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Atomic Electric Generating Plant
NUCLEAR OPERATIONS

23820-C

Date
11/21/79

Unit COMMON



Georgia Power

Revision No.

3

Page No.

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GENERIC INSTRUMENTATION
CALIBRATION

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ONLY

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- 1.0 PURPOSE
The purpose of this procedure is to provide instructions for calibration of generic instruments.
- 2.0 PRECAUTIONS AND LIMITATIONS
- 2.1 All steps in this procedure are to be performed in sequence except as noted. []
- 2.2 Performance of procedure steps, as identified by a double asterisk (*/*), shall be initialed on "Checklist" except when recording data on Data Sheet. []
- 2.3 The instrument may be located in a radiation area, service a contaminated process fluid, or be contaminated. If so, follow instructions on "Radiation Work Term". []
- 2.4 For Safety-Related systems, an Independent Restoration Verification shall be performed after completion of Test/Calibration and initialed in "Restoration Verification" section of "Checklist". []
- 2.5 If during performance of this procedure, any of the following occur, immediately notify I&C Foreman.
- 2.5.1 Any personnel error, procedure inadequacy, or malfunction is identified which could prevent fulfillment of "Acceptance Criteria". []
- 2.5.2 Any test exceeds specified limits. []
- 2.6 Minimize the entry of foreign materials or dirt into working parts of instrument. []
- 2.7 Any calculations necessary for the performance of this procedure shall be shown on "Calculation Sheet". []
- 2.8 Ensure that each lead (wire) to be lifted is marked with a completed and installed jumper and lifted wire tag. Instead "Control No.", the "Procedure No." should be identified on the tag. []
- 2.9 If this procedure is completed and temporary jumper(s) must remain installed and/or lifted wire(s) can not be reconnected, a Jumper and Lifted Wire Clearance must be obtained per Procedure 00306-C, "Temporary Jumper And Lifted Wire Control". []

- 2.10 For Non-Safety Related systems, QC Hold Points may be marked non-applicable (N/A) on "Checklist". []
- 3.0 PREREQUISITES OR INITIAL CONDITIONS
- 3.1 */* Notify Shift Supervisor, or designee, of work to be performed and obtain signature authorization. []
- 3.2 */* Notify Reactor Operator (RO) of work to be performed, and obtain RO signature. []
- 3.3 TEST EQUIPMENT REQUIRED
- 3.3.1 Appropriate test equipment for instrument under test. []
- 3.4 */* Verify all Prerequisites or Initial Conditions are met. []
- 4.0 MAIN BODY
- 4.1 CALCULATIONS
- 4.1.1 Instrument Calculations
- 4.1.1.1 */* Obtain instrument range data from appropriate controlled document(s) and record document number in "Comments" section of "Data Sheet". []
- 4.1.1.2 */* Calculate input and expected values and record in "Input" and "Expected" sections of "Data Sheet". []
- 4.1.1.3 */* Calculate Hi and Lo Limits and record in "Hi Limit" and "Lo Limit" sections of "Data Sheet". []
- 4.1.2 Switch Calculations
- 4.1.2.1 */* Obtain switch setpoint/reset data from appropriate controlled document(s) and record document number in "Comments" section of "Data Sheet". []
- 4.1.2.2 */* Calculate trip and reset values and record in "Expected" section of "Data Sheet". []
- 4.1.2.3 */* Calculate Hi and Lo Limits and record in "Hi Limit" and "Lo Limit" sections of "Data Sheet". []

4.2 REMOVE FROM SERVICE

CAUTION

Incorrect performance of the following steps and/or section may cause a reactor trip.

- 4.2.1 */* Remove instrument or switch from service as required. (If lifting leads is required and instrument/switch is Safety Related, a Independent Verification is required) []
- 4.2.2 Proceed to appropriate subsection for calibration. []
- 4.3 INSTRUMENT CALIBRATION
- 4.3.1 Connect test equipment to instrument as required for calibration. []
- 4.3.2 */* Apply inputs listed and record readings in "As Found" section of "Data Sheet". []
- 4.3.3 */* If As Found readings are within limits specified on "Data Sheet", and more accurate readings are not desired, record readings in "As Left" section of "Data Sheet" and proceed to appropriate subsection. []
- 4.3.4 */* QC Hold Point
- Obtain QC authorization to proceed before continuing with procedure. []
- 4.3.5 If As Found readings are not within limits specified on "Data Sheet", or more accurate readings are desired, calibrate instrument as required. []
- 4.3.6 */* After calibration adjustments, apply inputs listed and record readings in "As Left" section of "Data Sheet". []
- 4.4 SWITCH CALIBRATION
- 4.4.1 Connect test equipment to switch as required for calibration. []
- 4.4.2 Adjust input to point at which switch is reset. []
- 4.4.3 */* Adjust input to point at which switch trips and record reading in "As Found" section of "Data Sheet". []

- 4.4.4 */* Adjust input to point at which switch resets and record reading in "As Found" section of "Data Sheet". []
- 4.4.5 */* If As Found readings are within limits specified on "Data Sheet", and more accurate readings are not desired, record readings in "As Left" section of "Data Sheet" and proceed to appropriate subsection. []
- 4.4.6 */* QC Hold Point
Obtain QC authorization to proceed before continuing with procedure. []
- 4.4.7 If As Found readings are not within limits specified on "Data Sheet", or more accurate readings are desired, calibrate switch as required. []
- 4.4.8 After calibration adjustments, adjust input to point at which switch is reset. []
- 4.4.9 */* Adjust input to point at which switch trips and record reading in "As Left" section of "Data Sheet". []
- 4.4.10 */* Adjust input to point at which switch resets and record reading in "As Left" section of "Data Sheet". []
- 4.4.11 If additional switches are used, repeat steps 4.4.1 thru 4.4.10 as required. []
- 4.5 RESTORE TO SERVICE
- 4.5.1 */* Remove all test equipment used during performance of this procedure. []
- 4.5.2 */* QC Hold Point
Obtain QC authorization to proceed before continuing with procedure. []
- 4.5.3 */* Return instrument or switch to service as required. []
- 4.5.4 */* Verify instrument/switch reflects current plant conditions after it is restored to service. []
- 4.5.5 */* For Safety Related systems have designated personnel perform Independent Restoration Verification. []

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- 4.5.6 Notify RO that work is complete. []
- 4.5.7 Notify Shift Supervisor, or designee, of completion of work including test results and obtain signature on "Completion Sheet". []

5.0 ACCEPTANCE CRITERIA

- 5.1 The Acceptance Criteria for this procedure is that the instrument is within limits specified on Data Sheet.
- 5.2 Satisfactory Completion of this procedure has been met when I&C Foreman has evaluated data obtained per "Acceptance Criteria" of this procedure, reviewed and signed Data Sheet.

6.0 REFERENCES

- 6.1 The appropriate Manufacturers Instruction Manual for Instrument requiring calibration.
- 6.2 Procedure 00306-C, "Temporary Jumper And Lifted Wire Control"

END OF PROCEDURE TEXT

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DATA SHEET

SHEET 2 OF 2

Instr. No.	_____	Location	_____	Serial No.	_____
Description	_____	Manufacturer	_____	Model No.	_____

NOTES: N/A

ACTION	UNITS	EXPECTED	LO LIMIT	HI LIMIT	AS FOUND	AS LEFT
Switch Tripped						
Switch Reset						
ACTION	UNITS	EXPECTED	LO LIMIT	HI LIMIT	AS FOUND	AS LEFT
Switch Tripped						
Switch Reset						

COMMENTS:

TEST EQUIPMENT		
I.D. NO.	MODEL NO.	CALIBRATION DUE DATE

PERFORMED BY:	DATE
REVIEWED BY:	DATE
APPROVED BY:	DATE

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CALCULATION SHEET

Show all calculations performed during course of this procedure in the space below.

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Completed by: _____ Date _____

Reviewed by: _____ Date _____

Approved by: _____ Date _____

CHECKLIST

SHEET 1 OF 1

3.1 Shift Supervisor Authorization

Signature

Date

3.2 Reactor Operator (RO) Notified

Signature

Date

Step Verification		Step Verification	
Step/Substep	Initial	Step/Substep	Initial
3.4	Prerequisites met	4.5.1	Test equipment removed
4.2.1	Leads disconnected	4.5.2	QC Notified
4.2.1	Independent Verification	4.5.3	Instrument/switch returned to service
4.3.4	QC Notified	4.5.4	Reflects current plant conditions
4.4.6	QC Notified		

RESTORATION VERIFICATION

Initial		Initial	
1.	Instrument/switch returned to service	2.	Leads connected

Performed by:

Date:

Reviewed by:

Date:

