

# INFORMATION ONLY

# DRAFT

29.000.08

ENRICO FERMI ATOMIC POWER PLANT  
UNIT NO. 2

Type: OPERATIONS PROCEDURE - EMERGENCY

Title: REACTIVITY CONTROL

## RECORD OF APPROVAL AND CHANGES

Prepared by	<u>R. Jolley</u>	<u>5/28/81</u>
		Date
Submitted by	<u>Section Head</u>	<u>                    </u>
		Date
Recommended by	<u>OSRO Chairman</u>	<u>                    </u>
		Date
Recommended by	<u>Q/A Engineer</u>	<u>                    </u>
		Date
Approved by	<u>Plant Superintendent</u>	<u>                    </u>
		Date

Revision No.	OSRO Recommended	Date	QA Recommended	Date	Plant Supt. Approved	Date
<u>1</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>2</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>3</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>4</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>5</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>6</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>7</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>8</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>

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# INFORMATION ONLY DRAFT

29.000.08  
Rev. 0

The following is a list of "laters" contained in this procedure. The responsible Section Head during subsequent revisions will update or remove this "later" sheet.

<u>Section</u>	<u>Page</u>
2.3	1
3.6.4	2
3.6.5	2
3.9.1	3
3.9.2(2)	3

# INFORMATION ONLY DRAFT

29.000.08  
Rev. 0

## TABLE OF CONTENTS

	<u>Page</u>
1.0 Purpose. . . . .	1
2.0 Entry Conditions . . . . .	1
3.0 Operator Actions . . . . .	1

INFORMATION ONLY

DRAFT

29.000.08

Rev. 0

Page 1

1.0 Purpose

The purpose of this procedure is to provide the guidelines to recognize and mitigate an Anticipated Transient Without Scram (ATWS). The effects of an ATWS may require the implementation of other Emergency Operating Procedures.

2.0 Entry conditions

2.1 Receipt of a scram signal,

and

Reactor power level cannot be determined,

OR

2.2 Receipt of a scram signal,

and

APRM's greater than or equal to 3%,

OR

# DRAFT

## INFORMATION ONLY

2.3 Receipt of a scram signal,

and

IRM's inserted and reading greater than (Later)%, 3.5 minutes  
after Reactor scram.

### 3.0 Operator Action

(Optional  
Checks)

3.1 DEPRESS both Reactor Scram pushbuttons. \_\_\_\_\_

3.2 Place the Reactor Mode Switch in the SHUTDOWN position. \_\_\_\_\_

3.3 INSERT the IRM detectors. \_\_\_\_\_

3.4 Maintain Reactor Water level between 192.5 inches  
(Level 4) and 201.5 inches (Level 7). \_\_\_\_\_

# DRAFT

29.000.08

Rev. 0

Page 2

## INFORMATION ONLY

(Optional  
Checks)

3.5 IF Any of the following occur throughout  
the performance of this procedure;

3.5.1 RPV water level less than +171.0"  
(Level 3), or

3.5.2 Drywell pressure greater than 1.69 PSIG, or

3.5.3 A Reactor isolation which requires or  
initiates a Reactor Scram,

THEN ENTER Emergency Operating Procedure  
#29.000.01, Level Control, concurrent  
with this procedure.

---

3.6 IF Any of the following occur throughout  
the performance of this procedure;

3.6.1 Suppression pool water temperature  
above 90°F, or



**DRAFT**  
**INFORMATION ONLY**

3.6.2 Drywell atmosphere temperature  
above 138°F, or

3.6.3 Drywell pressure above 1.69 PSIG, or

3.6.4 Suppression pool water level above  
(Later) feet, or

3.6.5 Suppression pool water level below  
(Later) feet,

THEN ENTER Emergency Operating Procedure  
#29.000.03, Containment Control, concurrent  
with this procedure.

---

3.7 IF Main Turbine has tripped, or MSIV's have  
closed,

THEN TRIP the Reactor Recirculation pumps,

and

Proceed to step 3.9.

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# DRAFT

## INFORMATION ONLY

29.000.08

Rev. 0

Page 3

(Optional  
Checks)

3.8 IF Main Turbine has not tripped or MSIV's have closed,

THEN CONFIRM or Runback the Reactor Recirculation pumps to minimum flow,

and

Proceed to Step 3.9.

---

3.9 MONITOR the Reactor Nuclear Instrumentation.  
(Power should be decreasing.)

3.9.1 IF APRM's indicate less than (Later)Z Reactor power,

THEN Proceed to Step 3.10.

---

3.9.2 IF APRM's indicates greater than (Later)Z Reactor power,

THEN INJECT Standby Liquid.

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# DRAFT

## INFORMATION ONLY

### CAUTION

Confirm or trip the SLC pumps  
at (Later) inches in the SLC  
tank.

a. Confirm or isolate the Reactor  
Water Cleanup system. \_\_\_\_\_

b. WHEN SLC is injecting, \_\_\_\_\_

THEN Proceed to Step 3.10. \_\_\_\_\_

c. IF SLC is not injecting, \_\_\_\_\_

THEN Start 2nd SLC pump, \_\_\_\_\_

and

Proceed to Step 3.10. \_\_\_\_\_

# DRAFT

## INFORMATION ONLY

29.000.08

Rev. G

Page 4

(Optional  
Checks)

3.10 IF SRV's are closed and not cycling,

THEN Proceed to Step 3.12. \_\_\_\_\_

3.11 IF SRV's are open or cycling,

THEN TRIP Reactor Recirculation pumps. \_\_\_\_\_

3.11.1 IF SRV's are closed and not cycling,

THEN Proceed to Step 3.12. \_\_\_\_\_

3.11.2 IF SRV's are open and cycling,

THEN START HPCI/RCIC in full flow  
test mode,

and

Proceed to Step 3.12. \_\_\_\_\_

# DRAFT INFORMATION ONLY

## 3.12 Verify Control Rod positions.

3.12.1 IF ALL Control Rods are inserted to position 04 or less,

THEN ENTER Abnormal Operating Procedure #20.000.21, Reactor Scram.

3.12.2 IF ALL Control Rods are not inserted to position 04 or less,

THEN Proceed to Step 3.13.

## 3.13 Verify all Scram valves are open.

3.13.1 IF All Scram valves are not open,

THEN Proceed to step 3.19.

3.13.2 IF ALL Scram valves are open,

THEN RESET the Reactor Scram.

# DRAFT

29.000.08

Rev. 1

## INFORMATION ONLY

Page 5

(Optional  
Checks)

1. IF Reactor Scram does not  
Reset,

THEN Proceed to Step 3.18. \_\_\_\_\_

2. IF Reactor Scram is Reset,

THEN Verify that the Scram Discharge  
Volume vents and drain valves  
open. \_\_\_\_\_

a. IF Scram Discharge volume  
vent and drain valves  
do not open,

THEN Proceed to Step 3.16. \_\_\_\_\_

b. IF Scram Discharge volume  
vent and drain valves  
open,

THEN Proceed to Step 3.14. \_\_\_\_\_

**INFORMATION ONLY**

**DRAFT**

3.14 DEPRESS both Reactor SCRAM pushbuttons.

---

3.14.1 IF Inward Control Rod motion  
has been observed,

THEN Verify Control Rod positions

---

1. IF ALL Control Rod positions  
are at 04 or less,

THEN ENTER Abnormal Operating  
Procedure #20.00G.21,  
Reactor Scram.

---

2. IF ALL Control Rods are not  
at position 04 or less,

THEN Return to Step 3.13.2.

---

DRAFT

INFORMATION ONLY

29.000.08

Rev. 0

Page 6

(Optional  
Checks)

3.14.2 IF Inward Control Rod motion has  
not been observed,

THEN Proceed to step 3.15. \_\_\_\_\_

3.15 RESET the Reactor Scram. \_\_\_\_\_

3.15.1 IF Reactor Scram does not Reset,

THEN Proceed to Step 3.18. \_\_\_\_\_

3.15.2 IF Reactor Scram is Reset,

THEN Proceed to Step 3.16. \_\_\_\_\_

3.16 Scram each withdrawn Control Rod by the use  
of the individual SCRAM Test Switch. \_\_\_\_\_



DRAFT

INFORMATION ONLY

3.16.1 IF Inward Control Rod motion  
has been observed,

THEN Continue the individual Rod Scram  
until all Rods are at 04 or less

OR

Until no inward Control Rod motion  
is observed. \_\_\_\_\_

3.16.2 WHEN NO Inward Control Rod motion is  
observed,

THEN Verify Control Rod positions. \_\_\_\_\_

1. IF ALL Control Rod positions  
are at 04 or less,

THEN ENTER Abnormal Operating  
Procedure 20.000.21,  
Reactor Scram. \_\_\_\_\_

2. IF ALL Control Rod positions  
are not at 04 or less.

THEN Proceed to Step 3.17. \_\_\_\_\_

# DRAFT

## INFORMATION ONLY

29.000.08

Rev. 0

Page 7

(Optional  
Checks)

3.16.3    IF    Inward Control Rod motion  
                         has not been observed,

THEN    Proceed to Step <sup>3.17</sup>~~27~~.

---

### 3.17 RESET Reactor Scram

3.17.1    IF    Reactor Scram does not RESET,

THEN    Proceed to Step 3.18.

---

3.17.2    IF    Reactor Scram is RESET,

THEN    Rapidly insert Control Rods by  
                         the normal rod insertion method.

---

1.    IF    Inward Control Rod motion is  
                         not observed,

THEN    Proceed to Step 3.18.

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DRAFT

2. IF Inward Control Rod motion is  
observed,

INFORMATION ONLY

THEN Continue to insert Control  
Rods by Rod insertion. \_\_\_\_\_

a. WHEN All Control Rods are at  
04 or less,

THEN ENTER Abnormal Operating  
Procedure #20.000.21,  
Reactor Scram, \_\_\_\_\_

CR

WHEN Control Rod inward motion is  
no longer observed,

THEN Proceed to Step 3.18. \_\_\_\_\_

3.18 Attempt to RESET Reactor Scram,

and

START 2nd. CRD pump

and

INCREASE CRD Drive Pressure,

**DRAFT**  
**INFORMATION ONLY**

29.000.08

Rev. 0

Page 8

(Optional  
Checks)

and

CLOSE HCU Accumulator Charging Water Valves  
(113 valve),

and

THEN Rapidly insert Control Rods by the Normal  
Rod insertion method. \_\_\_\_\_

3.18.1 IF Inward Control Rod motion is not  
observed,

THEN Return to Step 3.13.2. \_\_\_\_\_

3.18.2 IF Inward Control Rod motion is observed,

THEN Continue to insert the Control Rods  
by normal Rod insertion method \_\_\_\_\_

DRAFT

INFORMATION ON

a. WHEN All Control Rods are at  
04 or less,

THEN ENTER Abnormal Operating  
Procedure #20.000.21,  
Reactor Scram, \_\_\_\_\_

OR

b. WHEN Control Rod inward motion is  
no longer observed,

THEN Return to Step 3.13.2. \_\_\_\_\_

3.19 OPEN Scram Valves with one of the following methods:

3.19.1 Backup manual scram pushbutton \_\_\_\_\_

OR

3.19.2 De-energize Scram Solenoids by opening  
the following breakers:

1. C71A-CB1A, located on Relay Room  
Panel H11-P609, \_\_\_\_\_

and

2. C71B-CB1B, located on Relay Room  
Panel H11-P611, \_\_\_\_\_

**DRAFT**  
**INFORMATION ONLY**

29.000.08

Rev. 0

Page 9

(Optional

Checks)

OR

3.19.3 Isolate and vent the Scram air header by performing the following:

1. Close F288A, CRD Scram Air Header Filter Inlet Valve,

and

2. Close (if open) F289, CRD Scram Air Header Filter Bypass Valve,

and

3. Bleed off air pressure through the CRD Scram Air Header 5 microhm filter assembly,
-



**AND**

\_\_\_\_\_

[illegible]

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END