

We Energies' generating system



NATURAL GAS

Port Washington Generating Station



Location:

This plant occupies more than 52 acres of land at the southern end of Port Washington, Wis., on the shore of Lake Michigan.

Type of Plant:

Combined-cycle combustion turbine using natural gas, intermediate-load (16 hours a day – 5 to 7 days per week).

Cost:

\$669 million

Number of Active Generating Units:

Two power blocks. Each block consists of two combustion turbine-generators and one steam-turbine generator.

Year in Service:

1st Unit (Block 2): 2005
2nd Unit (Block 1): 2008

Generating Capacity:

Block 1: 575 megawatts
Block 2: 575 megawatts

Total Net Generating Capacity:

1,150 megawatts



NATURAL GAS

Port Washington Generating Station

Contribution to Total System Electric Energy Production Capability:

9 percent

Voltage:

Generator: 22,000
Step-Up Transformer: 138,000

Fuel:

Natural Gas

Average Fuel Usage:

100,000 dekatherms of natural gas daily

Fuel Handling:

16-mile lateral from Jackson, Wis.

HRSR Heat Recovery Steam Generator:

Two total. One per gas turbine.

Height: 130 ft.
Furnace temperature: 1,100 degrees Fahrenheit
Steam temperature: 1,050 degrees Fahrenheit
Steam pressure: 2,000 pounds per square inch

Chimneys:

Four 210-ft. stacks - two for each unit.

Cooling System:

565,000 gallons of water from Lake Michigan are used every minute to convert the exhaust steam from the turbine back into water for reuse. This water is returned to the lake.

Control Room:

One or two operators in the master control room monitor all the major functions within the plant. Computers assist in monitoring critical points such as temperature and pressure.