LIMITING CONDITION FOR OPERATION

c. If Specifications a and b above are not met within 24 hours, the reactor shall be shut down using normal shutdown procedures.

d. During testing of relief valves which add heat to the torus pool, bulk pool temperature shall not exceed 10F above normal power operation limit specified in b above. In connection with such testing, the pool temperature must be reduced within 24 hours to below the normal power operation limit specified in b above.

e. The reactor shall be scrammed from any operating condition when the suppression pool bulk temperature reaches 110F. Operation shall not be resumed until the pool temperature is reduced to below the normal power operation limit specified in b above.

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

SURVEILLANCE REQUIREMENT

c. Whenever heat from relief valve operation is being added 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.

d. Whenever operation of a relief valve is indicated and the bulk suppression pool temperature reaches 160F or above while the reactor primary coolant system pressure is greater than 200 psig, an external visual examination of the suppression chamber shall be made before resuming normal power operation.

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

BASES FOR 3.3.2 AND 4.3.2 PRESSURE SUPPRESSION SYSTEM PRESSURE AND SUPPRESSION CHAMBER WATER TEMPERATURE AND LEVEL

The combination of three and one-half foot downcomer submergence, 85F suppression chamber water temperature at lake water temperature defined by specification 3.3.7/4.3.7 will maintain post-accident system temperature and pressure within FSAR design limits (FSAR Section VI, XV, XVI).

The three and one-half foot minimum and the four and one-quarter foot maximum submergence are a result of Suppression Chamber Heat-up Analysis and the Mark I Containment Program respectively. The minimum submergence provides sufficient water to meet the Suppression Chamber Heat-up Analysis post LOCA and the maximum submergence limits the torus levels to be consistent with the Mark I Plant Unique Analysis.

The 215F limit for the reactor is specified, since below this temperature the containment can tolerate a blowdown without exceeding the 35 psig design pressure of the suppression chamber without condensation.

Actually, for reactor temperatures up to 312F the containment can tolerate a blowdown without exceeding the 35 psig design pressure of the suppression chamber, without condensation.

Some experimental data suggests that excessive steam condensing loads might be encountered if the bulk temperature of the suppression pool exceeds 160F during any period of relief valve operation with sonic conditions at the discharge exit. This can result in local pool temperatures in the vicinity of the quencher of 200F. Specifications have been placed on the envelope of reactor operating conditions so that the reactor can be depressurized in a timely manner to avoid the regime of potentially high suppression chamber loadings.

In addition to the limits on temperature of the suppression chamber pool water, operating procedures define the action to be taken in the event of a relief valve inadvertently opens or sticks open. As a minimum, this action would 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.

Because of the large volume and thermal capacity of the suppression pool, the volume and temperature normally 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 significant heat addition, the temperature trends will be closely followed so that appropriate action can be taken. The requirement for an external visual examination following any event where potentially high loadings