15.5 ANTICIPATED TRANSIENTS WITHOUT SCRAM

The worst common-mode failure which is postulated to occur is failure to scram the reactor after an anticipated transient has occurred. A series of generic studies (1, 2) concerning ATWS showed acceptable consequences would result provided that a turbine trip and auxiliary feedwater flow are initiated in a timely manner. The effects of ATWS events are not considered as part of the design basis for transients analyzed in Chapter 15. The final NRC ATWS rule (3) requires that Westinghouse-designed plants install ATWS Mitigation System Actuation Circuitry (AMSAC) to initiate a turbine trip and actuate auxiliary feedwater flow independent of the Reactor Protection System. The Salem AMSAC design is described in Section 7.8.

15.5.1 References for Section 15.5

1. "Westinghouse Anticipated Transients Without Trip Analysis," WCAP-8330, August 1974.

2. Anderson, T. M., "ATWS Submittal," Westinghouse Letter NS-TMA-2182 to S. H. Hanauer of the NRC, December 1979.

3. ATWS Final Rule - Code of Federal Regulations 10CRF50.62 and supplementary information package, "Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plants."

4. WCAP-16444-NP, "Salem Unit 2 Replacement Steam Generator Program NSSS Licensing Report," August 2007.