

10.8 RAW SERVICE WATER SYSTEM

10.8.1 Power Generation Objective

The objective of the Raw Service Water System is to supply river water for yard-watering, cooling for plant equipment which the Raw Cooling Water System may not conveniently serve, and to function as a keep-fill system for the raw water Fire Protection System.

10.8.2 Power Generation Design Basis

1. The system shall be capable of supplying all normal plant requirements for raw service water.
2. The system shall not be required for safe shutdown.

10.8.3 Description

The Raw Service Water System furnishes water for yard-watering, cooling for miscellaneous plant equipment which require small quantities of cooling water, and functions as a keep-fill system for the raw water fire protection system. The Raw Service Water System is supplied river water from the condenser circulating water inlet conduit through a strainer section to the main raw cooling water pump suction header for each unit. Unit 1 and Unit 2 each have one RSW pump and Unit 3 has two RSW pumps. Therefore, four pumps (375 gpm 200-foot-tdh) supply the common plant system. The pumps discharge into a distribution system common to the raw service water and fire protection systems. Two 10,000-gallon capacity storage tanks are located atop the reactor building. Water level in the tanks controls operation of the raw service water pumps except during operation of the high-pressure fire protection pumps or when the RSW pumps are in manual with the storage tanks isolated from the system. When the high-pressure fire protection pumps are operating, the raw service water pumps will automatically be deenergized (unless in manual) and the raw service water storage tanks will also be isolated from the system.

The raw service water pumps are powered from the 480-V turbine MOV boards 1C, 2C, 3B, and 3C. During the loss-of-power mode they may be backfed through these boards, if power is available from the diesel generators.

For flow diagrams of this system, refer to Subsection 10.11, "Fire Protection Systems."

10.8.4 Inspection and Testing

No special tests are required. Routine visual inspection of the system components, instrumentation, and trouble alarms is adequate to verify system operability. The Raw Service Water System is chemically treated consistent with NPDES permit limitations.