

UNIT 2/3 REACTOR SCRAM

A. PURPOSE

To outline the procedure used to shutdown the reactor when an emergency requires a manual scram to prevent exceeding a safety limit or damage to plant equipment. The same steps are taken following an automatic scram.

B. REFERENCES

DGP 2-1, Normal Unit Shutdown.

C. PREREQUISITES

1. An automatic reactor scram has occurred

OR

2. During plant operation the operator has recognized the need to implement this procedure.

3. If time is available before manually scrambling the reactor, perform the following:

a. Reduce power with recirculation flow.

b. TRANSFER aux. power to Transformer 22(32)

c. START the Main Shaft Suction Pump and Emergency Bearing Oil Pump.

d. RAISE water level to the High Level Alarm point.

D. PROCEDURE

NOTE

The first six actions should be performed as Immediate Actions on every scram. The remaining actions should be performed as Immediate Actions where specified by abnormal procedures or in conjunction with the Subsequent Actions of abnormal procedures.

1. PRESS both scram buttons if it is desired to manually scram the Rx.

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2. PLACE the Rx Mode Switch to SHUTDOWN or REFUEL. _____
3. CHECK to see if all control rods are fully inserted. _____

NOTE

This can be done via an inspection of the full core display or computer output; or by placing the Mode Switch to REFUEL and verifying that the Refuel One Rod Permissive Light is ON. If the light is OFF CHECK the full core display and INSERT any drives not already at 00. Notify the Shift Engineer.

4. VERIFY APRM readings decreasing or downscale. _____
5. Maintain feedwater in AUTO unless controller failure occurs. Control level between +20 and +40 inches by observing more than one available indication. _____

NOTE

On a scram, the automatic Feed Control System will reduce the controlling setpoint by 1/2. If the Feed Control System is in AUTO, the setpoint will return to its original level when the scram is reset.

6. VERIFY turbine and generator have TRIPPED. _____
7. If necessary, STOP feed pumps to prevent excessive reactor level. Verify, if possible, that more than one type of level indication has Hi Level before stopping feed pumps. _____
8. VERIFY auxiliary power has transferred to the reserve auxiliary transformer. _____
9. INSERT SRM and IRM Detectors. Maintain IRM on scale to monitor shutdown. _____
10. VERIFY Main Shaft Suction Pump AUTO STARTED. _____
11. The Generator Trip also trips Stator Cooling Pumps. RESET 86 relay to start Stator Cooling Pumps. _____
12. Limit the cooldown rate to 100°F/hr. In an emergency, a 240° step change may be used. Do not exceed the 140° ΔT limit between reactor vessel and flange. _____

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13. MONITOR the Reactor Safety Systems such as isolation condenser, auto depressurization, LPCI operation, isolation valves, etc. Operate manually, if required, to prevent potential injury to personnel, potential off-site releases above Technical Specification limits, or damage to equipment. _____
14. Maintain vacuum in the main condenser with the SJAE, and bypass steam to cool down and depressurize the system, if cooldown is required. _____
15. If it becomes necessary to raise reactor water level, do so very slowly to minimize thermal shock on the system. _____
16. CHECK control room panels to verify all systems are operating properly. Continue the cooldown, if required, following the Normal Unit Shutdown procedure (DGP 2-1). _____
17. Complete Control Room Log Book entries. _____
18. Complete Scram Report Data Sheet (DGP 2-3-S1). _____

NOTE

The blanks beside each step is an operator convenience. If the operator desires to use this procedure as a checklist to ensure all necessary actions are accomplished he may do so. However, this procedure is not a checklist and need not be treated as such.

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