TABLE 3.2.F - SURVEILLANCE INSTRUMENTATION

Minimum No. of Operable Instrument Channels	Instrument	Type Indication and Range	Action***
2	Reactor Water Level	Recorder 0-60" Indicator 0-60"	(6) (7)
2	Reactor Pressure	Recorder 0-1500 psig Indicator 0-1200 psig	(1) (2) (3)
2	Drywell Pressure	Recorder 0-70 psig	(1) (2) (3)
3	Drywell Temperature	Recorder 0-400°F Indicator 0-400°F	(1) (2) (3)
2	Suppression Chamber Water Temperature*	Recorder 30-230°F Indicator 30-230°F	(1) (2) (3) (9)
2	Suppression Chamber Water Temperature**	Recorder 0-600°F Indicator 0-400°F	(1) (2) (3)
2	Suppression Chamber Water Level	Recorder 0-2 ft. Indicator 0-2 ft.	(1) (5)
1	Control Rod Position	28 Volt Indicating Lights	(1) (2) (3) (4)
1	Neutron Monitoring	SRM, IRM, LPRM 0-100%	
1	Safety-Relief Valve Position Indication	Acoustic or thermocouple	(8)

* Effective when modification associated with this amendment request is complete.
** Delete when modification associated with this amendment request is complete.
*** Notes for Table 3.2.F appear on page 78.

NOTES FOR TABLE 3.2.F

1) From and after the date that one of these parameters is reduced to one indication, continued operation is permissible during the succeeding thirty days unless such instrumentation is sooner made operable.

2) From and after the date that one of these parameters is not indicated in the control room, continued operation is permissible during the succeeding seven days unless such instrumentation is sooner made operable.

3) If the requirements of notes (1) and (2) cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold condition within 24 hours.

4) These surveillance instruments are considered to be redundant to each other.

5) In the event that all indications of this parameter are disabled and such indication cannot be restored in six (6) hours, an orderly shutdown shall be initiated and the reactor shall be in a Hot Shutdown condition in six (6) hours and a Cold Shutdown condition in the following eighteen (18) hours.

6) With the number of operable channels less than the minimum number of instrumentation channels shown in Table 3.2.F, either restore the inoperable channel to an operable status within 7 days, or be in at least hot shutdown within the next 12 hours.

7) If this parameter is not indicated in the control room, either restore at least one inoperable channel to operable status within 48 hours or be in at least hot shutdown within the next 12 hours.

8) If this parameter is not indicated in the control room, either restore at least one channel to operable status within thirty days or be in at least hot shutdown within the next 12 hours.

9) A suppression Chamber Water Temperature instrument channel will be considered operable if there are at least ten (10) resistance temperature detector inputs operable and no two (2)adjacent resistance temperature detector inputs are inoperable.

TABLE 4.2.F

MINIMUM TEST AND CALIBRATION FREQUENCY FOR SURVEILLANCE INSTRUMENTATION

Instrument Channel	Calibration Frequency	Instrument Check
1) Reactor Level	Once/Operating cycle	Once Each Shift
2) Reactor Pressure	Once/6 months	Once Each Shift
3) Drywell Pressure	Once/6 months	Once Each Shift
4) Drywell Temperature	Once/6 months	Once Each Shift
5) Suppression Chamber Water Temperature	Once/operating cycle** Once/6 months***	Once Each Day** Once Each Shift***
6) Suppression Chamber Water Level	Once/6 months	Once Each Shift
7) Control Rod Position	NA	Once Each Shift
8) Neutron Monitoring (APRM)	Twice Per Week	Once Each Shift
9) Safety/Relief Valve Position Indicator (acoustics)	Once/Operating cycle	Once/Month
10) Safety/Relief Valve Position Indicator (thermocouple)	NA*	Once/month
11) Safety Valve Position Indicator (Acoustics)	Once/operating cycle	Once/month
12) Safety Valve Position Indicator (thermocouple)	NA*	Once/month

* Perform instrument functional check once per operating cycle
** Effective when modification associated with this amendment request is complete.
***Delete when modification associated with this amendment request is complete.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS

3.7 CONTAINMENT SYSTEMS

Applicability:

Applies to the operating status of the primary and secondary containment systems.

Objective:

To assure the integrity of the primary and secondary containment system.

Specification:

A. Primary Containment

1. Whenever the nuclear system is pressurized above atmospheric pressure or work is being done which has the potential to drain the vessel, the pressure suppression pool water volume and temperature shall be maintained within the following limits except as specified by 3.7.A.2, or when inoperability of the core spray systems, the LPCI and containment cooling subsystems is permissible as provided for in 3.5.F.3 and 3.5.F.4.b.

   a. Minimum water volume- 122,900 ft^3

   b. Maximum water volume- 127,300 ft^3

4.7 CONTAINMENT SYSTEMS

Applicability

Applies to the primary and secondary containment integrity.

Objective:

To verify the integrity of the primary and secondary containment.

Specification:

1. The suppression chamber water level and temperature shall be checked once per day.

2. Whenever there is indication of relief valve operation (except when the reactor is being shutdown and torus cooling is being established) or testing which adds heat to the suppression pool, the pool temperature shall be continually monitored and also observed and logged every 5 minutes until the heat addition is terminated.

3. Whenever there is indication of relief valve operation with the local suppression pool temperature reaching 200°F or more, an external visual examination of the suppression chamber shall be conducted before resuming power operation.

4. A visual inspection of the suppression chamber interior, including water line regions shall be made at each major refueling outage.

LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS

3.7.A Primary Containment (Cont'd)

c. Maximum average suppression pool temperature limits:

(1) During startup/hot standby and run modes, with the suppression pool temperature greater than 95°F, except as permitted below, restore the temperature to less than 95°F within 24 hours or be in hot shutdown within the next 12 hours and cold shutdown within the following 24 hours.

(2) During testing which adds heat to the suppression pool, the pool temperature shall not exceed 105°F. Should the pool temperature exceed 105°F, such testing shall be stopped and the pool temperature must be reduced to below the limit specified in (1) above within 24 hours or be in hot shutdown within the next 12 hours and cold shutdown within the following 24 hours.

(3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the limit specified in (1) above.

(4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 200 psig at normal cooldown rates if the pool temperature reaches 120°F.

3.7.A & 4.7.A BASES (Cont'd)

The maximum allowable volume assures the integrity and functional capability of the Suppression Chamber (torus) during postulated LOCA pool swell effects on the torus support system. The majority of the Bodega tests were run with a submerged length of 4 feet and with complete condensation. Thus, with respect to downcomer submergence, this specification is adequate. The maximum temperature at the end of blowdown tested during the Humboldt Bay and Bodega Bay tests was 170 F and this is conservatively taken to be the limit for complete condensation of the reactor coolant, although condensation would occur for temperatures above 170 F.

Should it be necessary to drain the suppression chamber, this should only be done when there is no requirement for core standby cooling systems operability as explained in basis 3.5.F.

Experimental data indicates that excessive steam condensing loads can be avoided if the peak temperature of the suppression pool water at the quencher discharge is maintained below 200 F during any period of relief valve operation discharging through tee quenchers.

Because of the large volume and thermal capacity of the suppression pool, the volume and temperature changes very slowly and monitoring these parameters daily is sufficient to establish any temperature trends. By requiring the suppression pool temperature to be continually monitored and frequently logged during periods of testing which add significant heat, the temperature trends will be closely followed so that appropriate action can be taken if required. Logging is not required during inadvertent relief valve operation since during such periods operator action is actively and directly involved in operations relating to controlling torus temperature and monitoring of temperature trends is a natural part of the operations. Additionally, torus temperature is monitored by a recorder during these periods so that an historical record is available.

Operating procedures define the action to be taken in the event a relief valve inadvertently opens or sticks open. As a minimum this action shall include: (1) use of all available means to close the valve, (2) initiate suppression pool water cooling heat exchangers, (3) initiate reactor shutdown, and (4) if other relief valves are used to depressurize the reactor, their discharge shall be separated from that of the stuck-open relief valve to assure mixing and uniformity of energy insertion to the pool.

The requirement for an external visual examination following any event where potentially high loadings could occur provides assurance that no significant damage was encountered. Particular attention should be focused on structural discontinuities in the vicinity of the relief valve discharge since these are expected to be the points of highest stress.