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Strategy to Protect Fort Calhoun Station from Beyond Design Basis Flood

In Reference 3, the U.S. Army Corps of Engineers provided OPPD with the results of an analysis of an [

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strategy follows:

] A description of the

Plant procedures require shut down followed by a rapid cooldown upon notification of conditions that will result in flooding. Ultimately, cooling is provided by portable equipment used to maintain adequate spent fuel pool level and feed and steam the steam generators. Reactor coolant system (RCS) pressure and inventory control are established and maintained by establishing a nitrogen blanket in the pressurizer and safety injection tanks (SITs). No reactor coolant pump seal leakage and no significant RCS leakage is expected; therefore, no RCS makeup, other than from the SITs, is expected to be required during flood conditions. However, water for RCS makeup can be supplied by a small portable pump that draws water from the emergency feedwater storage tank (EFWST).

Water for steam generator (SG) cooling and spent fuel pool (SFP) makeup is supplied from the SIRWT using a portable submersible pump staged in the SIRWT. Floodwater continuously replenishes the SIRWT ensuring a continuous source of water until the floodwater recedes. The strategy allows for multiple sources of water for defense-in-depth. These sources include the SIRWT filled with a combination of borated water and flood water, pressurized fresh water via the fire main from the city, and water stored in the EFWST. When the flood recedes, the SIRWT inventory provides time to establish an alternate method of replenishing the tank until a longer-term cooling strategy is developed. The pumps used for this strategy are powered by a portable diesel generator with diesel fuel provided from fuel bladders.