

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

## EMERGENCY INSTRUCTION S01-1.2-1.13

TRANSFER TO COLD LEG INJECTION  
AND RECIRCULATION

## I. PURPOSE

The purpose of this instruction is to provide a method to terminate safety injection after a LOCA where the RWST level has dropped below 21% and to provide recirculation of the spilled coolant from the containment sump back to the RCS and containment sprays.

| STEP | ACTION/EXPECTED RESPONSE   | RESPONSE NOT OBTAINED   |
|------|--|---|
| 1    | <u>Reset SI:</u><br>a. SLSS surveillance panel load group lights - ON.<br>b. Verify lockout switches - RESET.  | a. Reset SI at SLSS surveillance panels.<br>b. Manually reset lockout switches.         |
| 2    | <u>Stop Automatic Make Up:</u><br>a. Depress automatic make stop pushbutton.   | a. IF automatic make up NOT stopped, THEN place boric acid selector switch out of AUTO. |
| 3    | <u>Establish Charging Flow Path Through the SI Cold Leg Injection Lines:</u><br>a. Align cold leg injection flowpath:<br>MOV 356 - OPEN.<br>MOV 357 - OPEN.<br>MOV 358 - OPEN.<br>MOV 18 - OPEN.<br>MOV 19 - OPEN.<br>b. Isolate normal charging flowpath:<br>FCV 1112 - CLOSED.<br>CV 304 - CLOSED. |   |
| 4    | <u>Check Charging Flow Capability:</u><br>a. Both charging pump breakers - CLOSED.   | a. IF second charging pump not available, THEN go to step 5 b.                          |

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Establish Flow Through The  
SI Cold Leg Injection Lines:

- a. Place seal supply flow controllers on MANUAL AND throttle flow to maintain.

Three injection lines  
- 200 GPM PER LINE,  
THEN go to step 5 c.

OR

Two injection lines  
- 300 GPM PER LINE  
THEN go to step 5 c.

- b. With one charging pump running, place seal supply flow controllers on MANUAL AND throttle flow to maintain:

Three injection lines  
- 100 GPM PER LINE.

OR

Two injection lines  
- 150 GPM PER LINE.

- c. Go to step 7.

- a. IF unable to establish Flow due to instrument air failure, THEN go to step 6.

- b. IF unable to establish Flow due to instrument air failure, THEN go to step 6.

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6 Place Backup Seal Supply  
Flow Controllers In Service:

a. For each controller:

1) Place aux nitrogen supply  
- ON.

2) Place aux position control  
- ON.

3) Adjust aux controller to  
to obtain desired flow per  
step 5.

4) Place aux position control  
- OFF.

5) Repeat 2), 3) AND 4) for  
any further flow adjustments.

b. SI cold leg injection  
flow established.

b. IF flow NOT  
established, THEN  
attempt to align  
normal charging flow  
path.

7 Stop SI System Pumps:

a. Stop both feed pumps.

b. Stop both SI pumps.

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8 Isolate SI:

- a. Close MOV 850 A, B AND C.
- b. Close HV 851 A AND B.
- c. Close HV 853 A AND B.
- d. Close CV 875 A AND B.
- e. Close SV 2900 AND SV 3900.
- f. Close manual bonnet vent valves  
for HV 853 A AND HV 853 B.

## CAUTION

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Do not exceed 600 gpm with two charging pumps OR 300 gpm  
with one charging pump to avoid potential damage to the  
charging pumps.

9 Disable Residual Heat Exchanger  
Inlet MOVs:

- a. Open MOV 822 A breaker 42-1164 AND  
open MOV 822 B breaker 42-1266.

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## CAUTION

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The Cold Leg Recirculation System must be in service before the RWST level is 7% to insure adequate NPSH to the refueling water pump and charging pump.

10 Establish Cold Leg Recirculation:

- |   |  |
|---|--|
| a. Start both recirculation pumps <u>AND</u> run for two minutes against closed discharge valves.               |  |
| b. Verify two CCW pump breakers - CLOSED.   | b. Manually start pumps as necessary.            |
| c. Verify that at least one saltwater cooling pump breaker - CLOSED.  | c. Manually start pump as necessary.             |
| d. Open recirculation heat exchanger CCW valves CV 737 A <u>AND</u> B.  | d. Locally trip open CV 737 A <u>AND</u> B.      |
| e. <u>IF</u> containment spray is in operation, <u>THEN</u> override <u>AND</u> close CV 517 <u>AND</u> CV 518. | e. Locally trip closed CV 517 <u>AND</u> CV 518. |
| f. <u>IF</u> both refueling water pumps are running, <u>THEN</u> stop one pump.                                 |  |
| g. Open MOV 866 A <u>AND</u> B.   |  |
| h. Close MOV 883.   | h. Locally close MOV 883.                        |

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11 One Hour After SI Recirculation Is Established Reduce Injection Flow:

a. Throttle FCV 1115 D, E AND F to 70 gpm to each loop.

a. IF two loops are available, THEN set 105 gpm flow to each loop.

12 Subsequent Action:

a. Continue with procedure in effect.

-END-

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