

TABLE 1.1
OPERATIONAL MODES

<u>MODE</u>	<u>REACTIVITY CONDITION, K_{eff}</u>	<u>%RATED THERMAL POWER*</u>	<u>AVERAGE COOLANT TEMPERATURE</u>
1. POWER OPERATION	≥ 0.99	$> 5\%$	$\geq 280^\circ\text{F}$
2. STARTUP	≥ 0.99	$\leq 5\%$	$\geq 280^\circ\text{F}$
3. HOT STANDBY	< 0.99	0	$\geq 280^\circ\text{F}$
4. HOT SHUTDOWN	< 0.99	0	$280^\circ\text{F} > T_{avg} > 200^\circ\text{F}$
5. COLD SHUTDOWN	< 0.99	0	$\leq 200^\circ\text{F}$
6. REFUELING**	≤ 0.95	0	$\leq 140^\circ\text{F}$

* Excluding decay heat.

** Reactor vessel head unbolted or removed and fuel in the vessel.

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3/4.9 REFUELING OPERATIONSBORON CONCENTRATIONLIMITING CONDITION FOR OPERATION

3.9.1 ~~With the reactor vessel head unbolted or removed,~~ The boron concentration of all filled portions of the Reactor Coolant System and the refueling canal shall be maintained uniform and sufficient to ensure that the more restrictive of the following reactivity conditions is met:

- a. Either a K_{eff} of 0.95 or less, which includes a 1% $\Delta k/k$ conservative allowance for uncertainties, or
- b. A boron concentration of ≥ 1800 ppm, which includes a 50 ppm conservative allowance for uncertainties.

APPLICABILITY: MODE 6/.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes and initiate and continue boration at ≥ 10 gpm of 8750 ppm boric acid solution or its equivalent until K_{eff} is reduced to < 0.95 or the boron concentration is restored to ≥ 1800 ppm, whichever is the more restrictive. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.1.1 The more restrictive of the above two reactivity conditions shall be determined prior to:

- a. Removing or unbolting the reactor vessel head, and
- b. Withdrawal of any safety or regulating rod in excess of 3 feet from its fully inserted position within the reactor pressure vessel.

4.9.1.2 The boron concentration of the reactor pressure vessel and the refueling canal shall be determined by chemical analysis at least once each 72 hours.

~~*The reactor shall be maintained in MODE 6 when the reactor vessel head is unbolted or removed.~~

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3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volumes having direct access to the reactor vessel. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the accident analysis.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT PENETRATIONS

The requirements on containment penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure requirements are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity condition during CORE ALTERATIONS.