

# We Energies' generating system



**NATURAL GAS**

## Valley Power Plant

*Valley generates both electricity and steam for We Energies customers. The plant originally was fueled by coal. To help reduce operating costs and enhance environmental performance, the plant's fuel source was converted to natural gas.*



**Location:**

This plant occupies more than 22 acres adjacent to downtown Milwaukee between the south Menomonee Canal and the Menomonee River.

**Type of plant:**

Cogeneration facility using natural gas to provide intermediate-load (typically operating 24 hours a day) for the electric system while supplying all of the steam to the downtown Milwaukee heating system.

**Initial cost:**

\$41 million

**Natural gas conversion cost:**

\$62 million

**Generating units:**

2 steam (two boilers per unit)  
1 emergency diesel generator

**Year in service:**

Unit 1: 1968  
Unit 2: 1969

**Converted to natural gas:**

Unit 1: 2014  
Unit 2: 2015

**Generating capacity:**

136 megawatts per unit

**Total net generating capacity:**

272 megawatts

# Valley Power Plant

**Steam-heating capacity:**

1.25 million pounds of steam/hour

**Steam-heating customers:**

Approximately 450 in Milwaukee

**Fuel:**

Natural gas

**Average fuel usage:**

25,000 dekatherms of natural gas daily

**Fuel handling:**

Lateral connection to natural gas distribution system in Menomonee Valley

**Boilers:**

Two per turbine generator.

Height: 14 stories

Furnace temperature: 2,300 degrees Fahrenheit

Steam temperature: 900 degrees Fahrenheit

Steam pressure: 1,523 pounds per square inch

**Chimney:**

One 400-foot chimney for each unit.

**Cooling system:**

110,800 gallons of river water are used every minute to convert the exhaust steam from the turbine back into water for reuse.

This water is returned to the river.

**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.