19.0 Response to Severe Accident Policy Statement

19.1 Purpose and Summary

The information in this section of the reference ABWR DCD, including all subsections, as modified by the STP Nuclear Operating Company Application to Amend the Design Certification rule for the U.S. Advanced Boiling Water Reactor (ABWR), "ABWR STP Aircraft Impact Assessment (AIA) Amendment Revision 3," dated September 23, 2010, is incorporated by reference with the following departures.

STD DEP T1 3.4-1

STD DEP 10.4-5

19.1.1 Purpose

STD DEP T1 3.4-1

Appendices 19H and 19I consider the ABWR response to very large seismic events. Appendix 19K identifies appropriate additional reliability and maintenance actions that are required throughout the life of the plant so that the PRA remains an adequate basis for quantifying plant safety. Shutdown risk is addressed in Appendix 19L and 19Q. A fire protection probabilistic risk assessment is given in Appendix 19M. Detailed information about common-cause failure of ~~multiplex~~ Essential Communications Function *equipment is provided in Appendix 19N. Appendix 19P provides information about the consideration of additional design modifications to reduce the residual risk of severe accidents. ~~Finally,~~ Appendix 19R contains a screening analysis for the potential for flooding to lead to core damage.* Finally, Appendix 19S provides the response to the aircraft impact assessment rule (Reference 19.1-4).

19.1.2 Summary

STD DEP 10.4-5

Core damage is prevented by three divisions of the Emergency Core Cooling System (ECCS) including the Reactor Core Isolation Cooling System which can function for several hours without AC power. It also includes a reliable and proven reactor depressurization system. Feedwater, condensate booster *and condensate pumps also provide protection against core damage. A gas turbine is also available as an alternative supply to key electrical loads. Although an AC-independent Firewater Addition System is incorporated in the design, no credit is taken for it in the calculation of core damage frequency. The calculated core damage frequency is extremely low.*