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A001



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AP-18.2  
Revision 10

Attachment 1  
Page 1 of 1

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**Interoffice  
Correspondence**

November 29, 2001

IP-LIC-01-076

To: Linda Roman

From: Dennis Celentano

A handwritten signature in black ink, appearing to be "DC" or similar initials, written over the name "Dennis Celentano".

Subject: Technical Requirements Manual (TRM) Section 3.3.D, Revision 1

Enclosed for issuance to controlled copy holders and for record retention are the originals for revision 1 of section 3.3.D of the TRM and the "List of Effective Sections," page, dated 11/30/2001. Also, included for record retention are the original accompanying quality records from AP-66 and MCM-4.1.

The instructions for copy holders should be as follows:

Remove Pages

"List of Effective Sections"

3.3.D-1 through 3.3.D-20, rev 0

Insert Pages

"List of Effective Sections," dated 11/30/2001

3.3.D-1 through 3.3.D-20, Revision 1

Any question contact Dennis Celentano, Licensing x8033

Enclosure

Cc: John Donnelly  
Chuck Lambert w/o enclosures

# LIST OF EFFECTIVE SECTIONS

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Vice President, Operations - IP3

Signature

Date

### 3.3 INSTRUMENTATION

#### 3.3.D Appendix R Alternate Safe Shutdown Instrumentation

TRO 3.3.D The Appendix R Safe Shutdown Functions in Table 3.3.D-1 shall be OPERABLE.

APPLICABILITY: MODE 1, 2, 3 and 4.

#### NOTES

1. TRO 3.0.C does not apply to Condition B and Condition C.
2. TRO 3.0.D is not applicable, except for Related Specification in Table 3.3.D-1.
3. Separate Condition Entry is allowed on each channel/instrument.
4. See TRM section 3.7.B for Appendix R safe shutdown equipment and TRM section 3.8.B Appendix R Diesel Generator and electrical power scheme.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Functions with one or more required instruments/channels in Table 3.3.D-1 inoperable.	A.1 Enter the Condition(s) referenced in Table 3.3.D-1,	Immediately
	<u>AND</u> A.2 Enter applicable Related Specification referenced in Table 3.3.D-1 as required by that Related Specification.	Immediately
B. Enter Condition B as required by Table 3.3.D-1.	B.1 Establish an hourly fire watch in the Fire Watch Area(s) designated in Table 3.3.D-1 for the inoperable Function.	1 hour
C. Enter Condition C as required by Table 3.3.D-1.	C.1 Establish a fire watch patrol once every 8 hours in the Fire Watch Area(s) designated in Table 3.3.D-1 for the inoperable Function.	Once within 1 hour AND every 8 hours thereafter
D. Enter Condition D as required by Table 3.3.D-1.	D.1 Restore required Function(s) to OPERABLE status.	30 days
E. Required Action and associated Completion Time of D not met.	E.1. Be in MODE 3,	6 hours
	<u>AND</u> E.2 Be in MODE 5.	36 hours

-----Note-----  
Refer to Table 3.3.D-1 to determine which TRS(s) apply for each Appendix R Function.  
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**SURVEILLANCE REQUIREMENTS**

	SURVEILLANCE	FREQUENCY
TRS 3.3.D.1	Perform a CHANNEL CHECK	92 days
TRS 3.3.D.2	-----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION ----- Perform a CHANNEL CALIBRATION.	24 months
TRS 3.3.D.3	Perform a CHANNEL OPERATIONAL TEST when powered by 120v AC Distribution Panel POA (fed from 480v Bus 312 through 480V AC Distribution Panel PDP-TG-1)	24 months
TRS 3.3.D.4	Perform a CHANNEL CHECK	24 months

Table 3.3.D-1					
Function	Required Instrument(s)/ Channel(s)	CONDITION	Fire Watch Area	Surveillance	Related Specification Improved Technical Specification (ITS)
TRO 3.3.D.1 Neutron Flux (source range only)	-----NOTE----- Electrical Tunnel (ET) and Control Room (CR) indication not credited for Appendix R.  N38, including the indicator at panel K9T in the PAB (near local control station PL6).	D	NA	TRS 3.3.D.1, TRS 3.3.D.2 including required PAB indicator; may include CR & ET indication TRS 3.3.D.3 with required PAB indicator & may include ET indication;	ITS 3.3.3, Table 3.3.3-1 (item 1) & ITS 3.3.4, Table B3.3.4- 1 (item 1a – requires N38 only)
TRO 3.3.D.2 Source Range Neutron Flux	N31 indication  N32 indication	D	NA	TRM testing not required because testing is performed by ITS SR 3.3.1.7, SR 3.3.1.8 & SR 3.3.1.11.	ITS 3.3.1, Table 3.3.1-1 (item 4 – requires one channel only)
TRO 3.3.D.3 Pressurizer Water Level	LT-459, LT-462,  Including Indicators in the Control Room (CR) & AFW pump room panel PT2 & charging pump station PL6.	D	NA	TRS 3.3.D.1 (LT-459 CR & PT2 & PL6 indicators, LT-462 CR)  TRS 3.3.D.2 (LT-459 CR & PT2 & PL6 indicators, LT-462 CR)  TRS 3.3.D.3 (LT-459 PT2 & PL6 indicators).	ITS 3.3.1, Table 3.3.1-1 (item 8 for LT-459) & ITS 3.3.3, Table 3.3.3-1 (item 12) & ITS 3.3.4 Table B3.3.4.- 1 (item 4a – requires LT-459 only)

Table 3.3.D-1					
Function	Required Instrument(s)/ Channel(s)	CONDITION	Fire Watch Area	Surveillance	Related Specification Improved Technical Specification (ITS)
TRO 3.3.D.4 RCS Hot Leg Temperature	TE-413A,  Including Indicators in the Control Room (CR) & on AFW pump room panel PT2.	B & D	Turbine Bldg & AFW Bldg	TRS 3.3.D.1 (only CR indicators),  TRS 3.3.D.2 (TE-413A including PT2 indicator, TE-443A including CR recorder),	ITS 3.3.3, Table 3.3.3-1 (item 2) & ITS 3.3.4 Table B3.3.4.- 1 (item 3a – requires TE- 413A only)
	TE-443A,  Associated Recorder, Including Indicators in the Control Room (CR)	D	NA	TRS 3.3.D.3 (TE-413A only)	
TRO 3.3.D.5 RCS Cold Leg Temperature	TE-413B,  Including Indicators in the Control Room (CR) & on AFW pump room panel PT2.	B & D	Turbine Bldg & AFW Bldg	TRS 3.3.D.1 (only CR indicators),  TRS 3.3.D.2 (TE-413B including PT2 indicator, TE-443B including CR recorder),	ITS 3.3.3, Table 3.3.3-1 (item 3) & ITS 3.3.4 Table B3.3.4.- 1 (item 3b – requires TE- 413B only)
	TE-443B,  Associated Recorder, Including Indicators in the Control Room (CR)	D	NA	TRS 3.3.D.3 (TE-413B only)	

Table 3.3.D-1					
Function	Required Instrument(s)/ Channel(s)	CONDITION	Fire Watch Area	Surveillance	Related Specification Improved Technical Specification (ITS)
TRO 3.3.D.6 RCS Wide Range Pressure	PT-402, PT-403, including indicators in the Control Room (CR) & AFW pump room panel PT2 & charging pump station PL6 & CR recorders.  & PI-475 & PI-476.	D	NA	TRS 3.3.D.1 (PT-402 & PT-403 & recorders in CR) TRS 3.3.D.2 (PT-402 CR & PT2 & PL6 indicators & CR recorder; PT-403 CR indicator & recorder; PI-475 & PI-476 local indicators) TRS 3.3.D.3 (PT-402 PT2 & PL6 indicators) TRS 3.3.D.4 (PI-475 & PI-476)	ITS 3.3.3, Table 3.3.3-1 (item 4) & ITS 3.3.4 Table B3.3.4.- 1 (item 2a – requires PT- 402 <u>OR</u> PT-455 only)
TRO 3.3.D.7 SG Wide Range Water Level	LT-417D, (LT-427D or LT-437D), LT-447D,  Associated Recorder in the Control Room (CR) & indicator on AFW pump room panel PT2.	D	NA	TRS 3.3.D.1 (LT-417D & LT-427D & LT-437D CR Recorder & PT2 indicators & LT-447D CR Recorder).  TRS 3.3.D.2 (LT-417D & LT-427D & LT-437D CR Recorder & PT2 indicators & LT-447D CR Recorder).  TRS 3.3.D.3 (LT-417D & LT-427D & LT437D PT2 indicators).	ITS 3.3.3, Table 3.3.3-1 (item 14) & ITS 3.3.4 Table B3.3.4.- 1 (item 3e – requires one channel associated with an OPERABLE SG/ADV only)

Table 3.3.D-1					
Function	Required Instrument(s)/ Channel(s)	CONDITION	Fire Watch Area	Surveillance	Related Specification Improved Technical Specification (ITS)
TRO 3.3.D.8 SG Narrow Range Water Level	LT-417 (A or C)	B & D	Turbine Bldg & AFW Bldg	TRM testing not required because testing performed by:  ITS 3.3.1, Table 3.3.1-1 (item 13 & 14) SR 3.3.1.1, SR 3.3.1.7, SR 3.3.1.10 & ITS 3.3.2, Table 3.3.2-1 (item 5b for all but LT-447B and item 6b for LT-447B) SR 3.3.2.1, SR 3.3.2.4 & 3.3.2.7	ITS 3.3.1, Table 3.3.1-1 (item 13 & 14) & ITS 3.3.2, Table 3.3.2-1 (item 5b and item 6b) & ITS 3.3.3, Table 3.3.3-1 (item 13) & ITS 3.3.4 Table B3.3.4.-1 (item 3e – requires one WR channel only)
	LT-427A LT-437A LT-447(A or B or C)	D	NA		
TRO 3.3.D.9 SG Pressure	SG ADV Local indicators PI-2531, PI-2532, PI-2533, PI-2534.	D	NA	TRS 3.3.D.1, TRS 3.3.D.2.	ITS 3.3.4 Table B3.3.4.-1 (item 3d – requires one channel associated with an OPERABLE SG/ADV only)

Table 3.3.D-1					
Function	Required Instrument(s)/ Channel(s)	CONDITION	Fire Watch Area	Surveillance	Related Specification Improved Technical Specification (ITS)
TRO 3.3.D.10 Condensate Storage Tank (CST) Water Level	LI-1102S (local indication)	B & D	Turbine Bldg & AFW Bldg	TRS 3.3.D.1 (LI-1102S & LT-1128) TRS 3.3.D.2 (LI-1102S & LT-1128)	NA
		C & D	CST area		
	LT-1128(CR indication)	D	NA		
TRO 3.3.D.11 RWST Level	LIC-921 (local indicator only)	C & D	RWST area	TRS 3.3.D.1 TRS 3.3.D.2	The alarm switch of LIC- 921 is governed by ITS LCO 3.5.4. However, local Indicator LIC-921 is governed by this TRO.

## BASES

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### BACKGROUND

The instrumentation listed in this Technical Requirement are credited for certain Appendix R fire scenarios and are necessary to meet the requirements of 10CFR50.48 and 10CFR50, Appendix R, Section III.G and III.L.

10CFR50 Appendix R requires a licensee to demonstrate the ability to achieve MODE 3 from MODE 1 conditions, bring the plant to MODE 5 conditions and maintain the plant in that condition. Additionally, Appendix R requires that one train of equipment including instrumentation necessary to achieve MODE 3 from either the control room or emergency control station(s) must be maintained free of fire damage by a single fire including an exposure fire.

To support the Appendix R Safe Shutdown Analysis, the plant was divided into distinct analysis zones/areas. These zones/areas are primarily based on Fire Area boundaries with consideration of approved exemptions. These zones/areas are as follows:

CNT-1	Containment Building
PAB-2(1)	Primary Auxiliary Building (15' elevation including RHR pump rooms and corridors)
PAB-2(2)	Primary Auxiliary Building (41' elevation CCW pump area)
PAB-2(3)	Primary Auxiliary Building (55' elevation Charging pump rooms)
PAB-2(4)	Primary Auxiliary Building (55' elevation MCC area)
PAB-2(5)	Primary Auxiliary Building (remaining areas not covered by other analysis areas)
CTL-3	Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
ETN-4(1)	Electrical Tunnel (entryway)
ETN-4(2)	Electrical Tunnel (upper electrical tunnel)
ETN-4(3)	Electrical Tunnel (upper electrical penetration area and fan room)
ETN-4(4)	Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
TBL-5	Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)
AFW-6	Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
Yard-7	External yard areas including Intake Structure, Appendix R Diesel Generator Enclosure, Backup Service Water pump area, and the Condensate Storage Tank area.

### APPLICABLE SAFETY ANALYSES

Appendix R Safe Shutdown Analysis for IP3, (Analysis IP3-ANAL-FP –1503), latest revision NSE 96-3-395FP, "Development of Administrative Procedure AP-64.1 and Evaluation of a Change to Operational Specification 3.2 and 3.5."

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## TRO

This TRM ensures the OPERABILITY of a subset of the instruments that are necessary to address the Appendix R fire scenarios in the Appendix R Analysis. This TRM together with Technical Specifications and some other TRM specifications address the OPERABILITY of various instruments to meet the Appendix R Analysis. Some components credited by the analysis need not be specifically controlled because normal plant operation dictates that their credited function is maintained.

The instruments listed in Table 3.3.D-1 are credited in the IP3 Appendix R Analysis. These instruments are required to ensure the ability to achieve MODE 3 from MODE 1 conditions, bring the plant to MODE 5 conditions and maintain the plant in that condition either remotely or from the control room during an Appendix R fire scenario.

In addition, the allowed outage times established by the Technical Specifications or Technical Requirements do not bound the Appendix R requirements, and could result in a required instrument being out of service indefinitely or during MODEs where this instrument is required OPERABLE by the Appendix R Analysis.

This condition is outside the design of many of the systems and is not bounded by Technical Specifications or the TRM. Therefore, this TRO establishes actions necessary to ensure OPERABILITY of instruments credited in the Appendix R Analysis to maintain the instruments.

Separate condition entries are allowed to clarify the application of the completion time rules. The basis for this allowance is LCO 3.3.4, "Remote Shutdown System", of the Westinghouse Standard Technical Specifications (STS). This STS LCO allows separate entry for each function. The Appendix R Technical Requirements are modeled from the STS.

This Technical Requirement allows changes in operating MODE while relying on Required Actions. Allowance of this exception to TRO 3.0.D is also based on the low probability of an event requiring the use of such instruments and reasoning that such instruments can generally be repaired during plant operation without a significant risk of a spurious plant trip. Changes in operating MODE while relying on required actions is allowed, even though those actions may eventually require plant shutdown.

The below identified fire zones/areas are the zones/areas that have a limited set of equipment available and therefore require the controls as specified in this TRO. Other zones/areas not listed (e.g. Yard-7) for the components contained in this TRO and others, were credited but need not be controlled by this TRO.

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Table 3.3.D-1 Components

### Neutron Flux (source range only) Detector/Indicator N38 (TRO 3.3.D.1)

An OPERABLE instrument constitutes the ability to verify source range indication is available at panel K9T in the PAB near the charging pump local control station (PL6) while N38 is being powered from 120V AC Distribution Panel POE via Distribution Panel POA (fed from 480V (SWGR) Bus 312 through 480V AC Distribution Panel PDP-TG-1). Electrical tunnel and control room indication are not credited in the Appendix R Analysis. The source range indicators at panel K9T and in the electrical penetration area are not full range and do not indicate during MODEs 1 and 2.

The N38 Neutron Flux Detector (source range only) /indicator is credited to verify shutdown margin during a fire in the following zones/areas:

- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)

Source Range Neutron Flux Detectors/Indicators N31 and N32 (TRO 3.3.D.2)

An OPERABLE instrument constitutes the ability to verify source range indication in the Control Room.

The N31 Source Range Neutron Flux Detector/Indication is credited to verify shutdown margin during a fire in the following zones/areas:

- CNT-1 Containment Building
- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)

The N32 Source Range Neutron Flux Detector/Indication is credited to verify shutdown margin during a fire in the following zone/area:

- CNT-1 Containment Building

Pressurizer Water Level (TRO 3.3.D.3)

An OPERABLE instrument(s) constitutes the ability to monitor pressurizer water level while LT-459 is powered from its alternate source 120V AC Distribution Panel POA (fed from 480V (SWGR) Bus 312 through 480V AC Distribution Panel PDP-TG-1), and LT-462 is powered from 118V ac Instrument Bus 33.

1. The use of Pressurizer Water Level Instrument LT-459 ensures that sufficient indication is available to monitor pressurizer water level during plant shutdown for a fire in the following zones/areas:

- ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
- CNT-1 Containment Building

2. The use of Pressurizer Water Level Instrument LT-462 ensures that sufficient indication is available to monitor pressurizer water level during plant shutdown for a fire in the following zones/areas:

- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
- CNT-1 Containment Building

#### RCS Hot Leg Temperature (TRO 3.3.D.4)

An operable instrument(s) constitutes the ability to monitor RCS hot leg temperature while TE-413A is powered from its alternate source 120V AC Distribution Panel POA and POE (fed from 480V (SWGR) Bus 312 through 480V AC Distribution Panel PDP-TG-1), and TE-443A is powered from 118V ac Instrument Bus 32.

1. The use of RCS hot leg temperature indicator TE-413A ensures that sufficient indication is available to monitor hot leg temperatures during plant shutdown for an Appendix R fire scenario in the following zones/areas:
  - ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
  - CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
  - CNT-1 Containment Building
  - TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)
2. The use of RCS hot leg temperature indicator TE-443A ensures that sufficient indication is available to monitor hot leg temperatures during plant shutdown for an Appendix R fire scenario in the following zones/areas:
  - ETN-4(1) Electrical Tunnel (entryway)
  - ETN-4(2) Electrical Tunnel (upper electrical tunnel)
  - ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
  - AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
  - CNT-1 Containment Building

#### RCS Cold Leg Temperature (TRO 3.3.D.5)

An OPERABLE instrument(s) constitutes the ability to monitor RCS cold leg temperature while TE-413B is powered from its alternate source 120V AC Distribution Panel POA and POE (fed from 480V (SWGR) Bus 312 through 480V AC Distribution Panel PDP-TG-1), and TE-443B is powered from 118V AC Instrument Bus 34.

1. The use of RCS Cold Leg Temperature Indicator TE-413B ensures that sufficient indication is available to monitor cold leg temperatures during plant shutdown during a fire in the following zones/areas:
  - ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
  - CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
  - CNT-1 Containment Building
  - TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)

2. The use of RCS Cold Leg Temperature Indicator TE-443B ensures that sufficient indication is available to monitor cold leg temperatures during plant shutdown during a fire in the following zones/areas:

- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
- AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
- CNT-1 Containment Building

RCS Wide Range Pressure (TRO 3.3.D.6)

An OPERABLE instrument(s) constitutes the ability to monitor the RCS wide range pressure while PT-402 is powered from its alternate source 120V AC Distribution Panel POA (fed from 480V (SWGR) Bus 312 through 480V AC Distribution Panel PDP-TG-1), and PT-403 is powered from 118V ac Instrument Bus 32. PI-475 and PI-476 are credited to verify RCS pressure before swapping onto RHR and thus must be OPERABLE or capable of being made OPERABLE. Local pressure indicator PI-475 or PI-476 is relied upon during cooldown to establish a measurement bias with PT-402 prior to RHR cut in.

1. RCS wide range pressure transmitter PT-402 ensures that sufficient indication is available to monitor RCS pressure during plant shutdown for a fire in the following zones/areas:

- ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
- CNT-1 Containment Building

2. RCS wide range pressure transmitter PT-403 ensures that sufficient indication is available to monitor RCS pressure during plant shutdown for a fire in the following zones/areas:

- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
- AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
- CNT-1 Containment Building
- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)

3. RCS Wide Range Local Pressure Indicator PI-475 or PI-476 ensure that sufficient indication is available to establish a measurement bias with PT-402 prior to RHR cut in for a fire in the following zones/areas:

- ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
- CNT-1 Containment Building

### Steam Generator Wide Range Water Level (TRO 3.3.D.7)

The Appendix R Compliance Strategy at IP3 credits the use of Steam Generator No. 31 and its associated ADV or Steam Generator No. 34 and its associated ADV to accomplish cooldown of the RCS to RHR entry temperature conditions for separate fire scenarios. Therefore, the associated wide range steam generator water level instrument, (LT-417D and LT-447D), must be monitored to ensure the proper steam generator level is maintained during the cooldown. For those fire scenarios that credit the use of the turbine driven Auxiliary Feedwater Pump, level indication of at least one of the steam generators that provides steam to the Auxiliary Feedwater Pump turbine, must be available. Therefore, LT-417D, (LT-427D or LT-437D), and LT-447D must be OPERABLE.

For fires in the indicated zones/areas below, the specified LT survives the postulated fire and this level instrument may be used for safe shutdown purposes, along with other instruments or components credited by the safe shutdown Appendix R methodology.

1. The use of Steam Generator Wide Range Water Level Instrument LT-417D ensures that sufficient indication is available to monitor steam generator levels during plant shutdown for fires in the following zones/areas:
  - CNT-1 Containment Building
  - PAB-2(1) Primary Auxiliary Building (15' elevation including RHR pump rooms and corridors)
  - PAB-2(2) Primary Auxiliary Building (41' elevation CCW pump area)
  - PAB-2(3) Primary Auxiliary Building (55' elevation Charging pump rooms)
  - PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
  - PAB-2(5) Primary Auxiliary Building (remaining areas not covered by other analysis areas)
  - CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
  - ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
2. The use of Steam Generator Wide Range Water Level Instrument LT-427D or LT-437D ensures that sufficient indication is available to monitor steam generator levels during plant shutdown for fires in the following zones/areas
  - CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
  - ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)

3. The use of Steam Generator Wide Range Water Level Instrument LT-447D ensures that sufficient indication is available to monitor steam generator levels during plant shutdown for fires in the indicated zones/areas:

- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
- CNT-1 Containment Building

NOTE: Channel E is not credited for Appendix R. Therefore, these indicators are not a part of this specification.

Steam Generator Narrow Range Water Level (TRO 3.3.D.8)

The Appendix R Compliance Strategy at IP3 credits the use of Steam Generator No. 31 and its associated ADV or Steam Generator No. 34 and its associated ADV to accomplish cooldown of the RCS to RHR entry temperature conditions for separate fire scenarios. Therefore, at least one of their associated narrow range steam generator water level indicators must be monitored to ensure the proper steam generator level is maintained during the cooldown, if the wide range indication is not available due to the fire. For those fire scenarios that credit the use of the turbine driven Auxiliary Feedwater Pump, level indication of at least one of the steam generators that provides steam to the Auxiliary Feedwater Pump turbine, must be available. For this function the analysis credits Steam Generator No. 32 during a fire in the Electrical Tunnel Entrance and credits Steam Generator No. 33 during fires in other areas. Therefore, based upon fire areas and the method credited for decay heat removal during shutdown, the minimum narrow range steam generator instruments we must control include: LT-417A or C, LT-427A, LT-437A and LT-447A, or B, or C. This means that at least one of the above specified steam generator narrow range indicator per Steam Generators 31, 32, 33 and 34 must be OPERABLE.

1. The use of steam generator narrow range indicator LT-417A or C ensures that sufficient indication is available to monitor 31 steam generator level during plant shutdown for a fire in the following zones/areas:
  - TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)
2. The use of steam generator narrow range indicator LT-427A ensures that sufficient indication is available to monitor 32 steam generator level during plant shutdown for a fire in the following zones/areas:
  - ETN-4(1) Electrical Tunnel (entryway)
3. The use of steam generator narrow range indicator LT-437A ensures that sufficient indication is available to monitor 33 steam generator level during plant shutdown for a fire in the following zones/areas:
  - ETN-4(2) Electrical Tunnel (upper electrical tunnel)
  - ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
  - AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)

4. The use of steam generator narrow range indicator LT-447A or B or C ensures that sufficient indication is available to monitor 34 steam generator level during plant shutdown for a fire in the following zones/areas:
  - AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)

#### Steam Generator Pressure Instruments (3.3.D.9)

The Appendix R Compliance Strategy at IP3 credits the use of Steam Generator No. 31 and its associated ADV or Steam Generator No. 34 and its associated ADV to accomplish cooldown of the RCS to RHR entry temperature conditions for separate fire scenarios. Therefore, their associated local steam generator pressure indicators (PI-2531, PI-2534) must be monitored to ensure the proper steam generator pressure is maintained during the cooldown from outside the control room, if the normal indication is not available due to the fire. Therefore, based upon fire areas and the method credited for decay heat removal during shutdown, the minimum steam generator pressure instruments we must control include: PI-2531 and PI-2534.

1. The use of steam generator pressure indicator PI-2531 ensures that sufficient indication is available to monitor 31 steam generator pressure during plant shutdown for a fire in the following zones/areas:
  - CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
  - ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)
  - TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)
2. The use of steam generator pressure indicator PI-2534 ensures that sufficient indication is available to monitor 34 steam generator pressure during plant shutdown for a fire in the following zones/areas:
  - AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)

In addition, with the RCS hot leg temperature at 400°F it is expected that RCS cold leg temperature would be 380°F (reference 2). At this time in the cooldown steam generator pressure can be used to determine RCS cold leg temperature using steam generator pressure instruments PI-2531 through PI-2534. Accounting for instrument accuracy RCS cold leg temperature would not be below 368°F which is above the temperature at which the pressurizer safety would provide RCS protection (i.e. 365°F). These instruments are used in conjunction with the credited RCS pressure instruments to maintain the plant cooldown within applicable limits when performing a cool down from outside the Control Room.

3. Steam Generator Pressure instruments PI-2531 through 2534 are used to ensure that reactor coolant cold leg temperature indication is available to perform a plant cooldown from outside the Control Room.

### Condensate Storage Tank (CST) Water Level (3.3.D.10)

The use of Condensate Storage Tank Level Instrumentation LI-1102S ensures that sufficient indication is available to monitor CST levels during plant shutdown for a fire in the following zones/areas:

- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- ETN-4(3) Electrical Tunnel (upper electrical penetration area and fan room)
- AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
- TBL-5 Turbine Building and Auxiliary Feedwater Pump Building (except Auxiliary Feedwater Pump room)
- Yard-7 External yard areas including Intake Structure, Appendix R Diesel Generator Enclosure, Backup Service Water pump area, and the Condensate Storage Tank area.

The use of Condensate Storage Tank Level Instrumentation LT-1128 ensures that sufficient indication is available to monitor CST levels during plant shutdown for a fire in the following zones/areas:

- CNT-1 Containment Building
- AFW-6 Auxiliary Feedwater Pump Building (Auxiliary Feedwater Pump room)
- PAB-2(1) Primary Auxiliary Building (15' elevation including RHR pump rooms and corridors)
- PAB-2(2) Primary Auxiliary Building (41' elevation CCW pump area)
- PAB-2(3) Primary Auxiliary Building (55' elevation Charging pump rooms)
- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
- PAB-2(5) Primary Auxiliary Building (remaining areas not covered by other analysis areas)
- ETN-4(4) Electrical Tunnel (lower electrical tunnel and lower electrical penetration area)

### Refueling Water Storage Tank (RWST) Level (TRO 3.3.D.11)

RWST Level Indication LIC-921 ensures that sufficient indication is available to monitor RWST levels during plant shutdown for a fire in the following zones/areas:

- CTL-3 Control Building and Diesel Generator Building (including Control Room, Cable Spreading Room, 480v Switchgear Room, Battery Rooms, Service Water Valve Room and Control Building Fan Room)
- PAB-2(2) Primary Auxiliary Building (41' elevation CCW pump area)
- PAB-2(4) Primary Auxiliary Building (55' elevation MCC area)
- PAB-2(5) Primary Auxiliary Building (remaining areas not covered by other analysis areas)
- ETN-4(1) Electrical Tunnel (entryway)
- ETN-4(2) Electrical Tunnel (upper electrical tunnel)
- Yard-7 External yard areas including Intake Structure, Appendix R Diesel Generator Enclosure, Backup Service Water pump area, and the Condensate Storage Tank area.

## ACTIONS

- A.1. With any of the required functions listed in Table 3.3.D-1 inoperable, the conditions listed for the specific function must be entered without delay. This Required Action ensures the appropriate Condition is entered and Required Actions taken as referenced in Table 3.3.D-1.
- A.2. This Action ensures the appropriate ITS specification is entered without delay and in an orderly manner. This is needed because in many cases ITS has specifications governing the same instruments.

- B. When functions listed in Table 3.3.D-1, become inoperable it is necessary to ensure that the normal shutdown equipment, which these functions are credited to replace during an Appendix R fire scenario, are guarded by a fire watch patrol. This helps to ensure that the failure of this equipment due to fire is minimized (e.g. firewatch in Turbine Building and Auxiliary Feedwater Building when RCS Hot Leg Temperature Instruments are inoperable).

A fire watch is not prescribed in this Technical Requirement for those areas that have fire detection or suppression systems governed by TRM 3.7.A. The fire detection or suppression equipment required by TRM 3.7.A provides the protection against fires that would be provided by a fire watch in its absence. Should this fire detection and suppression equipment become inoperable the applicable portion of TRM 3.7.A would prescribe the necessary compensatory measures.

The completion time of 1 hour was selected as a reasonable time in which to post a fire watch patrol. IP3 Administrative procedures control combustibles and ignition sources during power operations. Based on the existence of these controls, the addition of an hourly fire watch patrol is judged to be adequate to ensure the failure of the subject components due to fire is minimized.

- C. Establishing a fire watch patrol for unprotected areas is similar with compensatory actions taken in Action B above. With this instrument inoperable establishing an eight hour fire watch ensures compensatory action (identification of transient fire hazards) is taken for areas without detection and suppression systems in the Yard. For the Yard Area, establishing an eight-hour fire watch patrol is based on the low fire hazards in the RWST area and the limited access to the area that minimizes the potential for introducing transient fire loads.
- D. This Required Action ensures that the OPERABILITY of the subject equipment is restored in a timely manner. For these components a 30 day allowed outage time was established based on Technical Specification 3.3.4, Remote Shutdown. This allowed outage time of 30 days without other compensatory action is acceptable for these components because the plant meets TRM 3.7.A, Fire Protection Systems, or its required compensatory actions.
- E. The functions listed in Table 3.3.D-1, are credited in the IP3 Appendix R Analysis. Appendix R requires that one train of equipment necessary to achieve MODE 3 from either the control room or emergency control station(s) must be maintained free of fire damage by a single fire including an exposure fire.

When the credited equipment is not restored in a timely manner this Appendix R licensed condition cannot be met by the remaining equipment in table 3.3.D-1 for fires in the zones/areas credited for this equipment as listed in the bases discussion of Table 3.3.D-1.

Therefore, the plant must be placed in MODE 3 within 6 hours and in MODE 5 within 36 hours. The time requirements to place the plant in MODE3 and MODE 5 were chosen to be consistent with Technical Specification 3.0.3 and TRO 3.0.C.

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## SURVEILLANCE REQUIREMENTS

TRS 3.3.D.1 - (Applicable as per Table 3.3.D-1) – This test is designed to check the availability of the subject channels via their normal power supplies. Substantial calibration shifts within a channel (essentially a channel failure) will be revealed during routine checking. The frequency check of 92 days is sufficient to identify substantial calibration shifts within the subject channels. Information specific to particular instruments is noted below.

Source Range Flux (N38) - Using QSPDS or CFMS to read wide range N38 indication in the control room to accomplish this check is one method that is acceptable during power operation. Voltage indication in the Electrical Penetration Area can be used to perform a CHANNEL CHECK during power operation also. The alternate power supply of the instrument channel may affect the indication of the channel in the control room. Electrical tunnel and control room indication are not credited in the Appendix R analysis. The source range indicators at panel K9T and in the electrical penetration area are not full range and do not indicate during power operation.

Pressurizer Water Level - This test is designed to check availability of instrument channels for LT-459 at remote shutdown station panels PT2 and PL6 via its normal power supply and in the control room, and for LT-460 including its indicator in the control room. The alternate power supply of the instrument channel LT-459 may affect the indication of the channel in the control room.

RCS Hot Leg and Cold Leg Temperature - This test is designed to check availability of the instrument channels TE-413A, TE-413B, TE-443A and TE-443B using the control room indicators via normal power supply. Remote indication of TE-413A and TE-413B on PT2 panel during plant operation may not be accurate until alternate power is applied. The alternate power supply of the instrument channel may affect the indication of the channel in the control room for TE-413A. Therefore, the CHANNEL CHECK is performed using the Control Room indication.

RCS Wide Range Pressure - This test is designed to check availability of instrument channels for PT-402 and PT-403 in the Control Room including recorders. The alternate power supply of the instrument channel PT-402 may affect the indication of the channel in the Control Room.

Steam Generator Wide Range Level - This test is designed to check availability of instrument channels for LT-417D, LT-427D and LT-437D at remote shutdown station PT2 via its normal power supply including its indicators in the Control Room, and channel availability of LT-447D in the control room. The alternate power supply of the instrument channels LT-417D, LT-427D, and LT-437D may affect the indication of the channel in the Control Room.

Steam Generator Pressure – This test is designed to check availability of local steam generator pressure indicators PI-2531 through PI-2534.

CST Level - This test is designed to ensure the availability of LI-1102S local indication and LT-1128 indication in the Control Room.

RWST Level - This test is designed to ensure availability of LIC-921 from local indication.

TRS 3.3.D.2 - (Applicable as per Table 3.3.D-1) - This test is designed to ensure that presentation and acquisition of accurate information is obtainable in the Control Room and at local indication stations, as required. As stated in the Technical Specifications, the primary means of error are due to "drift" induced within the instrumentation itself and consequently it can tolerate long intervals between calibration. Substantial calibration shifts within a channel (essentially channel failure) will be revealed during routine checking and testing. Process system instrumentation errors induced by drift can be expected to remain within acceptable tolerances if calibration is performed at intervals of 24 months. Information specific to particular instruments is noted below.

Source Range Flux (N38) - This test is designed to ensure that presentation and acquisition of accurate information is obtainable at panel K9T (near the charging pump local station PL6 panel). Indication in the Electrical Penetration Area and Control Room is not credited, but may be included in the surveillance. The neutron sensor is excluded from CHANNEL CALIBRATION, which is consistent with Standard Technical Specifications.

Pressurizer Water Level – This test is designed to ensure that presentation and acquisition of accurate information is obtainable from LT-459 (Control Room and at remote stations PT2 and PL6) and LT-462 (Control Room).

RCS Hot Leg and Cold Leg Temperature - This test is designed to ensure that presentation and acquisition of accurate information is obtainable from TE-413A and TE-413B (Control Room and remote station PT2), and TE-443A and TE-443B (Control Room including Control Room recorder).

RCS Wide Range Pressure - This test is designed to ensure that presentation and acquisition of accurate information is obtainable from PT-402 (Control Room, Control Room recorder and at remote station PT2 and PL6), PT-403 (Control Room and Control Room recorder), PI-475 (local indicator), and PI-476 (local indicator).

Steam Generator Wide Range Water Level - This test is designed to ensure that presentation and acquisition of accurate information is obtainable from LT-417D, LT-427D, and LT-437D (remote shutdown station PT2 and Control Room), and LT-447D (Control Room).

Steam Generator Pressure – This test is designed to ensure that presentation and acquisition of accurate information is obtainable using the local gauges.

CST Water Level - This test is designed to ensure that presentation and acquisition of accurate information is obtainable in the Control Room.

RWST Level – This test is designed to ensure that presentation and acquisition of accurate information is available at the local indicator.

TRS 3.3.D.3 - (Applicable as per Table 3.3.D-1) - This test is designed to ensure that the listed instrument channels are available at their associated local control panels on the alternate power scheme. The performance of this test may not be feasible during power operations. The verification of local indication of the instrument channel may affect the indication of the channel in the Control Room. Therefore, the frequency of once per 24 months is judged to be sufficient.

Source Range Flux (N38) - This test is designed to ensure that the instrument channel N38 is available at panel K9T (near the charging pump local station PL6 panel) on the alternate power scheme. Indications at panel K9T and in the Electrical Penetration Area are not full range and do not indicate during plant operation.

Pressurizer Water Level – This test is designed to check availability of LT-459 at remote shutdown stations PT2 and PL6 via its alternate power supply.

RCS Hot Leg and Cold Leg Temperature - This test is designed to ensure that the instrument channels TE-413A and TE-413B are available at the local control station (PT2) via its alternate power supply.

RCS Wide Range Pressure - This test is designed to check availability of instrument channel for PT-402 at remote shutdown stations PT2 and PL6 via its alternate power supply.

Steam Generator Wide Range Level - This test is designed to check availability of instrument channels for LT-417D, LT-427D, and LT-437D at remote shutdown station PT2 via its alternate power supply.

TRS 3.3.D.4 - (RCS Wide Range Pressure PI-475 & PI-476 only) - This test is designed to check the availability and accuracy of the subject local indication. Substantial calibration shifts within a channel (essentially a channel failure) will be revealed during routine checking. Since the local indicators are in the Vapor Containment, the frequency check of 24 months is sufficient to identify substantial calibration shifts within the subject indicators.

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#### REFERENCES:

- 1) FSAR 9.6.2
  - 2) NSE 98-3-097-RCS, Rev.0, "Application of Revised Cooldown Methodology to ONOP-FP-1B"
  - 3) NSE 96-3-395, Rev.1, "Development of AP-64.1 and Evaluation of Change to OS 3.2 and 3.5."
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