



F. B. Culley Generating Station

General Information

Located on the Ohio River east of Newburgh, FBC Generating Station consists of three coal-fired units and one flue gas desulfurization unit (Scrubber).



Station Employees



**The plant operates 365 days
a year, 24 hours a day**

**100 employees operate
and maintain the plant**

**During off-shifts, ten
employees man the
plant**



FBC Unit 1

- **Began commercial operation in June, 1955**
- **45 Megawatts net**
- **Burns approximately 500 tons of low-sulfur coal each day**
- **B & W Boiler creates 430,000 pounds of steam per hour at 1250 psig and 950 °F**
- **General Electric Turbine turns an Allis Chalmers Generator at 3600 rpm to produce electricity**
- **Electricity is produced at 14,400 volts, 60 Hertz**



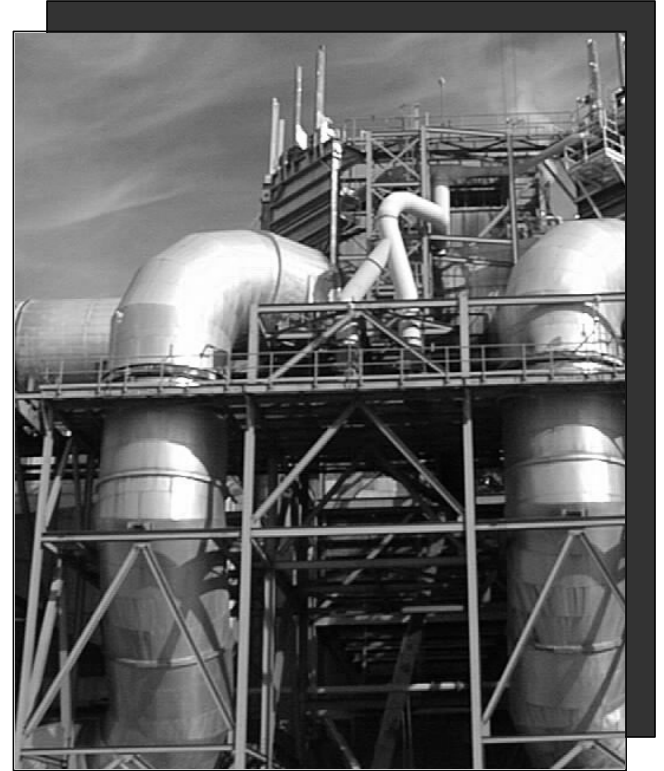
FBC Unit 2

- **Began commercial operation in December, 1966**
- **90 Megawatts net**
- **Burns approximately 1,000 tons of coal each day**
- **B & W Boiler creates 860,000 pounds of steam per hour at 1250 psig and 950°F**
- **General Electric turbine and generator**
- **Produces electricity at 14,400 volts, 60 Hertz**



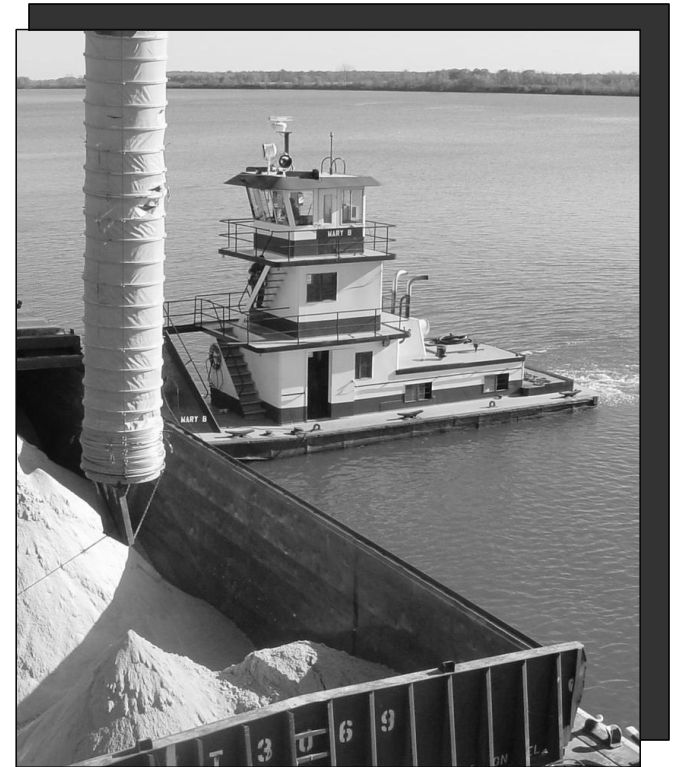
FBC Unit 3

- **Began commercial operation in April, 1973**
- **270 Megawatts net**
- **Burns approximately 2,500 tons of coal each day**
- **B & W radiant Boiler creates 2,000,000 pounds of steam per hour at 1860 psig and 1005°F**
- **General Electric Turbine and Generator**
- **Electricity is produced at 22,000 volts, 60 Hertz**



Flue Gas Desulfurization Unit

- Removes sulfur dioxide from exhaust gas from Units 2 and 3
- Began operation on September 3, 1994
- Uses 140,000 tons of limestone each year
- Gypsum - a byproduct of the process - is sold to National Gypsum for use in the manufacture of drywall
- The plume rising above the 499 ft. tall stack is primarily water vapor



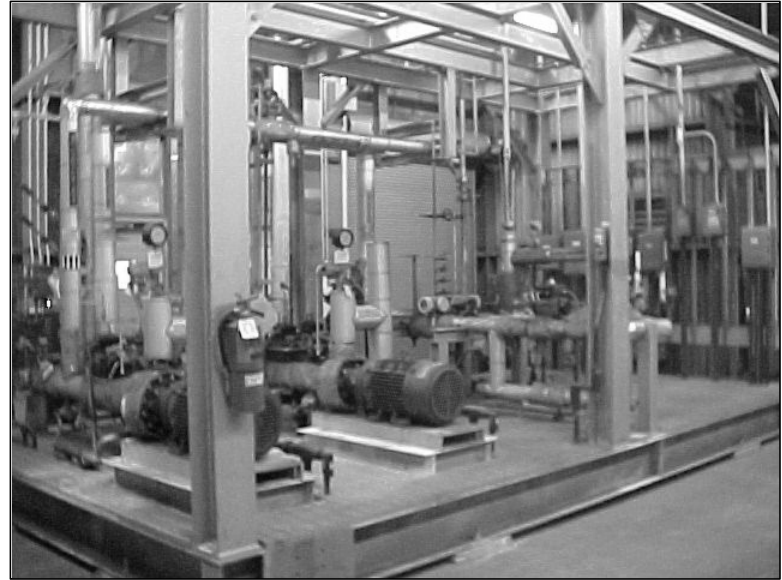
Selective Catalytic Reduction Unit

- Began operation on September 1, 2003.
- Uses aqueous ammonia to remove nitrous oxide and nitrous dioxide from Unit 3 exhaust gas



Sodium Bisulfate Injection

- Sodium Bisulfate is injected into the gas path after the SCR.
- This process removes the Sulfur Trioxide (SO_3) that is produced in the boiler during the coal burning process.





Electric Generation

Coal is pushed into underground Feeders that drop the coal onto wide conveyor belts.



The conveyors direct the coal into Bunkers for each Unit.

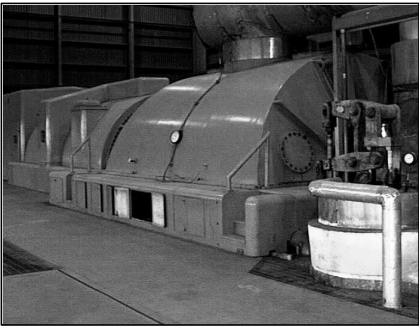


Coal from the Bunkers flows into Tables Feeders and ultimately into Pulverizers.

The Pulverizers crush the Coal which is then blown into the Boiler where it flashes into flames.



The fire in the Boiler turns water inside the Boiler tubes into the steam required to turn the Turbine



The Turbine drives the Generator which generates the electricity

Culley is capable of producing one-half of the average native load



Culley Environmental Protections

Air Quality

- **All Units have Electrostatic Precipitators to remove ash from the flue gases**
- **Units 2 and 3 Gas exhaust is processed by the Flue Gas Desulfurization Unit (FGD)**
- **The FGD removes sulfur dioxide in the gas before it enters the stack**
- **Unit 1 burns low sulfur coal. Units 2 & 3 are equipped with Low-NOX Burners.**
- **All stacks have continuous monitoring equipment to monitor SO₂ emissions**



Environmental Protections

Water Quality

- A State of Indiana licensed operator manages the water and wastewater at the power plant
- Water that discharges into the Ohio river is tested on a routine basis and meets IDEM permit regulations
- Sanitary wastewater is treated on-site

