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January 23, 1990

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 1; Docket Nos. 50-317
Request for Additional Information - Technical Specification Change to Support HPSI Pump Operability

REFERENCE: (a) Letter from G. C. Creel to Document Control Desk, dated December 20, 1989, same subject

(b) Letter from D. G. McDonald (NRC) to G. C. Creel (BG&E), dated January 22, 1990, same subject

Gentlemen:

We are providing additional clarifying information to support the license amendment request previously submitted (Reference (a)). A request for information was made on January 22, 1990 (Reference (b)). The information provided in this response does not change any of the conclusions presented in Reference (a) with respect to the significant hazards analysis.

Should you have any further questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

GCC/PSF/db

Attachment

Cert No P407418467

A001
1/1

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
D. G. McDonald, Jr., NRC
W. T. Russell, NRC
J. E. Beall, NRC
T. Magette, DNR

ATTACHMENT (1)

Question:

1. In your LOCA evaluation during Mode 3 with reactor coolant temperature below 350°F, you have assumed that the fission product decay heat is based on 110 percent of 1971 ANS proposed standard. It is the staff's position that the fission product decay heat following a LOCA shall be based on 120 percent of 1971 ANS proposed standard per the requirements of 10 CFR 50, Appendix K. Provide the results of your evaluation using this corrected assumption.

Response:

1. Using a fission product decay heat value of 120% results in greater than 18 minutes available for operator action.

Question:

2. Provide a discussion of the consequences of a SBLOCA during Mode 3 with reactor temperature below 350°F and the HPSI pumps placed in PULL-TO-LOCK. Include the following:

   (a) The time available for operator action to initiate HPSI pumps following identification of an SBLOCA. Describe the actions needed to manually initiate HPSI pumps.

   (b) Describe the procedures available to operators for the above postulated SBLOCA. Discuss the time assumed between the initiation of the event and positive event identification.

Response

2. (a) Based on the analysis performed for Response 1, there are at least 18 minutes available for operator action. To manually initiate a HPSI pump, the handswitch must be turned from its "pull-to-lock" setting to its normal (auto) position.

   The operator would follow his procedure to establish flow by taking the appropriate action at the control panel. This involves:

   - verifying the indicated flow path for the selected HPSI pump (including a verification that the loop isolation valves are shut)
   - starting the selected HPSI pump (using the pump handswitch; taking it to the "start" position -- spring return to center)
   - throttling open HPSI header loop isolation MOV's as necessary to control flow to maintain proper pressure, pressurizer level, and subcooling

(b) If a SBLOCA were to occur, the operators would use Abnormal Operating Procedure 2-A, "Excessive Reactor Coolant Leakage". This procedure addresses a Minor Leak, a Major Leak and a Loss of Coolant in Modes 3, 4, 5, 6. The goal of this procedure is to address a loss of coolant and ensure the reactor vessel is not subject to an LTOP event. The procedure cautions the operator to prevent RCS pressure from exceeding 360 psia whenever the RCS temperature is less than $330^{O}F$. A copy of the applicable section of the procedure is attached.

This procedure is a symptom based procedure, that is, it addresses the symptoms of an event and does not follow a strict time line. There are so many variables in dealing with a SBLOCA, that the time available between the initiation of the event and its identification varies with each scenario. The minimum time available for operator action calculated above (18 minutes) assumes a large pipe break and is the minimum time for all scenarios. For smaller pipe breaks, the time available for operator action becomes longer. With a SBLOCA, the HPSI pump is throttled to prevent exceeding the 360 psia pressure limit and, if proper subcooling can be maintained, the system pressure will be reduced to allow use of other injection sources that would not challenge LTOP (containment spray pumps and/or low pressure safety injection).

Question:

3: Discuss the consequences of manual startup of HPSI pumps during Mode 3 relative to LTOP concerns.

Response:

3. A Technical Specification change will be submitted by January 31, 1990 to address the use of a HPSI pump when in LTOP conditions. The Technical Specification will require that a HPSI pump be throttled in order to preclude an overpressurization event whenever used while in LTOP conditions or alternatively that an adequate vent be available. The Technical Specification will also describe the condition of the HPSI pumps whenever the Unit is in an LTOP condition, i.e., two pumps with their breakers racked out and the remaining pump in pull-to-lock. The consequence of violating these proposed Technical Specification provisions is negligible as long as the remaining LTOP controls are in place, (two PORVs or an adequate vent).

PROCEDURE CHANGE REPORT

1. Date 1-18-90

2. Procedure Number/Name AOP-2A Rev. # 9

3. Change Log Sequence # 90-1028

4. Description of Change 1) Split Response for major leaks into 2 sections; Major Leak in Modes 1 and 2, and Major Leak in Modes 3,4,5, and 6. 2) Added paragraph to Discussion about the LTOP concerns.

5. Reason for Change 1)2)3) Add appropriate responses for LOCAs into the procedure, and ensure the operators are aware of and have the procedures for LTOP concerns.

6. Originated By Wilson Date 12-17-89

7. Approvals Required:

(1)	Plant Management (1 or 2) 2 (one SS/SRO ?)	Yes	X	No ___
(2)	Assistant General Supervisor - QC	Yes ___	No	X
(3)	Pre-Implementation review by POSRC	Yes X	No	___
(4)	Field Change (14 day review)	Yes ___	No	X
(5)	Manager - CCNPPD	Yes X	No	___
(6)	General Supervisor (or alternate)	Yes ___	No	X

****

8. **REVIEWS AND APPROVALS**

(1) Plant Management Staff _____ Date 1-18-90

(2) Plant Management Staff James C. Gilbert Date 1-18-90
(SS/SRO if required)

AGS-QC (or alternate) _____ Date _____
(Hold Point Changes Only)

POSRC Meeting Number 90-012 Date 1-20-90

Manager - CCNPPD for J. R. Russell Date 1-22-90

****

(FOR PROCEDURE DEVELOPMENT USE ONLY)

9. Recommended Action
( ) No change to master ( ) Required reading (OPS Only)
(X) Enter in the master copy
( ) Other (Explain in Remarks)

10. Evaluated By James C. Gilbert Date 1-19-90

11. Entered into master copy by _____ Date _____

12. Remarks: _____

THIS FORM MUST BE DELIVERED TO THE RESPONSIBLE PROCEDURES GROUP/PERSON WITHIN ONE WORKING DAY.

PROCEDURE CHANGE REPORT

Proc # AOP-2A Revision # 9 Date: 1-18-90 Change Log Seq. 90-1028

4a. (Cont.) Description of Change: 3) Divided the Response for a Major Leak in Modes 3,4,5, and 6 into 2 sections; RCS temperature greater than 350°F, and RCS temperature less than 350°F.

5a. (Cont.) Reason for Change

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3. Implement ERPIP 3.0.

4. Enter loss of letdown and/or charging in the plant transient log as applicable.

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IV. RESPONSE FOR A MAJOR LEAK IN MODES 3,4,5,6

(One charging pump unable to maintain Pressurizer Level with minimum letdown flow.)

A. Response in Mode 3 with RCS Temperature greater than 350°F.

1. IF RCS heatup/cooldown in progress,

THEN stop the heatup/cooldown and maintain RCS temperature.

2. Verify charging pumps are maintaining Pressurizer Level:

a. Start available charging pump(s), as necessary, to maintain or attempt to maintain Pressurizer Level.

b. Initiate makeup to the VCT as required.

3. Attempt to isolate the leak:

a. Shut Letdown Isolation Valves:

CVC-515-CV

CVC-516-CV

b. Shut RCS Sample Isolation, PS-5464-CV.

c. Shut Reactor Vessel Vent Valves:

RC-103-SV

RC-104-SV

d. Shut Pressurizer Vent Valves:

RC-105-SV

RC-106-SV

e. **IF** PORV leakage is indicated by:

- o High Quench Tank parameters.
- o High PORV discharge piping temperature, computer points T107 and T108.
- o Abnormal Acoustic Monitor indication.

THEN shut the appropriate PORV Block Valve:

RC-403-MOV

RC-405-MOV

f. Determine if leak is on the Charging Header, as indicated by Charging Header Pressure being less than RCS Pressure.

g. **IF** leak is on the Charging Header,

THEN:

1) Secure the Charging Pumps.

2) Realign charging to the Auxiliary HPSI Header per Attachment (1) of this procedure.

4. Determine if leak has been isolated:

- **NOTE** -

If Pressurizer Pressure is Blocked, during heatup or cooldown, SIAS will only actuate via Cntmt Pressure or Manual Pushbutton.

a. **IF** leak has not been isolated **AND** Pressurizer Pressure is decreasing rapidly,

THEN verify SIAS actuation.

- NOTE -

If EOP-5 or EOP-6 is entered due to the conditions in step 4.b or c below, EOP-0 need not be implemented.

b. IF leak has not been isolated
AND is not within the capacity of the Charging Pumps
AND S/G tube leakage is not indicated,
THEN:

1) Start 11(21) and 13(23) HPSI Pumps.

2) Open Main and Aux HPSI Header Isolation MOVs:

SI-616-MOV	SI-617-MOV
SI-626-MOV	SI-627-MOV
SI-636-MOV	SI-637-MOV
SI-646-MOV	SI-647-MOV

3) Implement EOP-5.

c. IF leak has not been isolated AND S/G tube leakage is indicated, by increasing radiation levels on either of the following:

- Condenser Off-Gas RMS, RI-1752.
- S/G B/D RMS, RI-4014 and/or RI-4095.

THEN:

1) Start 11(21) and 13(23) HPSI Pumps.

2) Open Main and Aux HPSI Header Isolation MOVs:

SI-616-MOV SI-617-MOV

SI-626-MOV SI-627-MOV

SI-636-MOV SI-637-MOV

SI-646-MOV SI-647-MOV

3) Implement EOP-6.

d. IF leak has been isolated

OR is within the capacity of the operable Charging Pumps, as indicated by increasing Pressurizer Level and CET subcooled margin greater than 30°F,

THEN establish Pressurizer Level at approximately 160 inches and determine if operation may continue or if cooldown is necessary for repairs. Implement OP-5, as applicable.

B. Response with RCS Temperature less than 350°F.

1. IF RCS heatup or cooldown is in progress,

THEN stop the heatup/cooldown and maintain RCS temperature.

2. Start available Charging Pumps, as necessary, to maintain Pressurizer Level.

3. Makeup to the VCT, maintaining required blend, per OI-2B.

4. Attempt to isolate the leak,as follows:

a. Shut Letdown Isolation Valves:

CVC-515-CV

CVC-516-CV

b. Shut RCS Sample Isolation, PS-5464-CV.

c. Shut Reactor Vessel Vent Valves:

RC-103-SV

RC-104-SV

d. Shut Pressurizer Vent Valves:

RC-105-SV

RC-106-SV

e. IF PORV leakage is indicated by:

- o High Quench Tank parameters.
- o High PORV discharge piping temperature, computer points T107 and T108.
- o Abnormal Acoustic Monitor indication.

THEN shut the appropriate PORV Block Valve:

RC-403-MOV

RC-405-MOV

f. Determine if leak is on the Charging Header, as indicated by Charging Header Pressure being less than RCS Pressure.

g. IF leak is on the Charging Header,

THEN:

1) Secure the Charging Pumps.

2) Realign charging to the Auxiliary HPSI Header per Attachment (1) of this procedure.

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5. IF leak has been isolated OR is within the capacity of the operable Charging Pumps, as indicated by increasing Pressurizer Level,
   THEN establish Pressurizer Level at approximately 160 inches and implement the appropriate Operating Procedure for the desired plant conditions.

6. IF leak has not been isolated,
   THEN monitor for S/G tube leakage:
   a. Increasing radiation levels on either of the following:
      - Condenser Off-Gas RMS, RI-1752.
      - S/G B/D RMS, RI-4014 and/or RI-4095.
   b. Unexplained increase in S/G level.

7. IF S/G tube leakage is indicated,
   THEN proceed to step 11.

8. IF the leak was not isolated,
   NOT diagnosed as S/G tube leakage,
   AND SDC is in operation
   THEN stop the running LPSI Pump(s), placing their H/S's in PTL, AND shut SDC Return Isolation Valves, SI-651-MOV and SI-652-MOV.

9. IF securing SDC isolates the leak,
   THEN implement LOSS OF SHUTDOWN COOLING CAPABILITY, AOP-3B.

10. IF securing SDC does not isolate the leak
    AND RCS Level is maintained above the middle of the Hot Leg,
    THEN re-initiate SDC, as follows:
    a. Shut SDC temperature control valve SI-657-CV.

b. Place SDC flow control valve, SI-306-CV, in manual with 95% output signal (5% open position).

c. Open SDC Return Isolation Valves, SI-651-MOV and SI-652-MOV.

d. Check open LPSI Loop Isolation Valves:

SI-615-MOV

SI-625-MOV

SI-635-MOV

SI-645-MOV

e. Start LPSI pump. Very slowly increase open signal on FIC-306 until 3000 GPM is achieved and place FIC-306 in automatic.

f. Adjust SDC temperature control valve SI-657-CV as necessary to maintain RCS temperature.

11. IF Pressurizer Level cannot be controlled using the Charging Pumps,

OR the REACTOR VESSEL WATER LEVEL LOW alarm annunciates,

THEN initiate Safety Injection flow and refer to the ERPIP:

a. IF RCS pressure less than 225 PSIA,

THEN proceed to step 11.c.

b. IF RCS Pressure is greater than 225 PSIA,

THEN initiate High Pressure Safety Injection:

1) Stop any running RCPs.

2) Open or check open RWT Outlet Valve for the operable HPSI Pump, SI-4142-MOV or SI-4143-MOV.

3) Establish HPSI flowpath through the Main or Aux HPSI Header:

a) Open the HPSI Hdr Valve for the desired flowpath:

Main HPSI Hdr	SI-654-MOV
Aux HPSI Hdr	SI-656-MOV

b) Align HPSI Hdr Crossconnect Valves for selected HPSI PP:

PP	HPSI Hdr	SI-653-MOV	SI-655-MOV
11(21)	Main	Open	Open
11(21)	Aux	Shut	Shut
12(22	Main	Open	Shut
12(22)	Aux	Shut	Open
13(23)	Main	Shut	Shut
13(23)	Aux	Open	Open

c) Verify Loop Isolation Valves, for the desired HPSI Hdr flowpath, are Shut:

Main	Aux
SI-616-MOV	SI-617-MOV
SI-626-MOV	SI-627-MOV
SI-636-MOV	SI-637-MOV
SI-646-MOV	SI-647-MOV

4) Open or check open the Mini-flow return to RWT:

SI-659-MOV

SI-660-MOV

5) Start the selected HPSI PP.

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-CAUTION-

When RCS temperature is less than 330°F, RCS Pressure shall not exceed 360 PSIA, due to LTOP considerations.

-CAUTION-

If Shutdown Cooling is on service, do not allow RCS Pressure to exceed 270 PSIA to ensure the SDC Return Isolation Valves do not shut.

5) Throttle open the HPSI Hdr Loop Isolation MOVs to maintain all of the following:

- o Pressurizer pressure less than 360 PSIA, (270 PSIA if Shutdown Cooling is on service).
- o Pressurizer Level greater than 155 inches.
- o At least 30°F subcooling, as indicated by CETs.

6) IF RCPs secured,

AND Shutdown Cooling was NOT in service,

THEN confirm Natural Circulation:

- o Thot minus Tcold between 10 and 50°F.
- o Tcold constant or decreasing.
- o Thot constant or decreasing.
- o CET temperatures consistent with Thot.
- o Steaming rate affects primary temperatures.

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7) IF the following conditions can be maintained:

- o At least 30°F subcooling, as indicated by CETs,
- o Pressurizer Level greater than 155 inches.
- o At least one S/G, or Shutdown Cooling available for heat removal.
- o RVLMS indicates the core is covered.

THEN depressurize the RCS to allow using a LPSI or Containment Spray Pump for inventory control:

a) IF Auxiliary Spray is available
AND the Pressurizer is not solid,
THEN initiate Auxiliary Spray:

i) Record temperature differential between Pressurizer and Regenerative Heat Exchanger outlet.

ii) Open Auxiliary Spray Valve, CVC-517-CV.

iii) Shut Loop Charging Valves:
CVC-518-CV
CVC-519-CV

iv) Maintain Pressurizer cooldown rate less than 200°F/h.

b) IF Auxiliary Spray is not available
OR the Pressurizer is solid,
THEN slowly throttle shut the HPSI Loop Isolation MOVs to allow the RCS to depressurize.

c) **WHEN** RCS pressure less than 300 PSIA

AND temperature is less than 300°F,

THEN shut SIT Outlet Valves:

SI-614-MOV

SI-624-MOV

SI-634-MOV

SI-644-MOV

c. **IF** RCS Pressure is less than 225 PSIA,

AND the Safety Injection System has **NOT** been aligned for Shutdown Cooling,

THEN initiate LPSI flow:

1) Stop any running RCPs.

2) Verify RWT Outlet Valves open:

SI-4142-MOV

SI-4143-MOV

3) Start the selected LPSI Pump.

4) Open the LPSI Loop Isolation Valves:

SI-615-MOV

SI-625-MOV

SI-635-MOV

SI-645-MOV

d. **IF** the RCS Pressure is less than 225 PSIA,

AND Safety Injection has been aligned for Shutdown Cooling,

THEN initiate Containment Spray flow to the RCS:

1) Open or check open the RWT Outlet Valve for the selected Containment Spray Pump:

   SI-4142-MOV

   SI-4143-MOV

2) Open or check open the Containment Spray Pump Mini-Flow:

11(21) CS PP	SI-333
12(22) CS PP	SI-343

3) Open or check open the Mini-flow return to RWT:

   SI-659-MOV

   SI-660-MOV

4) Open the selected Containment Spray Pump discharge valve:

11(21) CS PP	SI-314
12(22) CS PP	SI-324

5) Start the selected Containment Spray Pump.

6) Verify SI-657-CV at least 50% open.

   -NOTE-

   Due to the throttling affect of SI-306-CV it is necessary to shut SI-658-MOV to permit injection flow from the Containment Spray Pump. This action will remove the cooling capability of the SDC Hx.

7) Shut SI-658-MOV.

8) Operate SI-657-CV and SI-658-MOV as necessary to maintain:

a) Pressurizer level greater than 155 inches.

b) CET subcooled margin greater than 30°F.

c) CET temperatures less than 300°F (200°F if in Mode 5).

e. **WHEN** LPSI or Containment Spray Pump is operating, **AND** HPSI Pump is operating, **THEN** place the handswitch for the HPSI Pump in PTL, and shut the HPSI Loop Isolation Valves.

f. **IF** the LPSI or Containment Spray Pump is maintaining RCS inventory, **THEN** place the Charging Pumps in Pull-To-Lock.

g. Start all available Containment Coolers in HIGH, and open their SRW Emergency Discharge Valves.

h. Start all available Containment Filters.

12. **IF** S/G tube leakage is indicated, **THEN**:

a. Have Chemistry sample both S/Gs to determine the affected S/G.

b. **IF** the affected S/G is identified, **THEN** isolate the affected S/G:

1) Shut the MSIV:

MS-4043-CV

MS-4048-CV

2) Shut the MSIV Bypass Valves:

MS-4045-MOV

MS-4052-MOV

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3) Shut S/G Feedwater Isolation Valve:

11(21) S/G	12(22) S/G
FW-4516-MOV	FW-4517-MOV

4) Shut S/G B/D valves:

11(21) S/G	12(22) S/G
BD-4010-CV	BD-4012-CV
BD-4011-CV	BD-4013-CV

5) Shut AFW Steam Supply Valve, by placing handswitch in CLOSE:

11(21) S/G	12(22) S/G
MS-4070-CV	MS-4071-CV

6) Shut the AFW Flow Control Valves:

11(21) S/G	12(22) S/G
AFW-4511-CV	AFW-4512-CV
AFW-4525-CV	AFW-4535-CV

7) Shut the Motor and Steam Driven Train AFW Block Valves:

11(21) S/G	12(22) S/G
AFW-4520-CV	AFW-4530-CV
AFW-4521-CV	AFW-4531-CV
AFW-4522-CV	AFW-4532-CV
AFW-4523-CV	AFW-4533-CV

8) Shut the Atmospheric Dump Manual Isolation Valve.

11(21) S/G	12(22) S/G
MS-101	MS-104

9) Shut the Upstream Drains by placing handswitch HS-6622 in CLOSE.

c. IF a S/G is isolated due to tube leakage,

THEN:

1) Depressurize and cooldown the RCS to maintain RCS Pressure approximately equal to affected S/G Pressure.

2) If desired, maintain affected S/G Pressure and Level per EOP-6 step III.W.

-CAUTION-

The possibility of cavitation increases when taking suction from containment sump.

13. IF RWT Level drops to 2.5 feet,

THEN initiate RAS as follows:

a. IF LPSI Pp operating for RCS makeup,

THEN place the LPSI Pp RAS Override Switch in OVERRIDE.

b. Depress Recirculation Manual Actuation Channel A and B pushbuttons to manually initiate an RAS.

c. Verify Containment Sump Isolation Valves, SI-4144-MOV and SI-4145-MOV, open.

d. Shut RWT Outlet Valves, SI-4142-MOV and SI-4143-MOV.

14. IF Shutdown Cooling is not on service,

THEN initiate Shutdown Cooling as follows:

a. IF Pressurizer Level greater than 101 inches AND RCS subcooling greater than $30^{o}F$,

THEN:

1) Initiate Shutdown Cooling per OI-3, with the following exceptions:

   a) IF a Containment Spray Pump is maintaining RCS inventory,
   THEN do not shut its discharge valve.

   b) IF a LPSI Pump is maintaining RCS inventory,
   THEN do not align the suction valve for Shutdown Cooling.

2) Operate Charging Pumps and/or LPSI/Containment Spray Pumps as necessary to maintain RCS Level and Pressure.

b. IF all of the following conditions exist:

- Pressurizer Level less than 101 inches.
- RCS subcooling less than $30^{o}F$.
- RCS Pressure minus Containment pressure less than 160 PSID.

THEN commence Shutdown Cooling as follows:

1) Shut 11(21) and 12(22) Containment Spray Pump Discharge Valves:

11(21) CS Pp	SI-314
12(22) CS Pp	SI-324

2) Shut 11(21) Shutdown Cooling Heat Exchanger Outlet to Spray Header Valve, SI-319.

3) Shut 12(22) Shutdown Cooling Heat Exchanger Outlet to Spray Header, SI-329.

4) Open 11(21) Shutdown Cooling Heat Exchanger Inlet Cross Connect Valve, SI-452.

5) Open 11(21) Shutdown Cooling Heat Exchanger Outlet to RCS Valve, SI-456.

6) Open 12(22) Shutdown Cooling Heat Exchanger Inlet Cross Connect Valve, SI-453.

7) Open 12(22) Shutdown Cooling Heat Exchanger Outlet to RCS Valve, SI-457.

8) Place second Component Cooling Heat Exchanger in service by opening appropriate Component Cooling Heat Exchanger Outlet Valve:

CC-3824-CV

CC-3826-CV

9) Start a second Component Cooling Pump.

10) Open 11(21) Shutdown Cooling Heat Exchanger Component Cooling Outlet Valve, CC-[illegible]8-CV.

11) Open 12(22) Shutdown Cooling Heat Exchanger Component Cooling Outlet Valve, CC-3830-CV.

12) Open Shutdown Cooling Heat Exchanger Inlet Isolation, SI-658-MOV.

13) Open LPSI Hdr Isolation MOVs:

SI-615-MOV

SI-625-MOV

SI-635-MOV

SI-645-MOV

14) Place keyswitch for SI-306-CV in AUTO.

15) Shift FIC-306 to MANUAL with 5% open signal.

16) Open Cntmt Sump Discharge Valve:

SI-4144-MOV

SI-4145-MOV

17) Shut SI Pump Mini Flow Isolations:

SI-659-MOV

SI-660-MOV

18) Ensure level indication exists on Wide Range Containment Level Indicator, LI-4146.

-CAUTION-

The possibility of cavitation increases when taking suction from containment sump.

19) IF LPSI Pump NOT operating,

THEN clear RAS from one operable LPSI Pump by placing LPSI Pump RAS Override Switch in OVERRIDE, and start the selected pump.

-CAUTION-

Cooldown limit changes from 100°F to 20°F at RCS temperature of 250°F.

20) Adjust the signal on FIC-306 to raise flow to 3000 GPM, while maintaining cooldown rate within limits.

21) Place keyswitch for SI-657-CV in AUTO.

-CAUTION-

Do not exceed 14°F/m heatup rate or greater than 5000 GPM through one heat exchanger.

22) Adjust Shutdown Cooling Temperature Control Valve, SI-657-CV, to obtain less than 14°F/m heatup rate at Shutdown Cooldown Heat Exchanger Outlet (TI-303X and TI-303Y).

23) IF desired RCS cooldown rate can NOT be maintained with one LPSI Pump operating,
THEN start second LPSI Pump, and adjust FIC-306 to 6000 GPM.

24) Adjust Shutdown Cooling Temperature Control Valve, SI-657-CV, to obtain desired cooldown rate.

V. RESPONSE FOR A MINOR LEAK

(One charging pump is able to maintain pressurizer level with minimum letdown flow but RCS leakage is greater than allowed by Technical Specification 3.4.6.2.)

A. Implement ERPIP 3.0 as applicable.

B. Locate and attempt to isolate the leak

1. Verify or determine RCS leak rate per STP-0-27 concurrently with the following steps.

2. Determine if leakage is to the containment atmosphere as evidenced by the following conditions:

a. Increased frequency of containment sump alarms.