

Submitted: _____
(Section Head)

SP number 29.023.03

Approved: _____
(Plant Manager)

Revision C

Effective Date _____

REACTOR PRESSURE VESSEL FLOODING
EMERGENCY PROCEDURE

DRAFT

1.0 PURPOSE

The purpose of this procedure is to flood the RPV using all the available injection subsystems.

2.0 ENTRY CONDITIONS

This procedure is entered from SP 29.023.05 (Rapid RPV Depressurization) if any of the following occur:

- 2.1 Temperature near the cold reference leg instrument vertical runs exceeds the RPV saturation limit.
- 2.2 RPV water level cannot be determined.
- 2.3 Suppression chamber pressure exceeding suppression limit.

3.0 OPERATOR ACTIONS

3.1 If at least (later) SRV's are open, or if core spray or other motor driven feedwater pumps are available for injection, perform the following.

3.1.1 All MSIV's

1B21-AOV-081A _____	1E21-AOV-082A _____
1B21-AOV-081B _____	1B21-AOV-082B _____
1B21-AOV-081C _____	1B21-AOV-082C _____
1B21-AOV-081D _____	1E21-AOV-082D _____

3.1.2 MSL Drain Lines

1B2 MOV-038 _____	1B21 MOV-033 _____
1B2 AOV-088 _____	1B21 AOV-089 _____

3.1.3 RHR Steam Condensing Valve

1E11 MOV-049 _____

3.1.4 HPCI Isolation Valves

1E41 MOV-041 _____	1E41 MOV-047 _____
1E41 MOV-042 _____	1E41 MOV-048 _____

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3.1.5 RCIC Isolation Valves

1E51 MOV-041 _____	1E51 MOV-047 _____
1E51 MOV-042 _____	1E51 MOV-048 _____

3.1.6 RWCU Isolation Valves

1G33*MOV-031 _____	1G33*MOV-041 _____
1G33*MOV-032 _____	

3.2 Inject water into the RPV with all of the following. _____

3.2.1 Core spray per SP 23.204.01 Core Spray System. _____

3.2.2 Condensate booster pumps per SP 23.103.01 Condensate. _____

3.2.3 LPCI per SP 23.204.01 Low Pressure Coolant Injection. _____

3.2.4 Condensate pumps per SP 23.103.01 Condensate. _____

3.2.5 CRD per SP 23.106.01 Control Rod Drive. _____

3.3 If RPV water level is increasing, then continue in this procedure at Step 3.7. _____

3.4 When RPV pressure is stable, cycle one SRV closed for about 3 minutes and then open to determine the single SRV pressure rise. _____

3.5 If the single SRV pressure rise exceeds the minimum single SRV pressure rise, Fig. 1, continue in this procedure at paragraph 3.7. If the single SRV pressure rise is less than the minimum single SRV pressure rise, per form Step 3.6. _____

3.6 Inject water into the RPV with all of the following.

3.6.1 Service water/recirc loop ultimate cooling water crosstie valves 1P41-MOV-033A, MOV-033B, MOV-033C and MOV-033D. _____

3.6.2 ECCS connections from the condensate transfer system. _____

3.6.3 SLC (test tank) and SLC (boron tank) per SP 23.123.01. _____

3.7 If suppression chamber pressure cannot be maintained below the primary containment pressure limit, Fig. 2, initiate the following systems irrespective of whether adequate core cooling is assured:

3.7.1 Drywell sprays _____

3.7.2 Suppression pool sprays only when suppression pool water level is below (later) _____

CAUTION

Defeating isolation interlocks may be required to accomplish this step.

- 3.8 If suppression chamber pressure exceeds the primary containment pressure limit, vent the primary containment in accordance with (later) to reduce pressure below the primary containment pressure limit.
- 3.9 Fill all RPV level instrumentation reference columns.
- 3.10 Continue injection until temperature near the cold reference leg vertical runs is below 212°F and RPV water level instrumentation is available.
- 3.11 If it can be determined that the RPV is filled, continue in this procedure at step 3.14.
- NOTE: Several methods of determining if the RPV is filled are provided, however, these may not be the only means.
- 3.11.1 RPV water level indication
- 3.11.2 Starting and stopping a condensate booster pump and determining that the pressure in the vessel goes to the shutoff head of the booster pump.
- 3.11.3 If no external source is being injected a stable RPV pressure coincident with a stable suppression pool level may indicate the RPV filled.
- 3.11.4 A rapid increase in suppression pool temperature may indicate the RPV filled.
- 3.11.5 The open SRV's tailpipe temperature increasing to and equalizing with RPV temperature may indicate the RPV filled.
- 3.12 If the level is still unknown, cycle one SRV closed for above three minutes and back open to determine the RPV pressure rise (referred to as single SRV pressure rise). If the RPV pressure indicates the vessel is filled, proceed to step 3.14.
- 3.13 If the single SRV pressure rise is less than the minimum single SRV pressure rise, return to paragraph 3.11.

CAUTION

Refer to Figure 3 for maximum acceptance core uncover time prior to performance of step 3.14.

- 3.14 Terminate all injection into the RPV and reduce RPV water level. _____
- 3.15 If RPV water level indication is not restored within the maximum acceptable core uncover time as determined by Figure 3, return to paragraph 3.2. _____
- 3.16 If RPV water level indication is restored within the maximum acceptable core uncover time as determined in paragraph 3.15, proceed to SP 29.023.01 (level control) at paragraph 3.3. _____

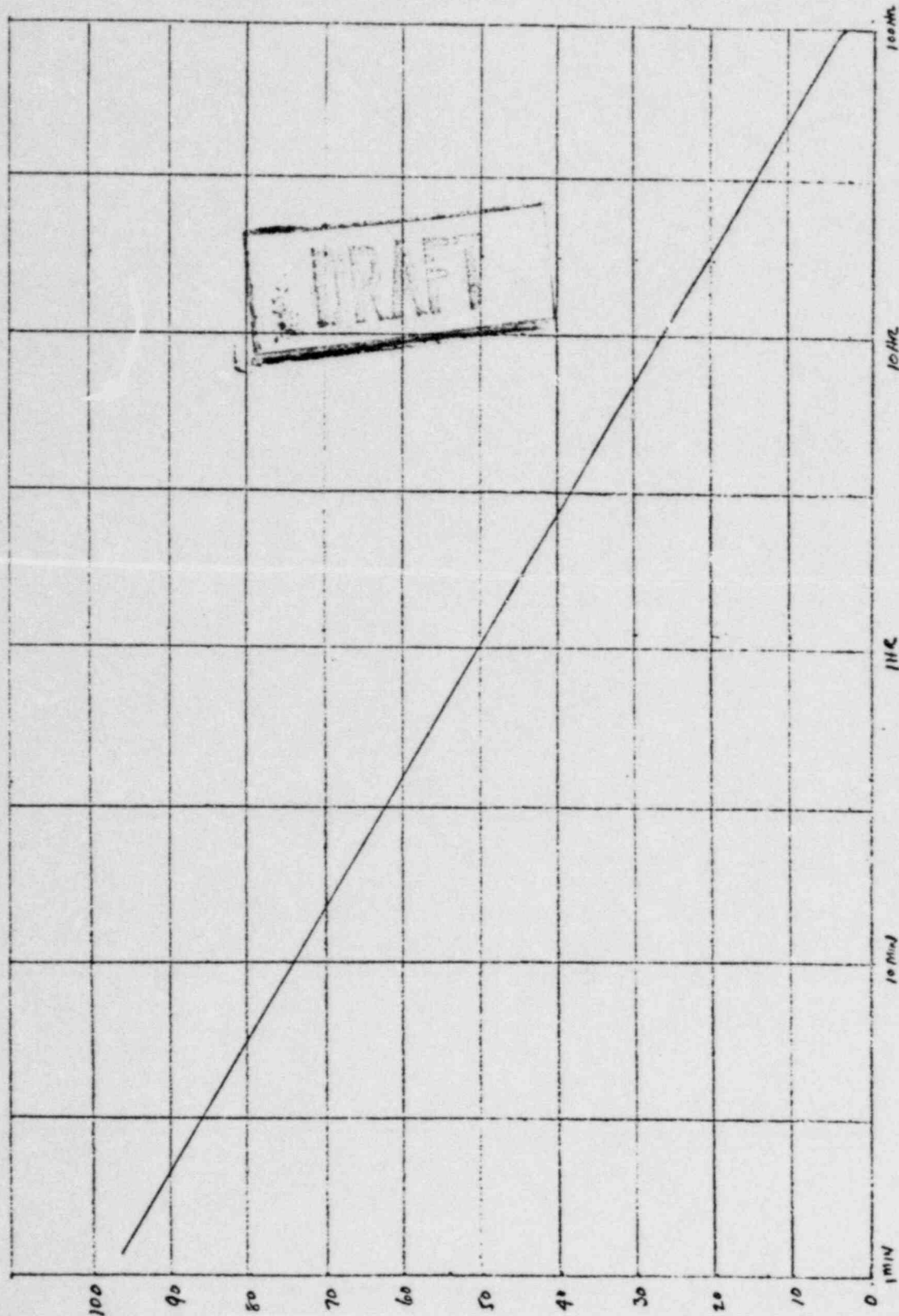


FIG 1

TIME AFTER REACTOR SHUTDOWN

MINIMUM SINGLE SRV PRESSURE RISE

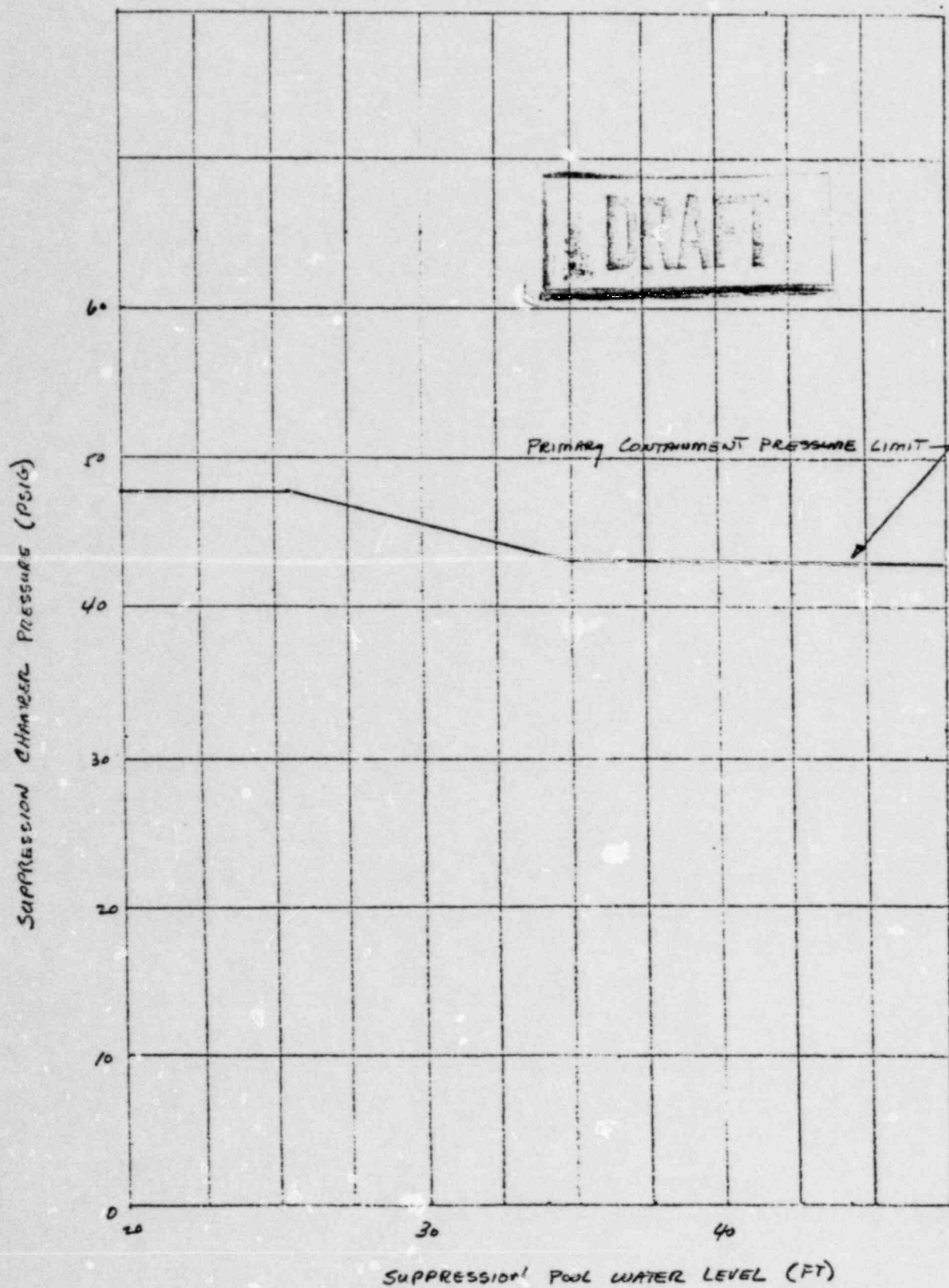


FIG 2

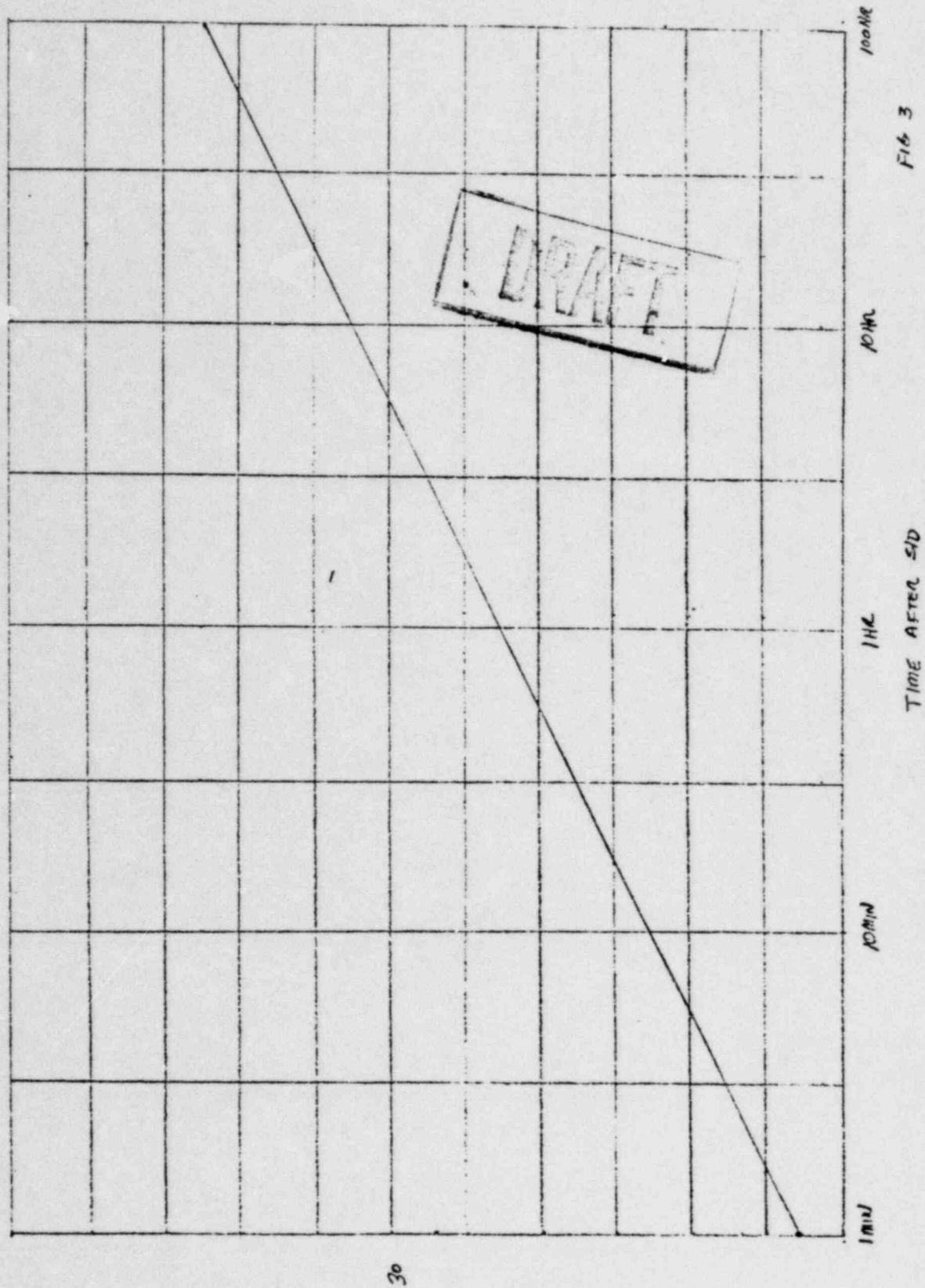


Fig 3

Maximum Allowable Core Uncovery Time (min)