

REACTOR COOLANT SYSTEM

BASES

3/4.4.13 POWER OPERATED RELIEF VALVES and 3/4.4.14 REACTOR COOLANT PUMP - STARTING

The low temperature reactor coolant system overpressure mitigating system is provided to prevent RCS overpressurization above the 10 CFR 50, Appendix G, operating limit curves (Figure 3.4-2b or 3.4-2c, as applicable) at RCS temperatures below 275°F. The RCS overpressurization system is based on the use of the pressurizer power operated relief valves (I-V-1402 and I-V-1404) for the design basis mass injection transient, and the formation of a 60% pressurizer bubble by volume for the design basis energy addition transient. For the case when no pressurizer steam bubble is formed, protection against the design basis energy addition transient is derived by limiting the secondary-to-primary temperature differential below 50°F. The operability of the RCS overpressurization protection system will only be required during periods of heatup and cooldown below RCS temperatures below 275°F and periods of cold shutdown when the RCS has pressure boundary integrity.

3/4.4.15 REACTOR COOLANT SYSTEM VENTS

Reactor Coolant System vents are provided to exhaust noncondensable gases, and/or steam from the primary system that could inhibit natural circulation core cooling. The OPERABILITY of at least one Reactor Coolant System vent path from the reactor vessel head and the pressurizer steam space ensures the capability exists to perform this function.

The redundancy design of the Reactor Coolant System vent systems serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a vent valve, power supply, or control system does not prevent isolation of the vent path.

The function, capabilities, and testing requirements of the Reactor Coolant System vent system are consistent with the requirements of Item II.b.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

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LIMITING CONDITION FOR OPERATION

3.4.15 At least one Reactor Coolant System vent path consisting of two vent valves and one block valve powered from emergency buses shall be OPERABLE and closed at each of the following locations:

- a. Pressurizer steam space, and
- b. Reactor vessel head.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one of the above Reactor Coolant System vent paths inoperable, STARTUP and/or POWER OPERATION may continue provided the inoperable vent path is maintained closed with power removed from the valve actuator of all the vent valves and block valves in the inoperable vent path; restore the inoperable vent path to OPERABLE status within 30 days, or, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both Reactor Coolant System vent paths inoperable, maintain the inoperable vent paths closed with power removed from the valve actuators of all the vent valves and block valves in the inoperable vent paths, and restore at least one of the vent paths to OPERABLE status within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.15.1 Each Reactor Coolant System vent path shall be demonstrated OPERABLE at least once per 18 months by:

1. Verifying all manual isolation valves in each vent path are locked in the open position.
2. Cycling each vent valve through at least one complete cycle of full travel from the control room.
3. Verifying flow through the Reactor Coolant System vent paths during venting.

