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September 5, 2000 GO2-00-154

Docket No. 50-397

U.S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, D.C. 20555

Subject: WNP-2, OPERATING LICENSE NPF-21 REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2

References: 1. NRC Administrative Letter 98-10, December 29, 1998, "Dispositioning of Technical Specifications That Are Insufficient To Assure Plant Safety"

 Letter GO2-00-126, dated July 17, 2000, RL Webring (Energy Northwest) to U.S Nuclear Regulatory Commission, Request for Amendment Technical Specifications 3.3.5.1, 3.3.6.1, and 3.3.6.2

In accordance with the Code of Federal Regulations, Title 10, Parts 2.101, 50.59, and 50.90, Energy Northwest hereby resubmits a request for amendment to the WNP-2 Operating License due to incorrect references to Technical Specification sections in the text of the Reference 2 letter. This letter supercedes our previous request in its entirety. Specifically, Energy Northwest is requesting a revision to the following Technical Specifications Limiting Conditions for Operation (LCO): LCO 3.3.5.1 "ECCS Instrumentation;" LCO 3.3.6.1 "Primary Containment Isolation Instrumentation;" and LCO 3.3.6.2 "Secondary Containment Isolation."

The proposed changes add notes to tables listing instrumentation channels that are common to, or support operability of, interrelated systems as governed by these Technical Specification LCOs. The proposed notes provide branching of the instrumentation channels to more restrictive Actions for routine plant evolutions such as surveillance testing. The Technical Specification Bases were revised in 1998 by providing more detail in this regard. In addition, specific operator training was provided. This proposed change makes explicit that which is required for Operability of the subject LCOs. In accordance with the guidance in the reference, we are now proposing an amendment to formally address this condition in the WNP-2 Technical Specifications.

ADC

REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Page 2 of 2

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Additional information has been attached to this letter to complete the amendment request. Attachment 1 provides a detailed description and basis for acceptability of the proposed changes. Attachment 2 describes an evaluation of the proposed changes in accordance with 10 CFR 50.92(c) and concludes the changes do not result in a significant hazards consideration.

Attachment 3 provides the Environmental Assessment Applicability Review and notes that the proposed change meets the eligibility criteria for a categorical exclusion as set forth in 10 CFR 51.22(c)(9). Therefore, in accordance with 10 CFR 51.22(b), an environmental assessment of the change is not required. Attachment 4 summarizes the proposed changes and provides marked-up pages of the Technical Specifications. Attachment 5 submits the typed Technical Specification pages as proposed by this request.

This request for an amendment has been approved by the WNP-2 Plant Operations Committee and reviewed by the Energy Northwest Corporate Nuclear Safety Review Board. In accordance with 10 CFR 50.91, the State of Washington has been provided a copy of this letter.

Should you have any questions or desire additional information regarding this matter, please contact PJ Inserra at (509) 377-4147.

Respectfully,

D.K. Alton

DK Atkinson (Acting) Vice President, Operations Support/PIO Mail Drop PE08

Attachments

cc: EW Merschoff - NRC RIV JS Cushing - NRC NRR NRC Resident Inspector - 927N DJ Ross - EFSEC TC Poindexter -Winston & Strawn DL Williams - BPA/1399 STATE OF WASHINGTON)
)
COUNTY OF BENTON
)

Subject: WNP-2 Operating License NPF-21 Request for Amendment Technical Specifications 3.3.5.1, 3.3.6.1 and 3.3.6.2

I, DK Atkinson, being duly sworn, subscribe to and say that I am the (Acting) Vice President, Operations Support/PIO, for ENERGY NORTHWEST, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief that the statements made in it are true.

DATE September 5th 2000

DK Atkinson (Acting) Vice President, Operations Support/PIO

On this date personally appeared before me DK Atkinson, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 5rd day of September 2000

Notary Public in and for the STATE OF WASHINGTON

Residing at

My Commission expires

REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 1 Page 1 of 5

Description of Proposed Changes

Summary of Proposed Technical Specification Change

Energy Northwest is requesting a revision to three Technical Specifications to add notes pertinent to instrumentation channels.

This change is proposed to identify the instrument channels of the WNP-2 primary and secondary containment isolation logic that are governed by more than one Technical Specification, so that the Technical Specification makes explicit that which is required for Operability. These notes will identify the most restrictive Action and Completion Times when a channel becomes inoperable or is placed in the tripped condition.

Basis for the Proposed Technical Specification Change

Time delay relays (TDRs) are installed in the starting circuits of the Division 1 and 2 low pressure emergency core cooling system (ECCS) pumps to sequence closure of the main pump circuit breakers. That feature prevents simultaneous startup of the low pressure ECCS pumps and High Pressure Core Spray (HPCS) pump, which would result in undesirable voltage transients on the 4.16 kV emergency supply buses and on the 230 kV offsite power transformer when it is supplying power to the 4.16 kV buses. Such transients would present unnecessary challenges to the onsite AC electrical power supply systems and to the normal 230 kV transformer and connected circuitry. Thus, the TDRs support operability of the normal 230 kV AC power circuit, as indicated in the note proposed for inclusion in Table 3.3.5.1-1 for functions 1c, 1d, 2c and 2d. The proposed note is "(e) Also supports OPERABILITY of 230 kV offsite power circuit pursuant to LCO 3.8.1 and LCO 3.8.2." This note will assure that if these channels are not restored to operable status within the Completion Time, the associated supported features that are required to be declared inoperable will include the 230 kV offsite power source.

Pump-start TDR channels are included in each of the Division 1 and 2 low pressure ECCS pump-start logic trains. Each of the four low pressure ECCS pump-start designs contain a TDR relay channel initiated by a Drywell Pressure-High or a Reactor Vessel Water-Low Low, Level-2 sensor contact in series, together with other logic associated with electrical system relay and circuit breaker position. The WNP-2 design is such that actuation of any one of the sensors results in providing an actuation signal to the TDR channels for both low-pressure ECCS pumps in the same electrical division (See Figures 1-3).

In the event that one of the sensors was spuriously actuated, or was placed in the trip condition as required by any of the affected Technical Specifications (in the case of an inoperable instrument), both LOCA TDR channels in the division would receive an actuation signal. When power is aligned to the 230 kV offsite power source, the time delay relays will start and time-out, setting up the logic for simultaneous starts upon receipt of a LOCA signal (See Figures 1-3). Since the actual start of the low pressure pumps is dependent on LOCA signals that originate in other branches of the WNP-2 instrumentation systems (See Figures 2-3),

REOUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 1

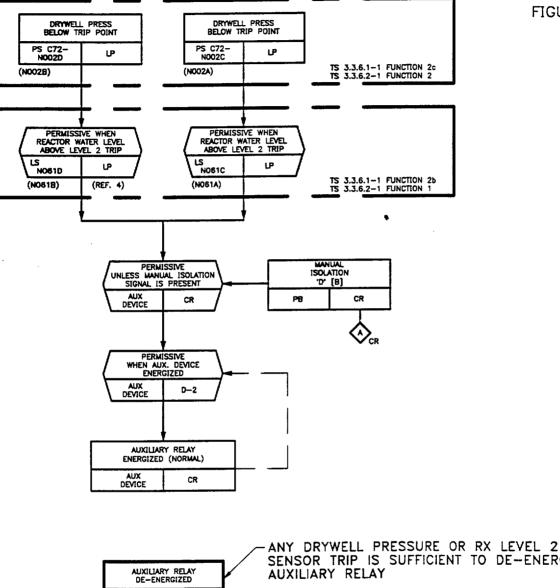
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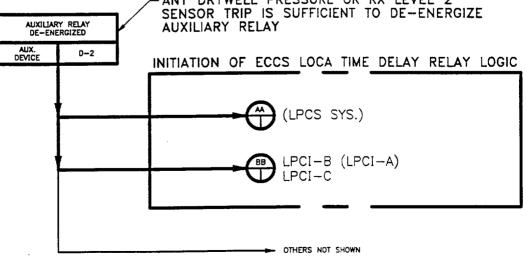
neither low pressure ECCS pump would start immediately. However, if a Loss of Coolant Accident (LOCA) Drywell Pressure-High signal was received after the sequenced TDRs had both timed-out, both low pressure ECCS pumps in that electrical division would start at approximately the same time as the HPCS pump. Likewise, if a loss of coolant accident caused a rapid decrease in reactor vessel water level, the level-1 LOCA signal could be initiated closely following the level-2 signal causing a similar multiple pump start condition. This would result in a significant voltage transient on the 230 kV offsite power transformer as discussed above. Therefore, the note is proposed to be added identifying the 230 kV offsite power source as an associated supported feature.

The primary and secondary containment isolation channels specified in Table 3.3.6.1-1 (Functions 2b and 2c) and in Table 3.3.6.2-1 (Functions 1 and 2) initiate the LOCA TDR specified in Table 3.3.5.1-1 (Functions 1c, 1d, 2c, and 2d). Since these Drywell Pressure and Reactor Level 2 signals are used in several functions governed by multiple Technical Specifications, we are proposing to add notes to these Technical Specifications to identify the branching to the other requirements. The note to the, "Required Channels Per Trip System," column for Table 3.3.6.1-1 Functions 2c and 2d is, "(e) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1." The note for 3.3.6.2-1 Functions 1 and 2 is identical, except it is labeled as Note (c). These notes will direct the operators to LCO 3.3.5.1 and a more restrictive Action.

This proposed change is being initiated to make explicit what is currently required for LCO 3.3.5.1 Functions 1c, 1d, 2c and 2d instrument channel and 230 kV offsite source Operability. This change is being requested so that operators may more easily determine the most restrictive Action and Completion Times for performing routine plant operations such as surveillance testing.

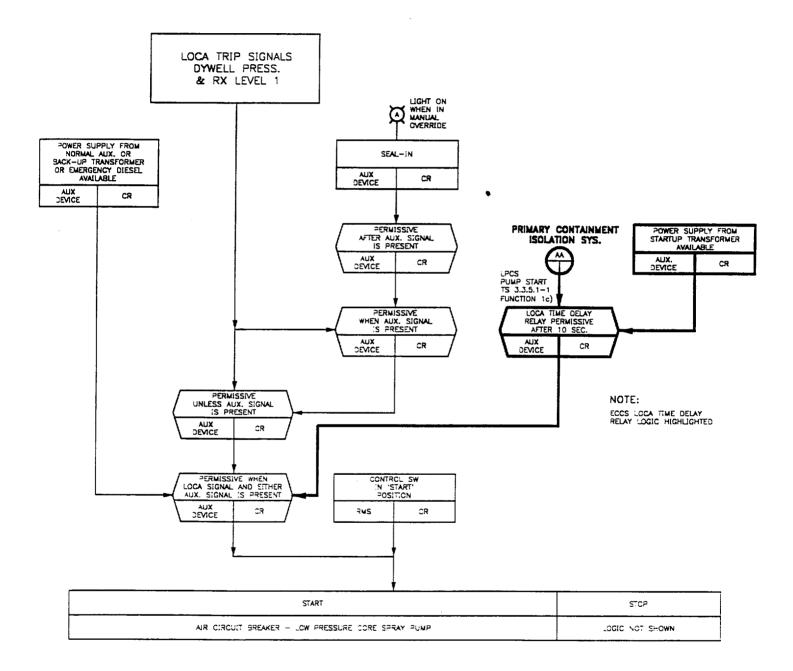
TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 1 Page 3 of 5 FIGURE 1 PRIMARY CONTAINMENT INBOARD ISOLATION LOGIC (PARTIAL) [TYP. FOR OUTBOARD SHOWN IN ()] REF. FSAR FIGURE 7.3-8.1





TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 1 Page 4 of 5

FIGURE 2 LOW PRESSURE CORE SPRAY PUMP START (PARTIAL) REF. FSAR FIGURE 7.3-9.1



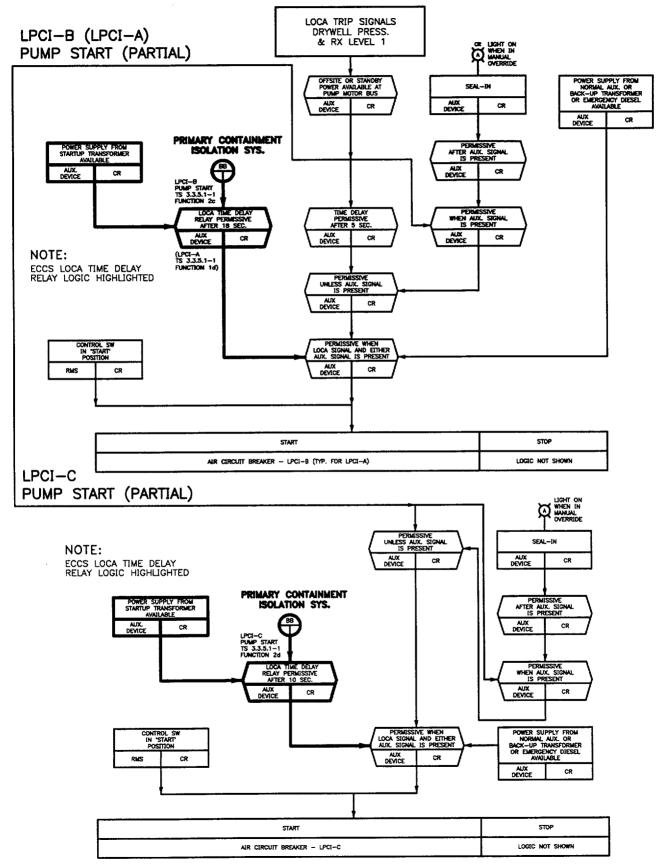
TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 1

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FIGURE 3 LOW PRESSURE CORE INJECTION REF. FSAR FIGURE 7.3-10.1

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REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 2

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Evaluation of Significant Hazards Consideration

Summary of Proposed Change

Energy Northwest is requesting a revision to three Technical Specification tables to add notes to the, "Required Channels Per Trip System," column for Tables 3.3.5.1-1 Functions 1c, 1d, 2c and 2d, 3.3.6.1-1 Functions 2b and 2c; and 3.3.6.2-1 Functions 1 and 2. This change identifies instrument channels of the primary and secondary containment isolation logic that are included in more than one Limiting Condition for Operation (LCO), so that operators will determine the most restrictive Action and Completion Time when a channel becomes inoperable or is placed in the tripped condition.

No Significant Hazards Consideration Determination

Energy Northwest has evaluated the proposed change to the Technical Specifications using the criteria established in 10 CFR 50.92(c) and has determined that it does not represent a significant hazards consideration as described below:

• The operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change has no impact on previously analyzed accidents or transients and has no affect on design, operation, capacity, or surveillance requirements of the affected instrumentation channels. The change provides branching notes to the Loss of Coolant Accident (LOCA) Time Delay Relay (TDR) Functions of LCO 3.3.5.1 from instrument channels of the primary and secondary containment isolation channels of LCO 3.3.6.1 and LCO 3.3.6.2 and the associated support features for the LOCA TDR function. Since these instruments affect multiple LCOs, this change will assure that operators implement the most restrictive Action and Completion Time when a channel becomes inoperable or is placed in the tripped condition. Providing this branching to the more restrictive Actions makes explicit what is currently required for Operability and has no impact on any previously evaluated accident.

Therefore, operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

• The operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change does not impact any operational or physical aspect of WNP-2. The change only makes explicit the LCOs affected by the primary and secondary containment isolation instruments and the associated supported features for the LOCA TDR function.

Therefore, operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

• The operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.

The proposed change provides branching notes to the LOCA TDR channels of LCO 3.3.5.1 from instrument channels of the primary and secondary containment isolation channels of LCO 3.3.6.1 and LCO 3.3.6.2 and provides notes for identifying associated support features for the LOCA TDR function. This change only makes explicit what is currently required for LCO 3.3.5.1 Functions 1c, 1d, 2c and 2d instrument channel Operability. This change will make explicit the most restrictive Action when an instrument sensor or channel becomes inoperable or is placed in the tripped condition, thereby, maintaining the margin of safety in accordance with the Technical Specifications.

Therefore, operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.

REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 3

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Environmental Assessment Applicability Review

Energy Northwest has evaluated the proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21.

The proposed change meets the criteria for categorical exclusion as provided under 10 CFR 51.22(c)(9) because the change does not pose a significant hazard consideration nor does it involve an increase in the amounts, or a change in the types, of any effluent that may be released offsite.

Furthermore, this request does not involve an increase in individual or cumulative occupational exposure.

REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 4

Marked-Up Version of Technical Specifications

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	ALLOWABLE VALUE
II Pi	ow Pressure Coolant njection-A (LPCI) and Low ressure Core Spray (LPCS) ubsystems					
8.	. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, 4 ^(a) ,5 ^(a)	2(p)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4	
b.	Drywell Pressure — High	1,2,3	2(b)	B	SR 3.3.5.1.6 SR 3.3.5.1.2 SR 3.3.5.1.4	<u>≤</u> 1.88 psig.
c.	LPCS Pump Start — LOCA Time Delay Relay	1,2,3, 4 ^(a) ,5 ^(a)	1(ce) }	c	SR 3.3.5.1.6 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 8.53 seconds and
d.	LPCI Pump A Start — LOCA Time Delay Relay	1,2,3, 4 ^(a) ,5 ^(a)	1(10)	C	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 10.64 second: ≥ 17.24 second: and
e.	LPCI Pump A Start — LOCA/LOOP Time Delay Relay	1,2,3, 4 ^(a) ,5 ^(a)	1	C	SR 3.3.5.1.2 SR 3.3.5.1.3	≤ 21.53 seconds ≥ 3.04 seconds and
f.	Reactor Vessel Pressure — Low (Injection Permissive)	1,2,3	1 per Valve	С	SR 3.3.5.1.6 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 6.00 seconds ≥ 448 psig and ≤ 492 psig
		4 ^(a) ,5 ^(a)	1 per valve	В	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 448 psig and
	LPCS Pump Discharge Flow — Low (Minimum Flow)	1,2,3, 4 ^(a) .5 ^(a)	1	E	SR 3.3.5.1.2 SR 3.3.5.1.4	≤ 492 psig ≥ 668 gpm and
	LPCI Pump A Discharge Flow — Low (Minimum Flow)	1,2,3, 4 ^(a) ,5 ^(a)	1	E	SR 3.3.5.1.6 SR 3.3.5.1.2 SR 3.3.5.1.4	≤ 1067 gpm≥ 605 gpmand
	Manual Initiation	4 ^(a) ,5 ^(a)	2	C	SR 3.3.5.1.6 SR 3.3.5.1.6	≤ 984 gpm NA

(a) When associated subsystem(s) are required to be OPERABLE.

(continued)

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

(e) Also supports OPERABILITY of 230 kV offsite power circuit pursuant to LCO 3.8.1 and LCO 3.8.2.

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	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 3.3.5.1.6	≥ -148∶inches
b	D. Drywell Pressure — High	1,2,3	2 ^(b)	В	SR 3.3.5.1.2 SR 3.3.5.1.4	<u>≺</u> 1.88 psig
c	 LPCI Pump B Start — LOCA Time Delay Relay 	1,2,3, 4 ^(a) ,5 ^(a)	1((e))	C	SR 3.3.5.1.6 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 17.24 second and
d.	• LPCI Pump C Start — LOCA Time Delay Relay	1,2,3, 4 ^(a) ,5 ^(a)	1((e))	c	SR 3.3.5.1.5 SR 3.3.5.1.6	21.53 seconds > 8.53 seconds and
e.	LPCI Pump B Start — LOCA/LOOP Time Delay Relay	1,2,3, 4 ^(a) .5 ^(a)	1	С	SR 3.3.5.1.2 SR 3.3.5.1.3	\leq 10.64 seconds \geq 3.04 seconds and
f.	Reactor Vessel Pressure — Low (Injection Permissive)	1,2,3	1 per valve	С	SR 3.3.5.1.6 SR 3.3.5.1.2 SR 3.3.5.1.4	≤ 6.00 seconds ≥ 448 psig and ≤ 492 psig
_		4 ^(a) ,5 ^(a)	1 per valve	B	SR 3.3.5.1.2 SR 3.3.5.1.4	≥ 448 psig and ≤ 492 psig
	LPCI Pumps B & C Discharge Flow — Low (Minimum Flow)	1,2,3, 4 ^(a) ,5 ^(a)	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.4	≥ 605 gpm and
	Manual Initiation	1,2,3, 4 ^(a) ,5 ^(a)	2	С		<u><</u> 984 gpm NA
Hig (HP	h Pressure Core Spray CS) System	-				
a.	Reactor Vessel Water Level — Low Low, Level 2	1,2,3, 4 ^(a) ,5 ^(a)	4(b)	:	SR 3.3.5.1.1 ≥ SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	-58 inches

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated DG.

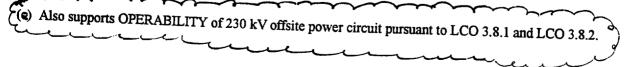


Table 3.3.6.1-1 (page 1 of 4) Primary Containment Isolation Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1		ALLOWABLE VALUE
1.	Main Steam Line Isolation					
	a. Reactor Vessel Water Level — Low Low, Level 2	1,2,3	2	D	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6 SR 3.3.6.1.7	
	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 SR 3.3.6.1.7	<u>≥</u> 804 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 3.3.6.1.4 SR 3.3.6.1.6 SR 3.3.6.1.7	<u>≺</u> 124.4 psid
	I. Condenser Vacuum — Low	1,2 ^(a) , 3 ^(a)	2	D	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 7.2 inches Hg vacuum
	 Main Steam Tunnel Temperature — High 	1,2,3	2	D	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>≤</u> 170°F
	 Main Steam Tunnel Differential Temperature — High 	1,2,3	2	D	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>≤</u> 90°F
g.	Manual Initiation	1,2,3	4	G	SR 3.3.6.1.6	
. Pr Is	imary Containment				SK 3.3.0.1.0	NA
	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 3.3.6.1.6	≥9.5 inches
b.	Water Level — Low Low, Level 2	1,2,3	2 ^{((e))}	H	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ -58 inches
c.	Pressure — High	1,2,3	2 (ce))	H	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>≤</u> 1.88 psig
d.	Vent Exhaust Plenum Radiation High	1,2,3	2			<u>≤</u> 16.0 mR/hr
e.	Manual Initiation	1,2,3	4			NA

(e) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1.

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	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 (C)	SR 3.3.6.2.2 SR 3.3.6.2.3	≥ -58 inches
2.	Dryweil Pressure — High	1,2,3	2	SR 3.3.6.2.4 SR 3.3.6.2.2 SR 3.3.6.2.3	≤ 1.88 psig
3.	Reactor Building Vent Exhaust Plenum Radiation — High	1,2,3, (a),(b)	2	SR 3.3.6.2.1 SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3	≤ 16.0 mR/hr
4.	Manual Initiation	1,2,3, (a),(b)	4	SR 3.3.6.2.4 SR 3.3.6.2.4	NA

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

(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.

(c) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1.

REQUEST FOR AMENDMENT TECHNICAL SPECIFICATIONS 3.3.5.1, 3.3.6.1 and 3.3.6.2 Attachment 5

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Replacement Pages for Technical Specifications

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ECCS Instrumentation 3.3.5.1

SURVEILLANCE REQUIREMENTS

						NOTES	S '		• • •				
1.	Refer	to	Table	3.3.5.1-1	to	determine	which	SRs	apply	for	each	ECCS	
	Functi	ion.	•										

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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.	92 days
SR	3.3.5.1.3	Perform CHANNEL CALIBRATION.	92 days
SR	3.3.5.1.4	Perform CHANNEL CALIBRATION.	18 months
SR	3.3.5.1.5	Perform CHANNEL CALIBRATION.	24 months
SR	3.3.5.1.6	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		RVEILLANCE QUIREMENTS	ALLOWABLE VALUE
In Pr	ow Pressure Coolant njection-A (LPCI) and Low ressure Core Spray (LPCS) ubsystems						
a.	Reactor Vessel Water Level — Low Low Low,	1,2,3,	2 ^(b)	В		3.3.5.1.1	≥ -148 inches
	Level 1	4 ^(a) ,5 ^(a)			SR	3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	
b.	Drywell Pressure — High	1,2,3	2 ^(b)	В		3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	<u>≤</u> 1.88 psig.
c.		1,2,3,	1 ^(e)	С		3.3.5.1.5	≥ 8.53 seconds
	Time Delay Relay	4 ^(a) ,5 ^(a)			SR	3.3.5.1.6	and < 10.64 second
d.	LPCI Pump A	1,2,3,	1 ^(e)	с	SR	3.3.5.1.5	≥ 17.24 second
	Start — LOCA Time Delay Relay	4 ^(a) ,5 ^(a)			SR	3.3.5.1.6	and ≤ 21.53 second
e.	LPCI Pump A	1,2,3,	1	С	SR	3.3.5.1.2	≥ 3.04 seconds
	Start — LOCA/LOOP Time Delay Relay	4 ^(a) ,5 ^(a)				3.3.5.1.3 3.3.5.1.6	and ≤ 6.00 seconds
f.	Reactor Vessel	1,2,3	1 per	С	SR	3.3.5.1.2	<u>≥</u> 448 psig
	Pressure — Low (Injection Permissive)		valve		SR SR	3.3.5.1.4 3.3.5.1.6	and ≤ 492 psig
		4 ^(a) .5 ^(a)	1 per	В		3.3.5.1.2	<u>></u> 448 psig
		4 , , , , , ,	valve		SR SR	3.3.5.1.4 3.3.5.1.6	and <u>≤</u> 492 psig
g.	LPCS Pump Discharge Flow Low (Minimum	1,2,3,	1	E	SR	3.3.5.1.2	
	Flow)	4 ^(a) ,5 ^(a)			SR SR	3.3.5.1.4 3.3.5.1.6	and <u><</u> 1067 gpm
h.	LPCI Pump A Discharge	1,2,3,	1	E		3.3.5.1.2	<u>≥</u> 605 gpm
	Flow — Low (Minimum Flow)	4 ^(a) ,5 ^(a)				3.3.5.1.4 3.3.5.1.6	and < 984 gpm
i.	Manual Initiation	1,2,3,	2	С		3.3.5.1.6	NA
		4(a) _{,5} (a)					

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

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

(e) Also supports OPERABILITY of 230 kV offsite power circuit pursuant to LCO 3.8.1 and LCO 3.8.2.

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
	PCI B and LPCI C ubsystems	×				
a.	. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, 4 ^(a) ,5 ^(a)	2 ^(b)	В	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ -148 inches
b.	. Drywell Pressure — High	1,2,3	2 ^(b)	В	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	<u>≺</u> 1.88 psig
c.	. LPCI Pump B Start — LOCA Time Delay Relay	1,2,3, 4 ^(a) ,5 ^(a)	1(e)	С	SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 17.24 second and ≤ 21.53 second
d	. LPCI Pump C Start — LOCA Time Delay Relay	1,2,3, 4 ^(a) ,5 ^(a)	1(e)	С	SR 3.3.5.1.5 SR 3.3.5.1.6	8.53 second: and < 10.64 second
e	. LPCI Pump B Start — LOCA/LOOP 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 3.3.5.1.6	≥ 3.04 second and ≤ 6.00 second
f	. Reactor Vessel Pressure — Low (Injection Permissive)	1,2,3	1 per valve	С	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 448 psig and ≤ 492 psig
		4 ^(a) ,5 ^(a)	1 per valve	В	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 448 psig and ≤ 492 psig
g	. LPCI Pumps B & C Discharge Flow — Low (Minimum Flow)	1,2,3, 4 ^(a) ,5 ^(a)	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 605 gpm and ≤ 984 gpm
h	. Manual Initiation	1,2,3, 4 ^(a) ,5 ^(a)	2	С	SR 3.3.5.1.6	NA
	igh Pressure Core Spray HPCS) System					
а	. 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 3.3.5.1.6	≥ -58 inches
						(continue

(a) When associated subsystem(s) are required to be OPERABLE.

•

(b) Also required to initiate the associated DG.

(e) Also supports OPERABILITY of 230 kV offsite power circuit pursuant to LCO 3.8.1 and LCO 3.8.2.

		FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1		RVEILLANCE QUIREMENTS	ALLOWABLE VALUE
3.		CS System Ontinued)		ч г				
	ь.	Drywell Pressure — High	1,2,3	₄ (b)	В	SR	3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	<u><</u> 1.88 psig
	c.	Reactor Vessel	1,2,3,	2	С		3.3.5.1.1	\leq 56.0 inches
		Water Level — High, Level 8	4 ^(a) ,5 ^(a)			SR	3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	
	d.	Condensate Storage	1,2,3,	2	D	SR	3.3.5.1.2	≥ 448 ft 1 inch
		Tank Level — Low	4 ^(c) ,5 ^(c)				3.3.5.1.4 3.3.5.1.6	elevation
	e.	Suppression Pool Water Level — High	1,2,3	2	D	SR	3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	≤ 466 ft 11 inche elevation
	f.	HPCS System Flow	1,2,3,	1	Ε		3.3.5.1.2	<u>≥</u> 1200 gpm
		Rate — Low (Minimum Flow)	4 ^(a) ,5 ^(a)				3.3.5.1.4 3.3.5.1.6	and <u><</u> 1512 gpm
	g.	Manual Initiation	1,2,3,	2	С	SR 3.3.5.1.6	3.3.5.1.6	NA
			4 ^(a) ,5 ^(a)					
4.	Dep Sys	omatic ressurization tem (ADS) Trip tem A						
	a.	Reactor Vessel Water Level — Low Low Low, Level 1	1,2 ^(d) ,3 ^(d)	2	F	SR SR	3.3.5.1.1 3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	≥ -148 inches
	b.	ADS Initiation Timer	1,2 ^(d) ,3 ^(d)	1	G	SR	3.3.5.1.2 3.3.5.1.3 3.3.5.1.6	<pre>< 115.0 seconds</pre>
	c.	Reactor Vessel Water Level — Low, Level 3 (Permissive)	1,2 ^(d) ,3 ^(d)	1	F	SR SR SR	3.3.5.1.1 3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	\geq 9.5 inches
	d.	LPCS Pump Discharge Pressure — High	1,2 ^(d) ,3 ^(d)	2	G	SR	3.3.5.1.2 3.3.5.1.4 3.3.5.1.6	≥ 119 psig and ≤ 171 psig
								(continued

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

(a) When associated subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated DG.

(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.

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

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
	ain Steam Line solation					
a	. Reactor Vessel Water Level — Low Low, Level 2	1,2,3	2	D	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6 SR 3.3.6.1.7	<u>></u> -58 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 SR 3.3.6.1.7	<u>≥</u> 804 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 3.3.6.1.4 SR 3.3.6.1.6 SR 3.3.6.1.7	<u><</u> 124.4 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 3.3.6.1.6	≥ 7.2 inches Hg vacuum
e	. Main Steam Tunnel Temperature — High	1,2,3	2	D	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>≺</u> 170°F
f	. Main Steam Tunnel Differential Temperature — High	1,2,3	2	D	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>≤</u> 90°F
g	. Manual Initiation	1,2,3	4	G	SR 3.3.6.1.6	NA
	rimary Containment solation					
a	. 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 3.3.6.1.6	≥ 9.5 inches
b	. Reactor Vessel Water Level — Low Low, Level 2	1,2,3	2(e)	н	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>></u> -58 inches
C.	. Drywell Pressure — High	1,2,3	2(e)	H	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	<u>≺</u> 1.88 psig
d.	. Reactor Building Vent 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 3.3.6.1.6	<u>≺</u> 16.0 mR/hr
						(continu

(a) With any turbine throttle valve not closed.

(e) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1.

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.		mary Containment Mation (continued)		· •			
	e.	Manual Initiation	1,2,3	4	G	SR 3.3.6.1.6	NA
3.	Coo	ctor Core Isolation ling (RCIC) System lation					
	a.	RCIC Steam Line Flow — High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 250 inches wg
	b.	RCIC Steam Line Flow — Time Delay	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	<u><</u> 3.00 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 3.3.6.1.6	≥ 61 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 3.3.6.1.6	≤ 20 psig
	e.	RCIC Equipment Room Area Temperature — High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u><</u> 180°F
	f.	RCIC Equipment Room Area Differential Temperature — High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u><</u> 60°F
	g.	RWCU/RCIC Steam Line Routing Area Temperature — High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	<u><</u> 180°F
	h.	Manual Initiation	1,2,3	1 ^(b)	G	SR 3.3.6.1.6	NA
-	RWC	U System Isolation					
	а.	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 SR 3.3.6.1.6	<u>≤</u> 67.4 gpm
	b.	Differential Flow Time Delay	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 46.5 seconds
	c.	Blowdown 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 SR 3.3.6.1.6 SR 3.3.6.1.7	<u><</u> 271.7 gpm
							(continued

(b) RCIC Manual Initiation only inputs into one of the two trip systems.

Secondary Containment Isolation Instrumentation 3.3.6.2

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SURVEILLANCE REQUIREMENTS

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		FREQUENCY	
SR	3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR	3.3.6.2.3	Perform CHANNEL CALIBRATION.	18 months
SR	3.3.6.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

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FUNCTION	APPLICABLE MODES AND OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
. Reactor Vessel Water Level — Low Low, Level 2	1,2,3,(a)	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	≥ -58 inches
2. Drywell Pressure — High	1,2,3	2 ^(c)	SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4	<u>≺</u> 1.88 psig
5. Reactor Building Vent 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	<u>≤</u> 16.0 mR/hr
. Manual Initiation	1,2,3, (a),(b)	4	SR 3.3.6.2.4	NA

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

(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.

(c) Also required to initiate the associated LOCA Time Delay Relay Function pursuant to LCO 3.3.5.1.