PSEG NUCLEAR L.L.C.
MAINTENANCE

S1.IC-CC.RCP-0070(Q) - REV. 15

1PT-403 REACTOR COOLANT SYSTEM HOT LEG PRESSURE CHANNEL II

USE CATEGORY : I

- Biennial Review Performed: Yes ____ No ____ NA ✓
- Packages and Affected Document Numbers incorporated into this revision: None.
- The following OTSCs were incorporated into this revision: None

REVISION SUMMARY

- Revised to current format and content. (Rev. Bars NOT used.)

- Modified Steps throughout Section 5.0 to change from Single IV step to separate steps for IV. Changes are editorial to incorporate Exelon verification practices IAW HU-AA-101. [70082613-0010]

- Modified noise monitoring to only obtain AS FOUND noise data after all modules have been adjusted. (Current format does not obtain AS LEFT noise data.)

IMPLEMENTATION REQUIREMENTS

Effective Date: ____4/2/08____

1PT-403 REACTOR COOLANT SYSTEM HOT LEG PRESSURE CHANNEL II

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1.0 **PURPOSE**

1.1 To verify operability and accuracy of the channel analog and trip functions.

1.2 To partially satisfy the Channel Calibration requirement of Technical Specification Surveillance 4.3.3.7, Table 4.3-11, Items 3 and 19. This requirement is applicable in Modes 1, 2, and 3. [C0265]

NOTE

Technical Specification 4.3.3.7, Table 4.3-11, Item 11 does <u>NOT</u> require a Channel Calibration. <u>IF</u> the channel is found to be inoperable, Technical Specification 3/4.3.3.7 should be evaluated for Limiting Condition for Operability.

1.3 To calibrate channel required for Technical Specification 4.3.3.7, Table 4.3-11, Item 11. This channel is required to be operable in Modes 1, 2 and 3.

1.4 To partially satisfy the Channel Calibration requirement of Technical Specification Surveillance 4.4.9.3.1.b. This requirement is applicable when the temperature of one or more of the RCS cold legs is less than or equal to 312°F, except when the reactor vessel head is removed. [C0265]

2.0 **PREREQUISITES**

____ 2.1 **RECORD** M&TE data on Attachment 2, Section 1.0.

____ 2.2 REQUEST SM/CRS permission to perform this procedure.

____ 2.3 SIGN Exhibit 1 and TRANSFER to RO.

2.4 INFORM RO that the following will occur during the performance of this procedure:

____
RO ♦ RCS Subcooling Margin Monitor, Channel B will be rendered inoperable

____
RO ♦ RVLIS, Train A will be rendered inoperable and will be placed in the NORMAL mode of operation during the performance of this procedure.

____
RO ♦ Action Statement of Technical Specification 3.4.3 may be applicable <u>IF</u> 1PR7 is closed.

2.5   The RO should establish/verify the following:

RO   ♦   PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II,
            Switch NOT in ON position.

RO   ♦   PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II,
            OFF pushbutton light on

RO   ♦   PRESSURIZER OVERPRESSURE PROTECTION, REACTOR
            COOLANT SYSTEM, CONTROLS & ALARMS, PT 403 CHANNEL II
            PRESSURE selected

RO   ♦   IF POPS is armed or going to be armed during the performance of this procedure,
            1PR7 is closed. MARK N/A if POPS NOT required to be armed.

3.0   PRECAUTIONS AND LIMITATIONS

3.1   ENSURE all applicable generic precautions and limitations of MA-AA-716-009, Use of
       Maintenance Procedure, are applied during performance of this procedure.

3.2   Device(s), except SPDS computer points and RVLIS Inputs should be adjusted to bring the
       AS FOUND value as close as possible to the REQUIRED value. The Controls Supervisor
       should be notified of all adjustments. All adjustments should be recorded on Attachment 2,
       Section 2.0.

3.3   A Notification should be initiated IAW LS-AA-120, Issue Identification and Screening
       Process, for SPDS computer point(s) or RVLIS data NOT meeting the requirements of the
       specified accuracy.

4.0   EQUIPMENT/MATERIAL REQUIRED

4.1   M&TE

       ♦   DMM, Fluke 8600A or equivalent

       ♦   DMM, Fluke 45 (for RMS voltages)

4.2   Additional Tools and Equipment

       ♦   Current Simulator
       ♦   Switch Box
       ♦   Communications Equipment

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5.0 **PROCEDURE**

___ 5.1 VERIFY Prerequisites have been met.

___ 5.2 VERIFY Precautions and Limitations have been reviewed.

5.3 VERIFY the following annunciators off:

___ ♦ RX PROT CH I ON TEST (A-4)

___ ♦ RX PROT CH III ON TEST (A-20)

___ ♦ RX PROT CH IV ON TEST (A-28)

5.4 REMOVE the following fuse from 1TC-423C (R16-6A):

___ ___ ♦ OUTPUT
PC

___ 5.5 VERIFY annunciator POPS CH II DISARM/1PR7 CLSD (E-11) on.

NOTE
Control console alarm CHANNEL II PRESSURE HI may be on IF indicator indicates between 330 to 360 psig due to comparator deadband. Trip occurs at 360 psig increasing.

___ 5.6 OPEN front door of Protection Rack #8 CH-2.

___ 5.7 VERIFY annunciator RX PROT CH II ON TEST (A-12) on.

5.8 VERIFY the following:

___ ♦ PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, CONTROLS & ALARMS, PT 403 CHANNEL II PRESSURE selected.

___ ♦ PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II, Switch NOT in ON position.

___ ♦ PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II, OFF pushbutton light on.

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CAUTION

IF the previous steps were not performed correctly, performance of the following steps may cause a POPS Actuation. [C0225]

5.9   PLACE the following bistable test switches in the test (up) position (R8-TP):

___   ♦   1BS-403A

___   ♦   1BS-403B

___   5.10   PLACE channel test switch 1CT-403 (R8-TP) in the test (up) position.

___   5.10.1.   VERIFY annunciator RX PROT CH II ON TEST (A-12) reflashes.

___   5.11   CONNECT current simulator to 1TJ-403 (R8-TP).

5.12   IF RVLIS Train A is NOT in NORMAL mode (842-1), THEN PERFORM the following:

___   5.12.1.   RECORD AS FOUND switch position.

_____ Switch position

___   5.12.2.   PLACE in NORMAL position.

NOTE

The DMM will be required to be connected to following points during the performance of this procedure: The technician will connect/disconnect DMM as required to obtain data required by Data Sheets.

♦   1TP-403-1 (R8-TP)   ♦   TBE 6 (-) and 7 (+) (R8)
♦   1PM-403C, OUTPUT 1 (R8-3C)   ♦   1PM-403C, OUTPUT 2
♦   1PM-403B, OUT (+) and OUT (-) (R57)   ♦   1PM-403A, IN (+) and IN (-)
♦   1PM-403A, OUT (+) and OUT (-)   ♦   1PQ-403, OUTPUT (R8-3E)
♦   1PC-403A-B, #1 IN (R8-6E)   ♦   1PC-403A-B, #1 SET PT (+) & (-)
♦   1PC-403A-B, #2 SET PT (+) & (-)   ♦   1PC-403C-D, #1 IN (R7-1C)
♦   1PC-403C-D, #1 SET PT (+) & (-)

> **NOTE**
>
> 1PI-403/1PA-9858 is out of range and adjustments are required if:
>
> ♦ Bottom LED on bar graph flashes when verifying minimum calibration point
> ♦ Digital readout flashes "888" when verifying maximum calibration point

___ 5.13 ADJUST current simulator to obtain REQUIRED INPUT values specified in Attachment 1, Sections 1.0 and 2.0, and **RECORD** AS FOUND data.

___ 5.14 ADJUST current simulator to observe Trip and Reset, and **RECORD** AS FOUND data on Attachment 1, Section 3.0.

5.15 PERFORM the following:

___ 5.15.1. ADJUST current simulator for 1.000 VDC at 1TP-403-1.

___ 5.15.2. ADJUST current simulator until 1PC-403C-D, #2 OUT comes on and **RECORD** AS FOUND TRIP data on Attachment 1, Section 4.0.

___ 5.15.3. VERIFY control console alarm PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, CONTROLS & ALARMS, CHANNEL II PRESSURE HI on.

___ 5.15.4. ADJUST current simulator until 1PC-403C-D, #1 OUT comes on and
$ **RECORD** AS FOUND TRIP data on Attachment 1, Section 4.0.

___ 5.15.5. ADJUST current simulator until 1PC-403C-D, #1 OUT goes off and **RECORD** AS FOUND RESET data on Attachment 1, Section 4.0.

___ 5.15.6. ADJUST current simulator until 1PC-403C-D, #2 OUT goes off and **RECORD** AS FOUND RESET data on Attachment 1, Section 4.0.

___ 5.15.7. VERIFY control console alarm PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, CONTROLS & ALARMS, CHANNEL II PRESSURE HI off.

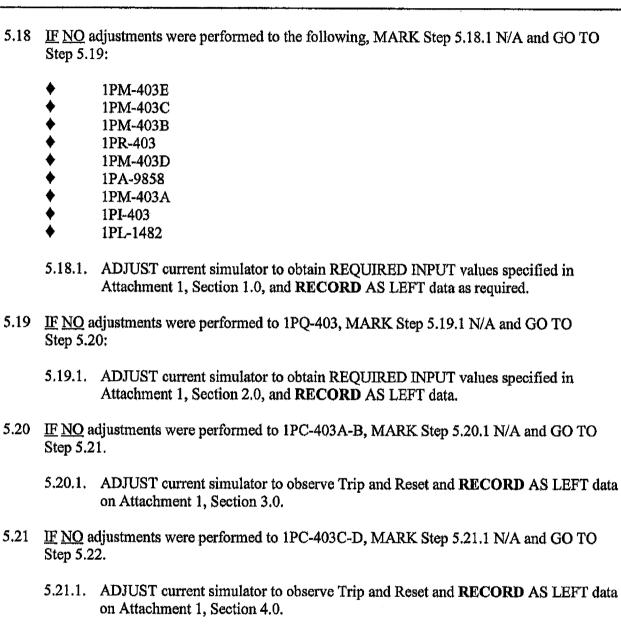___ 5.16 IF NO adjustments are required, MARK Steps 5.17.1 through 5.21.1 N/A and GO TO Step 5.22.

5.17 ADJUST device(s) per the following: MARK steps NOT required N/A.

___ 5.17.1. 1PQ-403 using front panel voltage adjust potentiometer.

___ 5.17.2. 1PM-403E IAW SC.IC-DC.RCP-0001(Q), Control and Protection Instrumentation Calibration Adjustments

___ 5.17.3. 1PM-403C IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.4. 1PM-403B IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.5. 1PR-403 IAW Vendor Manual 900949, Set-Up Section and Attachment 1, Section 1.0 of this procedure.

___ 5.17.6. 1PM-403D IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.7. 1PA-9858 IAW SC.IC-GP.ZZ-0007(Q), General Calibration Procedure for Dixson Edgewise Bargraph Indicator

___ 5.17.8. 1PM-403A IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.9. 1PI-403 IAW SC.IC-GP.ZZ-0007(Q)

___ 5.17.10. 1PL-1482 IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.11. 1PC-403A-B IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.12. 1PC-403C-D IAW SC.IC-DC.RCP-0001(Q)

___ 5.17.13. IF adjustments fail to bring device(s) within REQUIRED TOLERANCE, INITIATE troubleshooting IAW MA-AA-716-004, Conduct of Troubleshooting.

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NOTE

Section 8.0 may be referenced to determine which OUTPUT MONITORING POINT(s) require AS LEFT data to be recorded, based on instrument interaction.

5.18 IF NO adjustments were performed to the following, MARK Step 5.18.1 N/A and GO TO Step 5.19:

♦ 1PM-403E
♦ 1PM-403C
♦ 1PM-403B
♦ 1PR-403
♦ 1PM-403D
♦ 1PA-9858
♦ 1PM-403A
♦ 1PI-403
♦ 1PL-1482

____ 5.18.1. ADJUST current simulator to obtain REQUIRED INPUT values specified in Attachment 1, Section 1.0, and **RECORD** AS LEFT data as required.

5.19 IF NO adjustments were performed to 1PQ-403, MARK Step 5.19.1 N/A and GO TO Step 5.20:

____ 5.19.1. ADJUST current simulator to obtain REQUIRED INPUT values specified in Attachment 1, Section 2.0, and **RECORD** AS LEFT data.

5.20 IF NO adjustments were performed to 1PC-403A-B, MARK Step 5.20.1 N/A and GO TO Step 5.21.

____ 5.20.1. ADJUST current simulator to observe Trip and Reset and **RECORD** AS LEFT data on Attachment 1, Section 3.0.

5.21 IF NO adjustments were performed to 1PC-403C-D, MARK Step 5.21.1 N/A and GO TO Step 5.22.

____ 5.21.1. ADJUST current simulator to observe Trip and Reset and **RECORD** AS LEFT data on Attachment 1, Section 4.0.

____ 5.22 ADJUST current simulator for 5.000 VDC at 1TP-403-1.

____ 5.23 **RECORD** AS FOUND AC NOISE data on Attachment 1, Section 5.0.

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___ 5.24 DISCONNECT all test equipment.

___ 5.25 PLACE channel test switch 1CT-403 in the normal (down) position (R8-TP).

___
IV 5.26 Independently VERIFY channel test switch 1CT-403 in the normal (down) position

___
RO 5.27 NOTIFY RO testing is complete. IF desired, Operations may perform operability checks prior to Controls placing bistable test switches in normal.

5.28 PLACE the following bistable test switches in the normal (down) position (R8-TP):

___ ♦ 1BS-403A

___ ♦ 1BS-403B

5.29 Independently VERIFY the following bistable test switches in the normal (down) position:

___
IV ♦ 1BS-403A

___
IV ♦ 1BS-403B

___ 5.30 INSTALL OUTPUT fuse in 1TC-423C (R16-6A).

___
IV 5.31 Independently VERIFY OUTPUT fuse is installed in 1TC-423C (R16-6A).

___ 5.32 IF PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, TEMP indicator indicates > 312°F, VERIFY annunciator POPS CH II DISARM/1PR7 CLSD (E-11) off.

___ 5.33 CLOSE front door of Protection Rack #8 CH-2.

___ 5.34 VERIFY annunciator RX PROT CH II ON TEST (A-12) off.

5.35 IF RVLIS Train A mode switch was switch was manipulated at Step 5.12, THEN PERFORM the following:

___   5.35.1. PLACE Train A mode switch in AS FOUND position recorded in Step 5.12 (842-1).

___
IV   5.35.2. Independently VERIFY Train A mode switch is in AS FOUND position recorded in Step 5.12 (842-1).

___   5.35.3. RECORD AS LEFT switch position.

           _____ Switch position

___   5.36 NOTIFY RO this channel has been returned to normal and the following may be selected:

___
RO   ♦   PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II Key Switch ON (NOT in ON position.)

___
RO   ♦   PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, CONTROLS & ALARMS, PT 405 CHANNEL I PRESSURE (PT 403 CHANNEL II PRESSURE)

___
RO   ♦   RCS Subcooling Margin Monitor, Channel B may be returned to normal.

___
RO   ♦   1PR7 open (closed)

___   5.37 NOTIFY SM/CRS this channel has been returned to normal.

END OF PROCEDURE SECTION

6.0 **RECORDS**

6.1   Retain the entire procedure.

7.0 **REFERENCES**

7.1   Updated Final Safety Analysis Report

7.1.1.   Section 7.5, Safety-Related Display Instrumentation
7.1.2.   Section 7.6.1, Residual Heat Removal Isolation Valves

7.2   Technical Specifications

7.2.1.   Section 3/4.3.3.7, Accident Monitoring Instrumentation
7.2.2.   Section 3/4.4.9.3, Overpressure Protection Systems
7.2.3.   Section 3/4.4.3, Relief Valves

7.3   Commitments

7.3.1.   C0225, NRC VIOL 272/89-01-01
7.3.2.   C0265, NSO LER 311/89-015-00

7.4   PSBPs

7.4.1.   138646, Westinghouse Instruction Book For Control and Protection Instrumentation System, Volume II
7.4.2.   304209, Precautions, Limitations and Setpoints for Nuclear Steam Supply Systems
7.4.3.   317414, NUS Operation and Maintenance Manual
7.4.4.   900949, YOKOGAWA DX364, IM04L70B01-01E User Manual

7.5   Drawings

7.5.1.   211507, Controls Schematic, RHR No. 12SJ44, 22SJ44, 12RH4, 22RH4, 1RH1, & 2RH1 Suction Isolation Valves
7.5.2.   220079, Wiring Diagram, Reactor Prot. and Process Cont. System PZR Over Press. Prot. Interconnections
7.5.3.   241108, Controls Schematic, Pressurizers Overpress Prot. Sys. Ch. I and II, RC. Temp. and Press. Ch. Selec.
7.5.4.   242881, Controls Schematic, No. 1 Unit, Pressurizer, PZR Power Relief & Stop VA's & Overpress Prot Sys Ch. II
7.5.5.   601888, Wiring Diagram, Reactor Prot. & Process Cont. Systems Reactor Coolant Interconnections
7.5.6.   611629, Loop Diagram, No. 1 Unit, Reactor Coolant Hot Leg Channel II Pressure, 1PT403

7.6 Others

7.6.1. SC-RC004-01, Salem Unit 1, 2 Reactor Coolant Pressure Instrumentation
7.6.2. SC-RVL005-01, Salem Unit 1, 2 RVLIS Wide Range Pressure and Hot Leg Temperature Loops Calibration Tolerance & Acceptable Values

7.7 Cross-References

7.7.1. LS-AA-120, Issue Identification and Screening Process
7.7.2. SC.IC-DC.RCP-0001(Q), Control and Process Instrumentation Calibration Adjustments
7.7.3. SC.IC-GP.ZZ-0007(Q), General Calibration Procedure for Dixson Edgewise Bargraph Indicator
7.7.4. MA-AA-716-004, Conduct of Troubleshooting
7.7.5. MA-AA-716-009, Use of Maintenance Procedure

8.0 **REFERENCE DRAWING**

```
                          ┌──────────────┐
                          │   1PT-403    │   (Panel 797-1B)
                          └──────┬───────┘
                                 │
                                 ▌  1TP-403-1 (R8-TP)
                                 │
        ┌────────────────────────┼────────────────────────┐
    ┌───┴───┐              ┌──────┴──────┐            ┌────┴───┐
    │  I/V  │              │  U1PT0403S  │            │  I/V   │
    └───┬───┘              └─────────────┘            └───┬────┘
                              SPDS POINT                  │
                                                ┌─────────┴──┐
                                                │   (1RP1)   │
                                                └──────┬─────┘
                                                 ┌─────┴──────┐
                                                 │  1LD-3375  │
                                                 └────────────┘
```

(R8-7C)   (R7-1C)   (R8-3C)   #1 ▌ (R8-6E)

| 1PM-403E | 1PC-403C-D | 1PM-403C | 1PC-403A-B |

POPS Init.   Control   #1 ▌   ▌ #2   (R8-TP)
              Console

| I/V | 1BS-403A | 1BS-403B |

TBE 6 & 7 (R8)   I/V   1RH1 OPEN   Annunciator
                                  PERMISSIVE

Incore Exit   P0499A
Thermocouple
Display   (P250 Point)

          (R57)   (R20-6E)

| 1PM-403B | 1PM-403D |

| 1PR-403 (Red) | I/V

(Control Console)

                    (R57)

| 1PM-403A | | 1PA-9858 |

                            (Control Console)

| 1PI-403 | | 1PL-1482 |

(Control Console)   (Panel 213)

▌ DMM Monitoring Point

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ATTACHMENT 1

DATA SHEET

1.0   (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINT TBE 6 & 7 (R8)			
	REQUIRED (TOLERANCE) VDC	$ ACCEPTABLE VALUE VDC	AS FOUND VDC	AS LEFT VDC
1.000	1.000 (0.980 to 1.020)	0.955 to 1.045		
2.000	2.000 (1.980 to 2.020)	1.955 to 2.045		
3.000	3.000 (2.980 to 3.020)	2.955 to 3.045		
4.000	4.000 (3.980 to 4.020)	3.955 to 4.045		
5.000	5.000 (4.980 to 5.020)	4.955 to 5.045		
4.000	4.000 (3.980 to 4.020)	3.955 to 4.045		
3.000	3.000 (2.980 to 3.020)	2.955 to 3.045		
2.000	2.000 (1.980 to 2.020)	1.955 to 2.045		
1.000	1.000 (0.980 to 1.020)	0.955 to 1.045		

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ATTACHMENT 1 (Continued)

1.0   (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINTS					
	1PM-403C OUTPUT 1		1PM-403C OUTPUT 2		1PM-403B OUT	
	AS FOUND VDC	AS LEFT VDC	AS FOUND VDC	AS LEFT VDC	AS FOUND VDC	AS LEFT VDC
	REQUIRED (TOLERANCE)					
1.000	1.000 (0.980 to 1.020)					
2.000	2.000 (1.980 to 2.020)					
3.000	3.000 (2.980 to 3.020)					
4.000	4.000 (3.980 to 4.020)					
5.000	5.000 (4.980 to 5.020)					
4.000	4.000 (3.980 to 4.020)					
3.000	3.000 (2.980 to 3.020)					
2.000	2.000 (1.980 to 2.020)					
1.000	1.000 (0.980 to 1.020)					

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ATTACHMENT 1 (Continued)

1.0 (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINT 1PR-403 (RED PEN)			
	REQUIRED (TOLERANCE) PSIG	$ ACCEPTABLE VALUE PSIG	AS FOUND PSIG	AS LEFT PSIG
1.000	0.0 (-16.8 to 16.8)	(-37.7 to 37.7)		
2.000	750.0 (733.2 to 766.8)	(712.3 to 787.7)		
3.000	1500.0 (1483.2 to 1516.8)	(1462.3 to 1537.7)		
4.000	2250.0 (2233.2 to 2266.8)	(2212.3 to 2287.7)		
4.960*	2970.0 (2953.2 to 2986.8)	(2932.3 to 3000.0)		
4.000	2250.0 (2233.2 to 2266.8)	(2212.3 to 2287.7)		
3.000	1500.0 (1483.2 to 1516.8)	(1462.3 to 1537.7)		
2.000	750.0 (733.2 to 766.8)	(712.3 to 787.7)		
1.000	0.0 (-16.8 to 16.8)	(-37.7 to 37.7)		

* Calibration input point is at 99% of full scale to check recorder calibration tolerance and acceptable value. The recorder output limit 3000.0 will indicate, +OVER at greater than 5.000vdc (5.001vdc). Yokogawa DX364 recorder, maximum digital digits is limited to 3000. Recorder scaling program is 1 to 5vdc input for 0.0 to 3000.0 PSIG.

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ATTACHMENT 1 (Continued)

1.0   (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINT RVLIS MONITOR 1LD-3375 SENSOR STATUS PAGE (1RP1)			
	REQUIRED (TOLERANCE) PSIG	$ ACCEPTABLE VALUE PSIG	AS FOUND PSIG	AS LEFT PSIG
1.000	0 (-15 to 15)*	(-15 to 15)*		
2.000	750 (735 to 765)	(735 to 765)		
3.000	1500 (1485 to 1515)	(1485 to 1515)		
4.000	2250 (2235 to 2265)	(2235 to 2265)		
5.000	3000 (2985 to 3015)*	(2985 to 3015)*		
4.000	2250 (2235 to 2265)	(2235 to 2265)		
3.000	1500 (1485 to 1515)	(1485 to 1515)		
2.000	750 (735 to 765)	(735 to 765)		
1.000	0 (-15 to 15)*	(-15 to 15)*		

* Off scale values are acceptable if within the specified tolerance.

ATTACHMENT 1 (Continued)

1.0   (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINTS			
	1PM-403A IN		1PM-403A OUT	
	AS FOUND VDC	AS LEFT VDC	AS FOUND VDC	AS LEFT VDC
	REQUIRED (TOLERANCE)			
1.000	1.000 (0.980 to 1.020)			
1.200	2.000 (1.980 to 2.020)			
1.400	3.000 (2.980 to 3.020)			
1.600	4.000 (3.980 to 4.020)			
1.800	5.000 (4.980 to 5.020)			
1.600	4.000 (3.980 to 4.020)			
1.400	3.000 (2.980 to 3.020)			
1.200	2.000 (1.980 to 2.020)			
1.000	1.000 (0.980 to 1.020)			

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ATTACHMENT 1 (Continued)

1.0 (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINT 1PI-403			
	REQUIRED (TOLERANCE) PSIG	$ ACCEPTABLE VALUE PSIG	AS FOUND PSIG	AS LEFT PSIG
1.000	0 (-9 to 9)*	(-39 to 39)*		
1.200	150 (141 to 159)	(111 to 189)		
1.400	300 (291 to 309)	(261 to 339)		
1.600	450 (441 to 459)	(411 to 489)		
1.800	600 (591 to 609)*	(561 to 639)*		
1.600	450 (441 to 459)	(411 to 489)		
1.400	300 (291 to 309)	(261 to 339)		
1.200	150 (141 to 159)	(111 to 189)		
1.000	0 (-9 to 9)*	(-39 to 39)*		

* Off scale values are acceptable if within the specified tolerance.

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ATTACHMENT 1 (Continued)

1.0 (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINT 1PA-9858			
	REQUIRED (TOLERANCE) PSIG	$ ACCEPTABLE VALUE PSIG	AS FOUND PSIG	AS LEFT PSIG
1.000	0 (-9 to 9)*	(-39 to 39)*		
1.200	150 (141 to 159)	(111 to 189)		
1.400	300 (291 to 309)	(261 to 339)		
1.600	450 (441 to 459)	(411 to 489)		
1.800	600 (591 to 609)*	(561 to 639)*		
1.600	450 (441 to 459)	(411 to 489)		
1.400	300 (291 to 309)	(261 to 339)		
1.200	150 (141 to 159)	(111 to 189)		
1.000	0 (-9 to 9)*	(-39 to 39)*		

* Off scale values are acceptable if within the specified tolerance.

ATTACHMENT 1 (Continued)

1.0 (Steps 5.13/5.18.1) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINT 1PL-1482			
	REQUIRED (TOLERANCE) PSIG	$ ACCEPTABLE VALUE PSIG	AS FOUND PSIG	AS LEFT PSIG
1.000	0 (-10 to 10)*	(-40 to 40)*		
1.200	150 (140 to 160)	(110 to 190)		
1.400	300 (290 to 310)	(260 to 340)		
1.600	450 (440 to 460)	(410 to 490)		
1.800	600 (590 to 610)*	(560 to 640)*		
1.600	450 (440 to 460)	(410 to 490)		
1.400	300 (290 to 310)	(260 to 340)		
1.200	150 (140 to 160)	(110 to 190)		
1.000	0 (-10 to 10)*	(-40 to 40)*		

* Off scale values are acceptable if within the specified tolerance.

ATTACHMENT 1 (Continued)

1.0 (Step 5.13) CHANNEL CALIBRATION DATA

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT VDC	OUTPUT MONITORING POINTS	
	CONTROL ROOM SPDS POINT U1PT0403S	P0499A P250 Computer Point
	AS FOUND PSIG	
	REQUIRED (TOLERANCE)	
2.000		
	750.0 (735.0 to 765.0)	
4.000		
	2250.0 (2235.0 to 2265.0)	

2.0 (Steps 5.13/5.19.1) POWER SUPPLY VOLTAGE

INPUT MONITORING POINT 1TP-403-1 REQUIRED INPUT	OUTPUT MONITORING POINT 1PQ-403, OUTPUT		
	REQUIRED (TOLERANCE)	AS FOUND	AS LEFT
5.000 VDC	46 (43.7 to 48.3) VDC		

s1.IC-CC.RCP-0070(Q)

ATTACHMENT 1 (Continued)

3.0 **(Step 5.14/5.20.1) ALARM AND TRIP SETPOINT CALIBRATION DATA**

OUTPUT MONITORING POINT	INPUT MONITORING POINT 1PC-403A-B, #1 IN	AS FOUND VDC	AS LEFT VDC
(ON) 1BS-403A (OFF)	TRIP (Decreasing) at **1.467** (**1.467** to 1.477) VDC		
	RESET (Increasing) at 40 (30 to 50) MV from TRIP		
(OFF) 1BS-403B (ON)	TRIP (Increasing) at **1.480** (1.470 to **1.480**) VDC		
	RESET (Decreasing) at 40 (30 to 50) MV from TRIP		

4.0 **(Steps 5.15/5.21.1) ALARM AND TRIP SETPOINT CALIBRATION DATA**

OUTPUT MONITORING POINT	INPUT MONITORING POINT 1TP-403-1	AS FOUND VDC	AS LEFT VDC
(ON) 1PC-403C-D, #1 OUT	$ TRIP (Increasing) at 1.493 VDC **ALLOWABLE VALUE is ≤ 1.500**	$	$
	1PC-403C-D, #1 IN		
(ON) 1PC-403C-D, #1 OUT (OFF)	TRIP (Increasing) at **1.493** (1.483 to **1.493**) VDC		
	RESET (Decreasing) at 40 (30 to 50) MV from TRIP		
(ON) 1PC-403C-D, #2 OUT (OFF)	TRIP (Increasing) at **1.480** (1.470 to **1.480**) VDC		
	RESET (Decreasing) at 40 (30 to 50) MV from TRIP		

s1.IC-CC.RCP-0070(Q)

ATTACHMENT 1 (Continued)

5.0   (Steps 5.23) AC NOISE

MODULE	MONITORING LOCATION	DESIRED*	AS FOUND
1PQ-403	1PQ-403, OUTPUT	<35 mVAC (RMS)	
1PM-403A	1PM-403A OUT	<20 mVAC (RMS)	
1PM-403B	1PM-403B, OUT	<20 mVAC (RMS)	
1PM-403C	1PM-403C, OUTPUT 1	<20 mVAC (RMS)	
1PM-403D	1PM-403A IN	<20 mVAC (RMS)	
1PM-403E	TBE 6 & 7 (R8)	<20 mVAC (RMS)	
1PC-403A-B	1PC-403A-B, #1 SET PT (+) & (-)	<3 mVAC (RMS)	
1PC-403A-B	1PC-403A-B, #2 SET PT (+) & (-)	<3 mVAC (RMS)	
1PC-403C-D	1PC-403C-D, #1 SET PT (+) & (-)	<3 mVAC (RMS)	

*   IF AC NOISE level is greater than desired, the module should be replaced.

s**1**.IC-CC.RCP-0070(Q)

ATTACHMENT 2

ADMINISTRATIVE DATA SHEET

1.0 M&TE DATA

Device Name	ID No.	Cal Due Date
DMM	_____	_____

2.0 COMMENTS ORDER #: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3.0 INDIVIDUALS PERFORMING WORK

Print	Signature	Initial	Date

4.0 CONTROLS SUPERVISOR APPROVAL

This procedure has been reviewed for completion.

_____
Controls Supervisor / Date

s1.IC-CC.RCP-0070(Q)

EXHIBIT 1

OPERATIONS INFORMATION SHEET

Procedure Title: 1PT-403 Reactor Coolant System Hot Leg Pressure Channel II

Performer Name: _____   Date _____

Required Lineups

♦   PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II, Key Switch NOT in ON position

♦   PRESSURIZER OVERPRESSURE PROTECTION, CHANNEL II, OFF pushbutton light on

♦   PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, CONTROLS & ALARMS, PT 403 CHANNEL II PRESSURE selected

♦   IF POPS is armed or going to be armed during the performance of this procedure, 1PR7 is closed

Annunciators

♦   RX PROT CH II ON TEST (A-12)

♦   1RH1 NOT CLSD & RC PRESS HI (D-44)

♦   SUBCLG CH B MARGIN LO (D-48)

♦   POPS CH II DISARM/1PR7 CLSD (E-11)

Control Console Alarms

♦   PRESSURIZER OVERPRESSURE PROTECTION, REACTOR COOLANT SYSTEM, CONTROLS & ALARMS, CHANNEL II PRESSURE HI

Other

♦   RCS Subcooling Margin Monitor, Channel B will be rendered inoperable

♦   RVLIS, Train A will be rendered inoperable

♦   Action Statement of Technical Specification 3.4.3 may be applicable IF 1PR7 is closed.