3.5 LIMITING CONDITION FOR OPERATION	4.5 SURVEILLANCE REQUIREMENT
3. From and after the date that the Alternate Cooling Tower System is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days, unless the Alternate Cooling Tower System is made operable, provided that during such seven days all active components of the Station Service Water System and both essential equipment cooling loops are operable.	3. When the Alternate Cooling Tower System is made or found to be inoperable, all active components of the Station Service Water System and both essential equipment cooling loops shall have been or shall be demonstrated to be operable within 24 hours.
4. If the requirements of Specification 3.5.D cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.	
E. High Pressure Cooling Injection (HPCI) System	E. High Pressure Coolant Injection (HPCI) System
1. Except as specified in Specification 3.5.E.2, whenever irradiated fuel is in the reactor vessel and reactor pressure is greater than 150 psig and prior to reactor startup from a cold condition:	Surveillance of HPCI System shall be performed as follows:
a. The HPCI System shall be operable.	1. Testing
b. The condensate storage tank shall contain at least 75,000 gallons of condensate water.	Item: Simulated Automatic Actuation Test — Frequency: Each refueling outage
	Operability testing of the pump and valves shall be in accordance with Specification 4.6.E. The HPCI System shall deliver at least 4250 gpm at normal reactor operating pressure when recirculating to the Condensate Storage Tank.

BASES: 3.5 (Cont'd)

D. Station Service Water and Alternate Cooling Tower Systems

The Station Service Water System consists of pumps, valves and associated piping necessary to supply water to two essential equipment cooling loops and additional essential and nonessential equipment cooling loads. Each of the two Station Service Water essential equipment cooling loops includes valves, piping and associated instrumentation necessary to provide a flowpath to essential equipment. The Station Service Water essential equipment cooling loops provide redundant heat sinks to dissipate residual heat after a shutdown or accident. Each Station Service Water essential equipment cooling loop provides sufficient heat sink capacity to perform the required heat dissipation. Analyses have shown that any two service water pumps are capable of providing adequate cooling capability to the essential equipment cooling loops. To ensure this capability, four Service Water pumps and two Service Water essential equipment cooling loops must be operable. This ensures that at least two operable Service Water Pumps and one operable essential equipment cooling loop will be available in the event of the worst single active failure occurring coincident with a loss of off-site power. A Service Water pump is considered operable when it is capable of taking suction from an intake bay and transferring water to a Service Water essential equipment cooling loop at the specified pressures and flow rates. An essential equipment cooling loop is considered operable when it has a flow path capable of transferring water to the essential equipment, when required. The Alternate Cooling Tower System will provide the necessary heat sink for normal post-shutdown conditions in the event that the Station Service Water System becomes incapacitated due to a loss of the Vernon Dam with subsequent loss of the Vernon Pond, flooding of the Service Water intake structure (due to probable maximum flood in the river or an upstream dam failure) or fire in the Service Water intake structure which disables all four Service Water pumps.

If one or more Station Service Water component(s) are inoperable such that the Station Service Water System would not be capable of performing its safety function, assuming a single active failure (e.g., a pump, valve or diesel generator), then at least one essential equipment cooling loop is inoperable. If one or more component (s) are inoperable such that the Station Service Water System would not be capable of performing its safety function, even without assuming a single active failure, then both essential equipment cooling loops are inoperable.

Although the Station Service Water (SSW) System can perform its safety function with only two operable SSW pumps, the SSW System may not be capable of performing its safety function assuming one or two inoperable SSW pumps and assuming a worst case single active failure (e.g., failure of a diesel generator, SSW pump, SSW valve, etc.). Therefore, reactor operation with one or two inoperable SSW pumps is limited to 15 days provided that during this time both the normal and emergency power supplies for the remaining operable SSW pumps are also operable, in addition to demonstrating the operability of all remaining active components of the SSW system which perform a safety function and the alternate cooling tower fan.

If the SSW System would not be capable of performing its safety function for a reason other than one or two SSW pumps being inoperable, assuming a worst case single active failure (e.g., failure of a diesel generator,

BASES: 3.5 (Cont'd)

SSW pump, SSW valve, etc.), then reactor operation is limited to 15 days provided that during this time both the normal and emergency power supplies for the remaining operable equipment are also operable, in addition to demonstrating the operability of all remaining active components of the SSW system which perform a safety function and the alternate cooling tower fan.

If the SSW System would not be capable of performing its safety function for any reason, even without assuming a worst case single active failure, then the reactor must be placed in the cold shutdown condition within 24 hours.

E. High Pressure Coolant Injection System

The High Pressure Coolant Injection System (HPCIs) is provided to adequately cool the core for all pipe breaks smaller than those for which the LPCI or Core Spray Cooling Subsystems can protect the core.

The HPCIs meets this requirement without the use of outside power. For the pipe breaks for which the HPCIs is intended to function the core never uncovers and is continuously cooled; thus, no clad damage occurs and clad temperatures remain near normal throughout the transient. Reference: Subsection 6.5.2.2 of the FSAR.

F. Automatic Depressurization System

The relief valves of the Automatic Depressurization System are a backup to the HPCIs. They enable the Core Spray Cooling System or LPCI Subsystem to provide protection against the small pipe break in the event of HPCI failure by depressurizing the reactor vessel rapidly enough to actuate the Core Sprays or LPCI Subsystem. Either of the two Core Spray Cooling Systems or LPCIs provides sufficient flow of coolant to prevent clad melting. All four relief valves are included in the Automatic Pressure Relief System. (See VYNPS, FSAR Vol. 4, Appendix B.)

G. Reactor Core Isolation Cooling System

The Reactor Core Isolation Cooling System (RCIC) is provided to maintain the water inventory of the reactor vessel in the event of a main steam line isolation and complete loss of outside power without the use of the emergency core cooling systems. The RCIC meets this requirement. Reference Section 14.5.4.4 FSAR. The HPCIS provides an incidental backup to the RCIC system such that in the event the RCIC should be inoperable no loss of function would occur if the HPCIS is operable.

H. Minimum Core and Containment Cooling System Availability

The core cooling and the containment cooling subsystems provide a method of transferring the residual heat following a shutdown or accident to a heat sink. Based on analyses, this specification assures that adequate cooling capacity is available by precluding any combination of inoperable components from fulfilling the core and containment cooling function. It is permissible, based upon the low heat load and other methods available to remove the residual heat, to disable all core and containment cooling systems for maintenance if the reactor is cold and shutdown and there is no potential for draining the reactor vessel. However, if refueling operations are in progress, one coolant injection system, one diesel and a residual of at least 300,000 gallons is required to assure core flooding capability.