Coyote Station

Reliable, environmentally responsible electric generation

**Plant history**

Coyote Station began producing electricity in 1981 after nearly four years of construction. We chose the plant site because of its proximity to coal and water, essential components of electricity generation. Construction required more than 400 miles of electrical conductor and over 64,000 cubic yards of concrete.

**Generating electricity**

At Coyote Station, making electricity is a simple process. Each day we unload about 7,000 tons of lignite coal and crush the coal to ¹⁄₄ inch or smaller (size) pieces. The crushed coal enters the 12 cyclone burners that fuel the boiler. The boiler converts 3.25 million pounds of water to steam every hour.

Water to both create steam and then condense the produced steam is drawn from the Missouri River near Stanton, North Dakota. Stanton is about 26 miles away from Coyote Station, so water travels to the plant through a 36-inch underground pipeline.

The steam, at a pressure of 2,400 pounds per square inch, drives the turbine blades that, in turn, drive the 427,000-kilowatt generator. Inside the generator a huge spinning magnet surrounded by coils of copper wire creates a magnetic field and produces electricity.

Electricity leaves the generator at 24,000 volts. At the transformer the voltage increases to 345,000 volts and the electricity flows to the substation. From there the electricity travels over high-voltage transmission lines and then to lower-voltage distribution lines on its way to our customers.
Meeting customer needs
For Coyote Station’s owners, the goal always has been to provide their customers with reliable, low-cost electricity from a facility that meets all local, state, and federal environmental standards. One large plant costs less to build and generates electricity at lower cost than several smaller ones. The plant owners are:

Otter Tail Power Company, Fergus Falls, Minnesota, 35 percent
Montana-Dakota Utilities Co, Bismarck, North Dakota, 25 percent
Northern Municipal Power Agency, Thief River Falls, Minnesota, 30 percent
NorthWestern Energy, Huron, South Dakota, 10 percent

Approximately 80 Otter Tail Power Company employees operate and maintain the plant.

Respecting our environment
We take particular care in complying with environmental standards and have a strong compliance history. Our environmental control system includes these primary components:

Baghouse: One of the most efficient and cost-effective filtration systems for removing dust particles from flue gas before the gas is released from the plant.

Dry Scrubber: Converts sulfur dioxide (SO₂) into non-toxic calcium sulfate and calcium sulfite, which combine with fly ash and are removed from the flue gas by the baghouse. Some fly ash is recycled for use in farm feedlot applications for ground stabilization or for other uses. The remaining fly ash is stored safely in a permanent disposal site that is specifically prepared to protect the environment.

Activated Carbon Injection: Absorbs mercury (Hg) from the flue gas. The mercury is collected by the baghouse and stored safely in the dry ash disposal site.

Coyote Station uses a multitude of systems to balance commitment to reliable, cost-effective service with environmental responsibility, and will be installing Separated Overfire Air in 2016 that will reduce nitrogen oxide (NOₓ) emissions by more than 40 percent.

Key plant data

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Turbine</td>
<td>427,000 kilowatts</td>
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<tr>
<td></td>
<td>573,000 horsepower</td>
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<tr>
<td>Generator</td>
<td>500,000 kilovolt-ampere</td>
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<tr>
<td>Boiler</td>
<td>3,250,000 pounds of water per hour</td>
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<td>Transmission outlet</td>
<td>345,000 volts</td>
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<tr>
<td>Fuel</td>
<td>North Dakota lignite coal</td>
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<tr>
<td>Coal-handling system</td>
<td>Conveys 550 tons per hour</td>
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</tbody>
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For more information
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