

PLANT OPERATIONS MANUAL

Volume 5
Section 1

05-S-01-EP-10
Revision A
Date:

EMERGENCY PROCEDURE
REACTIVITY CONTROL
SAFETY RELATED

Prepared: _____ Date _____
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 Technical Review
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Approved: _____ Date _____
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PSRC: _____ Date _____

List of Effective Pages:

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TITLE: Reactivity Control

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1.0 PURPOSE

The purpose of this procedure is to reduce reactor power, following an ATWS, to a level that can be safely absorbed by the available heat sink. Entry into Containment Control Emergency Procedure #3 is performed concurrently, as required.

2.0 ENTRY CONDITIONS

Condition exists that requires a reactor scram and:

- o Reactor Power $> 3\%$ on APRM's or $> Z^*$ on inserted IRM's or
- o Reactor Power cannot be determined

*Z = Maximum allowable IRM reading at 3.5 minutes (insertion time)

3.0 OPERATOR ACTIONS

- 3.1 Depress manual scram buttons and place "Reactor Mode Switch" in Shutdown.
- 3.2 Open circuit breakers CB2A (52-1C71102), CB8A (52-1C71108), CB2B (52-1C71202), and CB8B (52-1C71208) supplying power to the RPS channels A, C, B and D respectively, from the RPS buses A (Panel 1C71P001) and B (Panel 1C71P002).
- 3.3 If turbine has tripped or if MSIV's have closed, trip Reactor Recirculation Pumps.

If not, run recirc flow to minimum (LFMG on; valves closed).
- 3.4 If reactor power is $> 6\%$ or cannot be determined, initiate SLCS and perform steps 3.11, 3.12, and 3.13.
- 3.5 If reactor power is $< 6\%$ and an SRV is open or cycling, trip reactor recirculation pumps and start RCIC in Test Mode.
- 3.6 Observe control rod positions and if all rods are inserted at or below position 06, enter ONEP 05-1-02-I-1 (Reactor Scram). If not all at < 06 , reset scram and attempt a second manual scram.

If scram cannot be reset, perform step 3.9.
- 3.7 Observe scram valve positions and, if all are not open, open them by deenergizing the scram solenoids or isolating and venting the scram air header.
- 3.8 Observe control rod position again and, if all < 06 , enter ONEP 05-1-02-I-1 (Reactor Scram).

If not, reset scram and scram individual rods via test switches (if containment is accessible).

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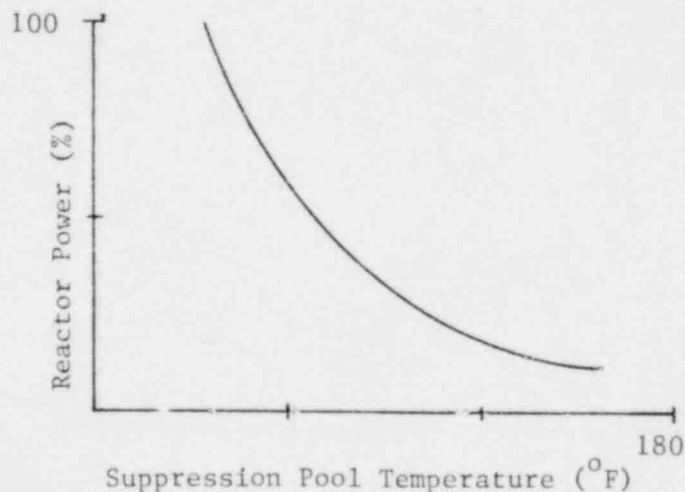
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- 3.9 If all control rods cannot be inserted < 06 by the preceeding, and/or if the reactor scram cannot be reset, perform the following:
- o Start a second CRD pump
 - o Close HCU accumulator charging water header isolation valve
 - o Attempt manual control rod insertion
- 3.10 If/when all control rods are fully inserted (< 06 position), complete ONEP 05-1-02-I-1.
- 3.11 If excessive power is still being discharged to the suppression pool as determined by:
- o Any SRV open or cycling or
 - o Containment pressure > 2 psig and
 - o Suppression Pool temperature $> 115^{\circ}\text{F}$

Then reduce RPV level to optimum level (later inches) by terminating all injection into the RPV except CRD.

- 3.12 Observe SLCS operation and if not functioning, inject an alternate liquid (poison) solution (instructions later).
- 3.13 When reactor power has been reduced below region 2, as determined from the figure below, observe control rod positions and perform steps 3.6, 3.7, 3.8, 3.9 and/or 3.10 until all control rods are fully inserted (< 06 position).



(Grand Gulf specific figure to be provided at a later date.)