ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

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GINNA STATION
UNIT #1
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PROCEDURE NO. PT-5.10 REV. NO. 19

PROCESS INSTRUMENTATION REACTOR PROTECTION CHANNEL TRIP TEST

(CHANNEL 1)

TECHNICAL REVIEW

PORC 7/22/80

J. C. Bodine
QC REVIEW

7-25-80
DATE

APPROVED FOR USE

J. C. Moon
for PLANT SUPERINTENDENT

7-30-80
DATE

QA X NON-QA _____ CATEGORY 1.0

REVIEWED BY: _____

THIS PROCEDURE CONTAINS 15 PAGES

PERIODIC TEST PT-5.10

PROCESS INSTRUMENTATION REACTOR PROTECTION CHANNEL TRIP TEST

(CHANNEL 1)

1.0 PURPOSE:

1.1 This instruction describes the periodic test performed on the process instrumentation analog reactor protection and safeguard channels for verification of proper alignment of each bistable trip point during monthly surveillance.

2.0 TEST REQUIREMENTS:

2.1 Insure each bistable actuation is within the specified toleand of ± 1% of span for each setpoint.

3.0 REFERENCES:

3.1 Foxboro (CD's) interconnecting diagrams

3.2 Foxboro (BD's) block diagrams

3.3 Westinghouse Logic Prints 882D612

3.4 Reactor Protection System Schematics 110E053

3.5 Safeguard System Schematics 110E059

3.6 FSAR - Section 7.2 Pages 7.2 - 21 & 22

3.7 Technical Specifications - Sections 4, Pages 4.1-2 thru 4.1-7

3.8 P-I Reactor Control and Protection System Procedure

4.0 INITIAL CONDITIONS:

4.1 This test may be performed at any plant power from cold shutdown to full power.

4.2 Input and/or output readings are to be made with Category II test equipment.

5.0 PRECAUTIONS:

5.1 Tests shall be performed on only one protective channel at a time. When on protection channel is being tested, the remaining redundant protection channels must be in the normal (untripped) mode.

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5.2 If during any (at-power) test, a reactor protection channel alert is actuated from another redundant protection channel, the test must be terminated and all channels returned to normal (untripped) condition.

5.3 Control system are to be placed in the manual control mode before any change is made in a channel defeat and/or channel transfer switch position. After the change is made, the control system may be returned to automatic control.

5.4 Bistable actuation values which are not within ± 1% of span of each setpoint shall be reported to the Shift Foreman immediately. Corrective action will be initiated using proper CP before continuation of the test.

5.5 Setpoint adjustments of less than ± 1% of span to compensate for long term drift may be made during this test.

6.0 INSTRUCTIONS:

6.1 Notify operations and obtain approval from Shift Foreman to perform testing on Reactor Protection Channel 1, Rack 1, and Rack 2.
Shift Foreman Initial _____

6.2 Verify no other tests are occurring in any of the other Reactor Protection Channels II, III, IV. Insure all channels are functioning correctly.
I/C Technician Initial _____

6.3 Operations, place the rod control selector switch located at control board, from automatic to manual mode.
Operations Initial _____

6.4 Operations, place the pressurizer pressure controller PC-431K located at the control board, from automatic to manual mode (delete step 6.4 if selector switch T-429A in "normal" position).
Operations Initial _____

6.5 Operations, place the pressurizer level controllers either (HFC 428A or B or C) from automatic to manual mode. Verify annunciation.
Operations Initial _____

6.6 Operations, place the Delta T recorder selector switch located at control board, to position "1A2".
Operations Initial _____

6.7 Operations, place the pressurizer level recorder selector switch located at control board to position "427".
Operations Initial _____

6.8 Operations, place the pressurizer pressure recorder selector switch located at control board to position "1-2".
Operations Initial _____

CHANNEL 1

6.9 I/C Technician, place the pressurizer level defeat switch in position "Normal" (427,428) located in P.L.P. rack.
I/C Technician Initial _____

6.10 I/C Technician, place the pressurizer pressure defeat switch in position "Normal" (430,449) located in P.L.P. rack.
I/C Technician Initial _____

6.11 I/C Technician, place the delta T defeat switch T/405E located in (R.I.L. Rack) from "Operate" to position "Loop A Unit 1".
(Note: Deviation alarms may actuate when switching occurs)
I/C Technician Initial _____

6.12 I/C Technician, place the Tavg defeat switch T/401A located in (S.D. Rack) from "Operate" to position "Loop A Unit 1".
(Note: Deviation alarms may actuate when switching occurs)
I/C Technician Initial _____

6.13 Operations, return rod control selector switch located at (control board) from manual back to automatic position if desired.
Operations Initial _____

6.14 Operations, place the pressurizer pressure controller PC-431K located at (control board) from manual mode back to "automatic" if desired.
Operations Initial _____

6.15 Operations, place the pressurizer level controllers (HFC 428A or B or C) loated at (control board) from manual mode back to automatic, if desired.
Operations Initial _____

6.16 I/C Technician, remove Channel 1 (RED) from computer scan. Inhibit; 1; Value 1; 1; Value 2; Omit. (if operational)
I/C Technician Initial _____

6.17 I/C Technician, place the following bistable proving switches into the trip mode and check for proper annunciation. Check status light panels for proper indication. I/C Technician Verify each _____

6.17.1 (High Tavg) proving switch placed in defeat mode.
(Note: No status lamp) Trip _____

6.17.2 (Low Tavg) proving switch placed in defeat mode. Trip _____

6.17.3 Overtemperature Δ T setpoint 1 (Rod Stop) in defeat mode.
(Note: No visual response at Control Board) Trip _____

6.17.4 Overtemperature Δ T setpoint 1 (Reactor Trip) in defeat mode.
Trip _____

6.17.5 Overpower Δ T setpoint 2 (Rod Stop) in defeat mode.
(Note: No visual response at Control Board) Trip _____

CHANNEL 1

6.17.6	Overpower Δ T setpoint 2 (Reactor Trip) in defeat mode.	Trip _____
6.17.7	Pressurizer (High Pressure Reactor Trip) in defeat mode.	Trip _____
6.17.8	Pressurizer pressure (unblock S.I.) in defeat mode. (Note: No visual response at Control Board)	Trip _____
6.17.9	Pressurizer low pressure (S.I.) in defeat mode.	Trip _____
6.17.10	Pressurizer low pressure (Reactor Trip) in defeat mode.	Trip _____
6.17.11	Pressurizer level (High Level Trip) in defeat mode.	Trip _____

6.18 I/C Technician, proceed with test in Channel 1, Rack 1.

6.19 I/C open door Channel 1, Rack 1, and release the test insertion panel cover within rack. Verify control board annunciation.
I/C Technician Initial_____

6.20 Connect the decade resistance boxes into the respective test injection jacks labeled Tavg and Δ T. I/C Technician Initial_____

6.21 Open RTD slide links door located inside rack and disconnect the slide links by loosening the lock-screws and placing to open position. (Note: Deviation alarms may occur when disconnecting slide links) I/C Technician Initial_____

6.22 Place the Tavg and Delta T test injection switches into defeat position. I/C Technician Initial_____

6.23 Adjust the resistance values for both TCL's decade boxes to 418.13 ohms. I/C Technician Initial_____

6.24 Place digital multimeter (DC volts) range, into test point labeled Tavg (filter). Increase the THL decade resistance value until (High Tavg) Bistable proving light goes out. (578°F = 30.26 MA) Record on data sheet. I/C Technician Initial_____

6.25 Under conditions per Step 6.24, decrease the THL's resistances until the (Low Tavg) bistable proving light goes out. (543°F = 11.60 MA). Record on data sheet. I/C Technician Initial_____

6.26 Set the following conditions for Δ T trips. Connect the digital multimeter (10VDC) range into test point labeled Δ T filter. Increase the THL decade resistance settings until *6.08 volts is readout on digital. (Note: When adjusting decade boxes Delta T deviation alarm will actuate) I/C Technician Initial_____

6.27 Insert Foxboro Current simulator into test injection jack labeled T/429. (Delete this step if plant is at power) Insure T.P. 429 output equals 2235 PSIG = 36.75 MA.
I/C Technician Initial_____

NOTE: Notify operator of sub-cooling alarm.

CHANNEL 1

6.28 Connect digital multimeter into test point Δ T SP1. Install H-P Power Supplies into Q upper and Q lower test injection jacks and simulator appropriate voltages for providing penalty to Δ T SP1.

NOTE: Manual operation of Q upper and Q lower controllers also can be used for providing this signal.

6.29 Conditions per 6.28 set, increase penalty while observing digital multimeter until bistable light Δ T SP1 (Rod Stop) goes out. (1.71°F = .912 MA = 40.40 MA + .912 MA = 41.31 MA) Record on data sheet. I/C Technician Initial_____

6.30 Under conditions per step 6.29 continue to increase the penalty signal until the Δ T SP1 reactor trip light goes out. (57°F = 40.40 MA) Record on data sheet. I/C Technician Initial_____

6.31 Connect the digital multimeter into test point labeled Δ T SP2. With H/P power supply incorporated per step 6.30, change the axial offset value until the Δ T SP2 bistable lights go out.

(Rod Stop - Turbine Runback) Bistable light goes out. (1.71°F = .912 MA = 40.40 MA + .912 MA = 41.31 MA) Record in data sheet. I/C Technician Initial_____

6.32 Under condition per Step 6.31, continue to increase the simulated axial tilt until the Δ T SP2 (Reactor Trip) bistable light goes out. (57°F = 6.08V; 57°F = 40.40 MA) Record on data sheet. I/C Technician Initial_____

* Refer to P1 for given voltages for Δ T at power.

6.33 Disconnect the decade resistances boxes from insertion jacks and place slide links back to right and tighten. Place both Tavg and delta T test injection jacks to normal down position. Remove the H/P power supplies from the "Q" upper and "Q" lower test injection jacks for FLUX TILT. (Insure "Q" upper and "Q" lower controllers are placed in automatic position.

NOTE: The simulator for pressurizer pressure should remain in test injection jack. If T/429 wasn't used in 6.27, connect simulator at this time.

I/C Technician Initial_____

NOTE: Notify operator of sub-cooling alarm.

6.34 Place the digital multimeter into pressurizer pressure test point, select the 1VDC range on digital. Increase the simulated signal already connected, until the (High Pressurizer Pressure) bistable light goes out (2377 PSIG = 43.85 MA) Record on attached data sheet. (Note: Low pressure alarm will exist while testing 429 loop)

I/C Technician Initial_____

CHANNEL 1

6.35 Under conditions per step 6.34, decrease simulated signal for pressurizer pressure until the (Low Pressure S.I.) bistable light goes out (1715 PSIG = 10.75 MA) Record on attached data sheet.

I/C Technician Initial_____

6.36 Under conditions per step 6.35, increase the simulated signal for pressurizer pressure until the (unblock S.I.) bistable light goes out. (2000 PSIG = 25.00 MA) Record on attached data sheet.

I/C Technician Initial_____

6.37 Place the digital multimeter into Pressurizer Pressure Low pressure test point. Decrease the pressurizer pressure simulated signal until the (Low Pressure Reactor Trip) bistable light goes out. (1873 PSIG = 18.65 MA) Record on attached data sheet.

I/C Technician Initial_____

6.38 Remove the test leads used for testing pressurizer pressure channel. Insure all test injection switches are returned to normal down position.

I/C Technician Initial_____

6.39 Insert the Foxboro Current Simulator into pressurizer level test injection jack labeled T/426. Place switch into test position.

I/C Technician Initial_____

6.40 Connect the digital multimeter into the pressurizer level test point 426. Increase the simulated signal until bistable light pressurizer (high level trip) goes off. (87% = 44.80 MA) Record on data sheet, the digital readout when light goes out.

I/C Technician Initial_____

6.41 Remove the simulator and digital multimeter test leads from pressurizer level channel. Place the test injection switch to "Normal" down position.

I/C Technician Initial_____

6.42 Insure all Foxboro Simulators and test leads are disconnected from Protection Channel 1, Rack 1: Place the following bistable proving switches from trip to their normal untripped position. Verify each annunciation and status panel lamp for proper operations.

6.42.1 Pressurizer level (High Level Trip). Normal Status _____

6.42.2 Pressurizer low pressure (S.I.). Normal Status _____

6.42.3 Pressurizer (Low Pressure Reactor Trip). Normal Status _____

6.42.4 Pressurizer pressure (Unblock S.I.) (No Response at Control Board). Normal Status _____

CHANNEL 1

6.42.5	Pressurizer (High Pressure Reactor Trip).	Normal Status _____
6.42.6	Overpower Delta T setpoint 2 (Reactor Trip).	Normal Status _____
6.42.7	Overpower Delta T setpoint 2 (Rod Stop). (No visual response at Control Board)	Normal Status _____
6.42.8	Overtemperature Delta T setpoint 1 (Reactor Trip).	Normal Status _____
6.42.9	Overtemperature Delta T setpoint 1 (Rod Stop). (No visual response at Control Board)	Normal Status _____
6.42.10	Primary Loop "A" (Low Tavg).	Normal Status _____
6.42.11	Primary Loop "A" (High Tavg). (No status Lamp)	Normal Status _____

6.43 Insure all alarms and indication for above test are normal before proceeding with next step. I/C Technician Initial _____

6.44 Operations, place the pressurizer level controllers (HFC-428A, B, C) located at control board from automatic to manual mode. Verify annunciation charging pump. Operations Initial _____

6.45 Operations, place the pressurizer pressure controller PC-431K located at (control board) from automatic to manual mode. (Delete this step if selector switch P-429A is in "normal" position). Operations Initial _____

6.46 Operations, place the rod control selector switch located at (control board) from automatic to manual rod control mode. Operations Initial _____

6.47 I/C Technician, place the Tavg defeat T/401A switch in (S.D. Rack) from "Loop A Unit 1" position back to "normal" positon. (Note: Deviation alarms may actuate when switching occurs). I/C Technician Initial _____

6.48 I/C Technician, place the ΔT defeat T/405E switch in (R.I.L. Rack) from the "Loop A Unit 1" position back to "normal" position. (Note: Deviation alarms may actuate when switching occurs). I/C Technician Initial _____

6.49 I/C Technician, insure pressurizer "pressure" defeat switch located in P.L.P. rack position back to "normal" mode. I/C Technician Initial _____

6.50 I/C Technician, insure pressurizer "level" defeat switch located in P.L.P. rack, is position back to "normal" mode. I/C Technician Initial _____

6.51 Operations, place the pressurizer pressure recorder selector switch located at (control board) to desired position. Operations Initial _____

CHANNEL 1

6.52 Operations, place the pressurizer level recorder selector switch located at (control board) to desired position.
Operations Initial _____

6.53 Operations, place the "Delta T" recorder selector switch located at (control board) to desired position. Operations Initial _____

6.54 Operations, place the pressurizer level conrollers either HFC-428 A, B, C from "manual" back to "automatic" mode if desired.
Operations Initial _____

6.55 Operations, place the pressurizer pressure controller PC-431K located at (control board) from "manual" back to "automatic" mode if desired. Operations Initial _____

6.56 Operations, place the rod control selector switch located at (control board) from "manual" back to "Automatic Rod Control" mode if desired. Operations Initial _____

6.57 I/C Technician, close the test injection cover along with RTD slide link cover and verify Channel 1 in-test annunciator on control board cleared. I/C Technician Initial _____

6.58 This completes Channel 1, Rack 1, Reactor Protection Trip test.

CHANNEL 1 (Rack 2)

6.59 Notify operations and obtain approval from the control board operator that testing of Channel 1, Rack 2 will start.
Operations Initial _____

6.60 Operations, place the "A" atmospheric dump controller HCV-468 from automatic to manual mode. Operations Initial _____

6.61 Operations, place the HC-480 feedwater bypass controller from automatic to manual mode. Operations Initial _____

6.62 Operations, place the main feedwater controller HC-466 from automatic to manual mode. Operations Initial _____

6.63 Operations, place the "A" steam generator feedwater flow selector switch "1A" to position 467.
Operations Initial _____

6.64 Operations, place the "A" steam generator steam flow selector switch "1A" to position 465.
Operations Initial _____

6.65 I/C Technician, open test injection door inside Channel 1, Rack 2. Verify annunciation of Channel 1 in test. I/C Technician Initial _____

CHANNEL 1

6.66 Place the bistable proving switch (High Level Override) for Channel 461 to trip position. Verify annunciation and status lamp action.
I/C Technician Initial_____

6.67 Place the bistable proving switch (low-low level) for Channel 461 to trip position. Verify annunciation and status lamp action.
I/C Technician Initial_____

6.68 I/C Technician, place Foxboro Current Simulator into test injection jack labeled T/461. Place test switch into the defeat mode.
I/C Technician Initial_____

6.69 I/C, place digital multimeter (1 VDC Range) into test point labeled TP-461. Increase simulated signal until steam generator level (High Level Override) bistable light goes out. Record reading on data sheet (68% = 37.20 MA).
I/C Technician Initial_____

6.70 With conditions set per Step 6.70, decrease the simulated signal for 461 until the steam generator (low-low level) bistable light goes out. Record reading on data sheet (16% = 16.40 MA).
I/C Technician Initial_____

6.71 Place the test injection switch T/461 back to normal down position. Remove test leads from test jacks and test points.
I/C Technician Initial_____

6.72 Place the bistable proving switch labeled (high level override) back to untripped position. Verify annunciation and status lamp for proper state.
I/C Technician Initial_____

6.73 Place the bistable proving switch labeled (low-low level) back to untripped position. Verify annunciation and status lamp for proper state.
I/C Technician Initial_____

6.74 Operations, place the main feedwater controller HC-466 from manual back to automatic if desired.
Operations Initial _____

6.75 I/C Technician, place the following bistable proving switches into trip state. Verify each actuation listed below before simulating any signals.
I/C Technician Initial_____

6.75.1 Steam generator level (472) "High Level Override". Trip _____

6.75.2 Steam generator level (472) "Low-Low Level". Trip _____

6.75.3 Steam generator level (472) "Low Logic". Trip _____

6.75.4 Steam generator pressure (468) "Low Pressure". Trip _____

6.75.5 Steam generator pressure (468) "Low Pressure S.I.". Trip _____

6.75.6 Steam flow (464) "High Steam Flow". Trip _____

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6.75.7 Steam flow (464) "High-High Steam Flow". Trip _____

6.75.8 Feed flow mismatch (466) "Steam Flow = Feedwater Flow". Trip _____

6.75.9 Feed flow mismatch (466) "Steam Flow = Feedwater Flow". Trip _____

6.75.10 Reactor Coolant Flow (411) "Low Flow Reactor Trip". Trip _____

6.75.11 Containment pressure (945) "Containment Spray Logic". Trip _____
(Note: No visual response at control board)

6.75.12 Containment pressure (945) "Containment Pressure S.I.". Trip _____

6.75.13 T 452-B RCS Overpressurization Train "C" (No status light) Trip _____

6.75.14 T 452-C RCS Overpressurization Train "C" (No status light) Trip _____

6.76 Place Foxboro Current Simulator into test injection jack labeled T/472. Place switch into defeat mode. I/C Technician Initial_____

6.77 Place digital multimeter (1V DC Range) into steam generator TP-472. Increase simulated signal until "Steam Generator High Level Override" bistable light goes out. Record reading on data sheet. (68% = 37.20 MA) I/C Technician Initial_____

6.78 Decrease simulated signal per Step 6.77 until steam generator 472 "Low Logic" bistable light goes out. Record the digital reading on data sheet. (30% = 22.00 MA) I/C Technician Initial_____

6.79 Continue to decrease simulated signal per Step 6.78 until steam generator 472 (Low-Low Logic) bistable light goes out. Record on data sheet. (16% = 16.40 MA) I/C Technician Initial_____

6.80 Place the test injection switch T/472 back to normal down position. Remove test leads from test jacks and test points. I/C Technician Initial_____

6.81 Connect the Foxboro Current Simulator into test injection jack labeled T/468 "Steam Generator Pressure". Place switch into defeat mode. I/C Technician Initial_____

6.82 Place digital multimeter (1 volt DC Range) into TP-468 compensated. Increase the simulated signal for (468) until digital reads approximately 30 MA. Slowly decrease signal until steam generator pressure (low pressure) bistable light goes out. Record on data sheet. (600 PSIG = 27.14 MA) I/C Technician Initial_____

6.83 Continue to decrease per Step 6.82, until steam generator (Low Pressure Safety Injection) bistable light goes out. Record on data sheet. (500 PSIG = 24.29 MA) I/C Technician Initial_____

6.84 With Foxboro Simulator remaining in T/468, connect a second simulator into test injection jack T/464, steam flow channel. Place switch into defeat mode. I/C Technician Initial_____

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6.85 Place digital multimeter (1V DC Range) into TP/464 non-compensated. Increase simulated "464" signal until (High Steam Flow) bistable light goes out. Record on data sheet. (.55 X 10^6 PPH = 10.83 MA)
I/C Technician Initial_____

6.86 Continue to increase 464 simulated signal per Step 6.85 until (High-High Steam Flow) bistable light goes out. Record on data sheet. (3.7 X 10^6 PPH = 47.92 MA) I/C Technician Initial_____

6.87 Disconnect digital multimeter test leads from TP-464 non-compensated and place into linear compensated TP-464. Adjust either simulators 464 or 468 channels until 30.00 MA is read on digitals.
I/C Technician Initial_____

6.88 Connect a third current simulator into test injection jack labeled T/466. Place injection switch to defeat. Place digital test lead into TP/466 linear feedwater flow and adjust signal until 30 MA is obtained. Start increasing simulated 466 signal until (SF $\overline{=}$ FWF) bistable light goes out. Record on data sheet the difference between 464 and 466 test points. (.8 X 10^6 PPH = 8.42 MA)
I/C Technician Initial_____

6.89 Decrease 466 simulated signal per Step 6.88, until 30 MA is read on digital multimeter. Remove digital test lead from TP-466 and insert into (TP-464 Linear Compensated). Increase 464 simulated signal until bistable (SF $\overline{=}$ FWF) light goes out. Record difference between 464 and 466 test points. (.8 X 10^6 PPH = 8.42 MA)
I/C Technician Initial_____

6.90 Remove all three Foxboro Current Simulator test leads and place T/468, T/464, T/466 to normal down position. Disconnect all test leads from test jacks. I/C Technician Initial_____

6.91 Place simulator into test injection jack labeled T/945 containment pressure. Place switch into defeat mode. I/C Technician Initial_____

6.92 Place the digital multimeter (1V DC Range) into containment pressure TP-945. Increase the simulated signal until (High Pressure S.I.) bistable light goes out. Record reading on data sheet. (6 PSIG = 14.00 MA) I/C Technician Initial_____

6.93 Continue to increase simulated signal 945 containment pressure until (Containment Spray) bistable light comes on. Record on data sheet. (30 PSIG = 30.00 MA) I/C Technician Initial_____

6.94 Remove the test leads from test injection jacks T/945. Place the test switch back to normal down position. Remove the digital test lead from test point. I/C Technician Initial_____

6.95 Place simulator into test injection jack labeled T/411, Reactor Coolant Flow. Place switch into defeat mode. I/C Technician Initial_____

CHANNEL 1

6.96 Place the digital multimeter (1V DC Range) into Reactor Coolant Flow TP-411. Decrease the simulated signal until bistable light (Low Reactor Coolant Flow) goes out. Record on data sheet. (90.67% = 37.18 MA) Remove all test leads & place T/411 to normal down position. I/C Technician Initial _____

6.97 Connect the digital multimeter into test point TP 452B and the current simulator into test injection jack TP-452A. Place the test injection switch T 452A to the UP position. I/C Technician Initial _____

6.98 Increase the simulated signal until bistable lights T 452B & T 452C go out. NOTE: Ligts will not be completely out due to insufficient load on bistable outputs. Record on Data Sheet. (425 psi = 27.00 MA). Place switch T 452A to the DOWN position and remove test leads. I/C Technician Initial _____

6.99 Place the bistable proving switches on the following bistable from trip to normal down position. Verify each annunciation and status lamp listed below. I/C Technician Initial _____

6.99.1	Reactor Coolant Flow 411 (Low Flow).	Reset _____
6.99.2	Containment Pressure 945 (Containment Pressure S.I.).	Reset _____
6.99.3	Containment Pressure 945 (Containment Spray Logic) (No visual response at control board)	Reset _____
6.99.4	Feedwater mismatch (S.F. = F.W.F.).	Reset _____
6.99.5	Feedwater mismatch (S.F. = F.W.F.).	Reset _____
6.99.6	Steam flow 464 (High-High Steam Flow).	Reset _____
6.99.7	Steam flow 464 (High Steam Flow).	Reset _____
6.99.8	Steam generator pressure 468 (Low Pressure S.I.).	Reset _____
6.99.9	Steam generator pressure 468 (Low Pressure).	Reset _____
6.99.10	Steam generator level 472 (Low Logic).	Reset _____
6.99.11	Steam generator level 472 (Low-Low Level).	Reset _____
6.99.12	Steam generator level 472 (High Level Override).	Reset _____
6.99.13	T-452B RCS Overpressurization Train "C"	Reset _____
6.99.14	T-452C RCS Overpressurization Train "C"	Reset _____

6.100 Operations, place the Main Feedwater controller HC-466 from automatic to manual mode. This step and Step 6.103 can be marked N/A if position of switches is not changed for Steps 6.101 and 6.102. Operations Initial _____

CHANNEL 1

6.101 Operations, place the "A" Steam Generator Feedwater Flow selector switch 1A for "A" Loop to position desired. Operations Initial _____

6.102 Operations, place the "A" Steam Generator Steam Flow selector switch 1A for "A" Loop to position desired. Operations Initial _____

6.103 Operations, place the Main Feedwater controller HC-466 from manual back to automatic mode if desired. Operations Initial _____

6.104 Operations place HC-480 by-pass controller from manual back to automatic if desired. Operations Initial _____

6.105 Operations, place the "A" Atmospheric Dump Controller HCV-468 from manual back to automatic mode if desired. Operations Initial _____

6.106 Close the test injection door inside Channel 1, Rack 2, test panel. Verify control board annunciation Channel 1 test alarm has cleared. I/C Technician Initial _____

6.107 I/C Technician, place Channel 1, back into computer scan. Inhibit; 1; Value 1; 1; Value 2; Add. (if operational) I/C Technician Initial _____

6.108 This completes the Reactor Protection Channel Trip Test for Channel 1.

COMPLETED BY: _____

DATE COMPLETED: _____

SHIFT FOREMAN: _____

INSTRUMENT AND CONTROL FOREMAN: _____

RESULTS/TEST REVIEW: _____ DATE _____

DEFICIENCIES:

CORRECTIVE ACTION:

CHANNEL RED

PT-5.10 L[illegible]HEET

TRANSMITTER NO.	BISTABLE	TEST POINT	FUNCTION	SETPOINT	MA / UNIT	FOUND	LEFT	DATE
(AVG.) TI-401	TC-401A	TP-T AVG. 1	HIGH T AVG.	578°F=30.26 MA	.5333 MA/°F			
(AVG.) TI-401	TC-401D	TP-T AVG. 1	LOW T AVG.	543°F=11.60 MA	.5333 MA/°F			
VERTEMP. (ROD STOP) T-401; TT-405; Ø;PZR	TC-405D	DELTA T SP1	ΔT_R= TSP1-1.71	1.71°F=.912 MA	.5333 MA/°F			
VERTEMP. (R.T.) T-401; TT-405; Ø;PZR	TC-405C	DELTA T SP1	$\Delta T = \Delta T_{R.T.}$	0°F=0.0 MA	.5333 MA/°F			
VERPOWER (ROD STOP) T-401; TT-405; Ø	TC-405B	DELTA T SP2	ΔT_R=TSP 21.71	1.71°F = .912 MA	.5333 MA/°F			
VERPOWER (R.T.) T-401; TT-405; Ø	TC-405A	DELTA T SP2	$\Delta T = \Delta T_{R.T.}$	0°F = 0.0 MA	.5333 MA/°F			
RESSURIZER PRESS. T-429	PC-429A	TP-429	HIGH PRESS. TRIP	2377 PSIG=43.85 MA	.05 MA/PSIG			
RESSURIZER PRESS. T-429	PC-429C	TP-429	LOW PRESS. S.I.	1715 PSIG=10.75 MA	.05 MA/PSIG			
RESSURIZER PRESS. T-429	PC-429D	TP-429	UNBLOCK S.I.	2000 PSIG=25.00 MA	.05 MA/PSIG			
RESSURIZER PRESS. T-429	PC-429E	TP-429 L/L OUTPUT	LOW PRESSURE REACTOR TRIP	1873 PSIG=18.65 MA	.05 MA/PSIG			
RESSURIZER LEVEL T-426	LC-426A	TP-426	HIGH LEVEL TRIP	87% = 44.80 MA	.4 MA/% LEVEL			
STEAM GENERATOR LVL LT-461	LC-461A	TP-461	HIGH LEVEL OVERRIDE	68% - 37.20 MA	.4 MA/% LEVEL			
STEAM GENERATOR LVL LT-461	LC-461B	TP-461	LOW-LOW LEVEL	16% = 16.40 MA	.4 MA/% LEVEL			
STEAM GENERATOR LVL LT-472	LC-472B	TP-472	HIGH LEVEL OVERRIDE	68% = 37.20 MA	.4 MA/% LEVEL			
STEAM GENERATOR LVL LT-472	LC-472C	TP-472	LOW LOGIC	30% = 22.00 MA	.4 MA/% LEVEL			
STEAM GENERATOR LVL LT-472	LC-472A	TP-472	LOW-LOW LEVEL	16% = 16.40 MA	.4 MA/% LEVEL			
STEAM GENERATOR PRS. PT-468	PC-468A2	TP-468 L/L OUTPUT	LOW PRESSURE	600PSIG = 27.14MA	35 PSIG/MA			
STEAM GENERATOR PRS PT-468	PC-468A1	TP-468 L/L OUTPUT	SAFETY INJECTION	500PSIG = 24.29MA	35 PSIG/MA			
STEAM FLOW FT-464	FC-464A1	TP-464 RAW	HIGH STEAM FLOW	.55x10^6 PPH = 10.83 MA	2.09% SPAN 14.47% SPAN			

COMPLETED BY: _____

DATE COMPLETED:

ANSMITTER NO.	BISTABLE	TEST POINT	FUNCTION	SETPOINT	MA/UNIT	FOUND	LEFT	DATE
EAM FLOW -464	FC-464A2	TP-464 RAW	HIGH-HIGH STEAM FLOW	3.7×10^6 PPH = 47.92 MA	97.37% SPAN			
EDWATER FLOW/STM -466 & FT-464	FC-466B	TP-466 COMP. TP-464 COMP.	S.F. $\leqq$ F.W.F. MISMATCH	$.8 \times 10^6$ PPH = 8.42 MA	1.053×10^{-5} MA/PPH $\approx$			
EDWATER FLOW/STM -466 & FT-464	FC-466C	TP-466 COMP. TP-464 COMP.	S.F. $\geqq$ F.W.F. MISMATCH	$.8 \times 10^6$ PPH = 8.42 MA	1.053×10^{-5} MA/PPH $\approx$			
ACTOR COOLANT FLOW -411	FC-411	TP-411	LOW FLOW R.T.	90.67%SPAN=37.18 MA	.4 MA/% LIN.			
ONTAINMENT PRESS. -945	PC-945A	TP-945	HIGH PRESS. S.I.	6 PSIG = 14.00MA	.66 MA/PSIG			
ONTAINMENT PRESS. -945	PC-945B	TP-945	CONTAINMENT SPRAY	30PSIG-30.00 MA	.66 MA/PSIG			
EACTOR COOLANT RESSURE PT-452	PC-452	TP-452B	RCS OVERPRES-SURE TRAIN C	2425 PSI= 27.00 MA	.04 MA/PSIG			

ERFORMED BY: _____ REVIEWED BY: _____

DATE: _____

EST EQUIPMENT:

	EQUIPMENT NAME	MODEL NUMBER	SERIAL NUMBER
1.			
2.			
3.			
4.			