FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE CAUSING LOSS OF ALL STATION POWER AND/OR NORMAL INSTRUMENT AIR HEADER

1.0 SYMPTOMS

1.1 Forced evacuation of the control room due to fire.

1.2 Fire in the 4KV Room causing loss of power to:

1.2.1 4KV buses.

1.2.2 No. 1 480V bus.

1.2.3 MCC-1 and MCC-1B.

1.2.4 Vital buses.

1.2.5 Regulated buses.

1.2.6 All instruments and controls in the control room.

1.3 Fire in the turbine lube oil reservior causing loss of normal instrument air header.

2.0 AUTOMATIC ACTION

2.1 Fire and smoke detector alarms.

3.0 IMMEDIATE OPERATOR ACTION

3.1 Trip the reactor/turbine.

4.0 SUBSEQUENT OPERATOR ACTION

4.1 If the reactor could not be tripped before exiting the control room, trip the reactor using any of the following means:

4.1.1 Trip reactor breakers locally in the 4KV room.

4.1.2 Open the DC supply to control rods ACB 72-141, located in the No. 1 DC room.

4.1.3 Turbine may be tripped from the front standard.

4.2 Prepare to evacuate Control Room:

4.2.1 Manually start or verify as running, the DC Thermal Barrier Emergency Pump.

4.2.2 Obtain the two-way radios from the Watch Engineer's Office.

4.2.3 Control Operator (CO), Assistant Control Operator (ACO), Plant Equipment Operator (PEO) and Watch Engineer (WE) will have Security Override Keys in their possession.

FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE
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AND/OR NORMAL INSTRUMENT AIR HEADER (Con't)

4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.3 During a plant fire the manning will be as follows:

4.3.1 Watch Engineer (WE) will coordinate plant operations.

4.3.2 Control Operator (CO) will assist the Watch Engineer with plant operations.

4.3.3 Assistant Control Operator (ACO) will be the Fire Brigade Leader directing fire fighting activities.

4.3.4 Plant Equipment Operator (PEO) will act as a member of the Fire Brigade until:

.1 Fire is extinguished or

.2 Outside fire fighting assistance arrives on site. Plant Equipment Operator will then report to the Watch Engineer to assist with plant operations.

4.4 Plant Equipment Operator (PEO) initial duties will be as a member of the Fire Brigade. In addition the PEO will:

4.4.1 Go to the switchyard to verify:

.1 PCB-412 open

.2 PCB-612 open

.3 PCB-1E open

.4 PCB-1W open

4.4.2 If any of the above breakers listed are not open, they should be locally tripped and secured open by disconnecting DC control power.

.1 On PCB-412 and PCB-612, the DC control power is located at the side of the breaker control cabinet.

.2 On PCB-1E and PCB-1W, the control power is on the West side of the cabinet.

4.4.3 Upon completing step 4.4.1 or 4.4.2, the PEO shall report back to the Fire Brigade Leader.

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AND/OR NORMAL INSTRUMENT AIR HEADER (Con't)

4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.5 Communications between security, operations and the fire brigade will be maintained by using the two-way radios located in the Watch Engineer and Security Offices.

4.6 Certain secondary and primary plant systems must be returned to service within the time frames listed below:

4.6.1 Five (5) minutes: Reactor Coolant Pump Thermal Barrier DC Pump running.

4.6.2 Thirty (30) minutes: Establish steam generator feedwater flow and pressurizer pressure control.

4.6.3 One (1) hour: Make up water to condensate tank may be required. Refer to S-2-13 "Auxiliary Feedwater System Operation."

4.6.4 Two (2) hours: Establish salt water cooling flow from south salt water cooling pump to a component cooling water heat exchanger. Establish component cooling water flow by starting the center component cooling water pump from local breaker operation, Breaker 52-1221.

4.6.5 Five (5) hours: Establish CVCS injection to primary system.

NOTE: Referenced operating instructions are available in the Operations Support Center.

4.7 Control Operator initial duties will be to energize the 480V emergency power system in the following order:

4.7.1 Trip 4KV diesel No. 1 at engine local panel.

4.7.2 Trip 4KV diesel No. 2 at engine local panel.

4.7.3 Trip all DC breakers on No.2 DC bus.

4.7.4 Trip all DC breakers on No. 1 DC bus EXCEPT power to:

.1 Emergency DC Thermal Barrier Pump.

.2 Generator Seal Oil DC Backup Pump.

4.7.5 Open all breakers on 480V bus #2 and close emergency power supply Breaker 52-1200. Start the following equipment:

.1 South Salt Water Cooling Pump G13B Breaker 52-1214

.2 Center Component Cooling Pump G15B Breaker 52-1221

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4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.7.6 Start diesel air compressor and valve to service air header.

.1 Open air outlet valve at compressor.

.2 If diesel air compressor is at south end of the turbine deck valve into the station air system by MCC #3.

.3 If diesel air compressor is at the west side of the heater deck open the block valve to the spent fuel pallet air system, open block valve to air receiver manifold and open block valve(s) to air receiver(s).

4.7.7 Open air supply block valve to spent fuel pallet air system at instrument air receivers and on wall east of instrument air receivers.

4.8 Watch Engineers initial duties will be in the following order:

4.8.1 Open all safety switches on MCC-2A except 8-2A25, 8-2A29, 8-2A30 to Auxiliary Control Panel.

4.8.2 Verify a Component Cooling Water Heat Exchanger is in service to the South Salt Water Cooling Pump.

4.8.3 Return to No. 2 480V switchgear room. Verify CO completed above CO operations.

4.8.4 At No. 2 480V Bus, close 52-1223, energizing power to Auxiliary Control Panel via MCC-2A.

4.8.5 Report to Auxiliary Control Panel.

4.9 A licensed operator will perform the following duties:

4.9.1 Insure salt water cooling flow to component cooling water heat exchangers.

.1 In circulating water area, verify open, if not; then open using solenoid local override, the South Salt Water Cooling Pump Discharge POV-6 and close the North Salt Water Cooling Pump Discharge POV-5.

.2 Verify intake hydraulic stop gate is in raised position.

FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE
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4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.9.2 Establish reactor coolant system make up flow path from volume control tank through RCP seals via test pump by performing the following operations:

.1 Close charging pump discharge block valves to seal water system.

.2 Close test pump discharge to charging system.

.3 Check open MOV-1100C.

.4 Check closed MOV-1100B and D.

.5 Fail open FCV-1115 A, B and C by securing and venting air supply.

.6 Fail closed PCV-1105, isolating letdown, by securing and venting air supply.

4.9.3 Establish reactor coolant pump seal return flow path to volume control tank via RV-285.

.1 Block open seal water return isolation CV-528.

.2 Inside sphere, block open seal water return isolation CV-527.

.3 Inside sphere, close seal water return bypass valve CV-276 manual isolation valve.

.4 Inside sphere, insure seal water return valves stay open by securing and venting air supply to PCV-1115 A, B and C.

.5 Inside sphere, insure thermal barrier outlet valves stay open by securing and venting air supply to CV-722 A, B and C.

.6 Fail open seal water return CV-291 by securing and venting air supply.

4.9.4 Maintain reactor coolant system level.

.1 Switch volume control tank level indication to "LOCAL" in Radwaste.

.2 Energize test pump power supply 42-12A10.

.3 Start and stop test pump to maintain level.

.4 Seal water return RV-285 will supply a flow path to the volume control tank when the test pump is shut down.

FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE
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4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.10 Utilizing the Auxiliary Control Panel, the Watch Engineer will coordinate establishing hot shutdown conditions as follows:

NOTE: If loss of normal instrument air header has occurred due to fire in area of lube oil reservoir, refer to Step 4.11.

4.10.1 Establish steam generator feedwater level control within thirty (30) minutes of trip.

.1 Start Steam Driven Auxiliary Feedwater Pump. Open pump discharge valve to normal feedwater header.

.2 Operate feedwater transfer switch to "LOCAL" using Auxiliary Feedwater Regulators, establish steam generator water level at approximately 200" on wide range level indicators.

.3 Makeup to the Condensate Storage Tank may be provided from Units 2 and 3, or from gravity feed from the reservoir via a local fire hydrant. See Operating Instruction S-2-13 "Auxiliary Feedwater System Operation" for instructions.

4.10.2 Establish reactor coolant system temperature control by placing steam dump transfer switch to "LOCAL" and maintain reactor coolant system temperature at approximately 535°F with steam dump to atmosphere.

NOTE: Prior to local control of steam dump, the reactor coolant temperature was controlled by the Main Steam Relief Valves at approximately 545°F.

4.10.3 Establish reactor coolant system pressure control.

.1 Monitor reactor coolant system pressure at Auxiliary Control Panel.

.2 Ambient heat loss will decrease pressure.

.3 To increase pressure use pressurizer heater groups B&D as needed. Individual heater element groups may be regulated off and on at local heater distribution panel.

FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE
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4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.10.4 To prevent reactor coolant system cooldown perform the following operations:

.1 Close Steam Dump to condenser by securing and venting air supply to CV-3 ad CV-4.

.2 Secure and vent air supply to reheater steam supply CV's 124, 125, 126, 127, 128, 129, 130 and 131.

.3 If access is available secure Turbine Steam Seal supply and Main Steam isolation 24 inch block valves.

.4 Close steam supply to air ejector, by closing block valve.

4.11 If the normal instrument air header is lost due to fire in the turbine lube oil reservoir, place the emergency air system in service.

4.11.1 Transfer Auxiliary Control Panel instrument air supply from normal to emergency instrument air system. Connections are located in back of Control Panel.

NOTE: Loss of normal instrument air system will require steam generator feedwater level control to be transferred from auxiliary feedwater regulators to local control utilizing redundant auxiliary feedwater system manual valves at south side of sphere.

4.11.2 Transfer Steam Driven Auxiliary Feedwater Pump Steam Supply CV-113 instrument air supply from normal to emergency instrument air system. Connections located at CV-113.

4.11.3 Transfer steam dump motive air from normal to emergency air system by the following operation:

.1 Hook up spent fuel pallet air supply hose to air header on east wall of spent fuel pit grade 42.

.2 Transfer motive air from normal to emergency instrument air system at west atmosphere steam dump valves CV-77 and CV-79. Connections located at CV-77 and CV-79.

.3 Open air supply cock valve at hose reel station.

FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE
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4.11.4 Isolate normal instrument air header by closing inlet to Instrument Air Dryer.

4.11.5 Isolate service air system by increasing PC-1 set point above 100 psig.

4.11.6 Open air supply block valve to CV-113 and Auxiliary Control Panel located on air header by wall east of air receivers.

4.12 If system conditions require the reactor coolant system to be cooled down:

4.12.1 Start cooldown with steam dump to atmosphere.

4.12.2 Open MOV-1100B or MOV-1100D as necessary to compensate for RCS shrinkage with makeup from the refueling water storage tank using the test pump.

4.12.3 Refer to Operating Instruction S-3-1.5, "Plant Hot Shutdown to Cold Conditions."

4.13 When primary coolant parameters reach RHR system design limits the residual heat removal system will be placed in service as follows:

4.13.1 In sphere open RHR inlet and outlet MOV's 814, 834, 813 and 833.

4.13.2 At doghouse, isolate residual heat exchanger temperature control TCV-601A; throttle isolation valve downstream of TCV-601B then secure and vent air supply.

4.13.3 In sphere, throttle isolation valve downstream of RHR loop HCV-602 then isolate and vent air supply.

4.13.4 Check MOV-822A closed and MOV-822B open. Residual heat exchanger inlet.

4.13.5 Start west residual heat removal pump, breaker 52-1222.

4.13.6 Throttle isolation valve downstream of HCV-602 to prevent residual heat removal pump from cavitating.

4.13.7 Throttle outlet of TCV-601B to establish cooldown rate and avoid cavitating component cooling water pump.

FORCED EVACUATION OF CONTROL ROOM DUE TO FIRE
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4.0 SUBSEQUENT OPERATOR ACTION (Con't)

4.14 Initiate maintenance action to determine extent of damage and repair as required.

4.15 When Control Room entry is permitted, establish either hot shutdown (Operating Instruction S-3-1.13) or cold shutdown (Operating Instruction S-3-1.5) as plant conditions dictate.

4.16 If hot shutdown is maintained from auxiliary control panel, transfer control back to the control room when available.

4.17 Establish spent fuel pit cooling if required, by starting the Spent Fuel Pit Cooling Pump motor. Close Breaker 42-1226 by local operation.

R. R. BRUNET
SUPERINTENDENT, UNIT 1

APPROVED:

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NUS/cb