

Submitted: \_\_\_\_\_

SP Number 29.023.03

Approved: \_\_\_\_\_

Revision F

(Plant Manager)

Effective Date \_\_\_\_\_

CONTAINMENT CONTROL EMERGENCY PROCEDURE



1.0 PURPOSE

The purpose of this procedure is to control primary containment temperatures, pressure and level.

2.0 ENTRY CONDITIONS

Enter the paragraphs of this procedure as required by the entry condition. The paragraphs can and should be performed concurrently with each other as the entry conditions dictate and concurrently with the procedure from which it was entered.

The entry conditions for this procedure are any of the following:

		Paragraph
2.1	Suppression Pool Temperature	Above 90°F 3.1
2.2	Drywell Temperature	Above 135°F 3.2
2.3	Drywell Pressure	Above 1.69 psig 3.3
2.4	Suppression Pool Level	Above 26'8" 3.4
2.5	Suppression Pool Level	Below 26'0" 3.4

*Rec'd #59  
JAN  
11/20*

3.1 MONITOR and CONTROL suppression pool temperature by performing the following:

3.1.1 Attempt to close any open SRV which is not required to be open by placing the valve switch to the open

3.1.1 Ref to SP 23.116.01  
(Main and Auxiliary Steam)

AND

close position two times.

3.1.2 IF the open SRV is stuck open,

3.1.2 Ref SP 29.010.01  
(Emergency Shutdown)

THEN scram the reactor

CAUTION

If continuous LPCI is required to assure core cooling, do not divert RHR pumps from the LPCI mode.

3.1.3 IF suppression pool temperature exceeds 90°F,

3.1.3 Ref SP 23.121.01  
(Residual Heat Removal (RHR) System)

THEN operate available suppression pool cooling

3.1.4 IF suppression pool temperature reaches 110°F,

3.1.4 Ref SP 29.010.01  
(Emergency Shutdown)

THEN scram the reactor

CAUTION

Cooldown rates above 100°F/hr may be required to accomplish steps 3.1.5 and 3.1.6.

CAUTION

Do not depressurize the RPV below 110 psig unless motor driven pumps sufficient to maintain RPV water level are running and the systems are available for injection.

CAUTION

NPSH requirements for pumps taking a suction from the suppression pool requires a minimum level of 14 feet.

-----  
3.1.5 IF suppression pool temperature cannot be maintained below the heat capacity limit of Figure 1

THEN maintain RPV pressure below the heat capacity temperature limit of Figure 1.

-----  
3.1.6 IF suppression pool temperature

AND

RPV pressure cannot be restored

OR

maintained below the heat capacity temperature limit (Fig 1)

THEN proceed to SP 29.023.05 (Rapid RPV Depressurization).

3.2 MONITOR and CONTROL drywell temperature  
by performing the following:

Dry Well Temp. >135°F

3.2.1 IF drywell temperature  
exceeds 135°F,

THEN operate all avail-  
able drywell cooling.

CAUTION

If continuous LPCI operation is required to assure adequate core cooling, do not divert RHR pumps from the LPCI mode.

3.2.2 IF drywell temperature  
approaches 296°F,

THEN shutdown the  
Reactor Recirculation  
Pumps

AND

Drywell Fans

AND

Initiate drywell sprays

CAUTION

Do not depressurize the RPV below 110 psig unless motor driven pumps sufficient to maintain RPV water level are running and the systems are available for injection.

CAUTION

Cooldown rates above 100°F/hr may be required to accomplish step 3.2.3.

3.2.3 IF drywell temperature reaches the RPV saturation limit (Fig 2)

OR

cannot be maintained below 296°F,

THEN proceed to  
SP 29.023.05  
(Rapid RPV Depressurization)

3.2.3 NOTE  
Drywell cold reference leg temperature instruments are (later)

3.3 MONITOR and CONTROL primary containment pressure with the following systems as required:

CAUTION

ELEVATED SUPPRESSION CHAMBER PRESSURE MAY TRIP THE RCIC TURBINE ON HIGH EXHAUST PRESSURE, 25 psig

- |  |   |
|--|---|
| <p>3.3.1 Operate the post loca hydrogen recombination system</p>   | <p>3.3.1 Refer to SP 23.402.01 (Primary Containment Post Loca Hydrogen Recombination)</p> |
| <p>3.3.2 Operate the MSIV Leakage Control System if necessary</p>  | <p>3.3.2 Refer to SP 23.406.01 (MSIV Leakage Control System)</p>                          |
| <p>3.3.3 Sample and analyze primary containment atmosphere to ensure environmental release limits are met.</p> |   |
| <p>3.3.4 <u>IF</u> dry well temperature is below 212°F</p>   | <p>3.3.4 Refer to SP (later) (later)</p>  |

AND

Release limits are met

THEN vent the primary containment

CAUTION

If continuous LPCI operation is required to assure adequate core cooling, do not divert RHR pumps from the LPCI mode.

3.3.5 INITIATE suppression  
pool sprays

BEFORE

the suppression chamber  
pressure reaches the  
suppression pool spray  
limit (Fig 3)

3.3.6 IF suppression chamber  
pressure reaches the  
pressure suppression  
limit (Fig 4)

THEN SHUTDOWN the Reactor  
Recirculation pumps

AND

The drywell fans

AND

Initiate drywell sprays as  
necessary to maintain  
suppression chamber  
pressure below the pressure  
suppression limit.

3.3.7 IF suppression chamber  
pressure cannot be  
maintained below the  
pressure suppression  
limit (Fig 4),

THEN proceed to  
SP 29.023.01  
(Rapid RPV Depressurization)



3.4 MONITOR and CONTROL suppression pool  
water level

CAUTION

NPSH requirements for pumps taking a suction from the  
Suppression Pool require a minimum level of 14 feet.

3.4.1 Maintain suppression  
pool water level between  
26'0" and 26'8"

3.4.2 IF suppression pool  
water level is BELOW  
26'0"

3.4.2 Refer to SP (later)  
(Later)

THEN initiate suppression  
pool makeup

CAUTION

Do not depressurize the RPV below 110 psig unless motor driven  
pumps sufficient to maintain RPV water level are running and  
the systems are available for injection.

CAUTION

Cooldown rates above 100°F/hr may be required to accomplish  
steps 3.4.3, 3.4.8, and 3.4.9.

3.4.3 IF suppression pool  
level cannot be  
maintained above the  
heat capacity level  
limit (Fig 5)

THEN proceed to  
SP 29.023.05  
(Rapid RPV Depressurization)



3.4.4 IF signals of high suppression  
pool water level (26'11")

OR

Low condensate storage tank  
water level (3'4") occur,

THEN confirm automatic transfer  
of/or manually transfer HPCI  
and RCIC suction from the  
condensate tank to the  
suppression pool.

3.4.5 IF the suppression pool  
water level is above 26'8"

AND

adequate core cooling  
is assured,

THEN terminate  
injection into the  
reactor vessel from  
sources external  
to the primary  
containment.

3.4.6 Sample and analyze  
suppression pool water  
to ensure suppression  
pool discharge limits  
are met.

3.4.7 IF suppression pool  
water level is above  
26'8"

3.4.7 Refer to SP 23.708.01  
(Fuel Pool Cleanup)

AND

discharge limits are  
met

THEN lower suppression  
pool level.

3.4.8 IF suppression pool  
water level cannot be  
maintained below the  
suppression pool load  
limit,  
  
THEN maintain RPV  
pressure below the load  
limit of Figure 6.

3.4.9 IF suppression pool  
water level

AND

RPV pressure cannot be  
restored

OR

maintained below the  
suppression pool load  
limit,

THEN proceed to  
SP 29.023.05  
(Rapid Depressurization)

3.4.10 IF primary containment  
water level reaches  
(later) feet,

THEN terminate injection  
into the RPV from sources  
external to the primary  
containment irrespective  
of whether adequate  
core cooling is assured.

#### 4.0 REFERENCES

- 4.1 SP 23.116.01 Main Auxiliary Steam
- 4.2 SP 23.121.01 Residual Heat Removal (RHR) System
- 4.3 SP 29.010.01 Emergency Shutdown
- 4.4 SP 29.023.05 Rapid RPV Depressurization
- 4.5 SP 23.402.01 Primary Containment Post LOCA Hydrogen Recombination

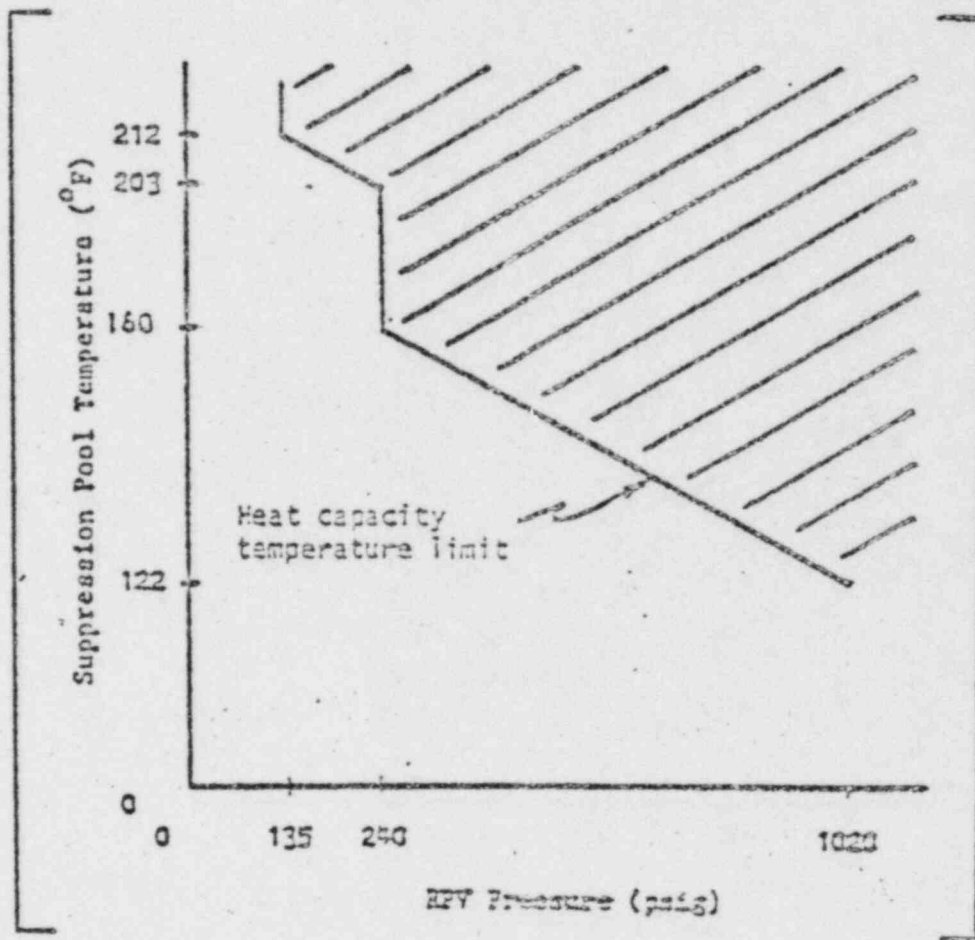


FIG 1

SAMPLE:

FIG. WILL BE AVAILABLE WHEN THE CALCULATIONS  
ARE COMPLETE.

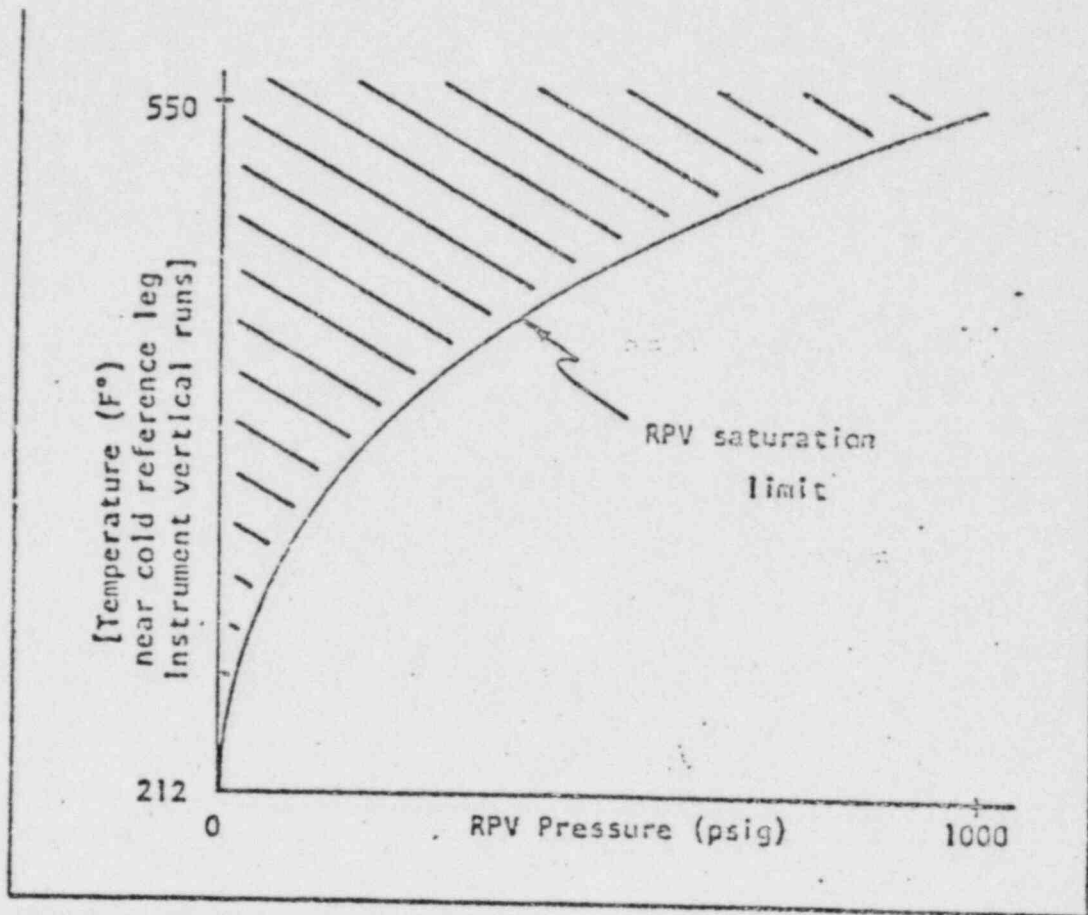


FIG 2

*SAMPLE*

FIG. WILL BE AVAILABLE WHEN THE CALCULATIONS ARE COMPLETE.

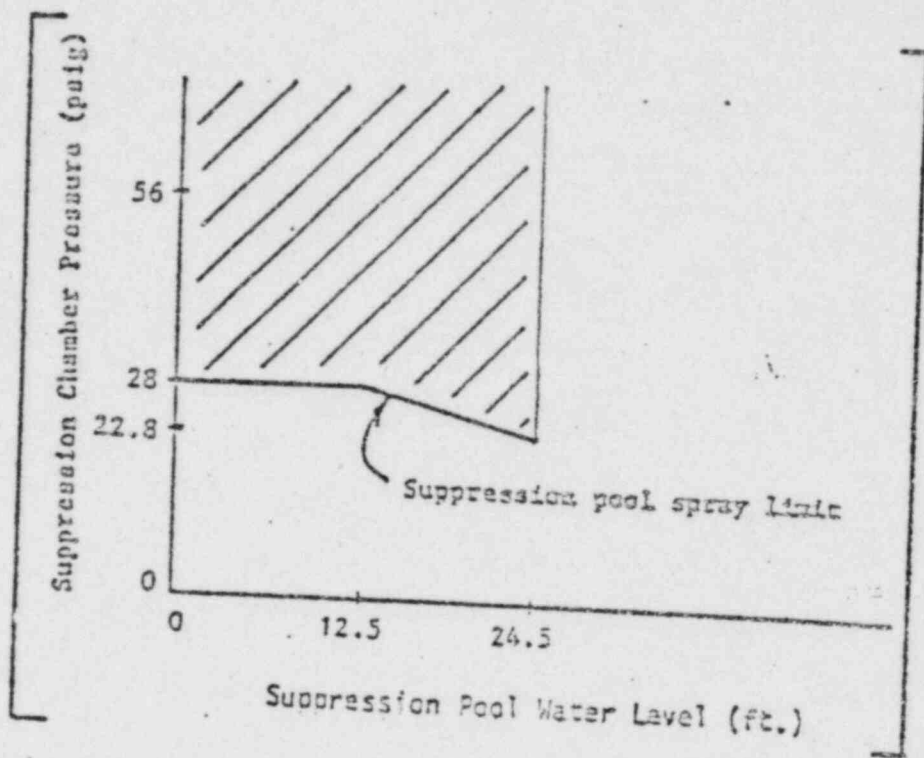


FIG 3

SAMPLE!

FIG WILL BE AVAILABLE WHEN THE CALCULATIONS  
ARE COMPLETE

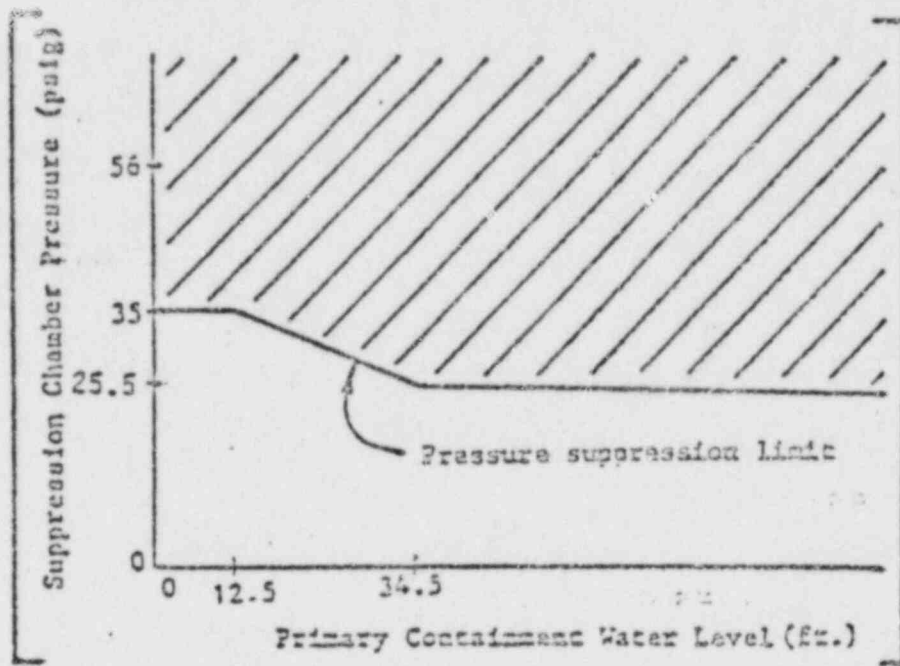


FIG 4.

SAMPLE.

FIG WILL BE AVAILABLE WHEN THE CALCULATIONS ARE COMPLETE.

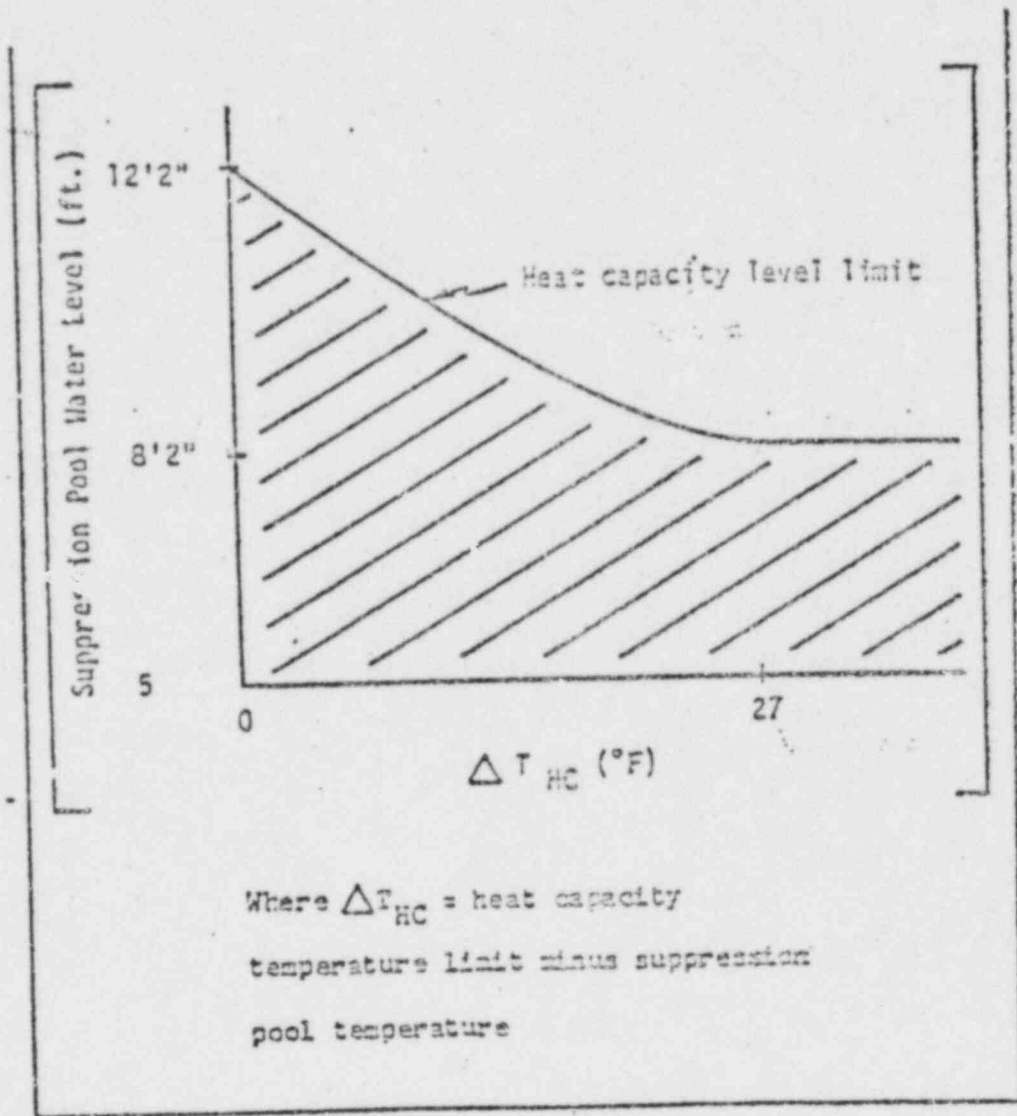


FIG 5

SAMPLE

FIG. WILL BE AVAILABLE WHEN THE CALCULATIONS  
 ARE COMPLETE



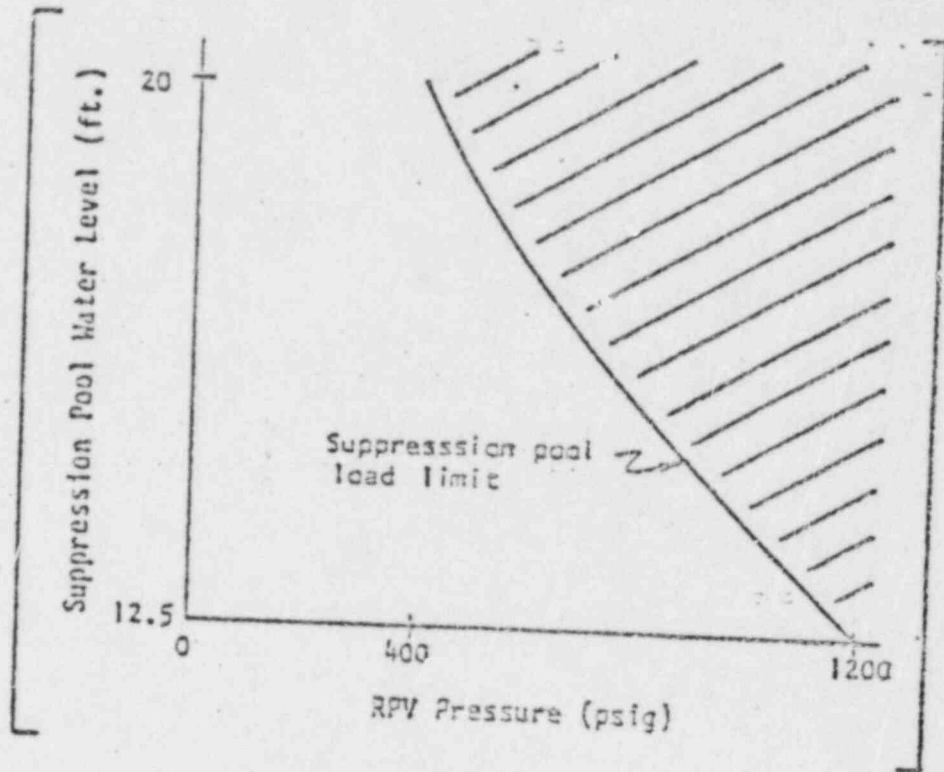


FIG 6

SAMPLE

FIG WILL BE AVAILABLE WHEN THE CALCULATIONS  
ARE COMPLETE.