



Ratts GENERATING STATION

Indiana's first electric cooperative power plant is located on the White River near Petersburg in Pike County. Capable of producing 250 megawatts of electricity with twin turbine generators, the coal-fired facility began commercial operation in 1970.

Rising nine stories above the ground, the Ratts Generating Station stands on a one-acre concrete foundation nearly four feet thick, extending to a depth of six feet beneath the turbine generators and boilers. The generating station is equipped with two 300-foot concrete stacks.

Environmental controls include recently upgraded electrostatic precipitators to remove fly ash to protect air quality. Since the plant was constructed, Hoosier Energy has invested millions of additional dollars to protect the environment. Multi-pollutant reduction technology was installed to reduce nitrogen oxide and sulfur dioxide, as well as mercury. Further upgrades have improved combustion and efficiency. An on-site landfill has been constructed to replace ponds for disposal of ash through a dry-handling system.

Most of the fuel for the power plant is mined within 40 miles, which reduces transportation costs and contributes to the southern Indiana economy.


A work force of 45 employees is responsible for the power plant's safe and efficient operation. Every day, major equipment undergoes hundreds of checks and tests to ensure smooth operation. Regularly scheduled maintenance helps keep the operation of the power production facility running reliably. The plant's workers share a commitment to working safely and have recorded exceptional safety records annually.

In addition to being a local employer, the Ratts Generating Station is also a major property tax payer in Pike County.

By producing electricity at this power plant rather than continuing to purchase power from outside sources, Hoosier Energy's member cooperatives have saved more than the original construction cost of the facility.

Hoosier Energy's Ratts Generating Station holds a special place in Indiana electric cooperative history. The plant held center stage in the struggle to begin cooperative generation in the state. With a skilled and dedicated workforce, the plant has operated efficiently and cost effectively for more than 40 years.

HOOSIERENERGY

A Touchstone Energy® Cooperative 

Ratts GENERATING STATION

HERE'S HOW THE RATT'S GENERATING STATION CONVERTS THE POTENTIAL CHEMICAL ENERGY OF COAL INTO ELECTRICAL ENERGY:

Coal from the stockpile is conveyed to the crusher house (A) where it is crushed into pieces, and moved by conveyor into the coal conversion room on the seventh floor of the powerhouse (B). Here coal is deposited on the "tripper," a moving belt that automatically fills the coal bunker. Gravity pulls coal from the bunker to the scales (C), which measure 500 pound units before releasing the coal through the feeder and into the ball mill (D) where it is pulverized into a fine powder and blown into the furnace (E).



An important factor in increasing boiler temperatures is airflow created by the draft fan (F) and air heater (G) before it reaches the flame. This creates greater turbulence in the boiler (H) where water is converted into steam.

The steam is heated to 1,005° Fahrenheit and forced at a pressure of 1,575 pounds per square inch through a high-pressure steam line (J) to spin the turbine generator (K) and generate electricity.

Electric energy is transformed in the main power transformer to 161,000 volts and carried on high voltage transmission lines throughout Hoosier Energy's service area to its member distribution cooperatives.

After steam turns the turbine generator, its pressure greatly drops. The steam then passes into the condenser (M) where it cools and condenses it into water, which is pumped through the condensate line up to the deaerator (N). Here air and excess gases are removed. The water is purified and cleansed through this process. It then drops into a tank and is sent by a feed pump (O) through the boiler feedwater line (P) back into the boiler for re-use.

Water used in the steam cycle comes from deepwater wells near the plant. Water from the White River flows is used to cool spent steam at the condenser (M). It then is returned to the river at a temperature only a few degrees higher than when it entered the plant and returns to its normal temperature.

