

We Energies' generating system



COAL

Valley Power Plant

*Valley generates both
electricity and steam for
We Energies customers.*



Location:

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

Type of Plant:

Coal-based, co-generation facility provides intermediate-load (typically operating 24 hours a day) for the electric system while supplying all of the steam to the district heating system.

Initial Cost:

\$41 million

Units:

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

Year in Service:

Unit 1: 1968
Unit 2: 1969

Generating Capacity:

140 megawatts per unit

Total Net Generating Capacity:

280 megawatts

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Steam-Heating Capacity:

1.25 million pounds of steam/hour
(3 of 4 boilers in service)

Steam-Heating Customers:

Approximately 450 in Milwaukee

Contribution to Total System Electric**Energy Production Capability:**

3 to 4 percent

Voltage:

Generator: 13,800
Step-Up Transformer: 138,000

Fuel:

Pulverized coal; natural gas or propane for boiler start-up;
#2 diesel oil for emergency generator.

Coal Handling:

Transportation: Self-unloading coal boats to
Greenfield Avenue dock; barges
go to plant coal dock.
Storage: 75,000-ton capacity coal pile; eight
425-ton capacity coal silos within plant.
Preparation: Eight pulverizers crush coal at 16 tons
per hour each.

Average Coal Use:

2,200 tons per day

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

Ash Handling:

99.9 percent of fly ash is removed by filter bags.
Bottom ash is removed by a hydraulic removal system.

Chimney:

One 400-ft. 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:

Valley's control room was the first on We Energies' system
constructed to handle all of the major plant operations from one
location. One operator controls the major functions of the power
plant and district steam system.