ATTACHMENT A

SYSTEMS, INSTRUMENTATION AND CONTROLS REQUIRED TO GO TO COLD SHUTDOWN FROM OUTSIDE CONTROL ROOM

CRYSTAL RIVER UNIT NO. 3

FLORIDA POWER CORPORATION

1617 243

PURPOSE

To define the devices and systems required to achieve hot and cold shutdown from outside the control room, and to ascertain control capability outside the control room of those devices and systems in case of control or cable spreading room fire and loss of offsite power.

BASES

1. The attached listing of systems, controls and instrumentation includes those devices which may be required or desirable in going to hot and cold shutdown from outside the control room via suitable procedures. The list covers those devices as listed in FSAR 7.4.6 (Amendment 49 and in the Fire Protection Program Review paragraph 5.3.8. Also included are modifications identified to be done for alternate shutdown capability. Descriptions of systems used are in FSAR sections as referenced. Not included are manual only valves. Unless otherwise noted, all devices listed have control capability from the control room by the operator or by a control system in that room. Noted in parenthesis behind each device description is a notation for that device as being used for H - hot or C - cold shutdown.

2. Time to go to cold shutdown is of long duration (72 hours allowed). Thus, there is plenty of time to reach handwheels and even remove wires or jumper circuits via procedure as necessary. This method is stated where applicable and, as such, no control or cable spreading room isolation is provided.

3. Local control of safeguards and reactor bus feeder breakers is not a necessity although it is available. In case of loss of offsite power, the diesel generat will be automatically started and lined-up to critical equipment.

4. The operator should trip the reactor before leaving the control room. There are four (4) trip trains with only two (2) trains required. Thus, it is not probable that a fire would prevent this trip. (Can, however, manually trip breakers outside of control room).

	SYSTEMS REQUIRED		System Description, FSAR Section	Required for Hot - H Cold - C Shutdown
1.	Main Steam	FD-302-011	10.2	H,C
2.	Auxiliary Steam	FD-301-051	10.2	H,C
3.	Feedwater	FD-301-081	10.2	H,C
4.	Emergency FW	FD-302-082	10.2	H,C
5.	Nuclear Services CCC	FD-302-601	9.5	H,C

SYSTEMS REQUIRED

(Continued)

			System Description, FSAR Section	Required Hot - H Cold - C Shutdown
6.	Nuclear Services Sea Water	FD-302-611	9.5	H,C
7.	DH Sea Water	FD-302-611	9.5	C
8.	DH CCC	FD-302-631	9.5	C
9.	DH Removal	FD-302-641	9.4	C
10.	Reactor Coolant	FD-302-651	4.2	H,C
11.	Makeup and Purification	FD-302-661	9.1	H,C
12.	Primary Chemical Addition	FD-302-671	9.2	H,C
13.	C.A. - Liquid Sampling	FD-302-672	9.2	H,C
14.	Core Flood	FD-302-702	6.1	C
15.	Air Handling	FD-302-751, 760	5.5 & 5.6.5	H,C
16.	Miscellaneous			
	a. HPI, LPI Bypass		6.1	C
	b. Communications		7.4.4	H,C

LEGEND

H - Required to get to and/or maintain hot shutdown (subcritical and Tave $>525°F$).

C - Required to get from hot shutdown to and/or maintain cold shutdown (subcritical and Tave $\leq 200°F$).

RSP - Remote Shutdown Panel to be installed in the 4160 V.E.S. Switchgear Room 3B.

☆ - Local/Remote isolation switches will be provided to ensure alternate operational capability outside of control room.

* - Automatic devices for which no operator action is anticipated. Listed to show capabilities.

* 1. MSV-55, 56: Steam to T.D. Emergency FW Pump (H,C)

Valve operator and control are on DC power. MSV-55 and AS -5 normally open automatically if lose main feedwater (a possibility). This auto operation can not be assured due to control room interface. Thus, RSP control andisolation capability will be provided for MSV-55, MSV-56, and ASV-5.

Local Control:

☆ a. Open/close control, location select capability will be provided at the RSP.

b. Open/close control and position indication at local control station MS-5 (MSV-56) and MS-6 (MSV-55).

c. Handwheel on operator.

2. MSV-25, 26: Atmospheric Dump Valves (H,C)

ICS will normally control either turbine bypass valves (MSV-9F, 10F, 11F, 14F) or MSV-25, 26 to maintain main steam pressure at set point (valves used depends on condenser conditions). Will need to control MSV-25, 26 from the RSP if ICS fails. Provisions for a backup air supply have been made.

Local Control:

☆ a. Manual control and RSP/control room location selection will be provided on the RSP for both valves for isolation from control room.

b. Handwheels.

3. Main Steam Line Break Matrix Bypass Control: (C)

This pressure matrix must be bypassed before reaching 600 psig main steam pressure to prevent OTSG feedwater isolation, if not vet on decay heat. Thus, is not an immediate concern and can be accomplished by the normal/ maintenance switch.

Local Control:

A keylock bypass switch is located in the Relay Room in Relay Racks RR-3A and RR-3B.

4. SP-14A-LI, SP-14B-LI: OTSG Level (H,C)

On RSP from new independent transmitters and power supplies.

5. SP-15A-PI, SP-15B-PI: OTSG Outlet Pressure (H,C)

On RSP from new independent transmitters and power supplies.

6. Main Turbine Trip (H)

Local Control:

Mechanical Manual Trip at the turbine (normally trips upon reactor trip).

AUXILIARY STEAM FD-302-051

*1. ASV-5: Steam to T.D. Emergency FW Pump (H, C)

Operation similar to MSV-55. Thus, isolation and control will be provided at the RSP.

Local Control:

☆ a. Open/close isolation and control location select capability will be provided at the RSP.

b. Start-stop and open/closed control plus position indication at local control station AS-1.

c. Handwheel on operator.

1. FWV-39F, 40F: Startup FW Regulating Valves (H, C)

ICS normally controls these valves. Loss of ICS power would cause valves to go to mid-position. Loss of air causes them to lock in last position. Provisions have been made for backup air to the valves. However, implementation of a new air source is not confirmed. Emergency feedwater valves FWV-161 and FWV-162 may be used as alternates. In anticipation of backup air availability, control independent of the control room and the ICS will be provided for FWV-39F and FWV-40F.

Local Control

★ a. Manual control and RSP/control room location selection will be provided on the RSP for both valves.

b. Handwheels.

2. FWV-161, 162: Emergency FW to OTSG (H, C)

When on emergency FW these valves could be used in lieu of FWV-39F, 40F for OTSG level control if necessary. Isolation and control will be provided in the 4160VES Swgr. Rooms 3A and 3B, if those valves are inoperable. Emergency FW flow indication and measurement is provided by ultrasonic flow indicator for each OSTG.

Local Control

★ a. Start-stop control, isolation and control location select capability will be provided in the 4160VES Swgr. Rooms 3A and 3B.

b. Start-stop and open/close control and position indication at local control station.

c. Handwheel on operator.

3. FWP-1A, 1B: FW Booster Pumps (H,C)

Continue to run after reactor trips. May shut down if main FW pumps are no longer in use. Thus, no local start control required. Will trip on loss of offsite power, upon which emergency feedwater would have to be used.

Local Control

On/off control at switchgear and at local control stations near pumps. Can stop pumps manually at switchgear without control power or isolation.

4. FWP-2A, 2B; Main FW Pumps (H)

Continue to run after reactor trip. Feedwater flow control from RSP via FWV-39, 40. Shutdown when main steam no longer sufficient or if emergency FW is to be used. Thus, no local start controls required. Main FW not available on loss of offsite power. Must depend on emergency FW at that point.

Local Control

Trip P.B. at local Delaval Control panel.

5. SP-13A-FI
SP-13B-FI: OTSG 3A, 3B Startup FW Flow (H,C)

On RSP from new independent transmitters and power supplies.

EMERGENCY FEEDWATER FD-302-082

1. EFP-1: Motor Driven Emergency FW Pump

For use if emergency turbine driven FW pump is not desirable. Auto starts in a manner similar to emergency turbine driven pump when offsite power is available. If offsite power is not available, then existing plant procedures can be utilized to manually load the motor driven emergency FW pump on the "A" train diesel generator.

Local Control

★ On/off control and running status at switchgear.

2. EFV-1, 2: Emergency FW Pumps Suction From Hotwell (H,C)

Normally closed. Opened only if necessary to draw from hotwell. There is sufficient time to go to handwheel control on these valves if local electric control (a. below) is lost due to control or cable spreading room fire. Thus, no isolation is provided.

a. Start-stop and open/close control plus position indication at local control station EF-1.

b. Handwheel.

NOTE: The normal flow path is from the Condensate Storage Tank through the pumps into the OTSG feedwater lines. The valves in this flow path are normally open.

3. EF-6-PI: Turbine Driven Emergency FW Pump Discharge Pressure (H,C)
EF-2-PI: Motor Driven Emergency FW Pump Discharge Pressure (H,C)

Both located near respective pump.

4. EFV-3, 3: Suction from Condensate Storage Tank (H,C)

These valves are normally open. May need to close if take suction from hotwell. There is sufficient time to go to handwheels on these valves if local electric control (a. below) is lost due to control or cable spreading room fire. Thus, no isolation is provided.

Local Control

a. Open/close control and position indication at respective motor control center.

b. Handwheel.

5. ARV-48F, 49F: Condenser Vacuum Breaker Valves (H,C)

Must be opened if emergency FW suction is to be taken from Hotwell. There is sufficient time to go to handwheel control on these valves if local electric control (a. below) is lost due to control or cable spreading room fire. Thus, no isolation is provided.

Local Control

a. Start-stop and open/close control plus position indication at local control station AR-11.

b. Handwheel on operator.

NUCLEAR SERVICES CLOSED CYCLE COOLING FD-302-601

1. SWV-151, 152, 355: Industrial Cooler Water to RB Fan Assemblies
SWV-353, 354: Nuclear Services CCC to RB Fan Assemblies (H,C)

If offsite power is lost after turbine trip, cooling water flow must be switched from the industrial cooler to nuclear services CCC via these valves. Since cooling must be established in less than an hour and there are no handwheels on these valves, control capability will be added in the 4160 VES Swgr Rooms 3A and 3B.

Local Control:

☆ a. Open/close control, control room isolation and control location select capability will be provided in the V.E.S. Swgr Rooms 3A and 3B.

b. Open/closed control and position indication at local control stations SW-10 (SWV-152, 353), SW-11 (SWV-354), SW-13 (SWV-151), and SW-14 (SWV-355).

2. SW-3-PI: Nuclear Services CCC Pumps Discharge Pressure (H,C)

Near pumps for pump operation verification if desired.

3. SW-123, 124, 125, 126-TI: Nuclear Services Heat Exchangers Discharge Temperature (H,C)

Near heat exchangers.

4. SWP-1A, 1B: Emergency Nuclear Services CCC Pumps (H,C)

Are on E.S. Buses, and one would have to be started should there be a blackout causing the normal pump SWP-1C to stop. Action would be required quickly, therefore, isolation switches will be added at switchgear for control room isolation. In the event that all AC power is lost, the cooling water to the two (2) emergency FW pumps is also lost. There is a design modification in progress to insure that this cooling water is not lost.

Local Control

☆ On/off control and status indication at switchgear.

1. RWP-2A, 2B: Nuclear Services Sea Water Pumps (H,C)

RWP-1 is normally operating and requires no local control (is available, however). RWP-2B will auto start if E.S. Diesel Gen. 3B breaker is open and discharge header pressure drops below 25 psig. RWP-2A or RWP-2B would have to be manually started in case of a blackout which would stop RWP-1. Thus, action would be required quickly; therefore, isolation switches will be added at switchgear for control room isolation. RWP-1 trips automatically 15 sec. after RWP-2A or 2B starts.
Local Control:

★ On/off control and status indication for RWP-1, 2A, 2B at respective switchgear. On/off control for RWP-1 at local control station RW-1.

2. RWP-3A, 3B: Decay Heat Service Sea Water Pumps (C)

Operator must start these pumps when Decay Heat Systems are to be used. There is sufficient time to alter the control power circuit at the switchgear to provide local control; thus, no isolation is provided.

Local Control:

On/off control and status indication at switchgear.

DECAY HEAT CLOSED CYCLE COOLING FD-302-631

1. DCP-1A, 1B: Decay Heat CCC Pumps (C)

These pumps must be manually started before starting DHP-1A, 1B, Decay Heat Pumps. There is sufficient time to alter the control power circuit at the switchgear to provide local control; thus, no isolation is provided.

Local Control:

On/off and status indication at switchgear.

2. DCV-17, 18, 177, 178: Decay Heat Heat Exchangers, DHHE-1A, 1B Cooling Flow (C)

Must be positioned for proper flow through DHHE-1A, 1B for desired decay heat water temperature into the reactor coolant system. There is sufficient timeto lift or jumper wires at instrument air compressor switchgear to re-establish air if lost due to control or cable spreading room fire or loss of offsite power.

Local Control:

Temperature controllers DH-17, 18-TC and handwheels on valves, both of which are in the decay heat pit and probably inaccessible during decay heat system operation. Use DHHE-1A, 1B outlet temperature indicators DH-32, 40-TI and manual loaders DH-41, 42-MS for control. These are now located in the 4160 V.E.S. Swgr Room 3B. To avoid loss of control of redundant trains from the control room in case of switchgear room fire, DH-41-MS and DH-39-TI will be moved to 4160 V.E.S. Swgr Room 3A. The cable from the output of these loaders will be rerouted to avoid the control and cable spreading room. Control location selection for control room isolation will remain in the respective switchgear rooms. Also new independent temperature elements and cable will be provided for DH-39, 40-TI for isolation from the control room. Isolated power will also be provided for the manual loaders and temperature circuitry.

3. DC-23, 25-TI: Decay Heat Heat Exchangers Cooling Flow Inlet Temps. (C)

Local to heat exchangers.

DECAY HEAT REMOVAL FD-302-641

1. DHP-1A, 1B: Decay Heat Pumps (C)

Must be manuallly started to place DH system into operation. There is sufficient time to alter the control power circuit at the switchgear to provide local control; thus, no isolation is provided.

Local Control:

On/off control and status indication at switchgear.

2. DHV-3, 4, 41: Dropline from Reactor Coolant System (C)

Motor operated valves which must be opened by the operator for decay heat operation. There is sufficient time to alter the control power circuit at the MCC to provide local control; thus, no isolation is provided.

Local Control:

a. Open/closed control and position indication locally at respective motor control centers.

b. Handwheels on operator (radiation levels may prevent using this on DHV-41; DHV-3, 4 are in Reactor Building).

3. DHV-110, 111: Decay Heat Heat Exchangers Discharge (C)

Position control required. There is sufficient time to alter the control power circit at the MCC to provide local control; thus, no isolation is provided.

Local Control:

a. Jogging control and position indication at respective motor control center.

b. Handwheels (radiation levels may prevent using these).

4. DHV-5, 6: Decay Heat Containment Isolation (C)

Must be opened by operator. There is sufficient time to alter the control power circuit at the MCC to provide local control; thus, no isolation is provided.

Local Control:

a. Open/close control and position indication at respective motor control centers.

b. Handwheels (radiation levels may prevent using these).

5. DHV-91: Decay Heat to Pressurizer Spray (C)

Must be opened by operator. There is sufficient time to alter the control power circuit at the MCC to provide local control; thus, no isolation is provided.

Local Control:

a. Open/closed control and posiition indication at motor control center.

b. Handwheel

6. DH-17, 18-TIC: Decay Heat Heat Exchanger Outlet Temperature Control and Indication (C)

NOTE: These controllers are normally set to control at 100 F; however during cooldown, decay heat discharge to reactor coolant will have to be decreased slowly from 280 F to 140 F. This could be done by varying

the set point on these indicating controllers; however, they are in the decay heat pit and may be inaccessible due to radiation. Thus, control and temperature indication are supplied in the 4160 V.E.S. Swgr Rooms 3A and 3B.

7. V-1 Vent and Shutoff Valves in Control Air Lines to DCV-17, 18, 177, 178 (C)

Vent valve must be closed and shutoff valve in outlet of pneumatic signal high select relay must be opened.

Local Control:

Both are manual valves located outside of the decay heat pit.

REACTOR COOLANT FD-302-651

1. RCP-1A, 1B, 1C, 1D: Reactor Coolant Pumps (H)

Operator will have to stop some or all in going to cold shutdown.

Local Control:

On/off control and status indication at respective switchgear. Since only need to stop pumps, this can be done mechanically at the swgr without control power; thus, no isolation is provided.

2. RC-143-PI: Reactor Coolant Pressure (H,C)

On RSP from new independent transmitters and power supplies

3. RC-145-TI, RC-146-TI: Reactor Coolant Temperature (H,C)

On RSP from new independent RTD's and power supplies.

4. RC-144-LI: Pressurizer Level (H,C)

On RSP from new independent transmitter and power supplies.

5. RCV-53: Pressurizer Spray from Decay Heat (C)

Must be opened by operator. There is sufficient time to alter the control power circuit at the MCC to provide local control; thus, no isolation is provided.

Local Control:

a. Open/closed control and position indication at motor control center.

b. Handwheel (Valve in Reactor Building).

6. RCV-13(F), 14(F): Reactor Coolant to Pressurizer Spray (H)

Operator control required to reduce pressure. Code safety valves will open to reduce pressure. It may be desirable but not necessary to have control of RCV-13, 14; thus, there is time to alter control power circuitry at the MCC to provede local control and no isolation is provided.

Local Control:

a. Open/close control and position indication at respective motor control center.

b. Handwheel (valves in Reactor Building).

7. Pressurizer Heaters Control (H,C)

Control is desirable for cooldown rate. Cannot depend on Group 1-6 (SCR controlled) availability, even locally, due to control room interface. In fact, such control is not really required. Cooldown can be controlled manually and locally with Groups 7-13 by wire jumpers in control circuits to the contactors of these heaters and by controlling heat transfer in the OTSG'S.

Local Control:

a. Can manually open all MCC's for each heater Groups 1-13 without control power.

b. No local "on" or modulating control of Groups 1-6.

c. Only local on/off control of Groups 7-13 contactors by wire jumpers.

8. RCV-10(F): Pressurizer Relief Valve (C)

Open if necessary to relieve pressure in order to get below the RC pressure set point which permits the RC to DH drop line to be opened. There is sufficient time to alter the control power circuit at the relay cabinet to provide local control; thus, no isolation is provided. Block valve RCV-11 can be operated in the event that RCV-10 fails in the open position. PORV position indication will be provided on the shutdown panel.

Local Control:

No control switches outside control room. Can open RCV-10(F) by jumpering contacts at cabinet RR1. RCV-11 can be operated from MCC-3AB Unit 3A.

9. Reactor Trip (H)

Manually trip when leaving control room.

Local Control:

Can open control rod drive breakers outside the control room manually without control power at the control rod drive cabinets in the Relay Room. Zone reference lights (rods dropped) indicated on the control rod drive cabinets are also located in the relay room.

1. MUP-1A, 1B, 1C: Makeup and Purification Pumps (H,C)

Must be operated for makeup due to RC shrinkage when cooling. Need continuous or immediate control; thus isolation switches will be added at the switchgear for control room isolation.

Local Control:

★ On/off control and status indication at switchgear.

2. MUV-49(F): Letdown Isolation Valve (H,C)

Should close after reactor trip. May have to reopen to allow boric acid addition. Prompt action could be required; thus isolation switch and a control switch will be installed at the RSP for that control and for control room isolation.

Local Control:

a. Open/close control and position indication at local control station MU-7.

★ b. Open/close/control room isolation control at RSP.

3. MUV-253(F): RC Pumps Bleedoff Isolation (C)

Close if all RC pumps are tripped. No harm if they stay open; thus no isolation provided.

Local Control:

Open/close control and position indication at local control station MU-16.

4. MUV-18 (F) RC Pump Seal Injection Isolation (C)

Close if all RC pumps are tripped. No harm if they stay open; thus no isolation provided.

Local Control:

a. Open/close and start-stop control and position indication at motor control center.

b. Handwheel (radiation levels may prevent using these).

MAKEUP AND PURIFICATION
(continued)

5. MUV-58(F), 73(F): Makeup Pump Suction from BWST (H,C)

For makeup in addition to boric acid after proper concentrations are reached. Since prompt action may be required, control and control room isolation will be provided in the 4160 V.E.S. Swgr Rooms.

Local Control:

☆ a. An open/close control station with position indication for MUV-73(F) will be located in 4160 V.E.S. Switchgear Room 3A. A similar station will be located in 4160 V.E.S. Switchgear Room 3B for MUV-58(F).

b. Open/closed and jogging control and position indication at respective motor control centers, not required with RSP capability.

c. Handwheels (radiation levels may prevent use of these).

6. MU-105-LI: Makeup Tank Level (H,C)

On RSP from new independent transmitter and power supply.

7. MUV-112(F): Makeup and Purification Demineralizer Bleed to Waste Disposal

Bleed the makeup system if necessary to make room for boron addition. As such, control and isolation will be provided at the RSP.

Local Control:

a. Bleed/normal control, isolation and control location selection will be at RSP.

b. Bleed/normal control and position indication at motor control center. (May also have to jumper contact 3-4 of relay BDX1 in cabinet RR2.)

8. MUV-64: Makeup Pump Suction Isolation from Makeup Tank (H,C)

Must close if takes suction from BWST. Prompt action may be required; thus, control and control room isolation will be provided in the 4160 V.E.S. Switchgear Rooms.

Local Control:

☆ Open/close control, position indication, and local/control room location selection will be provided in two (2) locations because this valve is controlled by both A and B trains. Separation will be maintained by putting a control station in both 4160 V.E.S. Switchgear Rooms 3A and 3B.

9. MUV-31(F): Pressurizer Level Control Valve (H,C)

Normally controlled by NNI. Operator will have to manually control if NNI is incapable. Since there is no local control of MUV-31(F), local control and control room isolation is required. Loss of air may require control via a manual bypass valve.

Local Control:

a. Manual control and RSP/control room location selection will be provided on the RSP.

b. Local manual bypass valve.

CHEMICAL ADDITION FD-302-671

1. CAP-1A, 1B: Boric Acid Pumps (C)

Must be operated to transfer boric acid to makeup tank. If not available, can take suction from BWST. Thus, there is sufficient time to alter the control power circuit to provide local control and no isolation is provided.

Local Control:

On/off control and status indication at boric acid control station CA-7.

2. CA-11-LI, CA-13-LI: Boric Acid Storage Tanks Level (C)

On Chemical Addition Panel, Elev. 143'.

3. CA-24-FI: Boric Acid Pumps Discharge Header Flow (C)

Near CAP-1A, 1B.

4. CAV-60: Boric Acid to Makeup System (C)

Must be opened. No isolation provided for same reasons under CAP-1A, 1B.

Local Control:

a. Open/close control and position indication at control station CA-5.

b. Handwheel.

LIQUID SAMPLING FD-302-672

A. RC Boron Concentration - Point CE-119

1. CAV-126: Letdown Sample Isolation (H,C)

Open to sample. No need for prompt control since boron concentration can be calculated. Samples verify the calculation. Sufficient time to alter control power circuit to provide local control; thus, no isolation provided.

Local Control:

Open/close control and position indication at motor control center and nuclear sample room.

2. CAV-2(F): Reactor Building Sample Isolation (H,C)

Open to sample. No isolation for reasons under CAV-126.

Local Control:

Open/close control and position indication at local control station CA-1 and in nuclear sample room.

B. Steam Generators Shell Side Sampling - Points CE-126, 128

1. CAV-4(F), 5(F): Sample Isolation (H,C)

Open to sample. No isolation for reasons under CAV-126.

Local Control:

Open/close control and position indication at motor control centers and in nuclear sample room.

2. CAV-6(F), 7(F): Reactor Building Sample Isolation (H,C)

Open to sample. No isolation provided for reasons under CAV-126.

Local Control:

Open/close control and position indication in nuclear sample room and at local control stations CA-2 (CAV-6(F)) and CA-3 (CAV-7(F)).

CORE FLOOD FD-302-702

1. CFV-5(F), 6(F): Core Flood to RC System (C)

Close when RC pressure decreases below 700 psig during shutdown. There is sufficient time to alter control power circuits at the MCC to provide local control; thus, no isolation is provided.

Local Control:

Open/close control and position indication at respective motor control centers.

AIR HANDLING FD-302-751, 760

1. AHF-1A, 1B, 1C: Reactor Building Recirculation Units (H,C)

Two of the three are normally operating. Reactor building temperature is normally controlled by these units via the industrial cooler. Thus, no operator action should be required. However, in the event a blackout has required switchover from the industrial cooler to nuclear services CCC, reactor building temperature may have to be controlled by AHF-1A, 1B and 1C speed and number of units operating. Isolation and control will be provided at the MCC's for each unit.

Local Control:

☆ Slow and fast run/off control and status indication at respective E.S. motor control center.

2. LR-7-TR: Reactor Building Ambient Temperature

Located on Leak Rate Panel.

MISCELLANEOUS

1. Bypass HPI between 1700 and 1500 psig reactor coolant pressure. (C)

Bypass LPI between 900 and 500 psig reactor coolant pressure. (C)

Local Control:

a. Bypass switches and bypass permissive and status indication in 4160 V.E.S. Swgr. Rooms 3A and 3B.

b. If bypass switches are inoperable, return to control room to bypass if possible.

c. If bypass switches are inoperable, manually disable auto control of HPI, LPI and reactor building spray pumps and valves at switchgear, MCC's or handwheels.

2. Paging and Telephone Systems

Local Control:

1617 261

Throughout the plant.