

3.5 BASES

A. Core Spray System and Low Pressure Coolant Injection (LPCI)
Mode of the RHR System

This specification assures that adequate emergency cooling capability is available whenever irradiated fuel is in the reactor vessel.

The loss-of-coolant analysis is referenced and described in General Electric Topical Report NEDE-24011-P-A.

The limiting conditions of operation in Specifications 3.5.A.1 through 3.5.A.6 specify the combinations of operable subsystems to assure the availability of the minimum cooling systems. No single failure of ECCS equipment occurring during a loss-of-coolant accident under these limiting conditions of operation will result in inadequate cooling of the reactor core.

Core spray distribution has been shown, in full scale tests of systems similar in design to that of the FitzPatrick Plant, to exceed the minimum requirements by at least 25 percent. In addition, cooling effectiveness has been demonstrated at less than half the rated flow in simulated fuel assemblies with heater rods to duplicate the decay heat characteristics of irradiated fuel. The accident analysis is additionally conservative in that no credit is taken for spray coolant entering the reactor before the internal pressure has fallen to 113 psi above primary containment pressure.

The LPCI mode of the RHR System is designed to provide emergency cooling to the core by flooding in the event of a loss-of-coolant accident. These subsystems are completely independent of the Core Spray System; however, they function in combination with the Core Spray System to prevent excessive fuel clad temperature. The LPCI mode of

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