

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------|
| <p>C. One channel or train inoperable.</p> | <p>C.1 Restore channel or train to OPERABLE status.</p> | <p>48 hours</p> |
| | <p><u>OR</u></p> <p>C.2 Open RTBs.</p> | <p>49 hours</p> |
| <p>D. One Power Range Neutron Flux — High channel inoperable.</p> | <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels. -----</p> | |
| | <p>D.1.1 Place channel in trip.</p> | <p>72 hours</p> |
| | <p><u>AND</u></p> | |
| | <p>D.1.2 Reduce THERMAL POWER to ≤ 75% RTP.</p> | <p>78 hours</p> |
| | <p><u>OR</u></p> | |
| | <p>D.2.1 Place channel in trip.</p> | <p>72 hours</p> |
| <p><u>AND</u></p> | | |
| <p>-----NOTE----- Only required to be performed when the Power Range Neutron Flux input to QPTR is inoperable. -----</p> | | |
| <p>D.2.2 Perform SR 3.2.4.2.</p> | <p>Once per 12 hours</p> | |
| <p><u>OR</u></p> | | |
| <p>D.3 Be in MODE 3.</p> | <p>78 hours</p> | |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|--|
| <p>E. One channel inoperable.</p> | <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>E.1 Place channel in trip.</p> <p><u>OR</u></p> <p>E.2 Be in MODE 3.</p> | <p>72 hours</p> <p>78 hours</p> |
| <p>F. THERMAL POWER > P-6 and < P-10, one Intermediate Range Neutron Flux channel inoperable.</p> | <p>F.1 Reduce THERMAL POWER to < P-6.</p> <p><u>OR</u></p> <p>F.2 Increase THERMAL POWER to > P-10.</p> | <p>2 hours</p> <p>2 hours</p> |
| <p>G. THERMAL POWER > P-6 and < P-10, two Intermediate Range Neutron Flux channels inoperable.</p> | <p>G.1 Suspend operations involving positive reactivity additions.</p> <p><u>AND</u></p> <p>G.2 Reduce THERMAL POWER to < P-6.</p> | <p>Immediately</p> <p>2 hours</p> |
| <p>H. THERMAL POWER < P-6, one or two Intermediate Range Neutron Flux channels inoperable.</p> | <p>H.1 Restore channel(s) to OPERABLE status.</p> | <p>Prior to increasing THERMAL POWER to > P-6</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|-----------------|
| <p>M. One channel inoperable.</p> | <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> | |
| | <p>M.1 Place channel in trip. <u>OR</u> M.2 Reduce THERMAL POWER to < P-7.</p> | |
| <p>N. One Reactor Coolant Flow--Low channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> | |
| | <p>N.1 Place channel in trip. <u>OR</u> N.2 Reduce THERMAL POWER to < P-7.</p> | |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME | |
|---|--|-----------------|----------|
| <p>O. One Low Fluid Oil Pressure Turbine Trip channel inoperable.</p> | <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> | | |
| | <p>O.1 Place channel in trip.</p> | | 72 hours |
| | <p><u>OR</u> O.2 Reduce THERMAL POWER to < P-9.</p> | | 76 hours |
| <p>P. One train inoperable.</p> | <p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----</p> | | |
| | <p>P.1 Restore train to OPERABLE status.</p> | | 24 hours |
| | <p><u>OR</u> P.2 Be in MODE 3.</p> | | 30 hours |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|------------------------------|---|---------------------------------|
| Q. One RTB train inoperable. | <p style="text-align: center;">-----NOTE-----</p> <p>One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE.</p> <hr/> <p>Q.1 Restore train to OPERABLE status.</p> <p><u>OR</u></p> <p>Q.2 Be in MODE 3.</p> | <p>24 hours</p> <p>30 hours</p> |
| R. One channel inoperable. | <p>R.1 Verify interlock is in required state for existing unit conditions.</p> <p><u>OR</u></p> <p>R.2 Be in MODE 3.</p> | <p>1 hour</p> <p>7 hours</p> |
| S. One channel inoperable. | <p>S.1 Verify interlock is in required state for existing unit conditions.</p> <p><u>OR</u></p> <p>S.2 Be in MODE 2.</p> | <p>1 hour</p> <p>7 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|---------------------------------|
| <p>T. One trip mechanism inoperable for one RTB.</p> | <p>T.1 Restore inoperable trip mechanism to OPERABLE status.</p> | <p>48 hours</p> |
| | <p><u>OR</u></p> | |
| | <p>T.2.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>T.2.2 Open RTB.</p> | <p>54 hours</p> <p>55 hours</p> |
| <p>U. One Steam Generator Water Level Low-Low channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> | |
| | <p>U.1.1 Place channel in trip.</p> | <p>72 hours</p> |
| | <p><u>AND</u></p> <p>U.1.2 For the affected protection set, set the Trip Time Delay (T_S) to match the Trip Time Delay (T_M).</p> | <p>72 hours</p> |
| | <p><u>OR</u></p> <p>U.2 Be in MODE 3.</p> | <p>78 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|---------------------------------|
| <p>V. One Vessel ΔT channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> <p>V.1 Set the Trip Time Delay threshold power level for (T_S) and (T_M) to 0% power.</p> <p><u>OR</u></p> <p>V.2 Be in MODE 3.</p> | <p>72 hours</p> <p>78 hours</p> |
| <p>W. One channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> <p>W.1 Place channel in trip.</p> <p><u>OR</u></p> <p>W.2 Be in MODE 3.</p> | <p>72 hours</p> <p>78 hours</p> |
| <p>X. One channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> <p>X.1 Place channel in trip.</p> <p><u>OR</u></p> <p>X.2 Reduce THERMAL POWER to < P-7.</p> | <p>72 hours</p> <p>78 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------|
| Y. One, two or three Turbine Stop Valve Closure channels inoperable. | Y.1 Place channel(s) in trip. | 72 hours |
| | <u>OR</u> Y.2 Reduce THERMAL POWER to < P-9. | 76 hours |
| Z. Two RTS Trains inoperable | Z.1 Enter LCO 3.0.3. | Immediately |

SURVEILLANCE REQUIREMENTS

-----NOTE-----

Refer to Table 3.3.1-1 to determine which SRs apply for each RTS Function.

| SURVEILLANCE | FREQUENCY |
|--|-----------|
| SR 3.3.1.1 Perform CHANNEL CHECK. | 12 hours |
| SR 3.3.1.2 -----NOTES----- 1. Adjust NIS channel if absolute difference is > 2%. 2. Required to be performed within 12 hours after THERMAL POWER is \geq 15% RTP. ----- Compare results of calorimetric heat balance calculation to Nuclear Instrumentation System (NIS) channel output. | 24 hours |

(continued)

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|--|--|
| <p>SR 3.3.1.3 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Adjust NIS channel if absolute difference is $\geq 3\%$. 2. Required to be performed within 96 hours after THERMAL POWER is $\geq 15\%$ RTP. <p>-----</p> <p>Compare results of the incore detector measurements to NIS AFD.</p> | <p>31 effective full power days (EFPD)</p> |
| <p>SR 3.3.1.4 -----NOTE-----</p> <p>This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service.</p> <p>-----</p> <p>Perform TADOT.</p> | <p>62 days on a STAGGERED TEST BASIS</p> |
| <p>SR 3.3.1.5 Perform ACTUATION LOGIC TEST.</p> | <p>92 days on a STAGGERED TEST BASIS</p> |
| <p>SR 3.3.1.6 -----NOTE-----</p> <p>Required to be performed within 6 days after THERMAL POWER is $\geq 50\%$ RTP.</p> <p>-----</p> <p>Calibrate excore channels to agree with incore detector measurements.</p> | <p>92 EFPD</p> |

(continued)

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|---|---|
| <p>SR 3.3.1.7</p> <p style="text-align: center;">-----NOTE-----</p> <p>For Functions 2 and 3 (Power Range Instrumentation), this Surveillance shall include verification that interlock P-10 is in the required state for existing unit conditions.</p> <p style="text-align: center;">-----</p> <p>Perform COT.</p> | <p>184 days</p> |
| <p>SR 3.3.1.8</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed for Source Range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. 2. This Surveillance shall include verification that interlock P-6 is in the required state for existing unit conditions. <p style="text-align: center;">-----</p> <p>Perform COT.</p> | <p style="text-align: center;">-----NOTE-----</p> <p>Only required when not performed within previous 31 days</p> <p style="text-align: center;">-----</p> <p>Prior to reactor startup</p> <p><u>AND</u></p> <p>Four hours after reducing power below P-10 for intermediate range instrumentation</p> <p><u>AND</u></p> <p>Four hours after reducing power below P-6 for source range instrumentation</p> <p><u>AND</u></p> <p>Every 31 days thereafter</p> |

(continued)

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|--|--|
| <p>SR 3.3.1.14 -----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.</p> | <p>Prior to exceeding the P-9 interlock whenever the unit has been in MODE 3, if not performed within the previous 31 days</p> |
| <p>SR 3.3.1.15 -----NOTE----- Neutron detectors are excluded from response time testing. ----- Verify RTS RESPONSE TIME is within limits.</p> | <p>18 months on a STAGGERED TEST BASIS</p> |

**Table 3.3.1-1 (page 3 of 9)
Reactor Trip System Instrumentation**

| FUNCTION | APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS | REQUIRED CHANNELS | CONDITIONS | SURVEILLANCE REQUIREMENTS | ALLOWABLE VALUE | NOMINAL TRIP SETPOINT |
|---------------------------------|---|----------------------|------------|--|--------------------|-----------------------------|
| 9. Pressurizer Water Level-High | 1 ^(f) | 3 | X | SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 | ≤ 92.7% span | 92% span |
| 10 Reactor Coolant Flow-Low | 1 ^(f) | 3 per loop | N | SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15 | ≥ 89.7% Flow | 90% flow |
| 11 Undervoltage RCPs | 1 ^(f) | 1 per bus | M | SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.15 | ≥ 4734 V | 4830 V |
| 12 Underfrequency RCPs | 1 ^(f) | 1 per bus | M | SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.15 | ≥ 56.9 Hz | 57.5 Hz |

(continued)

(f) Above the P-7 (Low Power Reactor Trips Block) interlock.

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|-----------------------------------|--|-----------------|
| <p>C. One train inoperable.</p> | <p>C.1 -----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. ----- Restore train to OPERABLE status.</p> | <p>24 hours</p> |
| | <p><u>OR</u></p> | |
| | <p>C.2.1 Be in MODE 3.</p> | <p>30 hours</p> |
| | <p><u>AND</u> C.2.2 Be in MODE 5.</p> | <p>60 hours</p> |
| <p>D. One channel inoperable.</p> | <p>D.1 -----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. ----- Place channel in trip.</p> | <p>72 hours</p> |
| | <p><u>OR</u></p> | |
| | <p>D.2.1 Be in MODE 3.</p> | <p>78 hours</p> |
| | <p><u>AND</u> D.2.2 Be in MODE 4.</p> | <p>84 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|-----------------|
| <p>E. One Containment Pressure channel inoperable.</p> | <p>E.1 -----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> | |
| | <p>Place channel in bypass.</p> | 72 hours |
| | <p><u>OR</u></p> | |
| | <p>E.2.1 Be in MODE 3.</p> | 78 hours |
| | <p><u>AND</u></p> | |
| | <p>E.2.2 Be in MODE 4.</p> | 84 hours |
| <p>F. One channel or train inoperable.</p> | <p>F.1 Restore channel or train to OPERABLE status.</p> | 48 hours |
| | <p><u>OR</u></p> | |
| | <p>F.2.1 Be in MODE 3.</p> | 54 hours |
| | <p><u>AND</u></p> | |
| | <p>F.2.2 Be in MODE 4.</p> | 60 hours |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME | |
|---------------------------------|---|---|---|
| <p>G. One train inoperable.</p> | <p>G.1 -----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. ----- Restore train to OPERABLE status.</p> <p><u>OR</u></p> <p>G.2.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>G.2.2 Be in MODE 4.</p> | <p>24 hours</p> <p>30 hours</p> <p>36 hours</p> | |
| | <p>H. One train inoperable.</p> | <p>H.1 -----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. ----- Restore train to OPERABLE status.</p> <p><u>OR</u></p> <p>H.2.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>H.2.2 Be in MODE 4.</p> | <p>24 hours</p> <p>30 hours</p> <p>36 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|---|
| <p>I. One Steam Generator Water Level--High High channel inoperable.</p> | <p>I.1 -----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> <p>Place channel in trip.</p> <p><u>OR</u></p> <p>I.2.1 Be in MODE 3.</p> <p><u>OR</u></p> <p>I.2.2 Be in MODE 4.</p> | <p>72 hours</p> <p>78 hours</p> <p>84 hours</p> |
| <p>J. One Main Feedwater Pumps trip channel inoperable.</p> | <p>J.1 Restore channel to OPERABLE status.</p> <p><u>OR</u></p> <p>J.2 Be in MODE 3.</p> | <p>48 hours</p> <p>54 hours</p> |
| <p>K. One channel inoperable.</p> | <p>K.1 -----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p> <p>Place channel in bypass.</p> <p><u>OR</u></p> | <p>72 hours</p> <p>(continued)</p> |

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|--|-----------------|
| K. (continued) | K.2.1 Be in MODE 3. <u>AND</u> | 78 hours |
| | K.2.2 Be in MODE 5. | 108 hours |
| L. One P-11 interlock channel inoperable. | L.1 Verify interlock is in required state for existing unit condition. | 1 hour |
| | <u>OR</u> | |
| | L.2.1 Be in MODE 3. <u>AND</u> | 7 hours |
| L.2.2 Be in MODE 4. | 13 hours | |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|---|
| <p>M. One Steam Generator Water Level--Low--Low channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <p>-----</p> <p>M.1.1 Place channel in trip.</p> <p><u>AND</u></p> <p>M.1.2 For the affected protection set, set the Trip Time Delay (T_s) to match the Trip Time Delay (T_m)</p> <p><u>OR</u></p> <p>M.2.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>M.2.2 Be in MODE 4.</p> | <p>72 hours</p> <p>72 hours</p> <p>78 hours</p> <p>84 hours</p> |
| <p>N. One Vessel ΔT channel inoperable.</p> | <p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <p>-----</p> <p>N.1 Set the Trip Time Delay threshold power level for (T_s) and (T_m) to 0% power.</p> <p><u>OR</u></p> <p>N.2 Be in MODE 3.</p> | <p>72 hours</p> <p>78 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------|
| O. One MSVV Room Water Level High channel inoperable | <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> | |
| | O.1 Place channel in trip | 72 hours |
| | <p><u>OR</u> O.2 Be in MODE 3</p> | 78 hours |

SURVEILLANCE REQUIREMENTS

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

| SURVEILLANCE | FREQUENCY |
|--|-----------------------------------|
| SR 3.3.2.1 Perform CHANNEL CHECK. | 12 hours |
| SR 3.3.2.2 Perform ACTUATION LOGIC TEST. | 92 days on a STAGGERED TEST BASIS |
| SR 3.3.2.3 Perform MASTER RELAY TEST. | 92 days on a STAGGERED TEST BASIS |
| SR 3.3.2.4 Perform COT. | 184 days |

(continued)

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.6-1 to determine which SRs apply for each Containment Vent Isolation Function.

| SURVEILLANCE | FREQUENCY |
|--|--|
| SR 3.3.6.1 Perform CHANNEL CHECK. | 12 hours |
| -----NOTE----- This surveillance is only applicable to the actuation logic of the ESFAS instrumentation. ----- | |
| SR 3.3.6.2 Perform ACTUATION LOGIC TEST. | 92 days on a STAGGERED TEST BASIS |
| -----NOTE----- This surveillance is only applicable to the master relays of the ESFAS instrumentation. ----- | |
| SR 3.3.6.3 Perform MASTER RELAY TEST. | 92 days on a STAGGERED TEST BASIS |
| SR 3.3.6.4 Perform COT. | 92 days |
| SR 3.3.6.5 Perform SLAVE RELAY TEST. | 92 days OR 18 months for Westinghouse type AR relays |
| SR 3.3.6.6 -----NOTE----- Verification of setpoint is not required. ----- Perform TADOT. | |
| SR 3.3.6.7 Perform CHANNEL CALIBRATION. | 18 months |