

REACTOR COOLANT SYSTEM

BASES

Finally, the new 10CFR50 rule which addresses the metal temperature of the closure head flange is considered. This 10CFR50 rule states that the metal temperature of the closure flange regions must exceed the material RT_{NDT} by at least 120 F for normal operation when the pressure exceeds 20 percent of the preservice hydrostatic test pressure (621 psig for Salem). Table B3/4 4-1 indicates that the limiting RT_{NDT} of 28 °F occurs in the closure head flange of Salem Unit 1, and the minimum allowable temperature of this region is 148 F at pressures greater than 621 psig. These limits do not affect Figures 3.4-2 and 3.4-3.

Although the pressurizer operates in temperature ranges above those for which there is reason for concern of non-ductile failure, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements.

The OPERABILITY of two POPS or an RCS vent opening of greater than 3.14 square inches ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10 CFR Part 50 when one or more of the RCS cold legs are less than or equal to 312 °F. Either POPS has adequate relieving capability to protect the RCS from overpressurization when the transient is limited to either (1) the start of an idle RCP with the secondary water temperature of the steam generator less than or equal to 50 F above the RCS cold leg temperatures, or (2) the start of an intermediate head safety injection pump and its injection into a water solid RCS, or the start of a high head safety injection pump in conjunction with a running positive displacement pump and its injection into a water solid RCS. The minimum electrical power sources required to assure POPS operability (based on POPS meeting the single failure criteria) consist of a normal (via offsite power) and an emergency (via batteries) power source for each train of POPS. Emergency diesel generators are not required for POPS to meet single failure criteria and therefore are not required for POPS OPERABILITY.

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