

CONTINUOUS USE

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

PLANT OPERATING MANUAL

VOLUME 3

PART 4

END PATH PROCEDURE

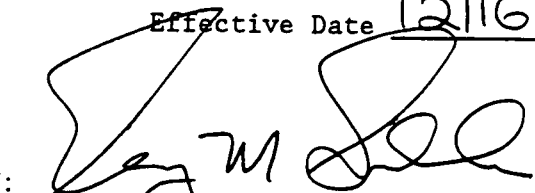
EPP-16

UNCONTROLLED DEPRESSURIZATION OF ALL STEAM
GENERATORS

REVISION 10

Effective Date 12/16/94

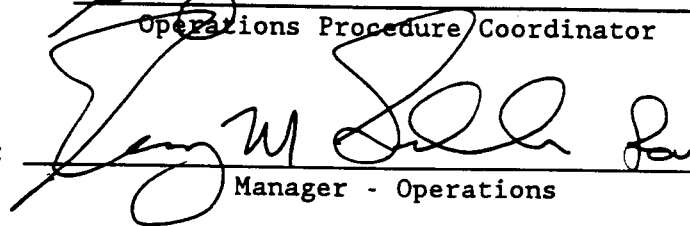
RECOMMENDED BY:



Operations Procedure Coordinator

12/16/94
Date

APPROVED BY:



Manager - Operations

12/16/94
Date

UNCONTROLLED

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1.0 PURPOSE

This procedure provides actions for a loss of secondary coolant which affects all Steam Generators.

2.0 ENTRY CONDITIONS

EPP-11, Faulted Steam Generator Isolation, when an uncontrolled depressurization of all Steam Generators occurs.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

1. Open Foldout D
2. Perform The Following:
 - a. Reset SPDS
 - b. Initiate monitoring of
Critical Safety Function
Status Trees

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

CAUTION

Maintain one steam supply to the SDAFW available if the SDAFW Pump is the only available source of feed flow.

3. Isolate All S/Gs As Follows:

- a. Verify FW REG AND FW REG
BYPASS Valves - CLOSED
- b. Verify FW HDR SECTION Valves
- CLOSED
 - V2-6A
 - V2-6B
 - V2-6C
- c. Verify STEAM SHUTOFFS Valves
- CLOSED
 - V1-8A
 - V1-8B
 - V1-8C
- c. Unlock AND close the
following valves as necessary:
 - MS-262A, MS-V1-8A INLET
ISOLATION
 - MS-262B, MS-V1-8B INLET
ISOLATION
 - MS-262C, MS-V1-8C INLET
ISOLATION
- d. Verify MSIVs AND MSIV BYP
Valves - CLOSED
- e. Verify STEAM LINE PORVs -
CLOSED
 - RV-1
 - RV-2
 - RV-3

STEP	INSTRUCTIONS	RESPONSE NOT OBTAINED
4.	Locally Open The Breakers For The Following Valves: <ul data-bbox="384 438 888 689" style="list-style-type: none">• V1-8A, SDAFW PUMP STEAM ISOLATION (MCC-5, CMPT-16F)• V1-8B, SDAFW PUMP STEAM ISOLATION (MCC-6, CMPT-16M)• V1-8C, SDAFW PUMP STEAM ISOLATION (MCC-6 CMPT-18M)	
5.	Check The Following S/G Blowdown Isolation <u>AND</u> Sample Valves - CLOSED: <ul data-bbox="384 853 910 1293" style="list-style-type: none">a. FCV-1930 A & B <u>AND</u> FCV-1933 A & Bb. FCV-1931 A & B <u>AND</u> FCV-1934 A & Bc. FCV-1932 A & B <u>AND</u> FCV-1935 A & B	<ul data-bbox="987 863 1521 1400" style="list-style-type: none">a. Locally remove power to Radiation Monitor R-19A by placing switch located at bottom right hand corner inside monitor cabinet to OFF.b. Locally remove power to Radiation Monitor R-19B by placing switch located at bottom right hand corner inside monitor cabinet to OFF.c. Locally remove power to Radiation Monitor R-19C by placing switch located at bottom right hand corner inside monitor cabinet to OFF.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

6. Locally Verify The Following Valves - CLOSED
 - a. WARMUP STEAM SUPPLY VALVES TO SDAFW PUMP:
 - MS-20
 - MS-29
 - MS-38
 - b. STEAM LINE BEFORE SEAT DRAIN ROOT ISOLs:
 - MS-19
 - MS-28
 - MS-37
 - c. STEAM LINE AFTER SEAT DRAIN ROOT ISOLs:
 - MS-21
 - MS-30
 - MS-39
7. Check Cooldown Rate In RCS Cold Legs - GREATER THAN 100°F IN LAST 60 MINUTES Go To Step 11.
8. Check MDAFW Pump Status - AT LEAST ONE AVAILABLE Go To Step 10.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

9. Control Feed Flow To Minimize
RCS Cooldown As Follows:

a. Throttle feed flow to between
80 gpm and 90 gpm to each S/G
using MDAFW FLOW CONTROLLER:

- FIG-1424, AFW PUMP A
DISCH FLOW

OR

- FIG-1425, AFW PUMP B
DISCH FLOW

b. Go To Step 11

a. Establish between 80 gpm and
90 gpm feed flow to each S/G
as follows:

1) Open the breakers for
MDAFW HEADER DISCHARGE
Valves:

- V2-16A (MCC-9,
COMPT-2ML)
- V2-16C (MCC-9,
COMPT-3J)
- V2-16A (MCC-10,
COMPT-4C)
- V2-16B (MCC-10,
COMPT-4F)

2) Locally throttle AFW HDR
DISCH Valves to establish
80 gpm to 90 gpm to each
S/G:

- V2-16A - S/G A
- V2-16B - S/G B
- V2-16C - S/G C

3) Go To Step 11.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

- | | |
|---|--|
| <p>10. Control Feed Flow To Minimize RCS Cooldown As Follows:</p> <p>a. Throttle feed flow to between 80 gpm and 90 gpm to each S/G using FIC-6416, SDAFW FLOW CONTROLLER</p> | <p>a. Establish between 80 gpm and 90 gpm feed flow to each S/G as follows:</p> <p>1) Open the breakers to SDAFW PUMP DISCHARGE Valves:</p> <ul style="list-style-type: none"> • V2-14A (MCC-10, CMPT-3C) • V2-14B (MCC-9, COMPT-1C) • V2-14C (MCC-10, COMPT-4M) <p>2) Locally throttle SDAFW PUMP DISCHARGE Valves to establish 80 gpm to 90 gpm to each S/G:</p> <ul style="list-style-type: none"> • V2-14A - S/G A • V2-14B - S/G B • V2-14C - S/G C |
| <p>11. Maintain A Minimum Of 80 GPM AFW Flow To Each S/G With Level Less Than 10% [20%]</p> | <p>Control feed flow to maintain level less than 50% in all S/Gs.</p> |
| <p>12. Check S/G Levels - ALL LESS THAN 50%</p> | <p>Control feed flow <u>OR</u> steam dump to stabilize RCS Hot Leg temperatures.</p> |
| <p>13. Check RCS Hot Leg Temperatures - STABLE <u>OR</u> DECREASING</p> | <p>Control feed flow <u>OR</u> steam dump to stabilize RCS Hot Leg temperatures.</p> |
| <p>14. Determine If RCPs Should Be Stopped As Follows:</p> <p>a. Check SI Pumps - AT LEAST ONE RUNNING</p> <p>b. Check RCS subcooling - LESS THAN 35°F [55°F]</p> | <p>a. Go To Step 16.</p> <p>b. Go To Step 16.</p> |

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

- | | |
|---|---|
| <p>15. Stop All RCPs</p> <p>16. Direct MWT Operator To Startup MWT System <u>AND</u> Fill The CST At Maximum Rate</p> <p>*17. Determine <u>IF</u> PZR PORVs Should Be Closed As Follows:</p> <p style="padding-left: 20px;">a. Check PZR pressure - LESS THAN 2335 PSIG</p> <p style="padding-left: 20px;">b. Verify PZR PORVs - CLOSED</p> <p style="padding-left: 20px;">c. Check PZR PORV BLOCK Valves - AT LEAST ONE OPEN</p> <p>*18. Evaluate Secondary Radiation Levels As Follows:</p> <p style="padding-left: 20px;">a. Request periodic activity samples of all S/Gs</p> <p style="padding-left: 20px;">b. Check available secondary radiation monitors - NORMAL</p> <p>19. Reset SAFETY INJECTION</p> <p>20. Reset CONTAINMENT SPRAY</p> <p>*21. <u>IF</u> Offsite Power Is Lost After SI Reset, <u>THEN</u> Manually Restart Safeguard Equipment</p> | <p>a. Verify OPEN one PZR PORV <u>AND</u> associated PZR PORV BLOCK Valve.</p> <p style="padding-left: 40px;"><u>WHEN</u> pressure is less than 2335 psig, <u>THEN</u> perform Step 17.b.</p> <p style="padding-left: 40px;">Go To Step 18.</p> <p>b. Close associated PORV BLOCK Valve.</p> <p>c. Open one PORV BLOCK unless it was closed to isolate an open PZR PORV.</p> <p>b. Go To PATH-2, Entry Point J.</p> |
|---|---|

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

- | | |
|---|---|
| <p>22. Determine If RHR Pumps Should Be Stopped As Follows:</p> <p style="margin-left: 20px;">a. Check RHR Pumps - ANY RUNNING</p> <p style="margin-left: 20px;">b. Check RCS pressure as follows:</p> <p style="margin-left: 40px;">1) Pressure - GREATER THAN 275 PSIG [400 PSIG]</p> <p style="margin-left: 40px;">2) Pressure - STABLE <u>OR</u> INCREASING</p> <p>23. Stop RHR Pumps</p> <p>*24. <u>IF</u> RCS Pressure Decreases Below 275 PSIG [400 PSIG], <u>THEN</u> Restart The RHR Pumps</p> <p>*25. Determine If CV Spray Should Be Stopped As Follows:</p> <p style="margin-left: 20px;">a. Check CV Spray Pumps - ANY RUNNING</p> <p style="margin-left: 20px;">b. Check CV pressure - LESS THAN 4 PSIG</p> <p>26. Stop CV Spray Pumps As Follows:</p> <p style="margin-left: 20px;">a. Stop CV Spray Pumps</p> <p style="margin-left: 20px;">b. Close CV SPRAY PUMP DISCH Valves:</p> <ul style="list-style-type: none"> • SI-880A • SI-880B • SI-880C • SI-880D <p>27. Reset CONTAINMENT ISOLATION PHASE A <u>AND</u> PHASE B</p> | <p>a. Go To Step 25.</p> <p>1) Go To PATH-1, Entry Point C.</p> <p>2) Go To Step 25.</p> <p>a. Go To Step 27.</p> <p>b. <u>WHEN</u> CV pressure is less than 4 psig, <u>THEN</u> perform Step 26.</p> <p>Go To Step 27.</p> |
|---|---|

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

28. In The Computer Room, Reset The IVSW System As Follows:

- Depress the IVSW RESET PCV-1922A Pushbutton in Relay Cabinet ARP-1
- Depress the IVSW RESET PCV-1922B Pushbutton in Relay Cabinet ARP-2

29. Establish Instrument Air To CV As Follows:

a. Check APP-002-F7, INSTR AIR HDR LO PRESS - EXTINGUISHED

b. Momentarily place IA PCV-1716, INSTRUMENT AIR ISO TO CV Switch, to RESET

c. Check INST AIR VALVE TO CV PCV-1716 - OPEN

a. Start Instrument Air Compressors, as required.

WHEN instrument air is established, THEN perform Steps 29.b and 29.c.

Go To Step 30.

c. Place IA PCV-1716, INSTRUMENT AIR ISO TO CV Switch to the OVERRIDE position.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

30. Isolate The SI Accumulators As Follows:

a. Check RCS Hot Leg temperatures - AT LEAST TWO LESS THAN 365°F

b. Locally verify breakers for the following ACCUMULATOR DISCH Valves - CLOSED

- SI-865A, ACCUMULATOR A DISCHARGE (MCC-5) (CMPT 14F)
- SI-865C, ACCUMULATOR C DISCHARGE (MCC-5) (CMPT 9F)
- SI-865B, ACCUMULATOR B DISCHARGE (MCC-6) (CMPT 10J)

c. Verify the following ACCUMULATOR DISCH Valves - CLOSED

- SI-865A
- SI-865B
- SI-865C

31. Check Power Supply To Charging Pumps - E-1 AND E-2 ENERGIZED BY OFFSITE POWER

a. Go To Step 31.

c. Vent any unisolated Accumulators as follows:

1) Open the affected Accumulator VENT Valves:

- SI-853A
- SI-853B
- SI-853C

2) Open HIC-936, ACC VENT HDR FLOW.

Check EDG capacity for additional 120 KW for each Charging Pump to be run.

IF EDG capacity NOT available, THEN determine Supplement F loads that may be shed to provide EDG capacity AND shed these loads.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

32. Establish Charging Flow As Follows:

- a. Check Charging Pumps - ALL STOPPED
- b. Check the following alarms - EXTINGUISHED
 - APP-001-C1, RCP THERM BAR COOL WTR HI FLOW

AND

 - APP-001-D1, RCP THERM BAR COOL WTR LO FLOW

- c. Start one Charging Pump
- d. Verify charging flow on FI-122A, CHARGING LINE FLOW - GREATER THAN 35 GPM

a. Go To Step 32.d.

b. Perform the following:

- 1) Verify all RCPs are STOPPED.
- 2) Locally close the following Seal Supply Valves:
 - CVC-297A
 - CVC-297B
 - CVC-297C

WHEN Seal Supply Valves are closed THEN perform Step 32.c and 32.d.

Go To Step 33.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

33. Check If SI Should Be Terminated
As Follows:

- a. SI Pumps - ANY RUNNING
- b. RCS subcooling - GREATER THAN
35°F [55°F]

- c. RCS pressure:
 - GREATER THAN 1650 PSIG
[1750 PSIG]

AND

- STABLE OR INCREASING

- d. PZR level - GREATER THAN 10%
[26%]

a. Go To Step 35.

b. Do NOT stop SI Pumps.
Go To Step 7.

c. Do NOT stop SI Pumps.
Go To Step 7.

d. Do NOT stop SI Pumps.

Stabilize RCS pressure using
normal PZR Spray.

Go To Step 33.b.

34. Terminate SI As Follows:

- a. Verify SI Pumps - ALL STOPPED
- b. Verify RHR Pumps - ALL STOPPED

35. Determine If SI Flow Is Required
As Follows:

- a. Check RCS subcooling -
GREATER THAN 35°F [55°F]

- b. Check PZR level - GREATER
THAN 10% [26%].

a. Start both SI Pumps.

Go To Step 7.

b. Control charging flow to
maintain PZR level.

IF PZR level can NOT be
maintained, THEN perform the
following:

1) Start both SI Pumps.

2) Go To Step 7.

STEP	INSTRUCTIONS	RESPONSE NOT OBTAINED
36.	Check RCS Hot Leg Temperatures - STABLE <u>OR</u> DECREASING	Increase feed flow <u>OR</u> increase steam dump to stabilize RCS Hot Leg temperatures.
37.	Control Feed Flow To Maintain Level Less Than 50% In All S/Gs	
*38.	Check PZR Level - GREATER THAN 22% [40%]	<u>WHEN</u> PZR level greater than 22% [40%], <u>THEN</u> perform Step 39. Go To Step 40.
39.	Establish Letdown Flow Using OP-301, Chemical And Volume Control System	Establish Excess Letdown using OP-301, Chemical and Volume Control System.
40.	Align RCS Makeup System As Follows: a. Verify FCV-113A, BORIC ACID FLOW Controller: 1) POT SET TO 10 2) IN AUTO b. Verify FCV-113A, BA TO BLENDER Switch - IN AUTO c. Verify RCS MAKEUP MODE Switch - IN AUTO d. Momentarily place RCS MAKEUP SYSTEM Switch to START	
41.	Align Charging Pump Suction To The VCT As Follows: a. Check VCT level - GREATER THAN 20 INCHES b. Verify LCV-115C, VCT OUTLET Valve - OPEN c. Verify LCV-115B, EMERG MU TO CHG SUCT Valve - CLOSED	a. <u>WHEN</u> VCT Level is greater than 20 inches, <u>THEN</u> perform Steps 41.b and 41.c. Go To Step 42.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

42. Maintain PZR Pressure Stable As Follows:

- Use PZR Heaters and one of the following listed in order of preference:
 - a. Use normal PZR Spray
 - b. Establish auxiliary spray as follows:
 - 1) Check PZR level - GREATER THAN 22%
 - 2) Establish letdown using OP-301, Chemical and Volume Control System (CVCS)
 - 3) Use auxiliary spray

b. Use one PZR PORV.

43. Check RCP Cooling By Monitoring The Following Annunciators:

- APP-001-A1, RCP BRG COOL WTR HI TEMP - EXTINGUISHED
- APP-001-E1, RCP THERM BAR COOL WTR HI TEMP - EXTINGUISHED
- APP-001-F2, RCP SEAL WTR LO Δ P - EXTINGUISHED

Establish normal cooling to RCPs using EPP-23, Restoration Of Cooling Water Flow To Reactor Coolant Pumps, while continuing with this procedure.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

44. Establish RCP Seal Return Flow
As Follows:

Observe CAUTION prior to Step 45
and Go To Step 45.

- a. Check CVC-381, SEAL WTR RTRN
ISO - CLOSED
- b. Check VCT PRESS - BETWEEN
15 PSIG AND 65 PSIG
- c. Check Charging Pump suction -
ALIGNED TO VCT:
 - 1) LCV-115C, VCT OUTLET - OPEN
 - 2) LCV-115B, EMERG MU TO CHG
SUCTION - CLOSED
- d. Check CCW Pumps - AT LEAST
ONE RUNNING
- e. Re-establish RCP seal water
return flow by opening
CVC-381, SEAL WTR RTRN ISO

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

CAUTION

A loss of DC power may occur if the DC Busses are at maximum load and the Battery Chargers are not restarted within 60 minutes of a loss of all AC power.

45. Check Power Source For AC Busses:

a. Check Emergency Busses -
ENERGIZED BY OFFSITE POWER

a. Perform the following:

- 1) Verify both EDGs have started.
- 2) Verify each EDG has loaded required equipment:
 - MDAFW Pump
 - CCW Pump
 - SW Pump
 - SW Booster Pump
- 3) Verify EDG capacity using Supplement F AND load the following equipment on the EDG:
 - Charging Pumps
 - Instrument Air Compressors
 - Battery Chargers from a tripped condition using OP-601, DC Supply System, while continuing with this procedure

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STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

45. (CONTINUED)

- | | |
|--|---|
| <p>b. Check PZR Heaters - POWER AVAILABLE</p> <p>c. Check all non-emergency AC Busses - ENERGIZED BY OFFSITE POWER</p> | <p>b. Energize 150 KW of PZR Heaters using EPP-21, Energizing Pressurizer Heaters From Emergency Busses, while continuing with this procedure.</p> <p>c. Perform the following:</p> <p>1) Verify one of the following pumps are RUNNING:</p> <ul style="list-style-type: none">• TURNING GEAR OIL PUMP <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none">• EMERG OIL PUMP <p>2) Verify one of the following pumps are RUNNING:</p> <ul style="list-style-type: none">• SEAL OIL BACKUP PUMP <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none">• AIR SIDE SEAL OIL BACKUP PUMP (locally) |
|--|---|

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STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

45. (CONTINUED)

3) Determine the cause of the loss of offsite power.

- IF due to a failure within the plant, THEN restore power using OP-603, Electrical Distribution, after repairs are completed.

OR

- IF due to a failure of the Startup Transformer or Switchyard, THEN request Load Dispatcher to have substation maintenance crews restore power from either the Normal or Spare Startup Transformer.

OR

- IF due to a loss of the grid, THEN request power from the IC Turbines and Unit One, as they become available.

46. Check RCP Status - ALL STOPPED

Go To Step 49.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

*47. Determine RCP Seal Status:

- a. Check RCP seal cooling -
PREVIOUSLY LOST
- b. Contact Plant Operations
Staff for seal status
evaluation while continuing
with this procedure
- c. Check seal status evaluation
- COMPLETED
- d. Check RCP status - SEALS
INTACT AND RCPS MAY BE
RESTARTED

a. Go To Step 48.

c. WHEN seal status evaluation
is completed, THEN Go To
Step 47.d.

Go To Step 50.

d. Go To Step 50.

*48. Try To Restart An RCP As Follows:

- a. Establish conditions for
starting an RCP using OP-101,
Reactor Coolant System and
Reactor Coolant Pump Startup
and Operation, while
continuing with this procedure
- b. Check conditions for starting
an RCP - ESTABLISHED
- c. Run RCPs in the priority
order of C, B, A to provide
PZR spray
- d. Start one RCP using OP-101,
Reactor Coolant System and
Reactor Coolant Pump Startup
and Operation

b. IF conditions for starting an
RCP can be established during
this procedure, THEN Go To
Step 48.Verify natural circulation
using Supplement E.

Go To Step 50.

d. Verify natural circulation
using Supplement E.

Go To Step 50.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

*49. Establish Normal PZR Spray As Follows:

a. Check RCP C - RUNNING

b. Check RCP B - RUNNING

c. Maintain PZR level between 30% and 40%

*50. Determine If Source Range Detectors Should Be Energized:

a. Check Intermediate Range flux - LESS THAN 10^{-10} AMPS

b. Check Source Range detectors - ENERGIZED

c. Transfer one pen on NR 45 to desired Source Range channel

a. Place PCV-455B, PZR Spray Valve Controller, in MAN AND adjust controller output to ZERO.

b. Place PCV-455A, PZR Spray Valve Controller, in MAN AND adjust controller output to ZERO.

Go To Step 50.

a. WHEN flux less than 10^{-10} amps, THEN perform Steps 50.b and 50.c.

Go To Step 51.

b. Energize Source Range detectors by depressing both PERMISSIVE P-6 DEFEAT Pushbuttons.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

*51. Stop Unloaded EDG(s) As Follows:

a. Check the Emergency Busses
E-1 AND E-2 - ENERGIZED BY
OFFSITE POWER

a. WHEN offsite power restored
to E-1 OR E-2 Busses, THEN
perform Step 51.b and 51.c
for the unloaded EDG(s).

Go To Step 52.

b. Check EDGs Starting Air low
pressure annunciators -
EXTINGUISHED:

b. WHEN Starting Air Receivers
are repressurized, THEN
perform Step 51.c.

Go To Step 52.

- APP-010-B2, EDG A START
AIR LO PRESS

- APP-010-B3, EDG B START
AIR LO PRESS

c. Stop unloaded EDG(s)

52. Shutdown Unnecessary Plant
Equipment As Directed By The
Shift Supervisor OR SCO

- Heater Drain Pumps
- Condensate Pumps
- Feedwater Pumps
- AFW Pumps
- SW Pumps
- SW Booster Pumps
- Other additional equipment
as necessary

53. Maintain The Following Plant
Conditions - STABLE

- PZR pressure
- PZR level
- RCS temperature

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

54. Determine If SI Flow Is Required
As Follows:

a. Check RCS subcooling -
GREATER THAN 35°F [55°F]

b. Check PZR level - GREATER
THAN 10% [26%]

a. Start both SI Pumps.

Go To Step 7.

b. Control charging flow to
maintain PZR level.

IF PZR level can NOT be
maintained, THEN perform the
following:

1) Start both SI Pumps.

2) Go To Step 7.

55. Determine If SI Accumulators
Should Be Isolated

a. Check the following:

- RCS subcooling - GREATER
THAN 35°F [55°F]

AND

- PZR level -. GREATER THAN
10% [26%]

a. Go To Step 57.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

56. Isolate The SI Accumulators As Follows:
- a. Locally verify breakers for the following ACCUMULATOR DISCH Valves - CLOSED
- SI-865A, ACCUMULATOR A DISCHARGE (MCC-5) (CMPT 14F)
 - SI-865C, ACCUMULATOR C DISCHARGE (MCC-5) (CMPT 9F)
 - SI-865B, ACCUMULATOR B DISCHARGE (MCC-6) (CMPT 10J)
- b. Verify the following ACCUMULATOR DISCH Valves - CLOSED
- SI-865A
 - SI-865B
 - SI-865C
- b. Vent any unisolated Accumulators as follows:
- 1) Open the affected Accumulator VENT Valves
- SI-853A
 - SI-853B
 - SI-853C
- 2) Open HIC-936, ACC VENT HDR FLOW.
57. Check RCS Temperature - GREATER THAN 350°F [290°F]
- Go To Step 61.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

58. Initiate RCS Cooldown To 350°F [310°F] As Follows:
- Maintain cooldown rate in the RCS cold legs less than 100°F/hr in the last 60 minute
 - Maintain RCS temperature and pressure - WITHIN LIMITS OF CURVE 3.4, REACTOR COOLANT SYSTEM PRESSURE/TEMPERATURE LIMITATIONS FOR COOLDOWN
 - Control feed flow and steam dump to establish cooldown rate
59. Check RCS Pressure - GREATER THAN 375 PSIG [350 PSIG] Go To Step 61.
60. Depressurize RCS To 375 PSIG [350 PSIG] As Follows:
- Maintain RCS subcooling - GREATER THAN 35°F [55°F]
 - Depressurize the RCS using one of the following methods listed in order of preference:
 - Use normal PZR Spray
 - Establish auxiliary spray as follows:
 - Check PZR level - GREATER THAN 22%
 - Establish letdown using OP-301, Chemical and Volume Control System (CVCS)
 - Use auxiliary spray
 - Use one PZR PORV.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

61. Place LTOPP In Service As
Follows:

a. Check RCS temperature - LESS
THAN 360°F

b. Check RCS pressure - LESS
THAN 375 PSIG [350 PSIG]

c. Place OVERPRESSURE PROTECTION
in service as follows:

1) Verify PZR PORV Switches
positions - AUTO

- PCV-455C
- PCV-456

2) Obtain controlled keys 50
and 51 AND insert them
into PZR PORV key operated
switches on RTGB

- PCV-455C
- PCV-456

3) Verify PZR PORV key
operated switches
positions - LOW PRESSURE

- PCV-455C
- PCV-456

d. Continue RCS cooldown to Cold
Shutdown

a. Continue with RCS cooldown.

WHEN RCS temperature is less
than 360°F, THEN Go To
Step 61.b.

b. Perform the following:

1) Stop RCS cooldown.

2) Continue RCS
depressurization.

3) WHEN RCS pressure is less
than 375 psig [350 psig],
THEN Go To Step 61.c.

STEP

INSTRUCTIONS

RESPONSE NOT OBTAINED

62. Determine If RHR System Can Be Placed In Service As Follows:
- a. Check RCS hot leg temperatures - LESS THAN 350°F [310°F]
 - a. WHEN RCS hot leg temperature is less than 350°F [310°F], THEN Go To Step 62.b.
 - b. Check RCS pressure - LESS THAN 375 PSIG [350 PSIG]
 - b. WHEN RCS pressure is less than 375 psig [350 psig], THEN Go To Step 63.
63. Place RHR System In Service Using Supplement I, While Continuing With This Procedure
64. Continue Cooldown To Cold Shutdown As Follows:
- a. Maintain cooldown rate in RCS cold legs - LESS THAN 100°F/HR IN THE LAST 60 MINUTE
 - b. Control feed flow to maintain level less than 50% in all S/Gs
65. Check RCS Temperature - LESS THAN 200°F
- Go To Step 64.
66. Evaluate Long Term Plant Status As Follows:
- a. Maintain Cold Shutdown conditions
 - b. Consult Plant Operations Staff

- END -