isolation instrumentation. The requirements of ITS 3.3.6.2 and the Surveillances are adequate to ensure the reactor vessel water level instrumentation for secondary containment isolation is maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequte protection of the public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LA.3 System design and operational details of current Table 3.2.A-1 and 4.2.A-1 Note (c) are proposed to be relocated to the Bases. Details relating to system design and operation (e.g., specific valves and systems affected) are unnecessary in the LCO. These details are not necessary to ensure the OPERABILITY of the secondary containment isolation instrumentation. The requirements of ITS 3.3.6.2 and the associated Surveillance Requirements are adequate to ensure the secondary containment isolation instruments are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.4 The details in CTS 4.7.P.4.b.2 relating to methods for performing the LOGIC SYSTEM FUNCTIONAL TEST (simulated automatic operation) and the system functional test of SGT system (use of simulated signals), respectively, are proposed to be relocated to the Bases. These details are not necessary to ensure the OPERABILITY of the secondary containment isolation instrumentation. The requirements of ITS 3.3.6.2 and the associated Surveillance Requirements are adequate to ensure the secondary containment isolation instruments are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.A.2 and CTS 4.7.P.4.b (proposed SR 3.3.6.2.6) has been extended from 18 months to 24 months. These SRs ensure that Secondary Containment Isolation Instrumentation and Standby Gas Treatment (SGT) actuation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The SCIVs and SGT System including the automatic actuating

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Extending the SR Frequency is acceptable because the isolation initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted isolation instrumentation has been evaluated based on make, manufacturer, and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraph, listed by CTS Functional Unit number, identifies by make, manufacturer and model number the drift evaluation performed:

Functional Unit 2.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4 Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Extending the SR Frequency is acceptable because the relief valve instrumentation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the Relief Valve Instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Function name, identify by make, manufacturer and model number the drift evaluations performed:

Reactor Vessel Pressure Setpoint

This function is performed by Dresser 1539VX pressure controllers. An increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Dresser pressure controllers with respect to drift. The Dresser pressure controllers' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Low Set Relief Valve Reactuation Time Delay

This function is performed by Agastat E7022PC003 and E7022PC002 time delay relays. An increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the time delay relays with respect to drift. A sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis. The vendors drift specification will be used to calculate a 30 month drift. The calculated 30 month drift will be used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis will support a 24 month surveillance interval or the interval will be adjusted to a value supported by the analysis.

Based on the design of the instrumentation, number of redundant relief valves, and the drift evaluations, it is concluded that the impact, if any, from this change on system availability is minimal as a result of the change in the surveillance test interval. A review of historical surveillance data was performed to validate the above conclusion. This review of surveillance test history demonstrates that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

TABLE 3.2.A-1 (Continued)

M.1

ISOLATION ACTUATION INSTRUMENTATION

add CORE ALTERATIONS

L.2

TABLE NOTATION

Table 3.3.7.1-1 Notes

(A) * During CORE ALTERATIONS or operations with a potential for draining the reactor vessel.

(b) ** When handling irradiated fuel in the secondary containment.

Insert Table 3.2.A-1 footnote (a) A.4

(a) A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the CHANNEL in the tripped condition provided the Functional Unit maintains isolation actuation capability.

(b) Also trips the mechanical vacuum pump and isolates the steam jet air ejectors.

(c) Isolates the reactor building ventilation system and actuates the standby gas treatment system.

A.6

(d) This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.

see ITS 3.3.6.1

(e) Only one TRIP SYSTEM.

(f) Closes only reactor water cleanup system isolation valves.

(g) Only one trip system requied in OPERATIONAL MODE(s) 4 and 5 with RHR Shutdown Cooling System integrity maintained. System integrity is maintained provided the piping is intact and no maintenance is being performed that has the potential for draining the reactor vessel through the system.

(h) Normal background is as measured during full power operation without hydrogen being injected.

(i) Includes a time delay of $3 \le t \le 9$ seconds.

(j) Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero).

LA.2 A.7 A

(k) Also isolates the control room ventilation system.

LA.3

ADMINISTRATIVE (continued)

A.4 These changes to CTS 3/4.2.A are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 27, 1999. The changes identified are consistent with the allowances in GENE-770-06-1-A, "Bases for changes to Surveillance Test intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specification, NEDC-31677-P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1980, and NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989. As such, this change is considered administrative.

A.5 CTS Table 3.2.A-1 and Table 4.2.A-1 Functional Units 2.a, 2.b, 2.c, and 2.d provide isolation actuation instrumentation requirements for the Secondary Containment. In addition, CTS Table 3.2.A-1 and Table 4.2.A-1 Functional Unit 3.d provides isolation actuation instrumentation requirements for Main Steam Line (MSL) Isolation. As indicated in footnote (k) of Table 3.2.A-1 and footnote (d) of Table 4.2.A-1, this instrumentation also isolates the Control Room Emergency Ventilation System. The requirements for the isolation requirements of the secondary containment and the main steam isolation valves are retained in ITS 3.3.6.2 and ITS 3.3.6.1, respectively. ITS 3.3.7.1 includes only the requirements for the Control Room Emergency Ventilation System isolation instrumentation. Therefore, this change is considered administrative and is consistent with the format of NUREG-1433, Rev. 1.

A.6 CTS Table 3.2.A-1 (d) and CTS Table 4.2.A-1 Note (b) state that the Drywell Pressure—High Function (Functional Unit 1.b) is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required in MODE 2 (i.e., when Special Test Exception 3.12.A is being used). These notes are deleted from CTS Tables 3.2.A-1 and 4.2.A-1 since the only applicable condition in which these notes would be needed has been deleted (see Discussion of Changes for CTS: 3/4.12.A, in ITS Section 3.10). Therefore, Note (d) of CTS Table 3.2.A-1 and Note (b) of CTS Table 4.2.A-1 are no longer required and the change is considered administrative.

A.7 The Trip Setpoint for Functional Unit 2.a, Reactor Vessel Water Level - Low, in Table 3.2.A-1 is referenced to the top of active fuel. The reference value for the Allowable Value specified in ITS Table 3.3.7.1-1 for Function 1 is associated with "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any change to the Trip Setpoint is addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LA.2 The detail in CTS Table 3.2.A-1 Note (j) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS Table 3.3.7.1-1 for Function 2.a has been changed to the value associated with "instrument zero," as documented in Discussion of Change A.7. This detail is not necessary to ensure the OPERABILITY of the CREV System isolation instrumentation. The requirements of ITS 3.3.7.1 and the Surveillances are adequate to ensure the CREV System isolation reactor vessel water level instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR are controlled by the provisions of 10 CFR 50.59.

LA.3 System design and operation details specified in CTS Table 3.2.A-1 Note (k) and CTS Table 4.2.A-1 Note (d) are proposed to be relocated to the Bases. Details relating to system design and operation (i.e., specific equipment actuated) are unnecessary in the LCO. These details are not necessary to ensure the Operability of the CREV System Isolation Instrumentation. The requirements of ITS 3.3.7.1 and the associated Surveillance Requirements are adequate to ensure the CREV System Isolation instruments are maintained Operable. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST portion of CTS 4.2.A.2 (proposed SR 3.3.7.1.6) has been extended from 18 months to 24 months. This SR ensures that CREV System Isolation Instrumentation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow this Surveillance to extend its Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The CREV System including the actuating logic is designed to be single failure proof, and therefore, is highly reliable. In addition, major deviations in the instrumentation during the operating cycle will be detected since other surveillances are performed such as the CHANNEL CHECK and CHANNEL FUNCTIONAL TEST (proposed SRs 3.3.7.1.1 and 3.3.7.1.2) at a more frequent basis. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION of CTS 4.2.A.1 as specified in Table 4.2.A-1 for Function 2.a (proposed SR 3.3.7.1.5) has been extended from 18 months to 24 months. The subject SR ensures that the CREV System Isolation Instrumentation will function as designed during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Extending the SR Frequency is acceptable because the isolation initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted isolation instrumentation has been evaluated based on make, manufacturer, and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraph, listed by CTS Instrumentation number, identifies by make, manufacturer and model number the drift evaluation performed:

Functional Unit 2.a: Reactor Vessel Water Level—Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.d: Main Steam Line Flow-High

This function is performed by Barton 278 differential pressure indicating switches for Unit 1 and Barton 288A differential pressure indicating switches for Unit 2. Both types of Barton differential pressure indicating switches are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Barton differential pressure indicating switches with respect to drift. The switches' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A.1 ITS 3.3.7.2

A.2

3.2 - LIMITING CONDITIONS FOR OPERATION

L. Mechanical Vacuum Pump Isolation Instrumentation

LCO 3.3.7.2 Four CHANNELS of the of the Main Steam Line Radiation - High Function for the Mechanical Vacuum Pump trip shall be OPERABLE(c).

APPLICABILITY

OPERATIONAL MODE(s) 1 and 2 with the Mechanical Vacuum Pump in service and any main steam line not isolated.

ACTION: add proposed ACTIONS Note A.3

With one or more CHANNEL(s) inoperable:

ACTION B a. Within one hour, verify sufficient CHANNELS remain OPERABLE to maintain trip capability, AND

ACTION A b. Within 12 hours, place the inoperable CHANNEL(s) in the tripped condition(d).

add proposed Required Action A.1 A.4

Otherwise, within 12 hours either:

ACTION C a. Trip or isolate the Mechanical Vacuum Pump, OR

b. Close the Main Steam Lines, OR

c. Be in OPERATIONAL MODE 3.

4.2 - SURVEILLANCE REQUIREMENTS

L. Mechanical Vacuum Pump Isolation Instrumentation

The Main Steam Line Radiation - High Function for the Mechanical Vacuum Pump trip shall be demonstrated OPERABLE by performance of a:

SR 3.3.7.2.1 1. CHANNEL CHECK at least once per 12 hours, A.6

SR 3.3.7.2.2 2. CHANNEL FUNCTIONAL TEST at least once per 31 92 days, and A.5

SR 3.3.7.2.4 3. CHANNEL CALIBRATION(a) at least once per 18 24 months. The ~~trip setpoint~~ Allowable Value shall be ≤ 15 x normal background(b). A.7 LF.1 LE.1

SR 3.3.7.2.5 4. LOGIC SYSTEM FUNCTIONAL TEST at least once per 18 24 months including the Mechanical Vacuum Pump breaker. LD.1

SR 3.3.7.2.3

A.7 LF.1

(a) A current source provides an instrument channel alignment every 3 months.

(b) Normal background is as measured during full power operation without hydrogen being injected.

(c) When a CHANNEL is placed in an inoperable status ~~solely for performance of required surveillances~~, entry into the associated Limiting Conditions for Operation and required ACTIONs may be delayed for up to 6 hours provided Mechanical Vacuum Pump trip capability is maintained.

(d) Not applicable if the inoperable channel is due to an inoperable Mechanical Vacuum Pump breaker.

Required Action A.2 Note

Note to Surveillance Requirements

ADMINISTRATIVE

A.5 (cont'd) setpoint specified in CTS 4.2.L for the mechanical vacuum pump trip instrumentation Functions or the Allowable Value specified in ITS SR 3.3.7.2.4 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.6 These changes to CTS 3/4.2.A are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 27, 1999. The changes identified are consistent with the allowances in NEDC-31677-P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1980, and NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989. As such, these changes are administrative.

A.7 The Trip Setpoint for the Main Steam Line Radiation - High Function in CTS 4.2.L.3 and footnote b is with respect to normal background measured during full power operation without hydrogen being injected. The Allowable Value specified in ITS SR 3.3.7.2.4 is specified as $\leq$ 7700 mR/hr. This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the actual setpoint is addressed in Discussion of Changes A.5 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.L.4 (proposed SR 3.3.7.2.5) has been extended from 18 months to 24 months. This SR ensures that Trip Instrumentation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) and proposed SR 3.0.2) to a 24-month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their surveillances at the current frequency. An evaluation has been performed using this data and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The instrument channels are tested on a more frequent basis during the operating cycle in accordance with CTS 4.2.L.2, the CFT. This testing of the instrumentation ensures that a significant portion of the trip instrumentation circuitry is operating properly and will detect significant failures of this circuitry. The trip logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of current Surveillance 4.2.L.3 (proposed SR 3.3.7.2.4) has been extended from 18 months to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). The subject SR ensures that the Trip instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the initiation logic is designed to be single failure proof and, therefore, is highly reliable. Furthermore, the impacted Trip instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation.

This function is performed by a General Atomic RD-23 Radiation Detector, General Atomic RP-2CM Radiation Monitor. This instrument was evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd) tolerance, and drift) with the calculated Nominal Trip Setpoint also using the Instrument Setpoint Methodology.

Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1. The EPRI guidance was used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

"Specific"

None

RELOCATED SPECIFICATIONS

None

⟨CTS⟩
⟨T.3.1.A-1⟩
⟨T 4.1.A-1⟩
⟨T2.2.A-1⟩

TSTF-264 changes not adopted 16

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

SR 3.3.1.1.5 3

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux — High	2	X3X	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.6 SR 3.3.1.1.7 SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible]	≤ X20/125 divisions of full scale
	5[(a)]	X3X	H	SR 3.3.1.1.1 SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible]	≤ X20/125 divisions of full scale
b. Inop	2	X3X	G	SR 3.3.1.1.4 SR 3.3.1.1.[illegible]	NA
	5[(a)]	X3X	H	SR 3.3.1.1.[illegible] SR 3.3.[illegible]	NA
2. Average Power Range Monitors					
a. Neutron Flux — High, Setdown	2	X2X	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible] SR 3.3.1.1.1[illegible]	≤ X20X% RTP
b. Flow Biased ~~Simulated Thermal Power~~ — High	1	X2X	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible] ~~SR 3.3.1.1.[illegible]~~ SR 3.3.1.1.[illegible] SR 3.3.1.1.[illegible]	≤ X0.58 W + [illegible]% RTP and ≤ X[illegible]X RTP(b)

Neutron Flux
122
17.1
121
63.4
add SR 3.3.1.1.16

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

(b) X0.58 W + [illegible]% - 0.58 [illegible] RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

59.1 and ≤ 118.4 % RTP 1

<CTS>
<T 3.1.A-1>
<T 4.1.A-1>
<T 2.2.A-1>

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)		1		SR 3.3.1.1.5	3
c. Fixed Neutron Flux — High	1	[2]	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ [120]% RTP 122
~~d. Downscale~~	~~1~~	~~[2]~~	~~F~~	~~SR 3.3.1.1.8~~ ~~SR 3.3.1.1.9~~ ~~SR 3.3.1.1.15~~	~~≥ [3]% RTP~~
d. Inop	1,2	[2]	G	SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.17	NA
3. Reactor Vessel Steam Dome Pressure — High	1,2	[2]	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ [1055] psig 1050
4. Reactor Vessel Water Level — Low, Level 3	1,2	[2]	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ [10] inches 11.8
5. Main Steam Isolation Valve — Closure	1	[8]	F	SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ [10]% closed
6. Drywell Pressure — High	1,2	[2]	G	~~SR 3.3.1.1.1~~ SR 3.3.1.1.10 ~~SR 3.3.1.1.10~~ add SR 3.3.1.1.12 ~~SR 3.3.1.1.13~~ SR 3.3.1.1.17 SR 3.3.1.1.18	≤ [1.92] psig 2.43

(continued)

⟨CTS⟩

⟨T 3.1.A-1⟩

⟨T 4.1.A-1⟩

⟨T 2.2.A-1⟩

SR 3.3.1.1.5

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level — High					
a. ~~Resistance Temperature Detector~~ Thermal Switch	1,2	~~X2X~~ 1	G	~~SR 3.3.1.1.1~~ SR 3.3.1.1.10 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.16 SR 3.3.1.1.17	≤ ~~X57.15X~~ 38.9 gallons
	5(a)	~~X2X~~	H	~~SR 3.3.1.1.1~~ SR 3.3.1.1.10 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.16 SR 3.3.1.1.17	≤ ~~57.15X~~ 38.9 gallons
b. ~~Float~~ Differential Pressure Switch	1,2	~~X2X~~	G	SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ ~~57.15X~~ 32.3 gallons
	5(a)	~~X2X~~	H	SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ ~~X57.15X~~ 32.3 gallons
8. Turbine Stop Valve — Closure	≥ ~~X30X~~ 45% RTP	~~X4X~~	E	SR 3.3.1.1.10 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.13 SR 3.3.1.1.18	[≤ X10X% closed]
9. Turbine Control Valve Fast Closure, Trip Oil Pressure — Low	≥ ~~X30X~~ 45% RTP	~~X2X~~	E	SR 3.3.1.1.10 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.13 SR 3.3.1.1.18	≥ ~~X600X~~ 474 psig
~~10.~~ 11. Reactor Mode Switch — Shutdown Position	1,2	~~X2X~~ 1	G	SR 3.3.1.1.15 SR 3.3.1.1.17	NA
	5(a)	~~X2X~~ 1	H	SR 3.3.1.1.15 SR 3.3.1.1.17	NA
~~11.~~ 12. Manual Scram	1,2	~~X2X~~ 1	G	SR 3.3.1.1.8 SR 3.3.1.1.17	NA
	5(a)	~~X2X~~ 1	H	SR 3.3.1.1.8 SR 3.3.1.1.17	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

10. Turbine Condenser Vacuum - Low	1	2	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 21.8 inches Hg vacuum

⟨CTS⟩

⟨T 3.2.E-1⟩
⟨T 4.2.E-1⟩
⟨3.3.L⟩
⟨3.3.M⟩

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
a. Low Power Range—Upscale	(a)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7	≤ [115.5/125] divisions of full scale As specified in the COLR
~~b. Intermediate Power Range—Upscale~~	~~(b)~~	~~[2]~~	~~SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7~~	~~≤ [109.7/125] divisions of full scale~~
~~c. High Power Range—Upscale~~	~~(c),(d)~~	~~[2]~~	~~SR 3.3.2.1.1 SR 3.3.2.1.4 SR 3.3.2.1.7~~	~~≤ [105.9/125] divisions of full scale~~
b d. Inop	(a) (d),(e)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.5	NA
c e. Downscale	(a) (d),(e)	[2]	SR 3.3.2.1.1 SR 3.3.2.1.4	≥ [93/125] 3.87% RTP divisions of full scale
~~f. Bypass Time Delay~~	~~(d),(e)~~	~~[2]~~	~~SR 3.3.2.1.1 SR 3.3.2.1.7~~	~~≤ [2.0] seconds~~
2. Rod Worth Minimizer	1(b),2(b)	[1]	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.5 6 SR 3.3.2.1.8	NA
⟨DOC M.1⟩ 3. Reactor Mode Switch—Shutdown Position	(c)	[2]	SR 3.3.2.1.6 7	NA

3D

(a) THERMAL POWER ≥ [29]% and ~~≤ [64]% RTP and MCPR < [1.70]~~. RTP and no peripheral control rod selected

~~(b) THERMAL POWER > [64]% and ≤ [84]% RTP and MCPR < 1.70.~~

~~(c) THERMAL POWER > [84]% and < 90% RTP and MCPR < 1.70.~~

~~(d) THERMAL POWER ≥ 90% RTP and MCPR < 1.40.~~

~~(e) THERMAL POWER ≥ [64]% and < 90% RTP and MCPR < 1.70.~~

(b) (f) With THERMAL POWER ≤ [10]% RTP.

(c) (g) Reactor mode switch in the shutdown position.

<CTS>

SURVEILLANCE REQUIREMENTS

<T 3.2.J-1 footnote b>

NOTE

When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 2 hours ~~provided feedwater and main turbine high water level trip capability is maintained~~. 3

	SURVEILLANCE		FREQUENCY
<4.2.J.1> <T 4.2.J-1>	SR 3.3.2.2.1	Perform CHANNEL CHECK.	24 hours 2
<4.2.J.1> <T 4.2.J-1>	SR 3.3.2.2.2	Perform CHANNEL FUNCTIONAL TEST.	[92] days 2
<4.2.J.1> <T 4.2.J-1>	SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ [~~58.0~~] 54.4 inches. 2	~~[18] months~~ 12 months 2 A
<4.2.J.2>	SR 3.3.2.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST 5 including ~~[valve]~~ 2 breaker and actuation.	[~~18~~] 24 months 2

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY
<4.2.c.1> <T4.2.c-1>	SR 3.3.4.2.2 (1 1, 3)	Perform CHANNEL FUNCTIONAL TEST.	~~92~~ days 3
<4.2.c.1> <T4.2.c-1>	[SR 3.3.4.2.3 (1 1, 2)	Calibrate the trip units.	~~92~~ days] 31 3
<4.2.c.1> <T3.2.c-1> <T4.2.c-1>	SR 3.3.4.2.4 (1 1)	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low, ~~Level 2~~ ≥ ~~[-47]~~ -56.3 inches; ~~and~~ 2 3 with time delay set to [≥ 8 seconds and ≤ 10 seconds]; and 4 b. Reactor ~~Steam Dome~~ Vessel Pressure—High: ≤ ~~[1095]~~ 1219 psig. 2 3	~~18~~ 24 months
<4.2.c.2> <DOCM.2>	SR 3.3.4.2.5 (1 1)	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	~~18~~ 24 months 3

<CTS>

SURVEILLANCE REQUIREMENTS

⟨4.2.B.1⟩

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

1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.

⟨T 3.2.B-1 footnote a⟩

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c, 3.f, and 3.g; and (b) for up to 6 hours for Functions other than 3.c, 3.f, and 3.g provided the associated Function or the redundant Function maintains ECCS initiation capability.

	SURVEILLANCE	FREQUENCY	
⟨T 4.2.B-1⟩	SR 3.3.5.1.1 Perform CHANNEL CHECK.	12 hours	
⟨T 4.2.B-1⟩	SR 3.3.5.1.~~2~~ 4 [5] Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days [3]	
⟨T 4.2.B-1⟩ ⟨T 4.2.B-1 footnote e⟩	~~SR 3.3.5.1.3~~ 5 [5] Calibrate the trip unit.	~~[92]~~ days	[3]
⟨T 4.2.B-1⟩	~~SR 3.3.5.1.4~~ 6 [5] Perform CHANNEL CALIBRATION.	92 days	[3]
⟨T 4.2.B-1⟩ ⟨T 4.2.B-1 footnote e⟩	SR 3.3.5.1.~~5~~ 8 [5] Perform CHANNEL CALIBRATION.	~~[18]~~ 24 months [3]	
⟨4.2.B.2⟩	SR 3.3.5.1.~~6~~ 9 [5] Perform LOGIC SYSTEM FUNCTIONAL TEST.	~~[18]~~ 24 months [3]	
	~~SR 3.3.5.1.7 Verify the ECCS RESPONSE TIME is within limits.~~	~~[18] months on a STAGGERED TEST BASIS~~	[4]
⟨T 4.2.B-1⟩	SR 3.3.5.1.2 Perform CHANNEL FUNCTIONAL TEST.	31 days	
	SR 3.3.5.1.3 Perform CHANNEL CALIBRATION.	60 days	[5]

⟨M.1⟩ SR 3.3.5.1.7 Perform CHANNEL CALIBRATION. 184 days

<CTS>

<T. 3.2.B-1>
<T 4.2.B-1>
<DOC M.1>

Table 3.3.5.1-1 (page 1 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE [3]
1. Core Spray System		[3]			
a. Reactor Vessel Water Level — Low Low ~~Low, Level 1~~ [6]	1,2,3, 4(a), 5(a)	~~4~~(b)	B [5]	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 ~~SR 3.3.5.1.3~~ [7] ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 9 [5] [4] ~~SR 3.3.5.1.7~~	≥ ~~-113~~ -56.78 [3] inches
b. Drywell Pressure — High	1,2,3	~~4~~(b)	B [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 [5] SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 9 [5] [4] ~~SR 3.3.5.1.7~~	≤ ~~1.92~~ 2.43 [3] psig
c. Reactor Steam Dome Pressure — Low (~~Injection~~ Permissive) [6]	1,2,3	~~4~~ 2	C [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ [7] SR 3.3.5.1.6 9 [5] [4] ~~SR 3.3.5.1.7~~	≥ ~~390~~ 306 psig and ≤ ~~500~~ 342 [3] psig
[1] Insert Function 1.e	4(a), 5(a)	~~4~~ 2	B [7]	~~SR 3.3.5.1.1~~ 4 SR 3.3.5.1.2 SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ [7] SR 3.3.5.1.6 9 [4] ~~SR 3.3.5.1.7~~	≥ ~~390~~ 306 [3] psig and ≤ ~~500~~ 342 [3] psig
~~d. Core Spray Pump Discharge Flow — Low (Bypass)~~	1,2,3, 4(a), 5(a)	~~[2] [1 per pump]~~	E [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.5 SR 3.3.5.1.2 4 SR 3.3.5.1.5 SR 3.3.5.1.6 9 8 [5]	≥ ~~[ ]~~ gpm and ≤ ~~[ ]~~ gpm [3] 830
~~e. Manual Initiation~~ [2]	~~1,2,3, 4(a), 5(a)~~	~~[2] [1 per subsystem]~~	~~C~~	~~SR 3.3.5.1.6~~	~~NA~~
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level — Low Low ~~Low, Level 1~~ [6]	1,2,3, 4(a), 5(a)	~~4~~(b) [6]	B [5]	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ [7] SR 3.3.5.1.6 9 [5] [4] ~~SR 3.3.5.1.7~~	≥ ~~-113~~ -56.78 [3] inches

(continued)

(a) When associated [8] ECCS ~~subsystem(s)~~ are required to be OPERABLE per LCO 3.5.2, "ECCS - Shutdown". [8]

(b) Also required to initiate the associated diesel generator (DG) ~~and isolate the associated plant service water (PSW) turbine building (T/B) isolation valves~~. [3]

<CTS>

$\boxed{1}$

INSERT FUNCTION 1.e

<DOC M1>

e.	Core Spray Pump Start-Time Delay Relay	1, 2, 3 4[a], 5[a]	1 per pump	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ [10] seconds

<CTS>
<T 3.2.B-1>
<T 4.2.B-1>
<DOC M.1>

Table 3.3.5.1-1 (page 2 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
b. Drywell Pressure — High	1,2,3	~~4~~ 6 (b)	B	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 (4) SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 (9) ~~SR 3.3.5.1.7~~	≤ ~~1.92~~ 2.43 psig
c. Reactor Steam Dome Pressure — Low (~~Injection~~ Permissive)	1,2,3	~~4~~ 2	C	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 (4) SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 (9) ~~SR 3.3.5.1.7~~	≥ ~~390~~ 306 psig and ≤ ~~500~~ 342 psig
	$4^{(a)}$, $5^{(a)}$	~~4~~ 2	B	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 (4) SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 (9) ~~SR 3.3.5.1.7~~	≥ ~~390~~ 306 psig and ≤ ~~500~~ 342 psig
d. Reactor Steam Dome Pressure — Low (Break Detection) (~~Recirculation Discharge Valve Permissive~~)	~~$1^{(c)}$, $2^{(c)}$, $3^{(c)}$~~ 1,2,3	4	~~C~~ B	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 (4) ~~SR 3.3.5.1.3~~ SR 3.3.5.1.5 (7) SR 3.3.5.1.6 (9)	≥ ~~[335]~~ psig ≥ 868 psig and ≤ 891 psig
~~e. Reactor Vessel Shroud Level — Level 0~~	~~1,2,3~~	~~[2]~~	~~B~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≥ [-202] inches~~
~~f.~~ e. Low Pressure Coolant Injection Pump Start — Time Delay Relay	1,2,3, $4^{(a)}$, $5^{(a)}$	~~[4]~~ ~~1 per pump~~	C	SR 3.3.5.1.5 (8) SR 3.3.5.1.6 (9)	
Pumps ~~A~~,B,D and					≥ 9 seconds and ≤ ~~1~~ 5 seconds
~~Pump C~~					≤ 1 second

(continued)

(a) When associated ECCS ~~subsystem(s) are~~ required to be OPERABLE per LCO 3.5.2.

~~(b) Also required to initiate the associated [DG and isolate the associated PSW T/B isolation valves].~~

~~(c) With associated recirculation pump discharge valve open.~~

Insert Functions 2g, 2.h, 2.i, 2j, and 2k [1]

<CTS>
<T 3.2, B-1>
<T 4.2, B-1>
<Doc M.1>

Table 3.3.5.1-1 (page 3 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
f 2. LPCI System (continued)		[3]	[7]	[5]	2526 [3]
~~g.~~ Low Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1,2,3, 4(a), 5(a)	~~[1 per subsystem]~~ 1 per loop [3]	E SR 3.3.5.1.5	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ 4 SR 3.3.5.1.~~5~~ 8 SR 3.3.5.1.~~6~~ 9 [5]	≥ ~~[ ]~~ gpm ~~and ≤ [ ] gpm~~ [3]
~~h. Manual Initiation~~	~~1,2,3, 4(a), 5(a)~~	~~[2] [1 per subsystem]~~	~~C~~	~~SR 3.3.5.1.6~~	~~NA~~ [2]
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level — Low Low, ~~Level 2~~ [6]	1, 2(~~b~~ c), 3(~~b~~ c) [6]	~~[4]~~	[5] B SR 3.3.5.1.3	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 9 [5] [4] ~~SR 3.3.5.1.7~~	≥ [-~~47~~] -56.78 [3] inches
b. Drywell Pressure — High	1, 2(~~b~~ c), 3(~~b~~ c) [6]	~~[4]~~	[7] B SR 3.3.5.1.6	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ 4 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 9 [5] [4] ~~SR 3.3.5.1.7~~	≤ [~~1.92~~] 2.43 [3] psig
c. Reactor Vessel Water Level — High ~~Level 8~~ [6]	1, 2(~~b~~ c), 3(~~b~~ c) [6]	~~[2]~~	C [5] SR 3.3.5.1.3	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 9 [5] [4] ~~SR 3.3.5.1.7~~	≤ [~~56.5~~] 54.23 [3] inches
d. Contaminated [6] Condensate Storage Tank (CCST) [6] Level — Low	1, 2(~~b~~ c), 3(~~b~~ c) [6]	~~[2]~~	D [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ 4 ~~SR~~ 3.3.5.1.~~5~~ 8 SR 3.3.5.1.~~6~~ 9 [5]	[≥ ~~[0]~~ 10,000 gal ~~inches~~]
e. Suppression Pool Water Level — High	1, 2(~~b~~ c), 3(~~b~~ c)	~~[2]~~	D	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ 4 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ [7] SR 3.3.5.1.~~6~~ 9 [5]	[≤ ~~[156]~~ 14 ft 8 [3] ~~inches~~]

(continued)

(a) When the associated ECCS [8] subsystem(s) are required to be OPERABLE per LCO 3.5.2 [8].

(~~b~~ c) With reactor steam dome pressure > ~~[150]~~ psig. [3] [6]

<CTS>

1

INSERT Functions 2.g, 2.h, 2.i, 2.j, and 2.k

<DOC M.1>

g.	Recirculation Pump Differential Pressure—High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 2.3 psid	A
h.	Recirculation Riser Differential Pressure—High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.15 psid	A
i.	Recirculation Pump Differential Pressure Time Delay – Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ [1.0] seconds	A
j.	Reactor Steam Dome Pressure Time Delay – Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ [2.25] seconds	A
k.	Recirculation Riser Differential Pressure Time Delay – Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ [1.0] seconds	A

<CTS>

<T 3.2.B-1>
<T 4.2.B-1>

Table 3.3.5.1-1 (page 4 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System (continued)		3			
f. High Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1, 2(c), 3(c)	~~[1]~~	E	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.9	≥ [634] gpm and ≤ [ ] gpm
g. Manual Initiation	1, 2(c), 3(c)	~~[1]~~	C	SR 3.3.5.1.9	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level — Low Low ~~Low~~, Level 1	1, 2(c), 3(c)	~~[2]~~	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≥ ~~[-113]~~ -56.78 inches
b. Drywell Pressure — High	1, 2(c), 3(c)	~~[2]~~	F	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 SR 3.3.5.1.9	≤ ~~[1.92]~~ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	~~[1]~~	G	~~[SR 3.3.5.1.3]~~ SR 3.3.5.1.8 SR 3.3.5.1.9	[≤ ~~[120]~~ seconds]
~~d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)~~	~~1, 2(d), 3(d)~~	~~[1]~~	~~F~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≥ [10] inches~~
~~e.~~ d. Core Spray Pump Discharge Pressure — High	1, 2(c), 3(c)	~~[2]~~ 4	G	~~SR 3.3.5.1.2~~ SR 3.3.5.1.4 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≥ ~~[137]~~ 101.9 psig and ≤ [ ] 148.1 psig

(continued)

(c) With reactor steam dome pressure > ~~[150]~~ psig.

<CTS>

<T 3.2.B-1>
<T 4.2.B-1>

Table 3.3.5.1-1 (page 5 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. ADS Trip System A (continued)		3			
e ~~g~~. Low Pressure Coolant Injection Pump Discharge Pressure — High	1, 2(c), 3(c)	~~[4]~~	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.6 SR 3.3.5.1.4 ~~SR 3.3.5.1.[illegible]~~ ~~SR 3.3.5.1.[illegible]~~ SR 3.3.5.1.9	≥ 101.7 ~~[illegible]~~ psig and ≤ 146.9 ~~[illegible]~~ psig
f ~~h~~. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2(c), 3(c)	1 ~~[2]~~	G	~~[SR~~ 3.3.5.1.8 SR 3.3.5.1.9	~~[~~≤ 9 ~~[13]~~ minutes~~]~~
~~[h. Manual Initiation~~	~~1, 2(d), 3(d)~~	~~[2]~~	~~G~~	~~SR 3.3.5.1.6~~	~~NA]~~
5. ADS Trip System B					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1, 2(c), 3(c)	~~[2]~~	F	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≥ -56.78 ~~[-113]~~ inches
b. Drywell Pressure — High	1, 2(c), 3(c)	~~[2]~~	F	~~SR 3.3.5.1.2~~ SR 3.3.5.1.4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≤ 2.43 ~~[1.92]~~ psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	~~[1]~~	G	~~[SR~~ 3.3.5.1.8 SR 3.3.5.1.9	~~[~~≤ ~~[120]~~ seconds~~]~~
~~d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)~~	~~1, 2(d), 3(d)~~	~~[1]~~	~~F~~	~~SR 3.3.5.1.1~~ ~~SR 3.3.5.1.2~~ ~~[SR 3.3.5.1.3]~~ ~~SR 3.3.5.1.5~~ ~~SR 3.3.5.1.6~~	~~≥ [10] inches~~
d ~~e~~. Core Spray Pump Discharge Pressure — High	1, 2(c), 3(c)	~~[2]~~	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≥ 101.9 ~~[137]~~ psig and ≤ 149.1 ~~[illegible]~~ psig

(continued)

(c) ~~(d)~~ With reactor steam dome pressure > ~~[150]~~ psig.

<CTS>

<T 3.2.B-1>
<T 4.2.B-1>

Table 3.3.5.1-1 (page 6 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B (continued)		3			
e. ~~f.~~ Low Pressure Coolant Injection Pump Discharge Pressure — High	1, 2(c), 3(c)	~~4~~	G	~~SR 3.3.5.1.3~~ SR 3.3.5.1.4 SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6	≥ 101.7 psig and ≤ 146.9 psig
f. ~~g.~~ Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2(c), 3(c)	~~2~~ 1	G	SR 3.3.5.1.4 SR 3.3.5.1.6	≤ [9] minutes
~~h. Manual Initiation~~	~~1, 2(d), 3(d)~~	~~[2]~~	~~G~~	~~SR 3.3.5.1.6~~	~~NA~~

(c) With reactor steam dome pressure > ~~150~~ psig.

1. Six new ECCS Functions have been added to ISTS Table 3.3.5.1-1. ITS Function 1.e, CS Pump Start-Time Delay Relay, is associated with the CS subsystem. The other Functions have been added to ensure the Loop Select Logic of the LPCI System functions properly. These Functions are ITS Functions 2.g, 2.h, 2.i, 2.j, and 2.k. Since these Functions have been added, Note 2 to Required Action B.1 and Note 2 to Required Action C.1 have been revised.

2. The current Quad Cities 1 and 2 design does not include a and CS, LPCI or ADS Manual Initiation Instrumentation Function. Therefore, ISTS 3.3.5.1 Functions 1.e, 2.h, 4.h and 5.h have been deleted. In addition, the ISTS 3.3.5.1 Required Action G.1 Note has been deleted since the Required Action now applies to each of the Functions that reference Condition G.

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. ISTS SR 3.3.5.1.7 has been deleted consistent with current licensing basis requirements.

5. Three new Surveillance Requirements have been added for performance of a CHANNEL FUNCTIONAL TEST once per 31 days and a CHANNEL CALIBRATION once per 60 days and 184 days (ITS SR 3.3.5.1.2, ITS SR 3.3.5.1.3, and ITS SR 3.3.5.1.37, respectively) consistent with the current licensing basis or setpoint calculation assumptions. Subsequent SRs have been renumbered, as required

6. The proper Quad Cities 1 and 2 plant specific nomenclature/value/design requirements have been provided. Note 2 to Required Action B.1 and Note 2 to Required Action C.1 have been revised accordingly. Table 3.3.5.1-1 Footnotes have been renumbered, as required.

7. The Surveillance Requirements associated with specific Functions in ISTS Table 3.3.5.1-1 have been revised to be consistent with the current licensing basis or with the setpoint calculation methodology.

8. Footnote (a) to ITS Table 3.3.5.1-1 has been modified to only require the ECCS Instrumentation Functions to be Operable when the associated ECCS subsystem(s) are required to be Operable per LCO 3.5.2, "ECCS—Shutdown." Some of the Functions (ITS Table 3.3.5.1-1 Functions 1.a and 1.b) start the DGs in addition to the ECCS subsystems. This is shown in Footnote (b) to Table 3.3.5.1-1. As written, the ISTS implies that these Functions are required to be Operable when the DGs are required, even if the associated ECCS subsystems are not required. During shutdown Modes when the reactor cavity is flooded, the ECCS subsystems are not required to be Operable. Therefore, the ECCS start function of the DGs serve no safety significant support function. As such, these instrument Functions are not required and have been

<CTS>

<T 3.2.D-1>
<T 4.2.D-1>

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, ~~Level~~ 2	~~4~~	B	SR 3.3.5.2.1 SR 3.3.5.2.2 ~~SR 3.3.5.2.3~~ SR 3.3.5.2.3 ~~SR 3.3.5.2.5~~ SR 3.3.5.2.6	≥ ~~-47~~ -56.78 inches
2. Reactor Vessel Water Level — High, ~~Level~~ 8	~~2~~	C	SR 3.3.5.2.1 SR 3.3.5.2.2 ~~SR 3.3.5.2.3~~ SR 3.3.5.2.3 ~~SR 3.3.5.2.5~~ SR 3.3.5.2.6	≤ ~~56.5~~ 54.23 inches
3. Contaminated Condensate Storage Tank (CCST) Level — Low	~~2~~	D	~~SR 3.3.5.2.1~~ SR 3.3.5.2.2 ~~SR 3.3.5.2.3~~ ~~SR~~ SR 3.3.5.2.5 SR 3.3.5.2.6	[≥ ~~[]~~ ~~inches~~] 598 ft El
4. Suppression Pool Water Level — High	~~2~~	D	~~SR 3.3.5.2.1~~ SR 3.3.5.2.2 ~~SR 3.3.5.2.3~~ ~~SR 3.3.5.2.5~~ SR 3.3.5.2.6	[≤ ~~[]~~ inches] 14 ft 8
~~5. Manual Initiation~~	~~1~~	C	SR 3.3.5.2.6	NA

<CTS>

<T3.2.A-1>
<T4.2.A-1>
<DOC M.1>

Table 3.3.6.1-1 (page 1 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation		5			
a. Reactor Vessel Water Level — Low Low ~~(Low)~~ ~~Level 1~~ 7	1,2,3	~~[2]~~	D	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ 5 SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 6 ~~SR 3.3.6.1.8~~	≥ ~~[-]~~ ~~[15]~~ -55.2 inches 5
b. Main Steam Line Pressure — Low	1	~~[2]~~	E	8 ~~(SR 3.3.6.1.1)~~ ~~SR 3.3.6.1.2~~ 5 SR 3.3.6.1.4 SR 3.3.6.1.~~6~~ 6 3 6 ~~SR 3.3.6.1.8~~	≥ ~~[825]~~ 831 psig
d ~~c.~~ Main Steam Line Flow — High	1,2,3	~~[2]~~ per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 8 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 6 ~~SR 3.3.6.1.8~~	≤ ~~[138]~~ 138 % rated steam flow 5
~~d. Condenser Vacuum — Low~~	~~1, 2(a), 3(a)~~	~~[2]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.4~~ ~~SR 3.3.6.1.7~~	~~≥ [7] inches Hg vacuum~~ 3
e. Main Steam Line Tunnel Temperature — High	1,2,3	~~[8]~~ 2 per trip string	D	9 ~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ 11 8 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 6 ~~SR 3.3.6.1.8~~	≤ ~~[200]~~ 198 °F 5
~~f. Main Steam Tunnel Differential Temperature — High~~	~~1,2,3~~	~~[2]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [ ]°F~~ 3
~~g. Turbine Building Area Temperature — High~~	~~1,2,3~~	~~[32]~~	~~D~~	~~[SR 3.3.6.1.1]~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [200]°F~~
~~h. Manual Initiation~~	~~1,2,3~~	~~[1]~~	~~G~~	~~SR 3.3.6.1.7~~	~~NA~~
c. Main Steam Line Pressure — Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	[≥ 0.1 seconds and ≤ 0.5 seconds] 3

(continued)

~~(a) With any turbine [stop valve] not closed.~~ 3

<CTS>

<T 3.2.A-1>
<T 4.2.A-1>
<DOC M.4>

Table 3.3.6.1-1 (page 2 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation		5			
a. Reactor Vessel Water Level — Low, Level 3 7	1,2,3	~~[2]~~	G B 3	SR 3.3.6.1.1 SR 3.3.6.1.2 5 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.5 3 SR 3.3.6.1.6 6 ~~SR 3.3.6.1.[illegible]~~	≥ ~~[illegible]~~ 11.8 5 inches
b. Drywell Pressure — High	1,2,3	~~[2]~~	G B	9 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 8 ~~SR 3.3.6.1.3~~ ~~SR 3.3.6.1.[illegible]~~ SR 3.3.6.1.6 3 6 ~~SR 3.3.6.1.[illegible]~~	≤ ~~[1.92]~~ ≤ 2.43 5 psig 10 add SR 3.3.6.1.4
c. Drywell Radiation — High	1,2,3	~~[1]~~	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 3 SR 3.3.6.1.6	≤ ~~[illegible]~~ 70 5 R/hr
[d. Reactor Building Exhaust Radiation — High	1,2,3	[2]	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7 SR 3.3.6.1.8	≤ [60] mR/hr] 3
[e. Refueling Floor Exhaust Radiation — High	1,2,3	[2]	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7 SR 3.3.6.1.8	≤ [20] mR/hr]
[f. Manual Initiation	1,2,3	[1 per group]	G	SR 3.3.6.1.7	NA]
3. High Pressure Coolant Injection (HPCI) System Isolation					
a. HPCI Steam Line Flow — High	1,2,3	~~[1]~~	F	9 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 5 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.5 3 SR 3.3.6.1.6 6 ~~SR 3.3.6.1.[illegible]~~	≤ ~~[illegible]~~ 151 5 % rated steam flow

(continued)

Insert Function 3.b 3

<CTS>

3 Insert Function 3.b

b. HPCI Steam Line Flow-Timer	1, 2, 3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ [3] seconds and ≤ [9] seconds

<DOC M.4>

<CTS>
<T 3.2.A-1>
<T 4.2.A-1>
<DOC M.2>

Table 3.3.6.1-1 (page 3 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System Isolation (continued)		5			
3 c ~~b.~~ HPCI Steam Supply Line Pressure — Low	1,2,3	~~[2]~~	F	9 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 5 [SR 3.3.6.1.3] SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 6 ~~SR 3.3.6.1.8~~	≥ ~~[100]~~ psig 5 113.0
~~c. HPCI Turbine Exhaust Diaphragm Pressure — High~~	~~1,2,3~~	~~[2]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [20] psig~~ 3
d. Drywell Pressure — High	1,2,3	~~[2]~~ 2	F	9 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 8 ~~[SR 3.3.6.1.3]~~ add SR 3.3.6.1.4 10 10 ~~SR 3.3.6.1.7~~ SR 3.3.6.1.~~8~~ 6 3 7 ~~SR 3.3.6.1.8~~	≤ ~~[1.92]~~ psig 2.43 5
e. HPCI ~~Pipe Penetration Room~~ Turbine Area 7 Temperature — High	1,2,3	~~[1]~~ 2	F	9 ~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ 8 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 3 SR 3.3.6.1.~~7~~ 6 3	≤ ~~[169]~~ °F 11 5
~~f. Suppression Pool Area Ambient Temperature — High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [169] °F~~
~~g. Suppression Pool Area Temperature — Time Delay Relays~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.5~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≥ [NA] [minutes]~~ 3
~~h. Suppression Pool Area Differential Temperature — High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [42] °F~~
~~i. Emergency Area Cooler Temperature — High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [169] °F~~
~~[j. Manual Initiation~~	~~1,2,3~~	~~[1 per group]~~	~~G~~	~~SR 3.3.6.1.7~~	~~NA]~~

(continued)

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⟨4 3.2.A-1⟩
⟨4 4.2.A-1⟩
⟨DOC M.4⟩

Table 3.3.6.1-1 (page 4 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Reactor Core Isolation Cooling (RCIC) System Isolation — Insert Function 4.b [3]					
a. RCIC Steam Line Flow — High	1,2,3	~~[1]~~ [5]	F	~~SR 3.3.6.1.1~~ [9] SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ [8] ~~SR 3.3.6.1.5~~ [10] add SR 3.3.6.1.4 SR 3.3.6.1.6 6 [3] ~~SR 3.3.6.1.7~~ [7]	≤ ~~[300]~~ 175 [5] % rated steam flow [10]
[3] c ~~b~~. RCIC Steam Supply Line Pressure — Low	1,2,3	~~[1]~~ 4(a)	F	~~SR 3.3.6.1.1~~ [1] SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ [8] ~~SR 3.3.6.1.5~~ [10] SR 3.3.6.1.6 6 [3]	≥ ~~[60]~~ 54 [5] psig
c. RCIC Turbine Exhaust Diaphragm Pressure — High	1,2,3	[2]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [20] psig
d. Drywell Pressure — High	1,2,3	[1]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7 [SR 3.3.6.1.8]	≤ [1.92] psig
e. RCIC Suppression Pool Ambient Area Temperature — High	1,2,3	[1]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [169] °F
f. Suppression Pool Area Temperature — Time Delay Relays	1,2,3	[1]	F	SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ [NA] [minutes]
g. RCIC Suppression Pool Area Differential Temperature — High	1,2,3	[1]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [42] °F
h. Emergency Area Cooler Temperature — High	1,2,3	[1]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [169] °F

[3]

(continued)

(a) Only inputs into one trip system [5]

<CTS>

3

Insert Function 4.b

b. RCIC Steam Line Flow-Timer	1, 2, 3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ [3] seconds and ≤ [9] seconds

<DOC M.4>

<CTS>

<T 3.2.A-1>
<T 4.2.A-1>

Table 3.3.6.1-1 (page 5 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. RCIC System Isolation (continued)					
i. RCIC ~~Equipment Room~~ Turbine Area Temperature — High	1,2,3	~~[2]~~ 2	F	~~[SR 3.3.6.1.1]~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ SR 3.3.6.1.5 SR 3.3.6.1.7 6	≤ ~~[ ]~~ 169 °F
j. RCIC Equipment Room Differential Temperature — High	1,2,3	[1]	F	[SR 3.3.6.1.1] SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7	≤ [ ]°F
k. Manual Initiation	1,2,3	[1 per group]	G	SR 3.3.6.1.7	NA
5. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow — High	1,2,3	[1]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7 SR 3.3.6.1.8	≤ [79] gpm
b. Area Temperature — High	1,2,3	[3] [1 per room]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7 [SR 3.3.6.1.8]	≤ [150]°F
c. Area Ventilation Differential Temperature — High	1,2,3	[3] [1 per room]	F	SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.6 SR 3.3.6.1.7 [SR 3.3.6.1.8]	≤ [67]°F
a ~~d.~~ SLC System Initiation	1,2	1 ~~[2]~~(b)	~~H~~ H	SR 3.3.6.1.~~7~~ 6	NA
b ~~e.~~ Reactor Vessel Water Level — Low ~~Low, Level 2~~	1,2,3	~~[2]~~	F	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 ~~[SR 3.3.6.1.8]~~	≥ ~~[-47]~~ 11.8 inches
f. Manual Initiation	1,2,3	[1 per group]	G	SR 3.3.6.1.7	NA

~~(b) SLC System Initiation only inputs into one of the two trip systems.~~

(continued)

6 ⟨CTS⟩

⟨T3.2.A-1⟩
⟨T4.2.A-1⟩

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
RHR 4 6. Shutdown Cooling System Isolation 7		5		9 B	130 5
a. Reactor Vessel [redacted] Pressure — High	1,2,3	~~1(d)~~ 2	F 10	[redacted] SR 3.3.6.1.2 [redacted] SR 3.3.6.1.7 6 add SR 3.3.6.1.4 10	≤ [redacted] psig
b. Reactor Vessel Water Level — Low, Level 3 7	3,4,5	~~2(e)~~ 6 12	I 3	SR 3.3.6.1.1 SR 3.3.6.1.2 5 SR 3.3.6.1.3 SR 3.3.6.1.5 3 SR 3.3.6.1.6 6	≥ [redacted] inches 11.8 5

5 (b) (e) ~~Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System integrity maintained.~~

In MODES 4 and 5, provided RHR Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required. 12

<CTS>

<T 3.2.A-1>
<T 4.2.A-1>

Table 3.3.6.2-1 (page 1 of 1)
Secondary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM 4	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low ~~Low, Level 2~~ 1	1,2,3, ~~(a)~~ 4	~~2~~	SR 3.3.6.2.1 SR 3.3.6.2.2 ~~SR 3.3.6.2.3~~ 4 SR 3.3.6.2.5 SR 3.3.6.2.6 ~~SR 3.3.6.2.7~~ 5	≥ ~~-47~~ inches 11.8 4
2. Drywell Pressure — High	1,2,3	~~2~~	~~SR 3.3.6.2.1~~ SR 3.3.6.2.2 ~~SR 3.3.6.2.3~~ ~~SR 3.3.6.2.5~~ 6 SR 3.3.6.2.4 6 SR 3.3.6.2.6 ~~SR 3.3.6.2.7~~ 5	≤ ~~1.92~~ psig 2.43 4
3. Reactor Building Exhaust Radiation — High	1,2,3, ~~(a),(b)~~	~~2~~	SR 3.3.6.2.1 SR 3.3.6.2.2 ~~SR 3.3.6.2.5~~ 6 SR 3.3.6.2.4 SR 3.3.6.2.6 ~~SR 3.3.6.2.7~~ 5	≤ ~~[illegible]~~ mR/hr 9 4
~~4. Refueling Floor ~~Exhaust~~ 1 Radiation — High~~	~~1,2,3, (a),(b)~~	~~2~~	~~SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4~~ 4 ~~SR 3.3.6.2.6 SR 3.3.6.2.7~~ 5	~~≤ 20 mR/hr~~ 100 4
~~5. Manual Initiation~~	~~1,2,3, [(a),(b)]~~	~~[1 per group]~~	~~SR 3.3.6.2.6~~	~~NA~~ 2

(a) During operations with a potential for draining the reactor vessel.

(b) During ~~CORE ALTERATIONS and during~~ 4 movement of irradiated fuel assemblies in ~~secondary~~ 4 containment.

All changes $\boxed{1}$ unless noted otherwise

<CTS>

<3.6.F>

<4.6.F.1>

<DOC M.1>

Table 3.3.6.3-1 (page 1 of 1)
Relief Valve
Low-Low Set Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Steam Dome Pressure — High	[1 per LLS valve]	[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7	≤ [1054] psig
2. Low-Low Set Pressure Setpoints	[2 per LLS valve]	[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7	Low: Open ≤ [1010] psig Close ≤ [860] psig Medium-Low: Open ≤ [1025] psig Close ≤ [875] psig Medium-High: Open ≤ [1040] psig Close ≤ [890] psig High: Open ≤ [1050] psig Close ≤ [900] psig
3. Tailpipe Pressure Switch	[22] [2 per S/RV]	[SR 3.3.6.3.1] SR 3.3.6.3.2 [SR 3.3.6.3.3] SR 3.3.6.3.6 [SR 3.3.6.3.7]	≥ [80] psig and ≤ [100] psig

1. Low Set Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1108 psig
b. Reactuation Time Delay	2 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≥ [10] seconds and ≤ [16.5] seconds
2. Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1128 psig

<CTS>

CREV 1 Isolation 2

~~MCREC~~ System Instrumentation
3.3.7.1

<T 3.2.A1>
<T 4.2.A2>

(CREV) Isolation 2

Table 3.3.7.1-1 (page 1 of 1)
1 ~~Main~~ Control Room ~~Environmental Control~~ System Instrumentation
Emergency Ventilation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low ~~Low Low~~, ~~Level 1~~ 7	1,2,3,~~(a)~~ 1	~~(2)~~ 1	C ~~B~~ 4	SR 3.3.7.1.1 SR 3.3.7.1.2 ~~SR 3.3.7.1.3~~ SR 3.3.7.1.~~4~~ 5 SR 3.3.7.1.~~5~~ 6	≥ ~~[-113]~~ 11.8 inches
2. Drywell Pressure — High	1,2,3	~~(2)~~	C ~~B~~	8 ~~SR 3.3.7.1.1~~ SR 3.3.7.1.2 9 ~~SR 3.3.7.1.3~~ SR 3.3.7.1.4 SR 3.3.7.1.~~5~~ 6	≤ ~~[1.92]~~ 2.43 psig
3. Main Steam Line Flow — High	1,2,3	~~[2 per MSL]~~	B	SR 3.3.7.1.1 SR 3.3.7.1.2 9 ~~SR 3.3.7.1.3~~ SR 3.3.7.1.~~4~~ 5 SR 3.3.7.1.~~5~~ 6	≤ ~~[138]~~ 138% rated steam flow
4. Refueling Floor ~~Area~~ 7 Radiation — High	1,2,3, ~~(a),(b)~~ 1	~~(2)~~ 2	~~B~~ B	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.~~5~~ 6	≤ ~~[100]~~ 100 mR/hr
~~5. Control Room Air Inlet Radiation — High~~ 10	~~1,2,3, (a),(b)~~	~~[1]~~	~~C~~	~~SR 3.3.7.1.1~~ ~~SR 3.3.7.1.2~~ ~~SR 3.3.7.1.4~~ ~~SR 3.3.7.1.5~~	~~≤ [1] mR/hr~~
5. Reactor Building Ventilation Exhaust Radiation - High 10	1,2,3 (a)(b)	2	B	SR 3.3.7.1.1 SR 3.3.7.1.2 SR 3.3.7.1.4 SR 3.3.7.1.6	≤ 9 mR/hr

1

(a) During operations with a potential for draining the reactor vessel.

(b) During ~~CORE ALTERATIONS and during~~ movement of irradiated fuel assemblies in the ~~secondary~~ containment.

<CTS> 1 Insert ITS 3.3.7.2 (Page 3 of 3)

SURVEILLANCE REQUIREMENTS

--------------------NOTE--------------------
<3.2.L footnote c> When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided mechanical vacuum pump trip capability is maintained.

SURVEILLANCE		FREQUENCY
<4.2.L.1> SR 3.3.7.2.1	Perform CHANNEL CHECK.	12 hours
<4.2.L.2> SR 3.3.7.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.7.2.3 <4.2.L.3> <4.2.L.3 footnote a>	---NOTE--- Radiation detectors are excluded. --- Perform CHANNEL CALIBRATION.	92 days
SR 3.3.7.2.4 <4.2.L.3>	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 7700 mR/hr.	24 months
SR 3.3.7.2.5 <4.2.L.4>	Perform LOGIC SYSTEM FUNCTIONAL TEST including mechanical vacuum pump breaker actuation.	24 months

A

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.2.3 (continued)

calibrations consistent with the plant specific setpoint methodology.

The Frequency is based upon the assumption of an ~~18~~ 12 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.2.2.4

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required trip logic for a specific channel. The system functional test of the feedwater pump breakers 1 and ~~main turbine~~ main turbine stop 5 valves is included as part of this Surveillance and overlaps the LOGIC SYSTEM FUNCTIONAL TEST to provide complete testing of the assumed safety function. Therefore, if a ~~valve~~ stop 5 valve or feedwater pump breaker 1 is incapable of operating, the associated instrumentation would also be inoperable. The ~~18~~ 24 1 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the ~~18~~ 24 1 month Frequency.

REFERENCES

1. 4 FSAR, Section ~~[15.1]~~ 15.1.2 7.

2. ~~GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.~~ 3

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.1.3 5

Calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in Table 3.3.5.1-1. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analyses. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than the setting accounted for in the appropriate setpoint methodology.

4

The Frequency of 92 days 4 is based on the reliability analysis of Reference 3.

4 3 , SR 3.3.5.1.6, 4 7

SR 3.3.5.1.4 and SR 3.3.5.1.5

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency of SR 3.3.5.1.3 is based upon the assumption of a 60 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

2

6 4

The Frequency of SR 3.3.5.1.4 is based upon the assumption of a 92 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

6 4

The Frequency of SR 3.3.5.1.5 is based upon the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

24 4

SR 3.3.5.1.6 9 4

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required initiation logic for a specific channel. The system functional testing performed in LCO 3.5.1, LCO 3.5.2, LCO 3.8.1, and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety function.

3

(continued)

2

The Frequency of SR 3.3.5.1.7 is based upon the assumption of a 184 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1.6 (continued)

9 4

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency.

24 4 24 4

SR 3.3.5.1.7

~~This SR ensures that the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. Response time testing acceptance criteria are included in Reference 4.~~

~~ECCS RESPONSE TIME tests are conducted on an 18 month STAGGERED TEST BASIS. The 18 month Frequency is consistent with the typical industry refueling cycle and is based upon plant operating experience, which shows that random failures of instrumentation components causing serious response time degradation, but not channel failure, are infrequent occurrences.~~

4

REFERENCES

2 — 1 7

1. FSAR, Section 5.2.
2. FSAR, Section 6.3.
3. FSAR, Chapter 15.
4. ~~NEDC-31376-P, "Edwin I. Hatch Nuclear Power Plant, SAFER/GESTR-LOCA, Loss-of-Coolant Accident Analysis," December 1986.~~
5. NEDC-30936-P-A, "BWR Owners' Group Technical Specification Improvement Analyses for ECCS Actuation Instrumentation, Part 2," December 1988.

2 2 — 4 Part 1 and