

Fort Calhoun Station
Unit No. 1

IC-ST-SI-0005

SURVEILLANCE TEST

Title: CHANNEL CALIBRATION OF SAFETY INJECTION
TANK SI-6A NITROGEN PRESSURE, LOOP P-2901

Setpoint/Procedure
Form Number (FC-68): 38343

Reason for Change: Procedure updates to Section 2, 5, 10,
and 11.

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ISSUED: 06-05-92 4:00 pm

R1

CHANNEL CALIBRATION OF
SAFETY INJECTION TANK SI-6A
NITROGEN PRESSURE, LOOP P-2901

SAFETY RELATED

1.0 PURPOSE

- 1.1 The purpose of this procedure is to provide instructions for channel calibration by verifying and, if required, re-establishing the accuracies of Safety Injection Tank SI-6A Nitrogen Pressure, Loop P-2901.
- 1.2 This test is performed at least once per plant operating cycle.
- 1.3 This test satisfies, in part, the requirements of Technical Specifications, Section 3.1, Table 3-2, Item 14.b.

2.0 REFERENCES

2.1 Technical Specifications

- Sections 2.3 (1) d. and 2.3 (2) g.
- Section 3.1, Table 3-2, Item 14.b.

2.2 Manual TM G080.1630 for General Electric Model 570 Power Supply

2.3 Manual TM S185.0010 for Sigma Instruments Model 9223 Meter Relay

2.4 Manual TM G080.1400 for General Electric Model 551 Transmitter

2.5 Drawings

File No. Description

161F561 Sh 83	09581	Interconnection Diag
F-23866-210-130 Sh 2	10480	P&ID
11405-M-15	10583	Location Drawing
11405-E-93	12315	Location Drawing
11405-EM-2901	20574	I&C Equipment List
B-23866-414-431	21574	Annunciator Elementary
7.6-1	36563	Control Room Panels
B-4101 Sh 8	37237	ERF Input/Output List

2.6 Standing Order G-23, Surveillance Test Program

3.0 DEFINITIONS

None

4.0 EQUIPMENT LIST

- 4.1 Transmitter simulator, Transmation Model 1040 or equivalent
- 4.2 Digital multimeter (DMM), Fluke Model 8060A or equivalent (3 required)
- 4.3 Analog volt-ohmmeter (VOM), or equivalent, suitable for monitoring relay contact closure/opening (2 required)
- 4.4 Pressure source capable of 0 - 300 psig
- 4.5 Test gauge or equivalent, 0 - 300 psig minimum to 0 - 600 psig maximum, with accuracy of at least $\pm 1\%$ full scale

5.0 PRECAUTIONS AND LIMITATIONS

- 5.1 A Radiation Work Permit (RWP) shall be issued to cover work in radiation controlled areas.
- 5.2 All anomalies and deficiencies shall be reported **immediately** to immediate Supervisor, Shift Supervisor, and noted on the Comment Sheet/Chronological Log. An immediate check shall be made to verify Limiting Conditions for Operation, per Technical Specifications, have not been exceeded.
- 5.3 An Incident Report shall be initiated, in accordance with SO-R-4, to report any anomalies or deficiencies. The Incident Report number shall be recorded on the Comment Sheet/Chronological Log.
- 5.4 No maintenance shall be conducted within this Surveillance Test, other than that specifically directed by this procedure.
- 5.5 A Maintenance Work Request (MWR) shall be initiated to correct any reported deficiency. The MWR number shall be referenced on the Comment Sheet/Chronological Log.
- 5.6 All steps in this procedure shall be conducted in the sequence written unless otherwise noted.
- 5.7 If satisfactory results cannot be achieved during the performance of this procedure, notify immediate Supervisor and proceed as directed.
- 5.8 If the procedure becomes contaminated or damaged, the "Lead Technician" or designee shall ensure that all data, verifications, and other pertinent information is transcribed to another copy of the procedure, which will become the official copy.

- 5.9 All initials/signatures shall be those of the person(s) actually performing the work. The person completing the test shall sign and date the Test Record Package cover sheet.
- 5.10 All personnel participating in the performance of this test shall enter their printed name, signature, and initials on the Surveillance Test Signature Sheet.
- 5.11 Critical procedure steps are indicated by the symbol (\$). As each indicated step is completed, it shall be initialed on Sign-Off Sheet in Test Record Package.
- 5.12 The use of N/A (not applicable) in this procedure shall be in accordance with the requirements listed in Standing Order G-23.
- 5.13 All applicable "As Found" data must be collected and recorded before making adjustments to instruments.
- 5.14 Primary plant process should be considered potentially contaminated. If integrity of piping or components is broken, the opening and the surrounding area must be monitored and controlled in accordance with Radiation Protection procedures.
- 5.15 If this test cannot be completed by the end of shift, and will not be continued by the next shift, the loop must be placed in a condition as directed by the Shift Supervisor. All actions taken for temporarily stopping and for resuming the test shall be documented in detail (including Form FC-66D, "Independent Verification Sheet for Procedure") on the Comment Sheet/Chronological Log.
- 5.16 Performance of this procedure requires a "Lead Technician" qualified to Instrument and Control Category 20.
- 5.17 The following indications and alarms will be erratic during the conduct of this test:

- PIA-2901 - LOOP 1B SI TANK 6A N2 PRESS
(AI-30A-ESF)
- P2901 - SAFETY INJ TANK PRESS 6A (ERF
computer)

· SAFETY INJECTION TANK SI-6A HI-LO PRESS
(CB-4, Annun A7, Window A-4U)

5.18 This loop may be taken out of service in accordance with the following Limiting Conditions for Operation (LCOs):

- Technical Specifications, Sections 2.3 (1) d. and 2.3 (2) g.

5.19 The System Engineer shall be notified within 24 hours of the completion of this test, of any marginal, unexpected, or unacceptable results.

5.20 Alternate method for "calling up" ERF computer points may be used. Do not "call up" using program names PSD, XYP or SCE.

6.0 INITIAL CONDITIONS

NOTE: Initial conditions need not be performed in numerical sequence.

- 6.1 Compare procedure revision with revision of Master Procedure. On Test Record Package cover sheet, enter Master Procedure revision number, then initial and date.
- (§) 6.2 A prejob briefing has been conducted prior to the start of this test. ALL personnel involved in the performance of this test have read AND understand, to the extent of their involvement, the procedure, and have completed the Surveillance Test Signature Sheet.
- (§) 6.3 Verify certification of calibrated test equipment used for this test has not expired.
- (§) 6.4 Form FC-1012, "M&TE Use Log" has been completed for each piece of test equipment used by this procedure.
- (§) 6.5 The Shift Supervisor has reviewed Limiting Conditions for Operation and concurs that this loop may be removed from service. Shift Supervisor initial Sign-Off Sheet.
- 6.6 The Shift Supervisor has granted approval and released equipment necessary to perform this test. The Shift Supervisor's signature, date, and time must be entered on the Test Record Package cover sheet.

7.0 PROCEDURE

7.1 Calibration of Power Supply PQ-2901

- (S) 7.1.1 Lift field lead at AI-30A-ESF, terminal T-47, and connect a transmitter simulator, in series with a DMM set for mADC, to terminals T-48 (+) and T-47 (-).

NOTE: Input values are as indicated on the DMM in series with the transmitter simulator.

- 7.1.2 Adjust the input for 50.0 mADC.

NOTE: Values found out of tolerance must be reported immediately to immediate Supervisor per Step 5.2.

- 7.1.3 Connect a DMM, set for VDC, across power supply (item 273) terminals 1 (+) and 2 (-), and record "As Found" power supply voltage on Data Sheet 1.

- 7.1.4 Change function of DMM connected to power supply terminals from VDC to VAC, and record "As Found" AC ripple on Data Sheet 1.

- 7.1.5 If "As Found" power supply voltage and AC ripple values are in tolerance, and no improvement in accuracy is warranted, record "As Found" values in "As Left" column on Data Sheet 1 and proceed to Step 7.1.9.

NOTE: The immediate Supervisor may direct the Technician to collect "As Found" loop data prior to the power supply calibration, thus performing the procedure out of sequence.

- 7.1.6 If either "As Found" value is out of tolerance or an improvement in accuracy is warranted, notify immediate Supervisor.

- 7.1.7 If necessary to calibrate power supply, proceed as follows:

NOTE: A DMM may be used at the test points to facilitate making adjustments, but all recorded data must be obtained from the DMM connected to the power supply output terminals.

- A. Change function of DMM connected to power supply terminals from VAC to VDC.
- B. Adjust R-215 of power supply for a value as close as possible to 52.5 VDC, and note power supply voltage value.

7.1.7 C. Change function of DMM connected to power supply terminals from VDC to VAC, and note AC ripple value.

D. If power supply cannot be calibrated to in tolerance values, notify immediate Supervisor and proceed as directed.

7.1.8 If noted power supply voltage and AC ripple values are in tolerance, record values in "As Left" column on Data Sheet 1.

7.1.9 Disconnect DMM from power supply (item 273) terminals 1 and 2.

7.2 Calibration of Meter Relay PIA-2901

(S) 7.2.1 Verify the meter banding is in good condition and installed over the following ranges. If the meter banding requires repair, notify immediate Supervisor and proceed as directed.

- Red - 0 to 240 psig
- Amber - 270 to 300 psig

NOTE: Indicated meter values and relay actuation values may be obtained concurrently.

7.2.2 Monitor relay operation by any of the following methods:

· Observe SAFETY INJECTION TANK SI-6A HI-LO PRESS (CB-4, Annun A7, Window A-4U)

· Connect and observe a VOM, set for VDC, for the contact of the relay being tested:

- LOW - AI-30A-ESF, terms T-38 & T-39
- HIGH - AI-30A-ESF, terms T-37 & T-40

NOTE: Input values are as indicated on the DMM in series with the transmitter simulator.

NOTE: Values found out of tolerance must be reported immediately to immediate Supervisor per Step 5.2.

7.2.3 Using transmitter simulator at AI-30A-ESF, terminals T-48 and T-47, apply inputs specified on Data Sheet 2 and record "As Found" indicated values.

7.2.4 Increase and decrease input as necessary and record "As Found" setpoint and reset values on Data Sheet 2.

- 7.2.5 Initial Data Sheet 2 for operation of alarm window. If window does not operate properly, notify immediate Supervisor and proceed as directed.
- 7.2.6 If "As Found" indicator values are in tolerance and no improvement in accuracy is warranted, record "As Found" indicator values in "As Left" column on Data Sheet 2 and proceed to Step 7.2.10.
- 7.2.7 If "As Found" indicator values are out of tolerance or an improvement in accuracy is warranted, proceed as follows:
 - A. Apply an input to obtain onscale indicator reading and adjust indicator zero to obtain in tolerance data throughout full range of indicator.
 - B. Apply inputs specified on Data Sheet 2 and note indicator values.
 - C. Repeat Steps 7.2.7.A and 7.2.7.B as necessary to determine if in tolerance values can be obtained.
- 7.2.8 If noted values are in tolerance, record values in "As Left" column on Data Sheet 2. If noted values are out of tolerance, notify immediate Supervisor and proceed as directed.
- 7.2.9 Increase and decrease input as necessary and note setpoint and reset values.
- 7.2.10 If setpoint values are in tolerance and no improvement in accuracy is warranted, record setpoint and reset values in "As Left" column on Data Sheet 2 and proceed to Step 7.2.13.
- 7.2.11 If setpoint values are out of tolerance or an improvement in accuracy is warranted, proceed as follows for appropriate relay(s):
 - A. Make adjustment to setpoint.
 - B. Increase and decrease input as necessary and note setpoint and reset values.
 - C. Repeat Steps 7.2.11.A and 7.2.11.B as necessary to obtain in tolerance values.

7.2.11 D. If in tolerance values cannot be obtained, notify immediate Supervisor and proceed as directed.

7.2.12 Record setpoint and reset values in "As Left" column of Data Sheet 2.

7.2.13 If connected, disconnect VOM(s) from relay(s).

7.3 Calibration of ERF Computer Point P2901

7.3.1 Computer point P2901 may be "called up" as follows:

NOTE: If, during call-up of computer point, a key is pressed in error, entry sequence may be restarted at Step 7.3.1.A.

- A. Press CLR (clear) key on Function Keyboard if anything is displayed on CRT.
- B. Type PVD (Point Value Display) on CRT Keyboard.
- C. Press DSP key on Function Keyboard. PVD will be on CRT screen.
- D. When cursor automatically positions itself in the field for selecting a point, type in computer point ID number, P2901.
- E. Press SEL key on Function Keyboard. In a few seconds the point should be accepted if it is a valid number.
- F. Press HOM key on Function Keyboard. After a few seconds the selected point will be displayed and updated as the point is scanned.

NOTE: Input values are as indicated on the DMM in series with the transmitter simulator.

NOTE: Computer displayed values and alarm values may be obtained concurrently.

NOTE: Values found out of tolerance must be reported immediately to immediate Supervisor per Step 5.2.

7.3.2 Using transmitter simulator at AI-30A-ESF, terminals T-48 and T-47, apply inputs specified on Data Sheet 3 and record "As Found" displayed values. Any value displayed with a "?" is considered out of tolerance.

- 7.3.3 Increase and decrease input signal as necessary and record "As Found" displayed alarm and reset values on Data Sheet 3.
- 7.3.4 If "As Found" displayed and alarm values are in tolerance and no improvement in accuracy is warranted, record "As Found" values in "As Left" column on Data Sheet 3 and proceed to Step 7.3.6.
- 7.3.5 If "As Found" values are out of tolerance or an improvement in accuracy is warranted, notify immediate Supervisor and proceed as directed.
- 7.3.6 Press CLR (clear) key on Function Keyboard.
- (S) 7.3.7 Disconnect transmitter simulator and DMM, and reconnect field lead to AI-30A-ESF, terminal T-47.

7.4 Calibration of Transmitter PT-2901

- (S) 7.4.1 Lift transmitter negative lead and connect DMM, set for mADC, in series with lead and terminal for monitoring transmitter output.
- (S) 7.4.2 Close transmitter isolation valve.
- (S) 7.4.3 Remove transmitter test tap plug or input tubing.
- 7.4.4 Connect pressure source and test gauge to transmitter.

NOTE: Input values are as indicated on the test gauge connected to the transmitter.

NOTE: Values found out of tolerance must be reported immediately to immediate Supervisor per Step 5.2.

- 7.4.5 Using pressure source connected to transmitter, apply inputs specified on Data Sheet 4 and record "As Found" transmitter output values.
- 7.4.6 If "As Found" values are in tolerance and no improvement in accuracy is warranted, record "As Found" values in "As Left" column on Data Sheet 4 and proceed to Step 7.4.10.

- 7.4.7 If "As Found" values are out of tolerance or an improvement in accuracy is warranted, proceed as follows:

NOTE: Output values may be rechecked after the initial zero adjustment. If a zero adjustment is sufficient to obtain in tolerance output values, the span adjustment may be omitted.

- A. Apply zero psig and adjust transmitter zero adjustment for output as close as possible to 10.0 mADC.

NOTE: Description and location of transmitter span adjustments are provided on Figure 1.

- B. Apply 300 psig and adjust transmitter span adjustment for output as close as possible to 50.0 mADC.
- C. Repeat Steps 7.4.7.A and 7.4.7.B as necessary to obtain in tolerance values.
- D. If in tolerance values cannot be obtained, notify immediate Supervisor and proceed as directed.

- 7.4.8 Apply inputs specified on Data Sheet 4 and note output values.

- 7.4.9 If noted values are in tolerance, record values in "As Left" column on Data Sheet 4. If noted values are out of tolerance, notify immediate Supervisor and proceed as directed.

- (S) 7.4.10 Disconnect DMM and reconnect transmitter negative lead.

7.5 Loop Verification

NOTE: Input values are as indicated on the test gauge connected to the transmitter.

- 7.5.1 Using pressure source connected to transmitter, apply inputs specified on Data Sheet 5, and record "Actual" indicated values.
- 7.5.2 If values are in tolerance, proceed to Step 8.1. If values are out of tolerance, notify immediate Supervisor and proceed as directed.

8.0 RESTORATION

8.1 Return transmitter to service as follows:

- 8.1.1 Ensure pressure source connected to transmitter is at zero psig.
- 8.1.2 Disconnect pressure source and test gauge from transmitter.
- (§) 8.1.3 Reinstall transmitter test tap plug or input tubing.
- (§) 8.1.4 Slowly open transmitter isolation valve.
- (§) 8.1.5 Ensure there is no leakage at all connections, valves, plugs, etc., which were manipulated. If leakage is detected, notify immediate Supervisor and proceed as directed.
- (§) 8.2 Using redundant instrumentation or system condition, verify PIA-2901 reflects current process condition. If indication does not reflect current condition, notify immediate Supervisor and proceed as directed.
- 8.3 The Shift Supervisor has been notified this channel calibration is complete and Safety Injection Tank SI-6A Nitrogen Pressure, Loop P-2901, is returned to service. The Shift Supervisor's signature, date, and time must be entered on the Test Record Package cover sheet.
- (§) 8.4 The Surveillance Test Signature Sheet contains the printed name, signature, and initials of all persons whose signature or initials appears within the Test Record Package.
- 8.5 Ensure that the identification number, certification date, and calibration due date of test equipment used, are recorded on the appropriate data sheet(s).

9.0 ACCEPTANCE CRITERIA

Acceptance criteria for components, instrument loop, and/or associated functions are specified on data sheets contained in the Test Record Package.

10.0 TEST RECORD

Test Record Package for Safety Injection Tank SI-6A Nitrogen Pressure, Loop P-2901.

11.0 REVIEW

11.1 The Supervisor-Maintenance is responsible for ensuring the completed Surveillance Test is reviewed in a timely manner and forwarded in accordance with SO-G-23.

11.1.1 The Supervisor-I&C Field Maintenance must review this Surveillance Test.

11.2 The System Engineer shall be notified within 24 hours of the completion of this test, of any marginal, unexpected, or unacceptable results.

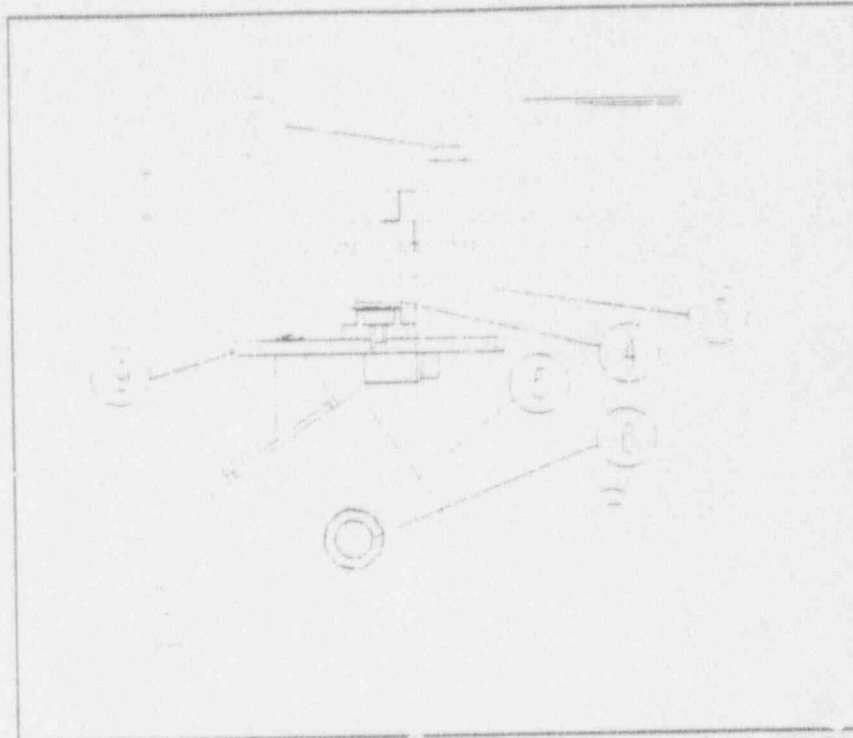


Figure 1 - G.E. MODEL 551

{GE551.WPG}

COARSE SPAN

1. Loosen screw (1).
2. Insert 3/32" hex wrench through hole in (3) and loosen screw (2).
3. Leaving wrench in this position, slide both bars along the levers (9 & 10) right (to raise span) or left (to lower span).
4. Tighten screw (2) then, while holding upper bar in position so that flexure wire (4) is vertical, tighten screw (1).

FINE SPAN

1. Turn magnetic shunt nut (5) in on screw (6) until it stops finger-tight against motor frame (8).
2. Loosen set screw (7) about 1/4 turn and turn nut (5) to reposition shunt screw (6) into (to increase current) or out of (to decrease current) motor frame (8) until desired output is obtained.
3. Tighten set screw (7). Note that shunt screw (6) does not engage with threads in motor frame (8) but is held inward by magnetic force.

PROCEDURE REV VERIFICATION
REVISION NO. _____
INITIALS _____
DATE _____

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Surveillance Test Record Package for Calibration of
Safety Injection Tank SI-6A Nitrogen Pressure, Loop P-2901

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6. DATA SHEET 4 (PT-2901)

7. DATA SHEET 5 (Loop Verification)

8. SURVEILLANCE TEST SIGNATURE SHEET

9. COMMENT SHEET/CHRONOLOGICAL LOG

Start Authorized	_____	Date/Time	_____
	Shift Supervisor Signature		
Notified Complete	_____	Date/Time	_____
	Shift Supervisor Signature		
Test Completed by	_____	Date/Time	_____
	Signature		
Reviewed by	_____	Date/Time	_____
	Supervisor-I&C Field Maintenance Signature		

SIGN-OFF SHEET OF CRITICAL STEPS

STEP NO.	DESCRIPTION	INITIALS	IND VERIF
6.2	Prejob briefing conducted		N/A
6.3	Certification of test equipment current		N/A
6.4	Form FC-1012 completed		N/A
6.5	LCO review and concurrence (Shift Supv Init)		N/A
7.1.1	Field lead lifted, AI-30A-ESF term T-47		
7.2.1	Meter banding verified		N/A
7.3.7	Field lead landed, AI-30A-ESF term T-47		
7.4.1	Xmtr output lead lifted		
7.4.2	Xmtr isolation valve closed		N/A
7.4.3	Xmtr test tap plug or tubing removed		N/A
7.4.10	Xmtr output lead landed		
8.1.3	Xmtr test tap plug or tubing installed		
8.1.4	Xmtr isolation valve opened		
8.1.5	Leak check performed		N/A
8.2	Device reflects current conditions		N/A
8.4	Surv Test Signature Sheet completed		N/A

FORT CALHOUN STATION
SURVEILLANCE TEST

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DATA SHEET 1

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INSTR. TAG NO. <u>PQ-2901</u>		LOCATION <u>AI-30A-ESF, Room 77*</u>	
DESCRIPTION <u>SI TANK SI-6A NITROGEN PRESSURE, LOOP POWER SUPPLY</u>			
MFR. <u>GENERAL ELECTRIC</u>		MODEL NO. <u>570</u>	
RANGE <u>N/A</u>		TOLERANCE <u>OUTPUT: $\pm 4.76\%$ = ± 2.5 VDC</u>	
HEAD CORRECTION <u>N/A</u>		SETPOINT <u>N/A</u>	
INPUT POINT: <u>AI-30A-ESF, Terms T-48 (+)</u> <u>& T-47 (-)</u>		OUTPUT POINT: <u>Power supply, Terms 1 (+)</u> <u>& 2 (-)</u>	

INPUT		OUTPUT			
RANGE	APPL'D	DESIRED	ALLOWED RANGE	AS FOUND	AS LEFT
%	mADC	VDC	VDC	VDC	VDC
100	50.0	52.5	50.0 to 55.0		

INPUT		RIPPLE			
RANGE	APPL'D	DESIRED	ALLOWED RANGE	AS FOUND	AS LEFT
%	mADC	mVAC	mVAC	mVAC	mVAC
100	50.0	0.0	<38		

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TEST EQUIPMENT			REMARKS
ID NO.	CERT DATE	DUE DATE	
I&C TECHNICIAN _____			* Rm 77 is the Main Control Room (MCR).
DATE CALIBRATED _____			

DATA SHEET 2

INSTR. TAG NO. PIA-2901 LOCATION AI-30A-ESF, Room 77 (MCR)
DESCRIPTION SI TANK SI-6A NITROGEN PRESSURE, METER RELAY
MFR. SIGMA INSTRUMENTS MODEL NO. 9223-20-E
INPUT: 10- 50 mADC METER: $\pm 2\% = \pm 6$ PSIG
RANGE OUTPUT: 0- 300 PSIG TOLERANCE RELAY: $\pm 2\% = \pm 0.8$ mADC
LOW: 42.67 mADC DEC
HEAD CORRECTION N/A SETPOINT HIGH: 45.33 mADC INC

INPUT AI-30A-ESF, Terms T-48 (+)
POINT: & T-47 (-) OUTPUT Meter: Indicator scale
POINT: Relay: Alarm or contacts

INPUT		OUTPUT			
RANGE	APPL'D	DESIRED	ALLOWED RANGE	AS FOUND	AS LEFT
%	mADC	PSIG	PSIG	PSIG	PSIG
0	10.0	0	-6 to 6		
25	20.0	75	69 to 81		
50	30.0	150	144 to 156		
75	40.0	225	219 to 231		
100	50.0	300	294 to 306		
75	40.0	225	219 to 231		
50	30.0	150	144 to 156		
25	20.0	75	69 to 81		
0	10.0	0	-6 to 6		
RELAY VALUES		mADC	mADC	mADC	mADC
LOW Setpoint		42.67	41.87 to 43.47		
LOW Reset		N/A	N/A		
HIGH Setpoint		45.33	44.53 to 46.13		
HIGH Reset		N/A	N/A		

TEST EQUIPMENT			REMARKS
ID NO.	CERT DATE	DUE DATE	
I&C TECHNICIAN _____			SAFETY INJECTION TANK SI-6A HI-LO PRESS (CB-4, Annun A7, Window A-4U) actuated on low and high test signals <u>initials</u>
DATE CALIBRATED _____			

DATA SHEET 3

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INSTR. TAG NO. P2901 LOCATION ERF Computer Terminal
DESCRIPTION SI TANK SI-6A NITROGEN PRESSURE, ERF COMPUTER POINT
MFR. N/A MODEL NO. N/A
INPUT: 10- 50 mADC
RANGE OUTPUT: 0- 300 PSIG TOLERANCE +2.0% = +6.0 PSIG
LOW: 245 PSIG
HEAD CORRECTION N/A SETPOINT HIGH: 265 PSIG

INPUT AI-30A-ESF, Terms T-48 (+)
POINT: & T-47 (-) OUTPUT
POINT: Computer display

INPUT		OUTPUT			
RANGE	APPL'D	DESIRED	ALLOWED RANGE	AS FOUND	AS LEFT
%	mADC	PSIG	PSIG	PSIG	PSIG
2	10.8	6.0	0.0 to 12.0		
25	20.0	75.0	69.0 to 81.0		
50	30.0	150.0	144.0 to 156.0		
75	40.0	225.0	219.0 to 231.0		
98	49.2	294.0	288.0 to 300.0		
COMPUTER ALARMS		PSIG	PSIG	PSIG	PSIG
LO Alarm Setpoint		245.0	239.0 to 251.0		
LO Alarm Reset		N/A	N/A		
HI Alarm Setpoint		265.0	259.0 to 271.0		
HI Alarm Reset		N/A	N/A		

TEST EQUIPMENT			REMARKS
ID NO.	CERT DATE	DUE DATE	
I&C TECHNICIAN _____			
DATE CALIBRATED _____			

DATA SHEET 4

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INSTR. TAG NO. PT-2901 LOCATION Containment, Elev 1013
Rack AI-135A, 14WDD-08NII

DESCRIPTION SI TANK SI-6A NITROGEN PRESSURE, TRANSMITTER

MFR. GENERAL ELECTRIC MODEL NO. 551

RANGE INPUT: 0- 300 PSIG
OUTPUT: 10- 50 mADC TOLERANCE ±2% = ±0.8 mADC

HEAD CORRECTION N/A SETPOINT N/A

INPUT
POINT: Transmitter input port

OUTPUT DMM, set for mADC, in series
POINT: with transmitter output lead

INPUT		OUTPUT			
RANGE	APPL'D	DESIRED	ALLOWED RANGE	AS FOUND	AS LEFT
%	PSIG	mADC	mADC	mADC	mADC
0	0	10.0	9.2 to 10.8		
25	75	20.0	19.2 to 20.8		
50	150	30.0	29.2 to 30.8		
75	225	40.0	39.2 to 40.8		
100	300	50.0	49.2 to 50.8		
75	225	40.0	39.2 to 40.8		
50	150	30.0	29.2 to 30.8		
25	75	20.0	19.2 to 20.8		
0	0	10.0	9.2 to 10.8		

TEST EQUIPMENT		
ID NO.	CERT DATE	DUE DATE
I&C TECHNICIAN _____		
DATE CALIBRATED _____		

REMARKS

DATA SHEET 5

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LOOP P-2901

INSTRUMENT		INSTRUMENT			INSTRUMENT		
PT-2901		PIA-2901 (AI-30A-ESF)			P2901		
INPUT POINT		OUTPUT POINT			OUTPUT POINT		
Input Port		Indicator Scale			ERF Computer Terminal*		
INPUT		OUTPUT			OUTPUT		
RANGE	APPLIED	DESIRED	ALLOWED RANGE	ACTUAL	DESIRED	ALLOWED RANGE	ACTUAL
%	PSIG	PSIG	PSIG	PSIG	PSIG	PSIG	PSIG
10	30	30	24 to 36		30	24 to 36	
50	150	150	144 to 156		150	144 to 156	
90	270	270	264 to 276		270	264 to 276	

* If computer is down, read equivalent voltages across dropping resistor at AI-30A-ESF, L-50 (+) and L-49 (-).

30 psig = 1.40 VDC (1.32 to 1.48)
150 psig = 3.00 VDC (2.92 to 3.08)
270 psig = 4.60 VDC (4.52 to 4.68)

TEST EQUIPMENT			REMARKS
ID NO.	CERT DATE	DUE DATE	
I&C TECHNICIAN _____			
DATE CALIBRATED _____			

SURVEILLANCE TEST SIGNATURE SHEET

All persons participating in the performance of this test shall enter their printed name, signature, and initials below.

NAME (PRINT)

SIGNATURE

INITIALS

[illegible]

COMMENT SHEET/CHRONOLOGICAL LOG

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slightly textured appearance and is set against a dark background.