ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

TECHNICAL REVIEW

PORC REVIEW DATE 3-24-93

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PLANT SUPERINTENDENT

3-26-93
EFFECTIVE DATE

CATEGORY 1.0

REVIEWED BY:_____

A. PURPOSE - This procedure provides the necessary instructions to terminate safety injection and stabilize plant conditions.

B. ENTRY CONDITIONS/SYMPTOMS

1. ENTRY CONDITIONS - This procedure is entered from:

   a. E-0, REACTOR TRIP OR SAFETY INJECTION, and E-1, LOSS OF REACTOR OR SECONDARY COOLANT, when specified termination criteria are satisfied.

   b. FR-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK, after secondary heat sink has been reestablished and SI has been terminated.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

* *

CAUTION

IF OFFSITE POWER IS LOST AFTER SI RESET, SELECTED SW PUMPS AND ONE CCW PUMP WILL AUTO START ON EMERGENCY D/G. MANUAL ACTION WILL BE REQUIRED TO RESTART SAFEGUARDS EQUIPMENT.

* *

NOTE:
- o FOLDOUT page should be open AND monitored periodically.
- o Critical Safety Function Status Trees should be monitored (Refer to Appendix I for Red Path Summary.
- o Adverse CNMT values should be used whenever CNMT pressure is greater than 4 psig or CNMT radiation is greater than 10^{+05} R/hr.

1 Reset SI

2 Reset CI:

a. Depress CI reset pushbutton

b. Verify annunciator A-26, CNMT ISOLATION - EXTINGUISHED

b. Perform the following:

1) Reset SI.

2) Depress CI reset pushbutton.

3 Maintain PRZR Pressure Between 1800 PSIG And 2235 PSIG

- o Reset PRZR heaters
- o Use normal PRZR spray

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4	**Verify Adequate SW Flow:**	
	a. Check at least two SW pumps - RUNNING	a. Manually start SW pumps as power supply permits (258 kw each). IF less than two SW pumps running, THEN perform the following: 1) Ensure SW isolation. 2) Dispatch AO to establish normal shutdown alignment (Refer to Attachment SD-1). 3) Go to Step 7.
	b. Dispatch AO to establish normal shutdown alignment (Refer to Attachment SD-1)	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
5	**Establish IA to CNMT:**	
	a. Verify non-safeguards busses energized from offsite power o Bus 13 normal feed - CLOSED -OR- o Bus 15 normal feed - CLOSED	a. Perform the following: 1) Close non-safeguards bus tie breakers: • Bus 13 to Bus 14 tie • Bus 15 to Bus 16 tie 2) Verify adequate emergency D/G capacity to run air compressors (75 kw each). IF NOT, THEN evaluate if CNMT RECIRC fans should be stopped (Refer to Attachment CNMT RECIRC FANS). 3) WHEN bus 15 restored, THEN reset control room lighting.
	b. Verify SW isolation valves to turbine building - OPEN • MOV-4613 and MOV-4670 • MOV-4614 and MOV-4664	b. Manually align valves.
	c. Verify at least two air compressors - RUNNING	c. Manually start air compressors as power supply permits (75 kw each). IF air compressors can NOT be started, THEN dispatch AO to locally reset compressors as necessary.
	d. Check IA supply: o Pressure - GREATER THAN 60 PSIG o Pressure - STABLE OR INCREASING	d. Perform the following: 1) Continue attempts to restore IA (Refer to AP-IA.1, LOSS OF INSTRUMENT AIR). 2) Continue with Step 6. WHEN IA restored, THEN do Steps 5e and f.
	e. Reset both trains of XY relays for IA to CNMT AOV-5392	
	f. Verify IA to CNMT AOV-5392 - OPEN	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	Check If Charging Flow Has Been Established:	
	a. Charging pumps - ANY RUNNING	a. Perform the following: 1) IF CCW flow is lost to any RCP thermal barrier OR any RCP #1 seal outlet temperature offscale high, THEN dispatch AO with key to RWST gate to close seal injection needle valve(s) to affected RCP: • RCP A, V-300A • RCP B, V-300B 2) Ensure HCV-142 open, demand at 0%.
	b. Charging pump suction aligned to RWST: o LCV-112B - OPEN o LCV-112C - CLOSED	b. Manually align valves as necessary. IF LCV-112B can NOT be opened, THEN perform the following: 1) Verify charging pump A NOT running and place in PULL STOP. 2) Dispatch AO to locally open manual charging pump suction from RWST (V-358 located in charging pump room). 3) WHEN V-358 open, THEN direct AO to close V-268 to isolate charging pumps B and C from VCT (V-268 located in charging pump room).
	c. Start charging pumps as necessary and adjust charging flow to restore PRZR level	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
7	Stop SI And RHR Pumps And Place In AUTO	
* 8	Monitor SI Reinitiation Criteria:	
	a. RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING FIGURE MIN SUBCOOLING	a. Manually operate SI pumps as necessary and go to E-1, LOSS OF REACTOR OR SECONDARY COOLANT, Step 1.
	b. PRZR level - GREATER THAN 5% [30% adverse CNMT]	b. Control charging flow to maintain PRZR level. IF PRZR level can NOT be maintained, THEN manually operate SI pumps as necessary and go to E-1, LOSS OF REACTOR OR SECONDARY COOLANT, Step 1.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

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CAUTION

ALIGNING SI PUMP SUCTION TO RWST BEFORE ISOLATING BAST MAY RESULT IN BACKFLOW FROM RWST TO BASTS.

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9	**Align SI Pump Suction To RWST:**	
	a. Close SI pump suction valves from BASTs: • MOV-826A • MOV-826B • MOV-826C • MOV-826D	a. Ensure at least one valve in each flow path closed. • MOV-826A or MOV-826B • MOV-826C or MOV-826D
	b. Open SI pump suction valves from RWST: • MOV-825A • MOV-825B	b. Ensure at least one valve is open.
	c. Operate all available SI pumps for 5 minutes to flush pump RECIRC lines	
	d. WHEN RECIRC line flush complete, THEN consult plant staff to determine if SI lines should be flushed using Attachment SI FLUSH	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
*10	Monitor If CNMT Spray Should Be Stopped:	
	a. CNMT spray pumps - RUNNING	a. Go to Step 11.
	b. Check CNMT pressure - LESS THAN 4 PSIG	b. Continue with Step 11. <u>WHEN</u> CNMT pressure less than 4 psig, <u>THEN</u> do Steps 10c through f.
	c. Reset CNMT spray	
	d. Check NaOH tank outlet valves - CLOSED • AOV-836A • AOV-836B	d. Place NaOH tank outlet valve controllers to MANUAL and close valves.
	e. Stop CNMT spray pumps and place in AUTO	
	f. Close CNMT spray pump discharge valves • MOV-860A • MOV-860B • MOV-860C • MOV-860D	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	Verify MRPI Indicates - ALL CONTROL AND SHUTDOWN RODS ON BOTTOM	IF one or more control rods NOT fully inserted, THEN perform the following: a. Place RMW mode selector switch to BORATE. b. Adjust boric acid flow control valve, FCV-110A, for desired flowrate. c. Set boric acid integrator to desired amount (175 gallons for each control rod not fully inserted). d. Place RMW control to start and verify flow. IF flow can NOT be established, THEN refer to ER-CVCS.1, REACTOR MAKEUP CONTROL MALFUNCTION.
12	Establish Condenser Steam Dump Pressure Control: a. Verify condenser available: o Any MSIV - OPEN o Annunciator G-15, STEAM DUMP ARMED - LIT b. Adjust condenser steam dump controller HC-484 to desired pressure and verify in AUTO. c. Place steam dump mode selector switch to MANUAL.	a. Place S/G ARV controllers in AUTO at desired pressure and go to Step 13.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13	Verify Adequate SW Flow To CCW Hx:	
	a. Verify at least two SW pumps - RUNNING	a. Manually start pumps as power supply permits (258 kw each). IF less than two SW pumps can be operated, THEN go to Step 19.
	b. Verify AUX BLDG SW isolation valves - OPEN • MOV-4615 and MOV-4734 • MOV-4616 and MOV-4735	b. Establish SW to AUX BLDG (Refer to Attachment AUX BLDG SW). Continue with Step 19. WHEN SW restored to AUX BLDG, THEN do Steps 13c through 18.
	c. Verify CNMT RECIRC fan annunciator C-2, HIGH TEMPERATURE ALARM - EXTINGUISHED	c. Manually start an additional SW pump as power supply permits (258 kw each).

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
14	Check If Normal CVCS Operation Can Be Established	
	a. Verify IA restored: o IA to CNMT (AOV-5392) - OPEN o IA pressure - GREATER THAN 60 PSIG	a. Continue with Step 19. <u>WHEN</u> IA can be restored, THEN do Steps 14 through 18.
	b. Verify instrument bus D - ENERGIZED	b. Energize MCC B. <u>IF</u> MCC B <u>NOT</u> available, <u>THEN</u> perform the following: 1) Verify MCC A energized. 2) Place instrument bus D on maintenance supply.
	c. CCW pumps - ANY RUNNING	c. Perform the following: 1) <u>IF</u> any RCP #1 seal outlet temperature offscale high, <u>THEN</u> isolate CCW to thermal barrier of affected RCP(s). • RCP A, MOV-749A and MOV-759A • RCP B, MOV-749B and MOV-759B 2) Manually start one CCW pump.
	d. Charging pump - ANY RUNNING	d. Continue with Step 19. <u>WHEN</u> any charging pump running, <u>THEN</u> do Steps 15 through 18.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
15	Verify PRZR Level - GREATER THAN 13% [40% adverse CNMT]	Continue with Step 17. WHEN PRZR level increases to greater than 13% [40% adverse CNMT], THEN do Step 16.
16	Establish Normal Letdown: a. Establish charging line flow to REGEN Hx - GREATER THAN 20 GPM b. Place the following switches to CLOSE: • Letdown orifice valves (AOV-200A, AOV-200B, and AOV-202) • AOV-371, letdown isolation valve • AOV-427, loop B cold leg to REGEN Hx c. Place letdown controllers in MANUAL at 35% open • TCV-130 • PCV-135 d. Reset both trains of XY relays for AOV-371 and AOV-427 e. Open AOV-371 and AOV-427 f. Open letdown orifice valves as necessary g. Place TCV-130 in AUTO at 105°F h. Place PCV-135 in AUTO at 250 psig i. Adjust charging pump speed and HCV-142 as necessary to control PRZR level	IF RCP seal return has been established, THEN establish excess letdown as follows: o Place excess letdown divert valve, AOV-312, to NORMAL. o Ensure CCW from excess letdown open, (AOV-745). o Open excess letdown isolation valve AOV-310. o Slowly open HCV-123 to maintain excess letdown temperature less than 195°F and pressure less than 100 psig. o Adjust charging pump speed as necessary. IF RCP seal return NOT established, THEN consult Plant Staff to determine if excess letdown should be placed in service.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

17 Check VCT Makeup System:

a. BAST levels - ANY GREATER THAN 5%

a. Go to Step 18.

b. Check Annunciator B-23, BORIC ACID TANK LO LO LEVEL - EXTINGUISHED

b. Perform the following:

1) Adjust boric acid flow control valve to required flow from table.

BAST LEVEL	BORIC ACID FLOW (GPM)
<10%	4.5
10-15%	6.7
15-20%	8.9
>20%	10.0

2) Go to Step 17d.

c. Adjust boric acid flow control valve in AUTO to 4.5 gpm

d. Verify the following:

1) RMW mode selector switch in AUTO

2) RMW control armed - RED LIGHT LIT

d. Adjust controls as necessary.

e. Check VCT level:

o Level - GREATER THAN 20%

-OR-

o Level - STABLE OR INCREASING

e. Manually increase VCT makeup flow as follows:

1) Ensure BA transfer pumps and RMW pumps running. IF NOT, THEN dispatch AO to locally reset MCC C and MCC D UV lockouts as necessary.

2) Place RMW flow control valve HCV-111 in MANUAL and increase RMW flow.

3) Increase boric acid flow as necessary.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
18	Check Charging Pump Suction Aligned To VCT:	
	a. VCT level - GREATER THAN 20%	a. IF VCT level can NOT be maintained greater than 5%, THEN perform the following: 1) Ensure charging pump suction aligned to RWST o LCV-112B open o LCV-112C closed 2) Continue with Step 19. WHEN VCT level greater than 40%, THEN do Step 18b.
	b. Verify charging pumps aligned to VCT o LCV-112C - OPEN o LCV-112B - CLOSED	b. Manually align valves as necessary.
19	Check RCS Hot Leg Temperatures - STABLE	Control steam dump and total feed flow as necessary to stabilize RCS temperature.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: o WHEN using a PRZR PORV, THEN select one with an operable block valve.

o If auxiliary spray is in use, spray flow may be increased by closing normal charging valve AOV-294 and normal PRZR spray valves.

20 Control PRZR Heaters And Operate Normal Spray To Stabilize RCS Pressure	IF normal spray NOT available and letdown is in service, THEN perform the following: a. Verify spray line fluid to PRZR ΔT less than 320°F. IF NOT, THEN control pressure using one PRZR PORV and go to Step 21. b. Control pressure using auxiliary spray. IF auxiliary spray NOT available, THEN use one PRZR PORV.

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CAUTION

IF CST LEVEL DECREASES TO LESS THAN 5 FEET, THEN ALTERNATE WATER SOURCES FOR AFW PUMPS WILL BE NECESSARY (REFER TO ER-AFW.1, ALTERNATE WATER SUPPLY TO AFW PUMPS).

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NOTE: TDAFW pump flow control valves fail open on loss of IA.

*21 Monitor Intact S/G Levels:	
a. Narrow range level - GREATER THAN 5% [25% adverse CNMT]	a. Maintain total feed flow greater than 200 gpm until narrow range level greater than 5% [25% adverse CNMT] in at least one S/G.
b. Control feed flow to maintain narrow range level between 17% [25% adverse CNMT] and 50%	b. IF narrow range level in any S/G continues to increase, THEN stop feed flow to that S/G.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: SW should be aligned to CCW Hxs before restoring RCP seal cooling.

22 Check RCP Cooling:

a. Check CCW to RCPs:

- o Annunciator A-7, RCP 1A CCW RETURN HIGH TEMP OR LOW FLOW - EXTINGUISHED
- o Annunciator A-15, RCP 1B CCW RETURN HIGH TEMP OR LOW FLOW - EXTINGUISHED

b. Check RCP seal injection:

- o Labyrinth seal D/Ps - GREATER THAN 15 INCHES WATER

-OR-

- o RCP seal injection flow to each RCP - GREATER THAN 6 GPM

Establish normal cooling to RCPs (Refer to Attachment SEAL COOLING).

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
23	Check If Seal Return Flow Should Be Established:	
	a. Verify RCP #1 seal outlet temperature - LESS THAN 235°F	a. Go to Step 24.
	b. Verify RCP seal outlet valves - OPEN • AOV-270A • AOV-270B	b. Manually open valves as necessary.
	c. Reset both trains of XY relays for RCP seal return isolation valve MOV-313	
	d. Open RCP seal return isolation valve MOV-313	d. Perform the following: 1) Place MOV-313 switch to OPEN. 2) Dispatch AO with key to RWST gate to locally open MOV-313.
	e. Verify RCP #1 seal leakoff flow - LESS THAN 5.5 GPM	e. <u>IF</u> any RCP seal leakoff flow greater than 5.5 gpm <u>THEN</u>: o Close the affected RCP seal discharge valve. • RCP A, AOV-270A • RCP B, AOV-270B o Trip the affected RCP. <u>IF</u> both RCP seal discharge valves are shut, <u>THEN</u> go to Step 24.
	f. Verify RCP #1 seal leakoff flow - GREATER THAN 0.25 GPM	f. Refer to AP-RCP.1, RCP SEAL MALFUNCTION.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
24	Verify All AC Busses - ENERGIZED BY OFFSITE POWER o Normal feed breakers to all 480 volt busses - CLOSED o 480 volt bus voltage - GREATER THAN 420 VOLTS o Emergency D/G output breakers - OPEN	Perform the following: a. IF any AC emergency bus normal feed breaker open, THEN ensure associated D/G breaker closed. b. Perform the following as necessary: 1) Close non-safeguards bus tie breakers: • Bus 13 to Bus 14 tie • Bus 15 to Bus 16 tie 2) Reset Bus 13 and Bus 15 lighting breakers. 3) Dispatch AO to locally reset and start two IA compressors. 4) Place the following pumps in PULL STOP: • EH pumps • Turning gear oil pump • HP seal oil backup pump 5) Restore power to MCCs: • A from Bus 13 • B from Bus 15 • E from Bus 15 • F from Bus 15 6) Start CNMT RECIRC fans as necessary. 7) Refer to Attachment SI/UV for other equipment lost with loss of offsite power. c. Try to restore offsite power to all AC busses (Refer to ER-ELEC.1, RESTORATION OF OFFSITE POWER).

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Adverse CNMT conditions or loss of forced air cooling may result in failure of NIS detectors.

25 Check If Source Range Channels Should Be Energized:

a. Source range channels - DEENERGIZED

a. Go to Step 25e.

b. Check intermediate range flux - EITHER CHANNEL LESS THAN 10^{-10} AMPS

b. Perform the following:

1) IF neither intermediate range channel is decreasing, THEN initiate boration.

2) Continue with Step 26. WHEN flux is LESS THAN 10^{-10} amps on any operable channel, THEN do Steps 25c, d and e.

c. Check the following:

- Both intermediate range channels - LESS THAN 10^{-10} AMPS

-OR-

- Greater than 20 minutes since reactor trip

c. Continue with step 26. WHEN either condition met, THEN do Steps 25d and e.

d. Verify source range detectors - ENERGIZED

d. Manually energize source range detectors by depressing P-6 permissive defeat pushbuttons (2 of 2).

IF source ranges can NOT be restored, THEN refer to ER-NIS.1, SR MALFUNCTION, and go to Step 26.

e. Transfer Rk-45 recorder to one source range and one intermediate range channel

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
26	Check If Emergency D/Gs Should Be Stopped:	
	a. Verify AC emergency busses energized by offsite power: o Emergency D/G output breakers - OPEN o AC emergency bus voltage - GREATER THAN 420 VOLTS o AC emergency bus normal feed breakers - CLOSED	a. Try to restore offsite power (Refer to ER-ELEC.1, RESTORATION OF OFFSITE POWER).
	b. Stop any unloaded emergency D/G and place in standby (Refer to Attachment D/G STOP)	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

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CAUTION

IF RCP SEAL COOLING HAD PREVIOUSLY BEEN LOST, THEN THE AFFECTED RCP SHOULD NOT BE STARTED PRIOR TO A STATUS EVALUATION.

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27 Check RCP Status - AT LEAST ONE RUNNING	Perform the following: a. Establish conditions for starting an RCP: o . Verify bus 11A or 11B energized. o Refer to Attachment RCP START. b. Start one RCP. IF an RCP can NOT be started, THEN verify natural circulation (Refer to Attachment NC). IF natural circulation NOT verified, THEN increase dumping steam from intact S/Gs.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
28	Establish Normal Shutdown Alignment:	
	a. Check condenser - AVAILABLE	a. Dispatch AO to perform Attachment SD-2.
	b. Perform the following: o Open generator disconnects • 1G13A71 • 9X13A73 o Place voltage regulator to OFF o Open turbine drain valves o Rotate reheater steam supply controller cam to close valves o Place reheater dump valve switches to HAND o Stop all but one condensate pump	
	c. Verify adequate Rx head cooling:	
	1) Check IA to CNMT - AVAILABLE	1) Go to Step 29.
	2) Verify at least one control rod shroud fan - RUNNING	2) Manually start one fan as power supply permits (45 kw)
	3) Verify one Rx compartment cooling fan - RUNNING	3) Perform the following: o Dispatch AO to reset UV relays at MCC C and MCC D. o Manually start one fan as power supply permits (23 kw)
	d. Verify Attachment SD-1 - COMPLETE	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
29	**Maintain Plant Conditions Stable:**	
	a. RCS pressure - BETWEEN 1800 PSIG AND 2235 PSIG	a. Control PRZR heaters and spray as necessary.
	b. PRZR level - BETWEEN 20% AND 30%	b. Control charging as necessary.
	c. Intact S/G narrow range levels - BETWEEN 17% AND 39%	c. Control S/G feed flow as necessary.
	d. RCS cold leg temperature - STABLE	d. Control dumping steam as necessary. <u>IF</u> cooldown continues, <u>THEN</u> close both MSIVs.
*30	**Monitor SI Reinitiation Criteria:**	
	a. RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING FIGURE MIN SUBCOOLING	a. Manually operate SI pumps as necessary and go to E-1, LOSS OF REACTOR OR SECONDARY COOLANT, Step 1.
	b. PRZR level - GREATER THAN 5% [30% adverse CNMT]	b. Control charging flow to maintain PRZR level. <u>IF</u> PRZR level can <u>NOT</u> be maintained, <u>THEN</u> manually operate SI pumps as necessary and go to E-1, LOSS OF REACTOR OR SECONDARY COOLANT, Step 1.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
31	Go To Procedure O-2.1, NORMAL SHUTDOWN TO HOT SHUTDOWN	

-END-

ES-1.1 APPENDIX LIST

RED PATH SUMMARY

a. SUBCRITICALITY - Nuclear power greater than 5%

b. CORE COOLING - Core exit T/Cs greater than 1200°F
-OR-
Core exit T/Cs greater than 700°F AND RVLIS level (no RCPs) less than 43% [46% adverse CNMT]

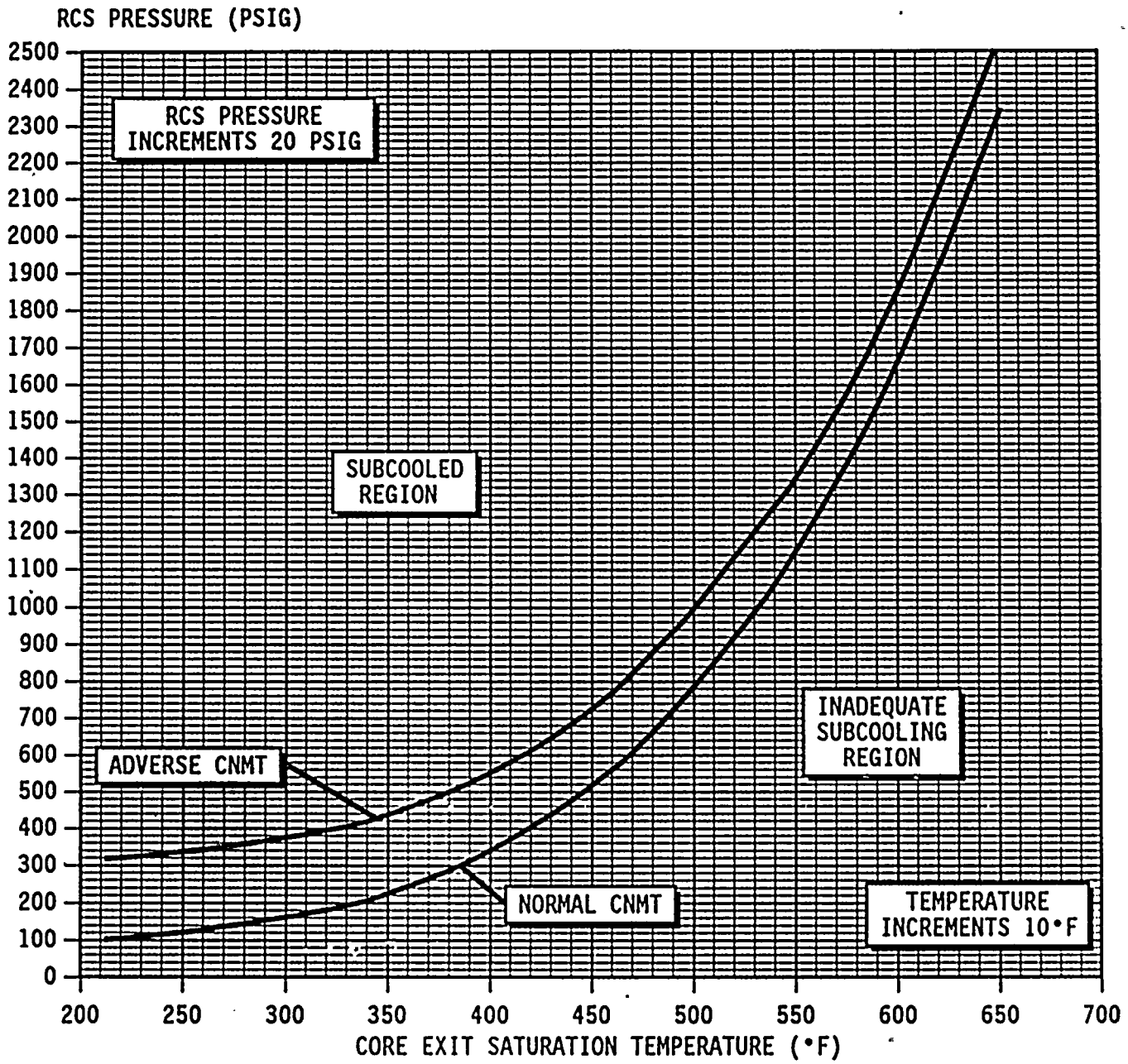
c. HEAT SINK - Narrow range level in all S/Gs less than 5% [25% adverse CNMT] AND total feedwater flow less than 200 gpm

d. INTEGRITY - Cold leg temperatures decrease greater than 100°F in last 60 minutes AND RCS cold leg temperature less than 285°F

e. CONTAINMENT - CNMT pressure greater than 60 psig

FIGURE MIN SUBCOOLING

NOTE: Subcooling Margin = Saturation Temperature From Figure Below [-] Core Exit T/C Indication



FOLDOUT PAGE

1. SI REINITIATION CRITERIA

IF EITHER condition listed below occurs, THEN manually operate SI pumps as necessary and go to E-1, LOSS OF REACTOR OR SECONDARY COOLANT, Step 1:

- o RCS subcooling based on core exit T/Cs - LESS THAN 0°F USING FIGURE MIN SUBCOOLING

- OR -

- o PRZR level - CHARGING CAN NOT CONTROL LEVEL GREATER THAN 5% [30% adverse CNMT]

2. SI TERMINATION CRITERIA

IF ALL conditions listed below occur, THEN go to ES-1.1, SI TERMINATION, Step 1:

a. RCS subcooling based on core exit T/Cs - GREATER THAN 0°F USING REQUIREMENTS OF FIGURE MIN SUBCOOLING

b. Total feed flow to intact S/Gs - GREATER THAN 200 GPM

- OR -

Narrow range level in at least one intact S/G - GREATER THAN 5% [25% adverse CNMT]

c. RCS pressure:
   - o GREATER THAN 1625 PSIG [1825 psig adverse CNMT]
   - o STABLE OR INCREASING

d. PRZR level - GREATER THAN 5% [30% adverse CNMT]

3. SECONDARY INTEGRITY CRITERIA

IF any S/G pressure is decreasing in an uncontrolled manner or is completely depressurized AND has not been isolated, THEN go to E-2, FAULTED S/G ISOLATION, Step 1.

4. COLD LEG RECIRCULATION SWITCHOVER CRITERION

IF RWST level decreases to less than 28%, THEN go to ES-1.3, TRANSFER TO COLD LEG RECIRCULATION, Step 1.

5. AFW SUPPLY SWITCHOVER CRITERION

IF CST level decreases to less than 5 feet, THEN switch to alternate AFW water supply (Refer to ER-AFW.1, ALTERNATE WATER SUPPLY TO AFW PUMPS).

6. E-3 TRANSITION CRITERIA

IF any S/G level increases in an uncontrolled manner or any S/G has abnormal radiation, THEN go to E-3, STEAM GENERATOR TUBE RUPTURE, Step 1.