BFN-25

TABLE 4.8-1

RESIDUAL HEAT REMOVAL SYSTEM EQUIPMENT DESIGN DATA

RHRS PUMPS

Number Installed per Unit - 4	Design Temperature - 350°F
Capacity/Pump - 50% (LPCI)	Design pressure - 450 psig
	Shutoff Head - 780 ft
Design Conditions/Pump 0 psid*	
Discharge Flow (gpm)	20,000 (2 in one loop)
	10,800 (1 in one loop) Units 1, 2, 3
Rated Pump Capacity	10,000 gpm at 560 ft Total Dynamic Head
NPSH Required at 90°F (ft)	30
Operating Conditions/Pump	
Discharge Flow (gpm)	0-12,000
Discharge Head (ft)	780-420
Differential Pressure (psid)	295-0
NPSH Required at 90°F (ft)	30-34

RHRS HEAT EXCHANGERS

Number Installed per Unit - 4
Shell Side Fluid - Reactor Water or Pressure Suppression Pool Water
Tube Side Fluid - RHR Service Water (River Water)
Shell and Tube Side Design Pressure - 450 psig and Design Temperature 40-350°F
Pressure Drop Design Conditions - shell side 10 psi
- tube side 6 psi

<u>Suppression Pool Cooling Analysis (Pre-uprated)</u>

Shell Side Flow (gpm)	6500
Inlet Temperature Shell Side	177
Heat Exchanger Duty (Btu/hr)	68.8×10^6
Tube Side Flow (gpm)	4500
Inlet Temperature Tube Side (°F)	95°F

<u>Suppression Pool Cooling Analysis (Uprated) - ANS/ANSI 5.1 (with 2σ uncertainty)</u>

Shell Side Flow (gpm)	6500
Inlet Temperature Shell Side (°F)	187.3 (Unit 1), 177 (Units 2 and 3)
Heat Exchanger Duty (Btu/hr)	74.1×10^6 (Unit 1), 68.2×10^6 (Units 2 and 3)
Tube Side Flow (gpm)	4000
Inlet Temperature Tube Side (°F)	95°F (Unit 1), 92°F** (Units 2 and 3)
Heat Exchanger K-factor	223 BTU/sec-°F

*psid - pounds per square inch difference between reactor vessel and drywell.

**Additional analyses were performed at higher river water temperatures with reactor thermal power limitations to ensure peak suppression pool temperatures do not exceed 177°F.