

PARAG 3.B

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 4

GINNA STATION

UNIT #1

COMPLETED

DATE :-

TIME :-

PROCEDURE NO. RSSP-2.1

REV. NO. 13

SAFETY INJECTION FUNCTIONAL TEST

TECHNICAL REVIEW

PORC 6/23/80

TR Schuler
QC REVIEW

7-2-80
DATE

APPROVED FOR USE

Bruce L. Snow
PLANT SUPERINTENDENT

7-3-80
DATE

QA X NON-QA CATEGORY 1.0

REVIEWED BY:

THIS PROCEDURE CONTAINS 43 PAGES

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RSSP-2.1SAFETY INJECTION FUNCTIONAL TEST1.0 PURPOSE:

- 1.1 To outline steps necessary to perform the Safety Injection Functional Test.

2.0 TEST REQUIREMENTS:

- 2.1 To verify proper operation for A & B main steam line isolation solenoid valves and proper closure time of the isolation valves themselves (if installed) upon initiation of Steam Line Isolation Signal.
- 2.2 To verify that proper operation of valves, circuit breakers and diesel generators occur upon initiation of Safety Injection and Containment Spray signals.
- 2.3 To verify that upon initiation of Safety Injection Signal (other than manual initiation) the following signals are developed and that proper automatic actions associated with these signals occur:
- a) Containment Isolation
 - b) Containment Ventilation Isolation
 - c) Steam Generator Feedwater Isolation
 - d) Reactor Trip
- 2.4 To verify the proper orientation of switch indicating lights and valve status lights of the above mentioned equipment.
- 2.5 To verify that proper Safeguard equipment is operated with each of the two logic trains.
- 2.6 To verify tie breaker trip upon initiation of manual safety injection signal.

3.0 REFERENCES:

- 3.1 Plant Technical Specifications, pages 4.5-1 and 4.5-2
- 3.2 R.E. Ginna Engineering Flow Diagrams
- 3.3 R.E. Ginna Elementary Wiring Diagrams
- 3.4 R.E. Ginna Safeguard Wiring Diagrams
- 3.5 Safety Injection Functional Test Alignment RSSP-2.1A

4.0 INITIAL CONDITIONS:

- 4.1 The plant is at the cold shutdown status. _____
- 4.2 Current generator may be utilized, as required, to satisfy system parameters in order to properly orient Reactor Control and Protection system bistable outputs. _____
- 4.3 All concerned valves and equipment should be available for use. If maintenance is being performed on any equipment and it is not available at the time of test performance, then its controlling relay will be verified for operability during the test. When the equipment becomes available, then it in turn will be verified for proper operability by manually positioning the controlling relay. _____
- 4.4 Only one Safeguard train will be operated at a time. The D.C. control breaker will be open on that train which is not desired to have operate. _____
- 4.5 If System Status requires the operation of a Residual Heat Removal Pump, the running pump will be selected opposite to the Safeguard train undergoing test. _____
- 4.6 The Safeguard pumps; Safety Injection, Residual Heat, Auxiliary Feedwater and Containment Spray will be blocked from starting during performance of test by placing 480 volt supply breakers in test position. _____
- 4.7 When performing the tie breaker trip section of this test, the Safeguard train pumps will be placed in the pull stop position. The containment recirculation fan may be in pull stop if Operations desire. _____
- 4.8 One station service water pump is operating on each loop. _____
- 4.9 The test co-ordinator will be of Class II or Class III qualification. _____
- 4.10 Preparatory alignment steps of this procedure need not be done in numbered sequence. _____
- 4.11 If desired, procedure RSSP-2.7, "Safety Injection Sequence Timers, Train A and B", may be done in conjunction with this test. _____
- 4.12 Test Tag Control Program, A-1103, shall be adhered to. _____

5.0 PRECAUTIONS:

- 5.1 Operation of the diesel generators will deplete the fuel inventory. Be aware that a minimum fuel inventory of 10,000 gallons must be available prior to returning reactor critical.

- 5.2 Unless all fuel is removed from the Reactor Vessel the Residual Heat Removal System will not be rendered inoperable for this test. When one train is being tested, the RHR pump on the opposite train will be in operation.
- 5.3 As soon as the final Safeguard signal has been initiated, the concerned channels must be restored to normal. In the event that a hazardous condition should develop, the D.C. control circuit for the inoperable logic train should be restored to normal and the Safety Injection signal reset after the 60 second time delay.

6.0 INSTRUCTIONS:

6.1 A logic train test

- 6.1.1 Latch up the supply and exhaust solenoids for both the A and B main steam line isolation valves and verify the following:

6.1.1.1 AOV 3516 (A loop) open, if valve in place
or solenoids only latched

6.1.1.2 AOV 3517 (B loop) open, if valve in place
or solenoids only latched

- 6.1.2 Open steam generator A and B main and bypass feedwater valves.

6.1.2.1 AOV 466 (4269) "A" main F.W. valve open

6.1.2.2 AOV 480 (4270) "A" bypass F.W. valve open

6.1.2.3 AOV 476 (4271) "B" main F.W. valve open

6.1.2.4 AOV 481 (4272) "B" bypass F.W. valve open

NOTE: If secondary side condensate header system is pressurized, it will be necessary to close manual upstream blocking valves for each AOV feedwater valve.

- 6.1.3 Establish the necessary "Before Trip" safeguard alignment as per attached Table 1, Sheet #1 thru #5.

6.1.3.1 Ensure all reset lights are lit on Push Button CI Reset Panel.

- 6.1.4 Ensure that emergency diesels are on automatic standby.

6.1.4.1 1A diesel on standby (A logic train)

6.1.4.2 1B diesel on standby (B logic train)

- 6.1.5 Ensure the following containment recirculation fans are off and control switch in off after trip position.

6.1.5.1 1D recirculation fan off
control switch in off after trip position

6.1.5.2 1B recirculation fan off
control switch in off after trip position

6.1.6 To properly check damper action of containment charcoal
units, place the following fans in operation:

1A recirculation fan running
1C recirculation fan running

NOTE: Ensure that approximately 200 gallons of service water is
flowing through each containment recirculation unit.

6.1.6.1 Ensure both the A & B Purge Systems are in operation.

6.1.7 Perform the following:

6.1.7.1 Ensure that control board switch for 1A and 1B containment
sump pumps are in "off after trip" position.

6.1.7.2 Open the AC 480 volt circuit for Containment A & B sump
pump and leave DC control fuses in place.

6.1.7.2.1 A Sump Pump: Breaker Open (MCC 1E, Pos. 1B). Fuses in place

6.1.7.2.2 B Sump Pump: Breaker Open (MCC 1D, Pos. 2B). Fuses in place

6.1.7.3 Place jumper wire around level contact (LS 2039) in starting
circuit for 1A cont. sump pump (wires C & C2, TDW6 to TDW7
at MCB).

6.1.7.4 Place jumper wire around level contact (LS 2044) in starting
circuit for 1B cont. sump pump (wires C & C2, TCW6 to TCW7
at MCB).

6.1.7.5 Verify 1A & 1B sump pump red indicating light is lit.

1A _____, 1B _____

6.1.8 Close reactor trip breakers A & B. It may be necessary to
simulate Steam Generator and pressurizer level to satisfy
reactor trip relays.

NOTE: Do not place breakers in the test position.

6.1.8.1 1A reactor trip breaker closed (A logic)

6.1.8.2 1B reactor trip breaker closed (B logic)

6.1.9 Perform the following:

6.1.9.1 Ensure that the 1B residual Heat Removal pump is in
operation.

- 6.1.9.2 Place the 1A residual Heat Removal pump breaker to the "test" position, close breaker to verify operability and then trip and leave in tripped position. _____

NOTE: For line-up convenience, the equipment alignment performed in previous steps include items for both Safeguard logic tests, however, only some of the equipment is selectively operated by the logic train undergoing test.

- 6.1.10 Open D.C. circuit breaker for "B" safeguard logic train. _____

CAUTION: When opening or closing D.C. circuit breaker for either train, depress MCB SI & CS reset buttons.

- 6.1.11 Before simulating steam line isolation signal, station observers at Loop A and Loop B steam line isolation valves to verify proper solenoid operation and valve closure time (if valves are in place). _____

- 6.1.12 Simulate Hi and HiHi containment pressure signal on PC's 946 A/B, PC 948 A/B and 950 A/B pressure control bistable trip switches in RC & P cabinets. _____

- 6.1.13 Record the operation of solenoid valves and closure time of steam line isolation valves. If isolation valves could not be operated at this time, verify proper operation of solenoids only.

- 6.1.13.1 Loop A: Valve closure time _____ sec.
all A train solenoids operated _____

- 6.1.13.2 Loop B: Valve closure time _____ sec.
all A train solenoids operated _____

- 6.1.14 Simulate Hi and HiHi containment pressure signals on PC 945 A/B, PC 947 A/B and PC 949 A/B pressure control bistable trip switches in RC & P cabinets. _____

- 6.1.15 After the various safeguard signals have occurred, reset the following bistables:

- 6.1.15.1 946 A/B reset _____; 948 A/B reset _____

- 6.1.15.2 950 A/B reset _____; 945 A/B reset _____

- 6.1.15.3 947 A/B reset _____; 949 A/B reset _____

- 6.1.16 Verify that the following safeguard equipment (train A) breakers have closed:

- 6.1.16.1 1A containment spray pump _____

- 6.1.16.2 1A safety injection pump _____

- 6.1.16.3 1C safety injection pump _____

- 6.1.16.4 1A residual heat removal pump _____

- 6.1.16.5 1A or 1C service water pump _____
- 6.1.16.6 1D containment recirculation fan _____
- 6.1.16.7 1A auxiliary feedwater pump _____
- 6.1.17 Verify that 1A reactor trip breaker has tripped. _____
- 6.1.18 Verify that Loop A and Loop B main and bypass feedwater valves have closed. _____
- 6.1.18.1 AOV 466 (Loop A main) closed _____
- 6.1.18.2 AOV 480 (Loop A bypass) closed _____
- 6.1.18.3 AOV 476 (Loop B main) closed _____
- 6.1.18.4 AOV 481 (Loop B bypass) closed _____
- 6.1.19 Verify that 1A diesel generator has started, and phase voltages have built up to approximately 480 volts. _____
- 6.1.20 Verify that the following non-safeguard equipment breakers have tripped: _____
- 6.1.20.1 1A charging pump _____
- 6.1.20.2 Pressurizer heater control group _____
- 6.1.20.3 1A lake intake heater _____
- 6.1.20.4 1C lake intake heater _____
- 6.1.20.5 Motor control center 1G1 _____
- 6.1.20.6 1A main feedwater pump _____
- 6.1.20.7 1B main feedwater pump _____
- 6.1.20.8 Both A & B Purge Supply and Exhaust Fans _____
- 6.1.21 Verify that 1A & 1B sump pump contactors have de-energized. _____
- 6.1.21.1 1A CV sump pump green indicating light is lit. _____
- 6.1.21.2 1B CV sump pump green indicating light is lit. _____
- 6.1.22 Verify and indicate the valve status lights and valve switch indicating light "after trip" conditions on attached table 2 (train A), sheets #1 thru #5. _____
- 6.1.23 After all data has been verified for train A safeguard actuate, reset the following signals: _____
- 6.1.23.1 Safety injection _____

- 6.1.23.2 Containment spray _____
- 6.1.23.3 Containment isolation _____
- 6.1.23.4 Containment ventilation isolation _____
- 6.1.23.5 Verify all reset lights are out on the C.I. Push Button Reset Panel. _____
- 6.1.23.6 Verify and complete Table 3. _____
- 6.1.23.7 Verify and complete Table 3A. _____
- 6.1.24 Re-establish control power to "B" safeguard logic train. _____
- CAUTION: When closing breaker, press in MCB SI & CS reset buttons.
- 6.1.25 Ensure that 1A diesel generator is shut down. _____
- 6.1.26 Restore the following safeguard breakers to their trip mode by operation of control board switches:
 - 6.1.26.1 1A containment spray pump _____
 - 6.1.26.2 1A safety injection pump _____
 - 6.1.26.3 1C safety injection pump _____
 - 6.1.26.4 1A residual heat removal pump _____
 - 6.1.26.5 1A or 1C service water pump (breaker which closed in step 6.1.16.5) _____
 - 6.1.26.6 1D containment recirculation fan _____
 - 6.1.26.7 1A auxiliary feedwater pump _____
- NOTE: Perform the following steps to return equipment to service and to complete preparations for testing train B safeguard logic train.
- 6.1.27 Return 1A RHR pump breaker to normal and if plant condition requires, place 1A RHR pump in operation. _____
- 6.1.28 Place 1B RHR pump breaker in test position. Insure that breaker is in tripped mode and the control board switch in in "Off after trip" position. _____
- 6.1.29 Return lake intake heaters 1A and 1C to service if desired. _____
- 6.2 "B" Logic Train Test
- 6.2.1 Place fire pump breaker (Bus 17) to the test position. Close breaker by actuation of control board control switch. _____
- 6.2.2 Open Loop A and Loop B main and bypass feedwater control valves.

- 6.2.2.1 AOV 466 (Loop A main) open _____
- 6.2.2.2 AOV 480 (Loop A bypass) open _____
- 6.2.2.3 AOV 476 (Loop B main) open _____
- 6.2.2.4 AOV 481 (Loop B bypass) open _____
- 6.2.3 Latch up solenoid for both Loop A and Loop B steam line isolation valves and verify the following:
 - 6.2.3.1 AOV 3516 (A loop) open, if valve in place or solenoids only latched _____
 - 6.2.3.2 AOV 3517 (B loop) open, if valve in place or solenoids only latched _____
- 6.2.4 Swap motor control centers in screenhouse:
 - 6.2.4.1 MCC 1G1 in service _____
 - 6.2.4.2 Place MCC 1G2 in test position and ensure that breaker is closed _____
- 6.2.5 Close the following breakers:
 - 6.2.5.1 1A main feedwater pump _____
 - 6.2.5.2 1B main feedwater pump _____
 - 6.2.5.3 Reactor Trip A and B _____
- 6.2.6 Ensure that control board switches for 1A & 1B containment sump pumps are in their "off after trip" position and verify the following:
 - 6.2.6.1 1A sump pump red indicating light is lit _____
 - 6.2.6.2 1B sump pump red indicating light is lit _____
 - 6.2.6.3 Containment purge systems A & B are in operation. _____
- 6.2.7 Reset the solenoid coils for the following valves:
 - 6.2.7.1 MOV 4561 service water discharge (throttling) valve from containment fan coolers _____
 - 6.2.7.2 1A containment fan charcoal dampers _____
- 6.2.8 Establish the necessary "before trip" safeguard alignment as per attached table 1, sheets #1 thru #5 _____
 - 6.2.8.1 Ensure all reset lights are lit on Push Button CI Reset Panel. _____
 - 6.2.8.2 Trip the following from service:
 - 6.2.8.2.1 1A containment recirculation fan _____



6.2.8.2.2 1D containment recirculation fan _____

6.2.9 Open DC circuit breaker for "A" safeguard logic train. _____

CAUTION: When opening or closing DC circuit breakers for either
A or B logic trains, depress MCB, SI and CS reset buttons.

6.2.10 Before simulating steam line isolation signal, station
observers at Loop A and Loop B steam line isolation valves,
to verify proper solenoid operation and valve closure time
(if valves are in place). _____

6.2.11 Simulate Hi and HiHi containment pressure signal on PC's;
946 A/B, 948 A/B and 950 A/B pressure control bistables
by tripping the respective bistable trip switches in RC & P
cabinets. _____

6.2.12 Record the operation of solenoid valves and closure time of steam
line isolation valves. If isolation valves could not be operated
at this time, verify proper operation of solenoids only.

6.2.12.1 Loop A: Valve closure time _____ sec.;
All B Train solenoids operated _____

6.2.12.2 Loop B: Valve closure time _____ sec.;
All B Train solenoids operated _____

6.2.13 Simulate Hi and HiHi containment pressure signals on
PC 945 A/B, PC 947 A/B and PC 949 A/B pressure control
bistables by tripping the respective bistable trip switches
in RC & P cabinets. _____

6.2.14 After all safeguard signals have occurred, reset the following
bistables:

6.2.14.1 946 A/B reset _____; 948 A/B reset _____

6.2.14.2 950 A/B reset _____; 945 A/B reset _____

6.2.14.3 947 A/B reset _____; 949 A/B reset _____

6.2.15 Verify that the following safeguard equipment (train B)
breakers have closed:

6.2.15.1 1B containment spray pump _____

6.2.15.2 1B safety injection pump _____

6.2.15.3 1C safety injection pump _____

6.2.15.4 1B residual heat removal pump _____

6.2.15.5 1B or 1D service water pump _____

6.2.15.6 1B containment recirculation fan _____

6.2.15.7 1B auxiliary feedwater pump _____

6.2.16 Verify that 1B Reactor Trip Breaker has tripped _____

6.2.17 Verify that Loop A and Loop B, main and bypass feedwater valves have closed: _____

6.2.17.1 AOV 466 (Loop A main) closed _____

6.2.17.2 AOV 480 (Loop A bypass) closed _____

6.2.17.3 AOV 476 (Loop B main) closed _____

6.2.17.4 AOV 481 (Loop B bypass) closed _____

6.2.18 Verify that 1B diesel generator has started and phase voltages have built up to approximately 480 volts. _____

6.2.19 Verify that the following non-safeguard equipment breakers have tripped: _____

6.2.19.1 1B charging pump _____

6.2.19.2 1C charging pump _____

6.2.19.3 Pressurizer heaters backup group _____

6.2.19.4 1B Lake intake heaters _____

6.2.19.5 1D Lake intake heaters _____

6.2.19.6 Motor control center 1G2 _____

6.2.19.7 Fire pump _____

6.2.19.8 1A main feedwater pump _____

6.2.19.9 1B main feedwater pump _____

6.2.19.10 Containment Purge Systems A & B _____

6.2.20 Verify that 1A and 1B sump pump contactors have de-energized. _____

6.2.20.1 1A CV sump pump green indicating light is lit. _____

6.2.20.2 1B CV sump pump green indicating light is lit. _____

6.2.21 Verify the valve status lights and valve switch indicating lights "after trip" conditions on attached Table 3 (train B), sheets #1 thru #5. _____

6.2.22 After all data has been verified for train B safeguard actuation, reset the following signals: _____

6.2.22.1 safety injection _____

- 6.2.22.2 containment spray _____
- 6.2.22.3 containment isolation _____
- 6.2.22.4 containment ventilation isolation _____
- 6.2.22.5 Verify all reset lights are out on the CI Push Button
Reset Panel. _____
- 6.2.22.6 Verify and complete Table 5. _____
- 6.2.22.7 Verify and complete Table 5A. _____
- 6.2.23 Re-establish D.C. control power to "A" safeguard logic
train. _____

CAUTION: When opening or closing D.C. breakers for either
train, press in reset buttons for SI and CS.

- 6.2.24 Ensure that 1B diesel generator is shut down. _____
- 6.2.25 Reset the solenoid for the following valves:
 - 6.2.25.1 AOV 4562 service water discharge (bypass) valve from
containment fan coolers _____
 - 6.2.25.2 1C containment fan charcoal dampers _____
- 6.2.26 Return containment sump pumps A & B level contacts to normal
 - 6.2.26.1 Ensure that control board switch for A and B C.V. sump
pumps are in "off after trip" position. _____
 - 6.2.26.2 Remove jumper wire from terminal strip at main control
board for LS 2039 (between TDW6 & TDW7). _____
 - 6.2.26.3 Remove jumper wire from terminal strip at main control
board for LS 2044 (between TCW6 & TCW7). _____
- 6.2.27 Restore fire pump breaker. _____
- 6.2.28 Secure Containment Purge System (if desired). _____
- 6.3 Verification of 480 volt tie breaker trip upon actuation
of safety injection.

NOTE 1: During performance of this test, all non-safeguard
motor control centers will be de-energized at least
twice for periods of approximately 10 minutes. Each
safeguard bus and their associated motor control
centers will be de-energized at least once for periods
of approximately 10 minutes. For this reason, tests
should be conducted when plant activity is at a minimum.

NOTE 2: During performance of test on buses #13 and #15, the
plant security computer system will be affected.



- 6.3.1 Notify Electricians that Security Diesel should be started and switched over. _____
- 6.3.2 Verify 1A and 1B Inverter are supplying load to Instrument Buses. _____
- 6.3.3 Ensure that the following safeguard equipment control board switches are placed in the pull stop position:
 - 6.3.3.1 1A safety injection pump _____
 - 6.3.3.2 1B safety injection pump _____
 - 6.3.3.3 1C safety injection pump _____
 - 6.3.3.4 1A containment spray pump _____
 - 6.3.3.5 1B containment spray pump _____
 - 6.3.3.6 1A auxiliary feedwater pump _____
 - 6.3.3.7 1B auxiliary feedwater pump _____
 - 6.3.3.8 Containment recirculation fans not required for operation. _____
 - 6.3.3.9 Service water pumps not required for operation (ensure one pump operating in each loop). _____
- 6.3.4 Ensure that no crane activity is taking place in following areas:
 - 6.3.4.1 Containment vessel _____
 - 6.3.4.2 Auxiliary Building _____
 - 6.3.4.3 Turbine Building _____
- 6.3.5 Open D.C. circuit breaker for "B" safeguard logic train. _____

CAUTION: Press in control board CS and SI reset buttons when opening or closing either the A or B safeguard train D.C. control breaker.
- 6.3.6 Defeat the automatic start circuit of A diesel generator by placing the emergency generator start switch to the pull stop position. _____
- 6.3.7 If needed bypass "A" control air dryer by performing the following:
 - 6.3.7.1 Open dryer bypass valve 5276 _____
 - 6.3.7.2 Close dryer inlet valve 5277 _____
 - 6.3.7.3 Close dryer outlet valve 5275 _____
- 6.3.8 If needed bypass "B" control air dryer by performing the following:
 - 6.3.8.1 Open dryer bypass valve 8230 _____

- 6.3.8.2 Close dryer inlet valve 8228 _____
- 6.3.8.3 Close dryer outlet valve 8229 _____
- 6.3.9 If needed, align city water to A control air compressor by performing the following:
 - 6.3.9.1 Open city water supply valve _____
 - 6.3.9.2 Open valve 7079A (city water inlet to compressor water jacket) _____
 - 6.3.9.3 Open half-way, valve 5298 (temporary drain from compressor water jacket) _____
 - 6.3.9.4 Close service water inlet valve 5325 _____
 - 6.3.9.5 Regulate valve 5298 to ensure adequate water flow through water jacket and permit compressor to operate through 2 or 3 cycles of operation. _____
- 6.3.10 If needed, align city water to B control air compressor by performing the following:
 - 6.3.10.1 Open valve 7090 (city water inlet to compressor water jacket). _____
 - 6.3.10.2 Open half-way, valve 7089 (temporary drain from compressor water jacket). _____
 - 6.3.10.3 Close service water inlet valve 5326. _____
 - 6.3.10.4 Regulate valve 7089 to ensure adequate water flow through water jacket and permit compressor to operate through 2 or 3 cycles. _____
- NOTE: Check the A compressor drain hose to ensure that adequate water is still flowing, also check compressor air discharge temperature and after cooler discharge temperature.
- 6.3.11 Place the following pumps in service:
 - 6.3.11.1 B residual heat removal pump (restore breaker) _____
 - 6.3.11.2 B component cooling water pump _____
- 6.3.12 To minimize loss of equipment for test of A train, place the following in service:
 - 6.3.12.1 MCC 1G2 _____
 - 6.3.12.2 1B service water pump _____
 - 6.3.12.3 1D service water pump. _____



6.3.12.4 Trip normal feed breaker (low side) to bus 18 _____

6.3.12.5 Close bus tie breaker 17-18 _____

NOTE: The close circuit for tie breakers 13-14 and 15-16 are interlocked such that normal feed breaker (low side) must be open before the respective tie breaker can be closed. However, running equipment of non-safeguard busses may be maintained at this time, if the respective tie breaker is held in the closed position and then normal feed (low side 13 & 15 buses) breakers opened.

6.3.13 Perform the following:

6.3.13.1 Hold "480 Volt Bus #13-14 Tie" control switch in the closed position and trip "480 Volt Bus #13 Normal Feed" control switch. _____

6.3.13.2 Hold "480 Volt Bus #15-16 Tie" control switch in the closed position and trip "480 volt Bus #15 Normal Feed" control switch. _____

6.3.13.3 Ensure Security Diesel Generator running. _____

6.3.13.4 Announce over plant P.A. that there will be a loss of all A.C. lighting and low voltage power circuits in containment, turbine building and service building. _____

6.3.13.5 Inform Operations personnel that there will be a loss of vital buses B & D. _____

6.3.14 Place MCB switches for the 1C Control and Service Air Compressors in Pull Stop Position. _____

6.3.15 Trip the A and B control air compressors from service

6.3.15.1 A control air compressor tripped _____

6.3.15.2 B control air compressor tripped _____

6.3.16 Initiate manual safety injection signal _____

CAUTION: Certain service water isolation valves will close at this time and must be opened as quickly as possible to protect running equipment.

6.3.17 Verify that the following breakers have tripped:

6.3.17.1 Bus tie 13-14 _____

6.3.17.2 Bus tie 15-16 _____

6.3.17.3 Bus tie 17-18 _____



- 6.3.17.4 Bus 18 high side feed (52/18 SS) _____
- 6.3.17.5 Bus 14 high side feed (52/14 SS) _____
- 6.3.17.6 Bus 14 low side feed (52/14) _____
- 6.3.18 Reset the following (approximately 60 seconds from time of SI signal initiation):
 - 6.3.18.1 safety injection _____
 - 6.3.18.2 containment ventilation isolation _____
- 6.3.19 Immediately after reset of safety injection, close the following breakers:
 - 6.3.19.1 Bus 14 high side feed (52/14 SS) _____
 - 6.3.19.2 Bus 14 low side feed (52/14) _____
 - 6.3.19.3 Bus tie 13-14 _____
 - 6.3.19.4 Bus tie 15-16 _____
 - 6.3.19.5 Bus 18 high side feed (52/18 SS) _____
 - 6.3.19.6 Bus 18 low side feed (52/18) _____

NOTE: Proceed to next step as quickly as possible

- 6.3.20 Perform the following:
 - 6.3.20.1 Reset both lighting transformers and auxiliary power transformers (13 & 15 buses) _____
 - 6.3.20.2 Start 1A control air compressor _____
 - 6.3.20.3 Start 1B control air compressor _____
 - 6.3.20.4 Open all service water isolation valves which had closed during test _____
 - 6.3.20.5 Close all motor control center breakers _____
 - 6.3.20.6 Return 1C Control and Service Air Compressor to service. _____
- 6.3.21 Permit plant condition to stabilize before testing "B" safeguard logic train _____
- 6.3.22 Close D.C. control breaker for "B" safeguard logic train and open D.C. control for train "A" _____

CAUTION: Press in control board CS and SI reset button when opening or closing either A or B D.C. control breaker.

- 6.3.23 Return A diesel generator to "auto" standby _____

- 6.3.24 Defeat the automatic start of "B" diesel generator by placing emergency start switch in pull stop position
- 6.3.25 Perform the following:
 - 6.3.25.1 Place MCC 1G1 in service
 - 6.3.25.2 Place 1C service water pump in service
 - 6.3.25.3 Place 1A service water pump in service
 - 6.3.25.4 Trip normal feed breaker (low side) to bus 17
 - 6.3.25.5 Close bus tie breaker 17-18
- 6.3.26 Perform the following in auxiliary building:
 - 6.3.26.1 Reset relay for D.C. control for non-safeguard equipment (on MCC 1C)
 - 6.3.26.2 Place lighting throw over switch to emergency position (on column by MCC 1C)
- 6.3.27 Place the following pumps in service:
 - 6.3.27.1 A residual heat removal pump
 - 6.3.27.2 A component cooling pump
- 6.3.28 Place MCB switches for 1C Control and Service Air Compressors in Pull Stop position.
- 6.3.29 Trip A & B control air compressor from service
 - 6.3.29.1 A control air compressor tripped
 - 6.3.29.2 B control air compressor tripped
- 6.3.30 Announce over plant P.A. that there will be a loss of all A.C. lighting, and low voltage power circuits in containment, turbine building and service building.
- 6.3.31 Initiate manual safety injection signal.

CAUTION: Certain service water isolation valves will close at this time and must be opened as quickly as possible to protect operating equipment.

- 6.3.32 Verify that the following breakers have tripped:
 - 6.3.32.1 Bus tie 13-14
 - 6.3.32.2 Bus tie 15-16
 - 6.3.32.3 Bus tie 17-18
 - 6.3.32.4 Bus 17 high side feed (52/17SS)



6.3.32.5 Bus 16 high side feed (52/16SS) _____

6.3.32.6 Bus 16 low side feed (52/16) _____

6.3.33 Reset the following (approximately 60 seconds from time of SI signal initiation):

6.3.33.1 safety injection _____

6.3.33.2 containment ventilation isolation _____

6.3.34 Immediately after reset of safety injection, close the following breakers:

6.3.34.1 Bus 13 low side feed (52/13) _____

6.3.34.2 Bus 15 low side feed (52/15) _____

6.3.34.3 Bus 17 high side feed (52/17SS) _____

6.3.34.4 Bus 17 low side feed (52/17) _____

6.3.34.5 Bus 16 high side feed (52/16SS) _____

6.3.34.6 Bus 16 low side feed (52/16) _____

NOTE: Proceed to next step as quickly as possible

6.3.35 Perform the following:

6.3.35.1 Reset both lighting transformers and auxiliary power transformers (buses 13 & 15) _____

6.3.35.2 Ensure closed all motor control center breakers (except Screenhouse MCC 1G1) _____

6.3.35.3 Open all service water isolation valves which had closed during test _____

6.3.35.4 Start 1A control air compressor _____

6.3.35.5 Start 1B control air compressor _____

6.3.35.6 Return 1C Control and Service Air Compressors to service. _____

6.3.36 Reset the following:

6.3.36.1 Containment recirculation fan service water discharge valve 4562 _____

6.3.36.2 Containment recirculation fan 1A & 1C charcoal dampers _____

6.3.37 Close D.C. control breaker for A safeguard train _____

CAUTION: When opening or closing D.C. breakers for either safeguard train, press in the control board reset button for CS and SI.

6.3.38 Return B diesel generator to "auto" standby _____



- 6.3.39 Perform the following in auxiliary building:
- 6.3.39.1 Reset relay for D.C. control for non-safeguard equipment
(on MCC 1D) _____
- 6.3.39.2 Place lighting throw over switch to normal position _____
- 6.3.40 Operations to place in service any desired equipment,
consistant with plant operation _____
- 6.3.41 Notfy Electricians that Security Diesel Generator may be
shut down. _____
- 6.3.42 Return A control air dryer to normal if it was isolated.
- 6.3.42.1 Open dryer inlet valve 5277 _____
- 6.3.42.2 Open dryer outlet valve 5275 _____
- 6.3.42.3 Close dryer bypass valve 5276 _____
- 6.3.43 Return B control air dryer to normal if it was isolated.
- 6.3.43.1 Open dryer inlet valve 8228 _____
- 6.3.43.2 Open dryer outlet valve 8229 _____
- 6.3.43.3 Close dryer bypass valve 8230 _____
- 6.3.44 Return A control air compressor to normal service water
cooling if it was isolated. _____
- 6.3.44.1 Open service water inlet valve 5325 _____
- 6.3.44.2 Close valve 5289 (temporary drain) _____
- 6.3.44.3 Close valve 7079A (city water inlet to compressor) _____
- 6.3.45 Return B control air compressor to normal service water cooling
if it was isolated.
- 6.3.45.1 Open service water inlet valve 5326 _____
- 6.3.45.2 Close valve 7089 (temporary drain) _____
- 6.3.45.3 Close valve 7090 (city water inlet to compressor) _____
- 6.3.45.4 Close city water supply valve _____

COMPLETED BY: _____

DATE COMPLETED: _____

SHIFT SUPERVISOR: _____

TEST CO-ORDINATOR: _____

RESULTS AND TEST REVIEW: _____ DATE _____

TABLE 1 SHEET #1

BEFORE TRIP VALVE ALIGNMENT FOR TRAINS A & B

NOTE: Valves listed according to status light position -
read left to right top row, middle row, bottom row)

VALVE	SWITCH	VALVE	SWITCH	STATUS	TRAIN	
TOP ROW	LOCATION	POSITION	LIGHT	LIGHT	A	B
539	W.D.P.	OPEN		DIM	_____	_____
1789	W.D.P.	OPEN		DIM	_____	_____
1786	W.D.P.	OPEN	RED	DIM	_____	_____
1787	W.D.P.	OPEN	RED	DIM	_____	_____
1721	W.D.P.	OPEN	RED	DIM	_____	_____
1003A	W.D.P.	OPEN	RED	DIM	_____	_____
1003B	W.D.P.	OPEN	RED	DIM	_____	_____
1597	M.C.B.	OPEN	RED	DIM	_____	_____
1598	M.C.B.	OPEN	RED	DIM	_____	_____
SPARE						
813	M.C.B.	OPEN	RED	DIM	_____	_____
814	M.C.B.	OPEN	RED	DIM	_____	_____
1723	W.D.P.	OPEN	RED	DIM	_____	_____
1728	W.D.P.	OPEN	RED	DIM	_____	_____
1815A	M.C.B.	CLOSE	GREEN	DIM	_____	_____
852A	M.C.B.	CLOSE	GREEN	DIM	_____	_____
852B	M.C.B.	CLOSE	GREEN	DIM	_____	_____
841						
865	VALVE CLOSED FUSES PULLED					
825A						
704A						
704B	UNDER OPERATIONS CONTROL					

VALVE CLOSED FUSES PULLED

UNDER OPERATIONS CONTROL



TABLE 1 SHEET #2

BEFORE TRIP VALVE ALIGNMENT FOR TRAINS A & B

NOTE: Valves listed according to status light position -
read left to right top row, middle row, bottom row)

VALVE	SWITCH LOCATION	VALVE POSITION	SWITCH LIGHT	STATUS LIGHT	TRAIN	
					A	B
871A	M.C.B.	OPEN	RED	BRIGHT	_____	_____
871B	M.C.B.	OPEN	RED	BRIGHT	_____	_____
875A						
875B						
876A						
876B						
UNDER OPERATIONS CONTROL						
860A	M.C.B.	CLOSE	GREEN	DIM	_____	_____
860B	M.C.B.	CLOSE	GREEN	DIM	_____	_____
860C	M.C.B.	CLOSE	GREEN	DIM	_____	_____
860D	M.C.B.	CLOSE	GREEN	DIM	_____	_____
<u>MIDDLE ROW</u>						
371	M.C.B.	OPEN	RED	DIM	_____	_____
313	M.C.B.	OPEN	RED	DIM	_____	_____
951	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
953	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
955	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
959	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
966A	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
966B	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
966C	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
1V1A	H.R.P.	OPEN	RED	DIM	_____	_____
1V2A	H.R.P.	OPEN	RED	DIM	_____	_____
1V3A	H.R.P.	OPEN	RED	DIM	_____	_____



TABLE 1 SHEET #3

BEFORE TRIP VALVE ALIGNMENT FOR TRAINS A & B

NOTE: Valves listed according to status light position -
read left to right top row, middle row, bottom row)

VALVE	SWITCH LOCATION	VALVE POSITION	SWITCH LIGHT	STATUS LIGHT	TRAIN	
					A	B
<u>MIDDLE ROW (Cont'd)</u>						
1V5A	H.R.P.	OPEN	RED	DIM	_____	_____
4561		CLOSE		DIM	_____	_____
1815B	M.C.B.	CLOSE	GREEN	DIM	_____	_____
878A	THESE VALVES ARE MAINTAINED WITH A.C.					
878B	POWER OFF WHEN PLANT IS OPERATING. NO					
878C	AUTOMATIC FUNCTION PERMITTED AS PER NRC.					
878D						
825B	VALVE CLOSED FUSES PULLED					
1813A						
1813B						
897						
850A	UNDER OPERATIONS CONTROL					
851A						
896A						
896B						
CDV1A (7971)	M.C.B.	OPEN		DIM	_____	_____
CDV1B (7970)	M.C.B.	OPEN		DIM	_____	_____
CV70 (5738)	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
CV71 (5737)	SAMPLE PANEL	OPEN	RED	DIM	_____	_____



TABLE 1 SHEET #4

BEFORE TRIP VALVE ALIGNMENT FOR TRAINS A & B

NOTE: Valves listed according to status light position -
read left to right top row, middle row, bottom row)

VALVE	SWITCH LOCATION	VALVE POSITION	SWITCH LIGHT	STATUS LIGHT	TRAIN A B	
<u>BOTTOM ROW</u>						
IAIV (5392)	M.C.B.	OPEN	RED	DIM	_____	_____
PEV/I (5878)	M.C.B.	OPEN	RED	DIM	_____	_____
PEV/O (5879)	M.C.B.	OPEN	RED	DIM	_____	_____
PSV/I (5870)	M.C.B.	OPEN	RED	DIM	_____	_____
PSV/O (5869)	M.C.B.	OPEN	RED	DIM	_____	_____
846	M.C.B.	OPEN	RED	DIM	_____	_____
ISV (7443)	M.C.B.	OPEN	RED	DIM	_____	_____
OVA (7445)	M.C.B.	OPEN	RED	DIM	_____	_____
OVV (7444)	M.C.B.	OPEN	RED	DIM	_____	_____
1V1B	H.R.P.	OPEN	RED	DIM	_____	_____
1V2B	H.R.P.	OPEN	RED	DIM	_____	_____
1V3B	H.R.P.	OPEN	RED	DIM	_____	_____
1V5B	H.R.P.	OPEN	RED	DIM	_____	_____
4562		CLOSE		DIM	_____	_____
<u>SPARE</u>						
856	UNDER OPERATIONS CONTROL					
826A	M.C.B.	CLOSE	GREEN	DIM	_____	_____
826B	M.C.B.	CLOSE	GREEN	DIM	_____	_____
826C	M.C.B.	CLOSE	GREEN	DIM	_____	_____
826D	M.C.B.	CLOSE	GREEN	DIM	_____	_____



TABLE 1 SHEET #5

BEFORE TRIP VALVE ALIGNMENT FOR TRAINS A & B

NOTE: Valves listed according to status light position -
read left to right top row, middle row, bottom row)

VALVE	SWITCH LOCATION	VALVE POSITION	SWITCH LIGHT	STATUS LIGHT	TRAIN A B	
898						
850B						
851B		UNDER OPERATIONS CONTROL				
857A						
857B						
857C						
508	M.C.B.	OPEN	RED	DIM	_____	_____
CV76 (5735)	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
CV77 (5736)	SAMPLE PANEL	OPEN	RED	DIM	_____	_____
MAIN STEAM (3515)		OPEN	RED		_____	_____
MAIN STEAM (3516)		OPEN	RED		_____	_____
8418	REAR MCB	OPEN	RED	DIM	_____	_____
<u>CHARCOAL DAMPERS</u>						
1F LED (5873)		OPEN			_____	_____
1I CID (5871)		CLOSE		ONE GREEN LIGHT	_____	_____
1K COD (5872)		CLOSE			_____	_____
1H LED (5875)		OPEN			_____	_____
1J CID (5876)		CLOSE		ONE GREEN LIGHT	_____	_____
1L COD (5874)		CLOSE			_____	_____

TABLE 2 SHEET #1

TRAIN A AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
<u>TOP ROW</u>			
539	CLOSED _____	BRIGHT _____	
1789	CLOSED _____	BRIGHT _____	
1786	CLOSED _____	BRIGHT _____	GREEN _____
1787	NO ACTION FROM TRAIN A		
1721	CLOSED _____	BRIGHT _____	GREEN _____
1003A	CLOSED _____	BRIGHT _____	GREEN _____
1003B	NO ACTION FROM TRAIN A		
1597	CLOSED _____	BRIGHT _____	GREEN _____
1598	CLOSED _____	BRIGHT _____	GREEN _____
<u>SPARE</u>			
813	CLOSED _____	BRIGHT _____	GREEN _____
814	NO ACTION FROM TRAIN A		
1723	CLOSED _____	BRIGHT _____	GREEN _____
1728	NO ACTION FROM TRAIN A		
1815A	OPEN _____	BRIGHT _____	RED _____
852A	OPEN _____	BRIGHT _____	RED _____
852B	NO ACTION FROM TRAIN A		
841			
865	VALVE CLOSED FUSES PULLED		
825A			
704A	UNDER OPERATIONS CONTROL		
704B			



TABLE 2 SHEET #2

TRAIN A AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
871A	CLOSED _____	DIM _____	GREEN _____
871B	WILL OPERATE ONLY IF SI1A BREAKER FAILS TO CLOSE		
875A	UNDER OPERATIONS CONTROL		
875B			
876A			
876B			
860A	OPEN _____	BRIGHT _____	RED _____
860B	NO ACTION FROM TRAIN A		
860C	OPEN _____	BRIGHT _____	RED _____
860D	NO ACTION FROM TRAIN A		
<u>MIDDLE ROW</u>			
371	CLOSED _____	BRIGHT _____	GREEN _____
313	CLOSED _____	BRIGHT _____	GREEN _____
951	CLOSED _____	BRIGHT _____	GREEN _____
953	CLOSED _____	BRIGHT _____	GREEN _____
955	CLOSED _____	BRIGHT _____	GREEN _____
959	CLOSED _____	BRIGHT _____	GREEN _____
966A	CLOSED _____	BRIGHT _____	GREEN _____
966B	CLOSED _____	BRIGHT _____	GREEN _____
966C	CLOSED _____	BRIGHT _____	GREEN _____
1V1A	CLOSED _____	BRIGHT _____	GREEN _____
1V2A	CLOSED _____	BRIGHT _____	GREEN _____
1V3A	CLOSED _____	BRIGHT _____	GREEN _____

TABLE 2 SHEET #3

TRAIN A AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
1V5A	CLOSED _____	BRIGHT _____	GREEN _____
4561	OPEN _____	BRIGHT _____	
1815B	OPEN _____	BRIGHT _____	RED _____
878A	UNDER OPERATIONS CONTROL		
878B			
878C			
878D			
825B	VALVE CLOSED	FUSES PULLED	
1813A	UNDER OPERATIONS CONTROL		
1813B			
897			
850A			
851A	UNDER OPERATIONS CONTROL		
896A			
896B			
CDV1A (7971)	CLOSED _____	BRIGHT _____	
CDV1B (7970)	CLOSED _____	BRIGHT _____	
CV70 (5738)	CLOSED _____	BRIGHT _____	GREEN _____
CV71 (5737)	CLOSED _____	BRIGHT _____	GREEN _____



TABLE 2 SHEET #4

TRAIN A AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
<u>BOTTOM ROW</u>			
1A1V (5392)	CLOSED _____	BRIGHT _____	GREEN _____
PEV/I (5878)	CLOSED _____	BRIGHT _____	GREEN _____
PEV/O (5879)	CLOSED _____	BRIGHT _____	GREEN _____
PSV/I (5870)	CLOSED _____	BRIGHT _____	GREEN _____
PSV/O (5869)	CLOSED _____	BRIGHT _____	GREEN _____
846	CLOSED _____	BRIGHT _____	GREEN _____
1SV (7443)	CLOSED _____	BRIGHT _____	GREEN _____
OVA (7445)	CLOSED _____	BRIGHT _____	GREEN _____
OVV (7444)	CLOSED _____	BRIGHT _____	GREEN _____
1V1B	CLOSED _____	BRIGHT _____	GREEN _____
1V2B	CLOSED _____	BRIGHT _____	GREEN _____
1V3B	CLOSED _____	BRIGHT _____	GREEN _____
1V5B	CLOSED _____	BRIGHT _____	GREEN _____
4562	NO ACTION FROM TRAIN A		
<u>SPARE</u>			
856	UNDER OPERATIONS CONTROL		
826A	OPEN _____	BRIGHT _____	RED _____
826B	OPEN _____	BRIGHT _____	RED _____
826C	NO ACTION FROM TRAIN A		
826D			



TABLE 2 SHEET #5

TRAIN A AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
898			
850B			
851B			
857A	UNDER OPERATIONS CONTROL		
857B			
857C			
508	CLOSED _____	BRIGHT _____	GREEN _____
CV76 (5735)	CLOSED _____	BRIGHT _____	GREEN _____
CV77 (5736)	CLOSED _____	BRIGHT _____	GREEN _____
MAIN STEAM (3515)	CLOSED _____		GREEN _____
MAIN STEAM (3516)	CLOSED _____		GREEN _____
8418	CLOSED _____	BRIGHT _____	GREEN _____
<u>CHARCOAL DAMPERS</u>			
1F LED (5873)	CLOSED _____		
1I CID (5871)	OPEN _____		
1K COD (5872)	OPEN _____	GREEN LIGHT OUT _____	
1H LED (5875)			
1J CID (5876)	NO ACTION FROM TRAIN A		
1L COD (5874)			



TABLE 3 SHEET #1

AFTER MAIN C.I. RESET/PUSH BUTTON C.I. RESETVALVE ALIGNMENT FOR TRAIN A

NOTE: Valves listed according to status light position. Read left to right top row, middle row, bottom row.

*** Verification of after push button CI reset is obtained by pushing the applicable valve reset button on the push button CI reset panel.

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN A
539		BRIGHT		
	AFTER PUSH BUTTON (P/B) RESET	DIM	BOTH ON	
1789		BRIGHT		
	AFTER P/B RESET	DIM	BOTH ON	
1786	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1721	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1003A	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1597	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1598	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
813	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1723	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
371	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		

TABLE 3 SHEET #2

AFTER MAIN C.I. RESET/PUSH BUTTON C.I. RESETVALVE ALIGNMENT FOR TRAIN A

NOTE: See NOTES, Sheet #1

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN A
313	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
951	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
953	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
955	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
959	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
966A	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
966B	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
966C	GREEN AFTER P/B RESET	BRIGHT	BOTH ON	_____
	RED	DIM		_____
IV1A	GREEN	BRIGHT		_____
IV2A	GREEN	BRIGHT		_____
IV3A	GREEN	BRIGHT		_____
IV5A	GREEN	BRIGHT		_____
	AFTER P/B RESET (RECOMBS - ISOLA)		BOTH ON	_____
IV1A	RED	DIM		_____
IV2A	RED	DIM		_____



TABLE 3 SHEET #3

AFTER MAIN C.I. RESET/PUSH BUTTON C.I. RESETVALVE ALIGNMENT FOR TRAIN A

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN A
IV3A	RED	DIM		_____
IV5A	RED	DIM		_____
CDV1A (7971)		BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
		DIM		_____
CDV1B (7970)		BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
		DIM		_____
CV70 (5738)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
CV71 (5737)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
IAIV (5392)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
PEV/I (5878)	GREEN	BRIGHT		_____
PEV/O (5879)	GREEN	BRIGHT		_____
PEV/I (5878)	RED	DIM		_____
PEV/O (5879)	RED	DIM		_____
PSV/I (5870)	GREEN	BRIGHT		_____
PSV/O (5869)	GREEN	BRIGHT		_____
	AFTER P/B RESET (PURG SP - IO VLVS)		BOTH ON	_____
PSV/I (5870)	RED	DIM		_____
PSV/O (5869)	RED	DIM		_____
846	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
ISV (7443)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____

TABLE 3 SHEET #4

AFTER MAIN C.I. RESET/PUSH BUTTON C.I. RESETVALVE ALIGNMENT FOR TRAIN A

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN A
OVA (7445)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
OVB (7444)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
IV1B	GREEN	BRIGHT		
IV2B	GREEN	BRIGHT		
IV3B	GREEN	BRIGHT		
IV5B	GREEN	BRIGHT		
	AFTER P/B RESET (RECOMBS - ISOL B)		BOTH ON	
IV1B	RED	DIM		
IV2B	RED	DIM		
IV3B	RED	DIM		
IV5B	RED	DIM		
508	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
CV76 (5735)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
CV77 (5736)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
8418	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	



TABLE 3A SHEET #1

AFTER MAIN CI RESET/PUSH BUTTON RESETEQUIPMENT ALIGNMENT FOR TRAIN A

EQUIPMENT	RUN INDICATOR	PUSH BUTTON LIGHTS	TRAIN A
1A CV SUMP PUMP	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1B CV SUMP PUMP	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1A PURGE SUPPLY FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1A PURGE EXHAUST FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1B PURGE SUPPLY FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1B PURGE EXHAUST FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	



TABLE 4 SHEET #1

TRAIN B AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
<u>TOP ROW</u>			
539	CLOSED _____	BRIGHT _____	
1789	NO ACTION FROM TRAIN B		
1786			
1787	CLOSED _____	BRIGHT _____	GREEN _____
1721	CLOSED _____	BRIGHT _____	GREEN _____
1003A	NO ACTION FROM TRAIN B		
1003B	CLOSED _____	BRIGHT _____	GREEN _____
1597	CLOSED _____	BRIGHT _____	GREEN _____
1598	CLOSED _____	BRIGHT _____	GREEN _____
<u>SPARE</u>			
813	NO ACTION FROM TRAIN B		
814	CLOSED _____	BRIGHT _____	GREEN _____
1723	NO ACTION FROM TRAIN B		
1728	CLOSED _____	BRIGHT _____	GREEN _____
1815A	OPEN _____	BRIGHT _____	RED _____
852A	NO ACTION FROM TRAIN B		
852B	OPEN _____	BRIGHT _____	RED _____
841			
865	VALVE CLOSED FUSES PULLED		
825A			
704A	UNDER OPERATIONS CONTROL		
704B			

TABLE 4 SHEET #2

TRAIN B AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
871A	WILL OPERATE ONLY IF SI1B BREAKER FAILS TO CLOSE		
871B	CLOSED _____	DIM _____	GREEN _____
875A	UNDER OPERATIONS CONTROL		
875B			
876A			
876B			
860A	NO ACTION FROM TRAIN B		
860B	OPEN _____	BRIGHT _____	RED _____
860C	NO ACTION FROM TRAIN B		
860D	OPEN _____	BRIGHT _____	RED _____
<u>MIDDLE ROW</u>			
371	CLOSED _____	BRIGHT _____	GREEN _____
313	CLOSED _____	BRIGHT _____	GREEN _____
951	CLOSED _____	BRIGHT _____	GREEN _____
953	CLOSED _____	BRIGHT _____	GREEN _____
955	CLOSED _____	BRIGHT _____	GREEN _____
959	CLOSED _____	BRIGHT _____	GREEN _____
966A	CLOSED _____	BRIGHT _____	GREEN _____
966B	CLOSED _____	BRIGHT _____	GREEN _____
966C	CLOSED _____	BRIGHT _____	GREEN _____
1V1A	CLOSED _____	BRIGHT _____	GREEN _____
1V2A	CLOSED _____	BRIGHT _____	GREEN _____

TABLE 4 SHEET #3

TRAIN B AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
1V3A	CLOSED _____	BRIGHT _____	GREEN _____
1V5A	CLOSED _____	BRIGHT _____	GREEN _____
4561	NO ACTION FROM TRAIN B		
1815B	OPEN _____	BRIGHT _____	RED _____
878A	UNDER OPERATIONS CONTROL		
878B			
878C			
878D			
825B	VALVE CLOSED	FUSES PULLED	
1813A	UNDER OPERATIONS CONTROL		
1813B			
897			
850A			
851A			
896A			
896B			
CDV1A (7971)	CLOSED _____	BRIGHT _____	
CDV1B (7970)	CLOSED _____	BRIGHT _____	
CV70 (5738)	CLOSED _____	BRIGHT _____	GREEN _____
CV71 (5737)	CLOSED _____	BRIGHT _____	GREEN _____



TABLE 4 SHEET #4

TRAIN B AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
<u>BOTTOM ROW</u>			
1A1V (5392)	CLOSED _____	BRIGHT _____	GREEN _____
PEV/I (5878)	CLOSED _____	BRIGHT _____	GREEN _____
PEV/O (5879)	CLOSED _____	BRIGHT _____	GREEN _____
PSV/O (5869)	CLOSED _____	BRIGHT _____	GREEN _____
PSV/I (5870)	CLOSED _____	BRIGHT _____	GREEN _____
846	CLOSED _____	BRIGHT _____	GREEN _____
1SV (7443)	CLOSED _____	BRIGHT _____	GREEN _____
OVA (7445)	CLOSED _____	BRIGHT _____	GREEN _____
OVV (7444)	CLOSED _____	BRIGHT _____	GREEN _____
1V1B	CLOSED _____	BRIGHT _____	GREEN _____
1V2B	CLOSED _____	BRIGHT _____	GREEN _____
1V3B	CLOSED _____	BRIGHT _____	GREEN _____
1V5B	CLOSED _____	BRIGHT _____	GREEN _____
4562	OPEN _____	BRIGHT _____	
<u>SPARE</u>			
856	<u>UNDER OPERATIONS CONTROL</u>		
826A	NO ACTION FROM TRAIN B		
826B			
826C	OPEN _____	BRIGHT _____	RED _____
826D	OPEN _____	BRIGHT _____	RED _____

TABLE 4 SHEET #5

TRAIN B AFTER TRIP VERIFICATION

NOTE: Valve position will be deemed correct if proper indication is observed for both lights.

VALVE	VALVE POSITION	STATUS LIGHT	SWITCH LIGHT
898			
850B			
851B	UNDER OPERATIONS CONTROL		
857A			
857B			
857C			
508	CLOSED _____	BRIGHT _____	GREEN _____
CV76 (5735)	CLOSED _____	BRIGHT _____	GREEN _____
CV77 (5736)	CLOSED _____	BRIGHT _____	GREEN _____
MAIN STEAM (3515)	CLOSED _____		GREEN _____
MAIN STEAM (3516)	CLOSED _____		GREEN _____
8414	CLOSED _____	BRIGHT _____	GREEN _____
<u>CHARCOAL DAMPERS</u>			
1F LED (5873)			
1I CID (5871)	NO ACTION FROM TRAIN B		
1K COD (5872)			
1H LED (5875)	CLOSED _____		
1J CID (5876)	OPEN _____		
1L COD (5874)	OPEN _____	GREEN LIGHT OUT _____	

TABLE 5 SHEET #1

AFTER MAIN CI RESET/PUSH BUTTON CI RESETVALVE ALIGNMENT FOR TRAINS B

NOTE: Valves listed according to status light position. Read left to right
top row, middle row, bottom row.

*** Verification of after push button CI reset is obtained by pushing the
applicable valve reset button on the push button CI reset panel.

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN B
539		BRIGHT		
	AFTER PUSH BUTTON (P/B) RESET	DIM	BOTH ON	
1600A	COOL TO THE TOUCH			
	AFTER P/B RESET		BOTH ON	
	WARM TO THE TOUCH			
1787	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1721	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1003B	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1597	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1598	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
814	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
1728	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		
371	GREEN	BRIGHT		
	AFTER P/B RESET		BOTH ON	
	RED	DIM		



TABLE 5 SHEET #2

AFTER MAIN CI RESET/PUSH BUTTON CI RESETVALVE ALIGNMENT FOR TRAIN B

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN B
313	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
951	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
953	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
955	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
959	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
966A	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
966B	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
966C	GREEN AFTER P/B RESET RED	BRIGHT DIM	BOTH ON	
IV1A	GREEN	BRIGHT		
IV2A	GREEN	BRIGHT		
IV3A	GREEN	BRIGHT		
IV5A	GREEN	BRIGHT		
	AFTER P/B RESET (RECOMBS - ISOLA)		BOTH ON	
IV1A	RED	DIM		
IV2A	RED	DIM		

TABLE 5 SHEET #3

AFTER MAIN CI RESET/PUSH BUTTON CI RESETVALVE ALIGNMENT FOR TRAIN B

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN B
IV3A	RED	DIM		_____
IV5A	RED	DIM		_____
CDV1A (7971)	AFTER P/B RESET	BRIGHT		_____
		DIM	BOTH ON	_____
CDV1B (7970)	AFTER P/B RESET	BRIGHT		_____
		DIM	BOTH ON	_____
CV70 (5738)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
IAIV (5392)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
PEV/I (5878)	GREEN	BRIGHT		_____
PEV/O (5879)	GREEN	BRIGHT		_____
	AFTER P/B RESET (PURGE EXHAUST - IO VLVS)		BOTH ON	_____
PEV/I (5878)	RED	DIM		_____
PEV/O (5879)	RED	DIM		_____
PSV/I (5870)	GREEN	BRIGHT		_____
PSV/O (5869)	GREEN	BRIGHT		_____
	AFTER P/B RESET (PURG SP - IO VLVS)		BOTH ON	_____
PSV/I (5870)	RED	DIM		_____
PSV/O (5869)	RED	DIM		_____
846	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____
ISV (7443)	GREEN	BRIGHT		_____
	AFTER P/B RESET		BOTH ON	_____
	RED	DIM		_____

100



TABLE 5 SHEET #4

AFTER MAIN CI RESET/PUSH BUTTON CI RESETVALVE ALIGNMENT FOR TRAIN B

VALVE	SWITCH LIGHT	STATUS LIGHT	PUSH BUTTON LIGHTS	TRAIN B
ISV (7445)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
OVA (7445)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
OVB (7444)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
IV1B	GREEN	BRIGHT		
IV2B	GREEN	BRIGHT		
IV3B	GREEN	BRIGHT		
IV5B	GREEN	BRIGHT		
	AFTER P/B RESET (RECOMBS - ISOL B)		BOTH ON	
IV1B	RED	DIM		
IV2B	RED	DIM		
IV3B	RED	DIM		
IV5B	RED	DIM		
508	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
CV76 (5735)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
CV77 (5736)	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	
8414	GREEN AFTER P/B RESET	BRIGHT		
	RED	DIM	BOTH ON	

TABLE 5A SHEET #1

AFTER MAIN CI RESET/PUSH BUTTON RESETEQUIPMENT ALIGNMENT FOR TRAIN B

EQUIPMENT	RUN INDICATOR	PUSH BUTTON LIGHTS	TRAIN B
1A SV SUMP PUMP	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1B CV SUMP PUMP	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1A PURGE SUPPLY FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1A PURGE EXHAUST FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1B PURGE SUPPLY FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	
1B PURGE EXHAUST FAN	GREEN		
AFTER P/B RESET	RED	BOTH ON	

4.1.3

