

PARAG 3B

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 4

GINNA STATION
UNIT #1
COMPLETED

DATE :-

TIME :-

PROCEDURE NO. RSSP-1.5 REV. NO. 6

VALVE INTERLOCK VERIFICATION - FEEDWATER ISOLATION

TECHNICAL REVIEW

FORC 3/12/79

TR Schulen
Q/C REVIEW

3-17-79
DATE

APPROVED FOR USE

B. H. H. H.
PLANT SUPERINTENDENT

3-17-79
DATE

QA X NON-QA CATEGORY

LIFETIME NONPERMANENT

REVIEWED BY DATE

THIS PROCEDURE CONTAINS 5 PAGES

REC. CENTRAL RECORDS DATE

DESP. DATE

8009160 562

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RSSP-1.5VALVE INTERLOCK VERIFICATION - FEEDWATER ISOLATION1.0 PURPOSE:

- 1.1 To describe the steps necessary to perform the valve interlock verification for feedwater isolation.

2.0 TEST REQUIREMENTS:

- 2.1 To verify interlocks associated with high steam generator levels, system Tavg. and turbine trip.

3.0 REFERENCE:

- 3.1 Foxboro Instrument Block Diagrams BD18 and BD19

4.0 INITIAL CONDITIONS:

- 4.1 Plant in either hot or cold shutdown
-

5.0 PRECAUTIONS:

- 5.1 If secondary side condensate system is pressurized, the guard valves before the Steam Generator flow control, main and bypass (Loop A & B) valves must be maintained closed.
- 5.2 If test is conducted during hot shutdown, the Steam Dump Proportional Unit (steam dump cabinet) must be placed on manual.
- 5.3 If test is performed when plant maintenance is being performed verify that conductance of test will not conflict with maintenance work or compromise safety of maintenance people.
- 5.4 If plant is in hot shutdown, any feedwater make up to steam generators is to be supplied by Auxiliary Feedwater system.

6.0 INSTRUCTIONS:

- 6.1 Prior to checking F.W. valve interlocks, check the valves for operability as follows:
- 6.1.1 Verify that Main Feedwater valves have been manually cranked to the neutral position.
- 6.1.2 Verify that air supply is turned on to valve positioner.
- 6.1.3 Verify feedwater isolation reset at Control Board.
- 6.2 *Ensure that the following RC system level control bistables are energized.
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-
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- 6.2.1 LC-461 A/B bistable (Loop A steam generator) _____
- 6.2.2 LC-462 B/C bistable (Loop A steam generator) _____
- 6.2.3 LC-463 C/D bistable (Loop A steam generator) _____
- 6.2.4 LC-471 A/B bistable (Loop B steam generator) _____
- 6.2.5 LC-472 B/C bistable (Loop B steam generator) _____
- 6.2.6 LC-473 C/D bistable (Loop B steam generator) _____

* Note: To be energized, the water level in S/G's must be less than 70%. If level is high (greater 70%) than a DC current generator must be utilized at the test jacks of the concerned channels and a simulated input injected.

- 6.3 Place C.B. Hand-automatic transfer station for the following main feedwater controllers on manual.

- 6.3.1 HC-466 Loop "A" LCV _____
- 6.3.2 HC-476 Loop "B" LCV _____

- 6.4 Place CB Hand-automatic transfer station for the following by-pass Controllers on manual.

- 6.4.1 HC-480 Loop "A" by-pass _____
- 6.4.2 HC-481 Loop "B" by-pass _____

- 6.5 Stroke the following main and by-pass feedwater valves for Loop A & B through full cycle and then leave in open position.

Note: Valve action should be verified by visual observation.

- | | | cycled | left open |
|-------|----------------|--------|-----------|
| 6.5.1 | FCV-466 Loop A | _____ | _____ |
| 6.5.2 | FCV-480 | _____ | _____ |
| 6.5.3 | FCV-476 Loop B | _____ | _____ |
| 6.5.4 | FCV-481 | _____ | _____ |

- 6.6 To verify action Hi level override, establish a 2/3 logic by placing the following bistables in the trip mode (proving switch in protection racks).

- | | | tripped | |
|-------|----------------|---------|-------|
| 6.6.1 | LC-461A Loop A | " | _____ |
| 6.6.2 | LC-462B | " | _____ |
| 6.6.3 | LC-471A Loop B | " | _____ |
| 6.6.4 | LC-472B | " | _____ |

- 6.7 Verify visually that all FCV's have automatically stroked to their closed positions.

- | | | closed | |
|-------|---------|--------|-------|
| 6.7.1 | FCV-466 | " | _____ |
| 6.7.2 | FCV-480 | " | _____ |
| 6.7.3 | FCV-476 | " | _____ |
| 6.7.4 | FCV-481 | " | _____ |

NOTE: Verification of remaining logic combination need not be done at this time as a subsequent test (at safeguard test panel) will prove out this capability.

- 6.8 Return the bistable proving switches for the following bistables to normal position and verify that the valves open automatically. Reset by-pass valves if necessary.

valve open

6.8.1	LC-461A	_____ ;	FCV-466	_____
6.8.2	LC-462B	_____ ;	FCV-480	_____
6.8.3	LC-471A	_____ ;	FCV-476	_____
6.8.4	LC-472B	_____ ;	FCV-481	_____

- 6.9 Disconnect field input terminals to temperature control bistable to TC 401F (Steam Dump rack at M.C.B.) _____

- 6.10 Connect DC current generator to input terminals of TC 401F bistable and inject a signal equivalent to that which corresponds to a T avg. temperature greater than 554°F (approx. 556°F) _____

- 6.11 Place the following CB Main F.W. Hand-automatic transfer stations in the auto position and verify that the valves are open:

6.11.1 HC-466 Loop A LCV
6.11.2 HC-476 Loop A LCV _____

- 6.12 By-pass valve controllers were left on hand control from previous step. Verify that the following valves are open:

6.12.1 LCV-480 Loop A
6.12.2 LCV-481 Loop B _____

- 6.13 Decrease input signal, to TC 401F bistable equivalent to that which corresponds to a T avg. temperature less than 554°F (approx. 552°F) _____

- 6.14 Verify that the following valves have stroked automatically to the closed position.

6.14.1 FCV-466 Loop A
6.14.2 FCV-480
6.14.3 FCV-476 Loop B
6.14.4 FCV-481 _____

- 6.15 Simulate turbine operation condition by blocking open two of the 63 AST auto stop oil pressure mercoids.. _____

- 6.16 Verify that the following valves have stroked automatically to their open position:

- 6.17.1 FCV-466 Loop A _____
 6.17.2 FCV-480 _____
 6.17.3 FCV-476 Loop B _____
 6.17.4 FCV-481 _____
- 6.18 Unblock the two 63 AST-mercoids which were blocked in step 6.16 above. _____
- 6.19 Verify that the following valves have stroked automatically to their closed positions:
- 6.19.1 LCV-466 Loop A _____
 6.19.2 LCV-480 _____
 6.19.3 LCV-476 Loop B _____
 6.19.4 LCV-481 _____
- 6.20 Increase input to temperature control bistable TC 401F to that which corresponds to a T avg. temperature greater than 554°F (approx. 556°F) _____
- 6.21 Verfiy that the following valves have stroked automatically to their open position:
- 6.21.1 LCV-466 Loop A _____
 6.21.2 LCV-480 _____
 6.21.3 LCV-476 Loop B _____
 6.21.4 LCV-481 _____
- 6.22 Jog switch on controllers HC-466 and HC-476 from Auto to manual several times to decrease controller output to 0% and verify that the following valves remain in the open position: (Observe small indicators above controllers for %)
- 6.22.1 FCV-466 Valve open _____
 6.22.2 FCV-476 Valve open _____
 6.22.3 FCV-466, FCV-467 Auto _____
- 6.23 With by-pass valve controller HC-481 and HC-480 on manual position, adjust output to 0% and verify the following valves remain in the open position:
- 6.23.1 FCV-480 Valve open _____
 6.23.2 FCV-481 Valve open _____
- 6.24 Place the following Hand-automatic transfer controllers to the manual position (MCB) and reduce manual control setting to zero.
- 6.24.1 HC-466 Loop A ; manual position _____
 6.24.2 HC-476 Loop B ; manual position _____
- 6.25 Verify that the following valves have automatically stroked to their closed position:

7a

6.25.1	FCV-466 Loop A	Valve closed	_____
6.25.2	FCV-480	" "	_____
6.25.3	FCV-476 Loop B	" "	_____
6.25.4	FCV-781	" "	_____
6.26	Remove DC current generator from temperature control bistable TC 401F and reconnect field wiring to input terminals; wire connected. _____		
6.27	If DC current generators had been connected to test jacks at steam generator level channels remove from service to restore channel to normal.		
6.27.1	LC-461	restored to normal	_____
6.27.2	LC-462	restored to normal	_____
6.27.3	LC-463	restored to normal	_____
6.27.4	LC-471	restored to normal	_____
6.27.5	LC-472	restored to normal	_____
6.27.6	LC-473	restored to normal	_____
6.28	Realign system and valves as required for subsequent operation. _____		

COMPLETED BY: _____

DATE COMPLETED: _____

SHIFT FOREMAN: _____

RESULTS & TEST REVIEW: _____ DATE: _____

