

Lawrence and Worthington Generating Stations



Worthington Generating Station at sunrise.

TWO RELIABLE AND QUICK-STARTING NATURAL GAS-FIRED POWER PLANTS ADD FLEXIBILITY TO HOOSIER ENERGY'S "ALL-OF-THE-ABOVE" POWER SUPPLY STRATEGY FOR 18 MEMBER ELECTRIC COOPERATIVES.

With their ability to be started and dispatched quickly, Worthington Generating Station and Lawrence Generating Station are reliable sources of peaking power during periods of high demand.

The plants also help reduce power purchase requirements and create new sales opportunities. When the plants are not operating, their available capacity helps meet reserve requirements.

Both plants have outstanding safety records. Hoosier Energy's "Safe by Choice" culture earned both plants certification in the Indiana Voluntary Protection Program (VPP) as a "Star" site. Indiana VPP Star sites are leaders in workplace safety and health and recognized for their success in proactively protecting workers.

Each power plant is equipped with combustion turbine engines, a derivative of aircraft engines

that can start and produce power in approximately 15 minutes and operate at levels ranging from 20 to 50 megawatts per engine.

North American Energy Services operates both power plants under a contract with Hoosier Energy.



Lawrence and Worthington Generating Stations



Lawrence Generating Station



Worthington Generating Station

LAWRENCE GENERATING STATION

Located in Lawrence County, Indiana, the Lawrence Generating Station is a six-unit, 258-megawatt plant. Hoosier Energy operates and maintains the facility and owns two thirds of the facility. Wabash Valley Power Association, the power supplier for northern Indiana electric cooperatives, owns the remaining third.

The Lawrence plant sits on a 50-acre site with access to Hoosier Energy's 161-kilovolt transmission lines, and natural gas and water supplies. The \$90 million plant began commercial operations in May 2005. The plant boasts an unblemished safety record, having never experienced a safety violation.

How Simple Cycle Gas Turbines Work

Gas turbines draw outside air through intake structures that provide filtration and cooling. The air charge is compressed in a five-stage low-pressure compressor and then in a 14-stage high-pressure compressor. Both are multi-stage, rotating axial-flow compressors.

After compression, air is mixed with natural gas and ignited in a combustion chamber producing heat. The high temperature exhaust gases from the combustion process are channeled through a two-stage, high-pressure turbine and then a five-stage, low-pressure turbine to extract thermal and kinetic energy.

Each turbine develops approximately 50,000 horsepower and the torque necessary for rotating the generator that produces electricity. Once the exhaust gases have exited the low-pressure turbine section, they are exhausted through a stack.

The entire combustion and generation process is efficient and extremely clean with low emissions.

WORTHINGTON GENERATING STATION

The Worthington Generating Station, a 174-megawatt natural gas-fired generating plant in Greene County, is used to meet member peaking power needs, make off-system sales and satisfy generating reserve requirements.

Hoosier Energy purchased the Worthington Station in early 2003. The plant consists of four natural gas combustion turbine units and is connected to the power grid through Hoosier Energy's 138-kilovolt transmission systems.

Originally designed to operate from April through October, Worthington Station was modified in late 2003 to meet peaking power needs year-round. In 2004, a black start diesel engine was added to enhance the ability to return Hoosier Energy's generating plants to service in the event of a system-wide or regional generation outage.

LAWRENCE AND WORTHINGTON GENERATING STATION FACTS

- At full operation, the 258-megawatt Lawrence plant can supply the power requirements of 200,000 homes and the 174-megawatt Worthington plant can supply the power requirements of 140,000 homes.
- Each plant is capable of reaching full capacity within 13 minutes of dispatch.
- Each plant's General Electric gas turbine engines are similar to those used on large commercial aircraft. The engines are capable of operating quickly and efficiently through a broad range of power settings.
- The power output on each engine is approximately 43,000 kilowatts.