

REV. U

DATE 5/5/79

EMERGENCY PROCEDURE EP- 28

TITLE: III Unit 2 Control Room Evacuation

APPROVALS: PORC (Vice-Chairman)

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DATE

5/9/79

UNIT SUPT.:

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DATE

5/9/79

BSM:

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5/11/79

HRC

[Signature]

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5/14/79

ALARA

DATE

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EMERGENCY PROCEDURE EP-28
TMI UNIT 2 CONTROL ROOM EVACUATION

1.0 PURPOSE

1.1 Provide a procedure for maintaining the Unit in a safe and stable shutdown condition in the unlikely event that all operating personnel are required to evacuate the Control Room. A stable shutdown condition is referenced here as:

- A. Heat input from decay heat (alone or with the added heat load from Reactor Coolant Pump Operation) equals the heat removal from the Reactor Coolant System through Natural Circulation.
- B. Reactor Coolant System inventory is being maintained relatively constant by makeup from the borated water storage tank to the makeup tank as required to compensate for any leakage.
- C. Reactor Coolant System makeup and letdown is being maintained by periodic makeup or letdown adjustments.

1. With steam bubble in pressurizer:

Due to the volume difference between Reactor Coolant System makeup (i.e., Reactor Coolant Pump Seal Supply) and letdown, there is a need to periodically either increase makeup or decrease letdown. Therefore, due to the location of local controls for the above two options, periodic control of letdown is selected. With flow in the letdown line, pressurizer level will slowly decrease with an attendant increase in makeup tank level. With letdown flow isolated, level changes will be the opposite.

2. With pressurizer solid: (refer to Z-63)

Maintain pressure by balancing makeup flow with letdown flow. With seal injection flow secured, makeup flow is throttled to match letdown flow.

2.0 SYMPTOMS

- 2.1 Conditions such as fire and/or smoke make continued occupancy of the Control Room impossible.
- 2.2 High radiation.

3.0 IMMEDIATE ACTION

3.1 Automatic Action

3.1.1 None specifically associated with this event, however, if conditions permit, verify actuation of the Control Room ventilation isolation dampers to ensure any control room protection that can be provided by this action.

3.2 Manual Action

3.2.1 Make every effort to eliminate the cause for the Control Room evacuation. As soon as the cause has been eliminated, re-enter the Control Room and restore Unit control from that location.

3.2.2 Complete the following actions prior to evacuating the Control Room:

A. With steam bubble in pressurizer:

- 1. Place the Pressurizer Heater Group controls in AUTO.
- 2. Place the following Reactor Building Air Cooling fan control switches in the FAST position:

AH-E-11A
AH-E-11B
AH-E-11C

B. With pressurizer solid:

- 1. Insure letdown flow through MU-V5 and makeup flow through MU-V17 is stabilized to maintain the ordered pressure.

4.0 FOLLOW UP ACTION

4.1 Upon leaving the Control Room, immediately man the following locations:

A. With steam bubble in pressurizer:

- 1. Shift Foreman and one Control Room Operator (CRO) - shutdown patch panel located in Control Building Cable Room (elev. 305') to monitor unit parameters and direct operations from outside the Control Room.
NOTE: The Shift Foreman should take procedures, steam tables, etc. when he goes to the shutdown patch panel and should establish communications with each other local station.
- 2. One Man-Area of Pressurizer Heater Contractor Buses 2-34 and 2-44 (elev. 282' 6") to manually control heaters as required to maintain pressure.
- 3. One Man-Auxiliary Building (elev. 280') to open/close DH-V5A (Local PB Station) or DH-V5B (Local PB Station) as required for makeup tank level control. Monitor MU Tank parameters to prevent overfilling or overpressurization.

- 4. One Man-Auxiliary Building (elev. 280') to open/close MU-V376 (Local PB Station) as required for Pressurizer level control.
- 5. One Man-Turbine Building East Operating Floor (elev. 331' 6") to control OTSG Startup Feed Regulating Valves (FW-25A and FW-25B) if necessary for maintaining level.

B. With pressurizer solid:

- 1. Shift Foreman and one control room operator (CRO) - Shutdown Patch Panel located in Control Building Cable Room (elev. 305') to monitor unit parameters and direct operations from outside the Control Room.
- 2. One Man and HP Tech-Area of low background radiation with capability of quick access to makeup control valve MU-V17. Isolate MU-V17 and adjust makeup flow through bypass (MU-V155) as necessary to control RCS pressure.
- 3. One Man-Auxiliary Building (elev. 280') to open/close DH-V5A (Local PB Station) or DH-V5B (Local PB Station) as required for makeup tank level control.
- 4. One Man-Auxiliary Building (elev. 280') to open/close MU-V376 (Motor Control Center Bus 2-21EA) as required for rapid RCS pressure control.
- 5. One Man-Turbine Building East Operating Floor (elev. 331' 6") to control OTSG Startup Feed Regulating Valves (FW-25A & FW-25B) if necessary for maintaining level.

4.2 Cross tie the Nuclear and Turbine plant channels of the M & I powered phone circuits in the Instrument Shop.

4.3 Maintain Pressurizer level as follows:

A. With steam bubble in pressurizer:

Monitor Pressurizer level at the shutdown Patch Panel and control level between 150-200 inches by opening or closing letdown line to Purification Demineralizer Valve MU-V376. If normal pressurizer level indication is not available, go to Procedure Z-107 for alternate level indication.

B. With pressurizer solid:

Monitor RCS pressure at Shutdown Patch Panel and control ordered RCS pressure by adjusting MU-V155 (MU-V17 Bypass) with MU-V17 isolated. If RCS pressure drops rapidly, close MU-V376 to isolate letdown flow until RCS pressure is restored to ordered pressure.

4.4 Monitor Makeup Tank level at the Shutdown Patch Panel and control level between 55-80 inches by opening or closing Borated Water Storage tank to Decay Heat Pump Valves DH-V5A or DH-V5B as required to compensate for Reactor Coolant System leakage.

4.5 If Reactor Coolant Pump is in operation, monitor "A" OTSG level at the shutdown Patch Panel and control level at approximately 95% on the Operate Range by manually positioning startup Feed Regulator Valve FW-V25A. If in Natural Circulation, continue operations in accordance with Procedure Z-39.

4.6 Maintain RCS pressure as follows:

A. With bubble in pressurizer:

Monitor Reactor Coolant System pressure at the Shutdown Patch Panel and control pressure at the ordered pressure by manually cycling Pressurizer Heaters at Pressurizer Heater Contactor Buses 2-34 and 2-44.

B. With solid pressurizer:

Monitor Reactor Coolant System pressure at the Shutdown Patch Panel and control within ordered pressure band by manually throttling MU-V155. Close MU-V376 if RCS pressure drops too rapidly.

4.7 Monitor Reactor Coolant System temperature at the Shutdown Patch Panel to ensure that reactor core-cooling is maintained. If the Control Room evacuation is prolonged, monitor incore thermocouples using millivolt potentiometers or brush recorders at the local panels.

4.8 While maintaining unit parameters stable, the CRO with the Shift Supervisor/Foreman should attempt to re-man the Control Room (if conditions permit and suitable re-entry precautions have been taken) and prove the ability to control the parameters in Steps 4.3 through 4.7. If possible, terminate this procedure and re-establish operation from the Control Room.