

We Energies' generating system



NATURAL GAS

Port Washington Generating Station

This 1,150-megawatt natural gas-powered generating station replaced a 225-megawatt coal-fueled plant that had operated at the same site for more than 70 years. It is the most thermally efficient generating power plant in Wisconsin.



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 for intermediate-load (16 hours a day – 5 to 7 days per week).

Cost:

\$664 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



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Fuel:

Natural gas

Average fuel usage:

100,000 dekatherms of natural gas daily

Fuel handling:

16-mile lateral from Jackson, Wis.

HRSO heat recovery steam generator:

One per gas turbine.

Height: 110 feet
Steam temperature: 1,050 degrees Fahrenheit
Steam pressure: 2,000 pounds per square inch

Chimneys:

Four 210-foot stacks - two for each unit.

Cooling system:

About 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:

All major functions in the plant are controlled by operators with computer support to continuously monitor and report on pressures, temperatures, flow rates, etc. In addition, the computer aids in start-up, shutdown, load adjustments and information for future reference.