

Industry/TSTF Standard Technical Specification Change Traveler

Six Hour Test Allowance

Classification: 1) Technical Change

Priority: 2) Medium

NUREGs Affected: 1430 1431 1432 1433 1434

Description:

Add Notes to the SR Tables for LCO 3.3.3.1, LCO 3.3.3.2, and LCO 3.3.8.2, and for NUREG-1433 only - LCO 3.4.6, and for NUREG-1434 only - LCO 3.4.7, to allow a delay in entering the associated Conditions and Required Actions for up to 6 hours when a channel is inoperable solely for performance of required Surveillances. Appropriate Bases changes have also been made.

Justification:

Background

Most instrument channels have additional channels and Technical Specification allowances to remove a channel from service while still meeting the LCO in order to perform required testing.

Need for Change

When a PAM Instrumentation channel, Remote Shutdown System Instrumentation channel, RPS electric power monitoring assembly, or a RCS Leakage Detection Instrumentation channel is placed in an inoperable status to perform required Surveillances, the appropriate Conditions must be entered and Required Actions taken until the Surveillance is complete and the channel is placed back in OPERABLE status. These are the only instrumentation channels where the ACTIONS must be entered to perform Technical Specification required Surveillances. For other instrumentation, such as RPS, ECCS, and Isolation Instrumentation, an allowance is provided to delay entry into the applicable Conditions and Required Actions during performance of required Surveillances. This allowance is provided even though this other instrumentation provides automatic actions, such as scrambling the plant and starting ECCS.

Proposed Change

To provide consistency with the other instrumentation allowances, Notes are proposed to be added that will allow a PAM Instrumentation channel, Remote Shutdown System Instrumentation channel, RPS electric power monitoring assembly, or a RCS Leakage Detection Instrumentation channel to be inoperable for up to 6 hours solely for performance of required Surveillances. For the RPS electric power monitoring assembly, this 6 hour allowance can only be used if the other RPS electric power monitoring assembly for the associated RPS bus is OPERABLE.

7/15/2001

Justification

For the Remote Shutdown System, the PAM Instrumentation, and the RCS Leakage Detection Instrumentation, the instrumentation does not perform any automatic functions; it provides indication to the operators only. If an accident or event occurs that results in the need for the instrumentation, the operators would be alerted to this fact by other control room indications, and the technician performing the Surveillance would have ample time to restore the Remote Shutdown System, PAM, or RCS Leakage Detection Instrumentation so that it could be used by the operator as required. Thus, the 6 hour testing allowance is acceptable since a) for PAM Instrumentation, it does not significantly reduce the probability of properly monitoring post-accident parameters, when necessary; b) for Remote Shutdown System Instrumentation, it does not significantly reduce the probability of properly operating the associated equipment, when necessary; c) for RPS electric power monitoring assemblies, it does not significantly reduce the probability that the RPS electric power monitoring assembly function will initiate, when necessary; and d) for the RCS Leakage Detection Instrumentation, it does not significantly reduce the probability of properly monitoring RCS leakage.

Additionally, these Notes have previously been approved by the NRC in TS amendments for Georgia Power Company's Hatch Units 1 and 2 (amendments 185 and 125, respectively) and Washington Public Power Supply System's WNP-2 (amendment 149, the ITS amendment).

7/15/2001

Determination of No Significant Hazards Considerations

A change is proposed to the Improved Technical Specifications, NUREGs 1433 and 1434, to allow certain instrumentation to be removed from service for the purpose of performing required testing without entering a Technical Specification Condition.

In accordance with the criteria set forth in 10 CFR 50.92, the Industry has evaluated these proposed Improved Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change allows certain instrumentation to be removed from service for the purpose of performing required testing without entering a Technical Specification Condition. The performance of required testing is not an initiator to any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The consequences of an accident which might occur during the required testing while in a Technical Specifications Condition are no different from the consequences of the same accident if a Technical Specifications Condition is not entered. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed change allows certain instrumentation to be removed from service for the purpose of performing required testing without entering a Technical Specification Condition. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

The proposed change allows certain instrumentation to be removed from service for the purpose of performing required testing without entering a Technical Specification Condition. If an accident or event occurs that results in the need for the instrumentation, the operators would be alerted to this fact by other control room indications, and the technician performing the Surveillance would have ample time to restore the instrumentation to service so that it could be used by the operator as required. Therefore, this change does not involve a significant reduction in a margin of safety.

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Revision History**OG Revision 0****Revision Status: Closed**

Revision Proposed by: NMP2

Revision Description:
Original Issue

7/15/2001

OG Revision 0

Revision Status: Closed

Owners Group Review Information

Date Originated by OG: 21-Mar-00

Owners Group Comments:
BWROG requested changes.

Owners Group Resolution: Superceeded Date: 08-Nov-00

OG Revision 1

Revision Status: Active

Next Action: NRC

Revision Proposed by: BWROG

Revision Description:

Revised the SR 3.3.3.1, SR 3.3.3.2, and SR 3.4.6 and 3.4.7 Notes to be consistent with similar notes.

Owners Group Review Information

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Owners Group Comments:
(No Comments)

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TSTF Review Information

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(No Comments)

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Incorporation Into the NUREGs

File to BBS/LAN Date:

TSTF Informed Date:

TSTF Approved Date:

NUREG Rev Incorporated:

Affected Technical Specifications

SR 3.3.3.1

PAM Instrumentation

7/15/2001

SR 3.3.3.1 Bases	PAM Instrumentation	
SR 3.3.3.2	Remote Shutdown System	
SR 3.3.3.2 Bases	Remote Shutdown System	
SR 3.3.8.2	RPS Electric Power Monitoring	
SR 3.3.8.2 Bases	RPS Electric Power Monitoring	
SR 3.4.6	RCS Leakage Detection Instrumentation	NUREG(s)- 1433 Only
SR 3.4.6 Bases	RCS Leakage Detection Instrumentation	NUREG(s)- 1433 Only
SR 3.4.7	RCS Leakage Detection Instrumentation	NUREG(s)- 1434 Only
SR 3.4.7 Bases	RCS Leakage Detection Instrumentation	NUREG(s)- 1434 Only

7/15/2001

INSERT SR 3.3.3.1 Note

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 post accident monitoring capability.

INSERT Bases SR 3.3.3.1 Note

The Surveillances are modified by a second Note to indicate that 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 post accident monitoring capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. The 6 hour testing allowance is acceptable since it does not significantly reduce the probability of properly monitoring post-accident parameters, when necessary.

INSERT SR 3.3.3.2 Note

----- NOTE -----
 When an instrumentation 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 RPS electric power monitoring assembly trip capability.

INSERT Bases SR 3.3.3.2 Note

The Surveillances are modified by a Note to indicate that when an instrument 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. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. The 6 hour testing allowance is acceptable since it does not significantly reduce the probability of properly operating the associated equipment, when necessary.

INSERT SR 3.3.8.2 Note

----- NOTE -----

When an RPS electric power monitoring assembly is placed in an inoperable status solely for performance of required Surveillances, entry into the associated Conditions and Required Actions may be delayed for up to 6 hours provided the other RPS electric power monitoring assembly for the associated RPS bus maintains trip capability.

INSERT Bases SR 3.3.8.2 Note

The Surveillances are modified by a Note to indicate that when an RPS electric power monitoring assembly 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 other RPS electric power monitoring assembly for the associated RPS bus maintains trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the assembly must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This 6 hour allowance is acceptable since it does not significantly reduce the probability that the RPS electric power monitoring assembly function will initiate when necessary.

INSERT SR 3.4.6/7 Note

----- 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 other required instrumentation methods maintain leakage detection capability.

INSERT Bases SR 3.4.6/7 Note

The Surveillances are modified by a Note to indicate that 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 other required instrumentation (either the drywell floor drain tank sump monitoring system or the drywell atmospheric monitoring channel, as applicable) maintain leakage detection capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. The 6 hour testing allowance is acceptable since it does not significantly reduce the probability of properly monitoring RCS leakage.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.	Immediately
F. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	F.1 Be in MODE 3.	12 hours
G. [As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	G.1 Initiate action in accordance with Specification 5.6.7.	Immediately]

SURVEILLANCE REQUIREMENTS

- NOTE -

④ These SRs apply to each Function in Table 3.3.3.1-1.

SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1 Perform CHANNEL CHECK.	31 days
SR 3.3.3.1.2 Perform CHANNEL CALIBRATION.	[18] months

Insert SR 3.3.3.1 note

3.3 INSTRUMENTATION

3.3.3.2 Remote Shutdown System

LCO 3.3.3.2 The Remote Shutdown System Functions shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

- NOTES -

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Functions inoperable.	A.1 Restore required Function to OPERABLE status.	30 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

Insert SA 3.3.3.2 Note

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.3.2.1 [Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days]
SR 3.3.3.2.2 Verify each required control circuit and transfer switch is capable of performing the intended function.	[18] month
SR 3.3.3.2.3 Perform CHANNEL CALIBRATION for each required instrumentation channel.	[18] months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.2.1 [Initiate action to restore one electric power monitoring assembly to OPERABLE status for inservice power supply(s) supplying required instrumentation.	Immediately]
	<u>OR</u>	
	D.2.2 [Initiate action to isolate the Residual Heat Removal Shutdown Cooling System.	Immediately]

Insert SR 3.3.8.2 Note

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.8.2.1 ----- <div style="text-align: center;"> - NOTE - Only required to be performed prior to entering MODE 2 or 3 from MODE 4, when in MODE 4 for ≥ 24 hours. ----- </div> Perform CHANNEL FUNCTIONAL TEST.	184 days
SR 3.3.8.2.2 Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Overvoltage \leq [132] V. b. Undervoltage \geq [108] V, with time delay set to [zero]. c. Underfrequency \geq [57] Hz, with time delay set to [zero].	[18] months
SR 3.3.8.2.3 Perform a system functional test.	[18] months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. [Primary containment air cooler condensate flow rate monitoring system inoperable.	C.1 ----- - NOTE - Not applicable when required primary containment atmospheric monitoring system is inoperable. ----- Perform SR 3.4.6.1.	Once per 8 hours]
D. [Required primary containment atmospheric monitoring system inoperable. <u>AND</u> Primary containment air cooler condensate flow rate monitoring system inoperable.	D.1 Restore required primary containment atmospheric monitoring system to OPERABLE status. <u>OR</u> D.2 Restore primary containment air cooler condensate flow rate monitoring system to OPERABLE status.	30 days 30 days]
E. Required Action and associated Completion Time of Condition A, B, [C, or D] not met.	E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 4.	12 hours 36 hours
F. All required leakage detection systems inoperable.	F.1 Enter LCO 3.0.3.	Immediately

Insert SR 3.4.6.1 Note

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.6.1 Perform a CHANNEL CHECK of required primary containment atmospheric monitoring system.	12 hours

BASES

ACTIONS (continued)

plant must be brought to a MODE in which the LCO not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

G.1

Since alternate means of monitoring primary containment area radiation have been developed and tested, the Required Action is not to shut down the plant, but rather to follow the directions of Specification 5.6.7. These alternate means may be temporarily installed if the normal PAM channel cannot be restored to OPERABLE status within the allotted time. The report provided to the NRC should discuss the alternate means used, describe the degree to which the alternate means are equivalent to the installed PAM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal PAM channels.

As noted at the beginning of these SRs,

SURVEILLANCE REQUIREMENTS

The following SRs apply to each PAM instrumentation Function in Table 3.3.3.1-1.

Insert Bases
SR 3.3.3.1
Note

SR 3.3.3.1.1

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

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

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.3.3.2.1

Insert Bases SR 3.3.3.2 Note

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

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 sensor or the signal processing equipment has drifted outside its limit. As specified in the Surveillance, a CHANNEL CHECK is only required for those channels that are normally energized.

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

SR 3.3.3.2.2

SR 3.3.3.2.2 verifies each required Remote Shutdown System transfer switch and control circuit performs the intended function. This verification is performed from the remote shutdown panel and locally, as appropriate. Operation of the equipment from the remote shutdown panel is not necessary. The Surveillance can be satisfied by performance of a continuity check. This will ensure that if the control room becomes inaccessible, the plant can be placed and maintained in MODE 3 from the remote shutdown panel and the local control stations. However, this Surveillance is not required to be performed only during a plant outage. Operating experience demonstrates that Remote Shutdown System control channels usually pass the Surveillance when performed at the 18 month Frequency.

SR 3.3.3.2.3

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. The test verifies the channel responds to measured parameter values with the necessary range and accuracy.

BASES

ACTIONS (continued)

plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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

If any Required Action and associated Completion Time of Condition A or B are not met in MODE 4 or 5, or with any control rod withdrawn from a core cell containing one or more fuel assemblies or with both RHR shutdown cooling valves open, the operator must immediately initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Required Action D.1 results in the least reactive condition for the reactor core and ensures that the safety function of the RPS (e.g., scram of control rods) is not required.

In addition, action must be immediately initiated to either restore one electric power monitoring assembly to OPERABLE status for the inservice power source supplying the required instrumentation powered from the RPS bus (Required Action D.2.1) or to isolate the RHR Shutdown Cooling System (Required Action D.2.2). Required Action D.2.1 is provided because the RHR Shutdown Cooling System may be needed to provide core cooling. All actions must continue until the applicable Required Actions are completed.

SURVEILLANCE
REQUIREMENTS

SR 3.3.8.2.1

Insert Bases SR 3.3.8.2 Note

A CHANNEL FUNCTIONAL TEST is performed on each overvoltage, undervoltage, and underfrequency channel to ensure that the entire channel will perform the intended function. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

As noted in the Surveillance, the CHANNEL FUNCTIONAL TEST is only required to be performed while the plant is in a condition in which the loss of the RPS bus will not jeopardize steady state power operation (the design of the system is such that the power source must be removed from service to conduct the Surveillance). The 24 hours is intended to

BASES

ACTIONS (continued)

F.1

With all required monitors inoperable, no required automatic means of monitoring LEAKAGE are available, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

SURVEILLANCE
REQUIREMENTS

SR 3.4.6.1

Insert Bases SR 3.4.6/7 Note

This SR is for the performance of a CHANNEL CHECK of the required primary containment atmospheric monitoring system. The check gives reasonable confidence that the channel is operating properly. The Frequency of 12 hours is based on instrument reliability and is reasonable for detecting off normal conditions.

SR 3.4.6.2

This SR is for the performance of a CHANNEL FUNCTIONAL TEST of the required RCS leakage detection instrumentation. The test ensures that the monitors can perform their function in the desired manner. The test also verifies the alarm setpoint and relative accuracy of the instrument string. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The Frequency of 31 days considers instrument reliability, and operating experience has shown it proper for detecting degradation.

SR 3.4.6.3

This SR is for the performance of a CHANNEL CALIBRATION of required leakage detection instrumentation channels. The calibration verifies the accuracy of the instrument string, including the instruments located inside containment. The Frequency of [18] months is a typical refueling cycle and considers channel reliability. Operating experience has proven this Frequency is acceptable.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 30.
 2. Regulatory Guide 1.45, May 1973.
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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.	Immediately
F. As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	F.1 Be in MODE 3.	12 hours
G. [As required by Required Action E.1 and referenced in Table 3.3.3.1-1.	G.1 Initiate action in accordance with Specification 5.6.7.	Immediately]

SURVEILLANCE REQUIREMENTS

- NOTE -

1. These SRs apply to each Function in Table 3.3.3.1-1.

SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1 Perform CHANNEL CHECK.	31 days
SR 3.3.3.1.2 Perform CHANNEL CALIBRATION.	[18] months

Insert SR 3.3.3.1 Note

3.3 INSTRUMENTATION

3.3.3.2 Remote Shutdown System

LCO 3.3.3.2 The Remote Shutdown System Functions shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

- NOTES -

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Functions inoperable.	A.1 Restore required Function to OPERABLE status.	30 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

Insert SR 3.3.3.2 Note

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.3.2.1 [Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days]
SR 3.3.3.2.2 Verify each required control circuit and transfer switch is capable of performing the intended functions.	[18] months
SR 3.3.3.2.3 Perform CHANNEL CALIBRATION for each required instrumentation channel.	[18] months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.2.1 Initiate action to restore one electric power monitoring assembly to OPERABLE status for inservice power supply(s) supplying required instrumentation.	Immediately
	<u>OR</u>	
	D.2.2 [Initiate action to isolate the Residual Heat Removal Shutdown Cooling System.	Immediately]

Insert SR 3.3.8.2 Note

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.8.2.1 ----- <div style="text-align: center;"> <p>- NOTE -</p> <p>Only required to be performed prior to entering MODE 2 or 3 from MODE 4, when in MODE 4 for ≥ 24 hours.</p> </div> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	184 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. [Drywell air cooler condensate flow rate monitoring system inoperable.	----- - NOTE - Not applicable when the required drywell atmospheric monitoring system is inoperable. -----	
	C.1 Perform SR 3.4.7.1.	Once per 8 hours]
D. [Required drywell atmospheric monitoring system inoperable. <u>AND</u> Drywell air cooler condensate flow rate monitoring system inoperable.	D.1 Restore required drywell atmospheric monitoring system to OPERABLE status.	30 days
	<u>OR</u> D.2 Restore drywell air cooler condensate flow rate monitoring system to OPERABLE status.	30 days]
E. Required Action and associated Completion Time of Condition A, B, [C, or D] not met.	E.1 Be in MODE 3.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours
F. All required leakage detection systems inoperable.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

Insert 3.4.6/7 Note

SURVEILLANCE	FREQUENCY
SR 3.4.7.1 Perform CHANNEL CHECK of required drywell atmospheric monitoring system.	12 hours

BASES

ACTIONS (continued)

must be placed in a MODE in which the LCO does not apply. This is done by placing the plant in at least MODE 3 within 12 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required plant condition from full power conditions in an orderly manner and without challenging plant systems.

G.1

Since alternate means of monitoring primary containment area radiation have been developed and tested, the Required Action is not to shut down the plant but rather to follow the directions of Specification 5.6.7. These alternate means may be temporarily installed if the normal PAM channel cannot be restored to OPERABLE status within the allotted time. The report provided to the NRC should discuss the alternate means used, describe the degree to which the alternate means are equivalent to the installed PAM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal PAM channels.

As noted at the beginning of the SRs,

SURVEILLANCE REQUIREMENTS

The following SRs apply to each PAM instrumentation Function in Table 3.3.3.1-1.

Insert Bases SR 3.3.3.1 Note

SR 3.3.3.1.1

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

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

Insert Bases SR 3.3.3.2 Note

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.3.3.2.1

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

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 sensor or the signal processing equipment has drifted outside its limit. As specified in the Surveillance, a CHANNEL CHECK is only required for those channels that are normally energized.

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

SR 3.3.3.2.2

SR 3.3.3.2.2 verifies each required Remote Shutdown System transfer switch and control circuit performs the intended function. This verification is performed from the remote shutdown panel and locally, as appropriate. Operation of the equipment from the remote shutdown panel is not necessary. The Surveillance can be satisfied by performance of a continuity check. This will ensure that if the control room becomes inaccessible, the plant can be placed and maintained in MODE 3 from the remote shutdown panel and the local control stations. However, this Surveillance is not required to be performed only during a plant outage. Operating experience demonstrates that Remote Shutdown System control channels usually pass the Surveillance when performed at the 18 month Frequency.

SR 3.3.3.2.3

CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. The test verifies the channel responds to measured parameter values with the necessary range and accuracy.

BASES

ACTIONS (continued)

of the RPS (e.g., scram of control rods) is not required. The plant shutdown is accomplished by placing the plant in MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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

If any Required Action and associated Completion Time of Condition A or B are not met in MODE 4 or 5, with any control rod withdrawn from a core cell containing one or more fuel assemblies or with both RHR shutdown cooling valves open, the operator must immediately initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies (Required Action D.1). This Required Action results in the least reactive condition for the reactor core and ensures that the safety function of the RPS (e.g., scram of control rods) is not required.

In addition, action must be immediately initiated to either restore one electric power monitoring assembly to OPERABLE status for the inservice power source supplying the required instrumentation powered from the RPS bus (Required Action D.2.1) or to isolate the RHR Shutdown Cooling System (Required Action D.2.2). Required Action D.2.1 is provided because the RHR Shutdown Cooling System may be needed to provide core cooling. All actions must continue until the applicable Required Actions are completed.

SURVEILLANCE
REQUIREMENTS

SR 3.3.8.2.1

Insert Bases SR 3.3.8.2 note

A CHANNEL FUNCTIONAL TEST is performed on each overvoltage, undervoltage, and underfrequency channel to ensure that the entire channel will perform the intended function. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

As noted in the Surveillance, the CHANNEL FUNCTIONAL TEST is only required to be performed while the plant is in a condition in which the loss

BASES

ACTIONS (continued)

F.1

With all required monitors inoperable, no required automatic means of monitoring LEAKAGE are available, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

SURVEILLANCE
REQUIREMENTS

SR 3.4.7.1

Insert Bases SR 3.4.6/7 Note

This SR requires the performance of a CHANNEL CHECK of the required drywell atmospheric monitoring system. The check gives reasonable confidence that the channel is operating properly. The Frequency of 12 hours is based on instrument reliability and is reasonable for detecting off normal conditions.

SR 3.4.7.2

This SR requires the performance of a CHANNEL FUNCTIONAL TEST of the required RCS leakage detection instrumentation. The test ensures that the monitors can perform their function in the desired manner. The test also verifies the alarm setpoint and relative accuracy of the instrument string. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The Frequency of 31 days considers instrument reliability, and operating experience has shown it proper for detecting degradation.

SR 3.4.7.3

This SR requires the performance of a CHANNEL CALIBRATION of the required RCS leakage detection instrumentation channels. The calibration verifies the accuracy of the instrument string, including the instruments located inside the drywell. The Frequency of [18] months is a typical refueling cycle and considers channel reliability. Operating experience has proven this Frequency is acceptable.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 30.
 2. Regulatory Guide 1.45, May 1973.
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