**Turbine Island**

* **STF-D1050 (single reheat) Turbine**

Pressure: Up to 360 bar and up to 650 C from main steam

Reheat Temperature: Up to 670 C

Frequency: 50 and 60 Hz

Output: <1200 MW

Steam Turbine Efficiency: up to 54%

* **Gigatop 2-Pole Generator**

Power Factor: 0.8 to 0.9

Apparent Power 590 MVA to 1400 MVA

Efficiency: Up to 99%

Terminal Voltage 18 kV to 27 kV

* **Moisture Separator Reheaters**

Horizontal

2 Reheat Stages

2 reheaters per turbine generator

Cycle Steam Inlet mass flow (kg/s) 620

Inlet Pressure (bar a): 10

Moisture Separator

Inlet Moisture (%): 14

Outlet Moisture (%): 0.5

1st and 2nd Stage Reheater

U-finned tube type

Tube Material: Ferritic Stainless Steel

Tube-tubesheet Joint: Expanded/welded

MSR Shell

Diameter(m): 4.3

Straight Length (m): 18.6

Material: Carbon Steel Plate

Weight

In Operation (tons): 260

Flooded (tons): 520

* **Condenser**

Condenser Vacuum Type: Single

Condenser Thermal Load (MW): 1820

Absolute Pressure at Turbine/Condenser Connection (mbar abs): 55

Max Condensate O2 Content at 100% Load (ppm): 20

Circulating Water

Circulating Water Temperature Design (C): 25

Circulating Water Nature: Seawater, Once-through

Circulating Water Flow (m^3/s): 63

Circulating Water Temperature Rise (c): 7

Tubes

Exchange Surface (m^2): 76000

Material: Titanium

Length (m): 16.5

Tube to Tube sheet Joint: Expanded/Welded

Weights

Operating (tons): 2200

Water Filling (tons): 3600

Dimensions

Hotwell Bottom to Turbine (m): 13