

Plant *McDonough*

Natural Gas: Providing for a Cleaner Future

Cleaner Electric Energy From Natural Gas

On Nov. 29, 2006, Georgia Power announced plans to retire coal-fueled units at Plant McDonough and replace those units with natural gas units. This change will ensure reliability of electric service to north Georgia while reducing the environmental impact of the plant on the local community.

Natural gas-fueled combined-cycle power plants offer one of the cleanest and most efficient methods of producing electricity. Combined-cycle plants can produce large amounts of electricity at high efficiencies and with low emissions.

Natural gas-fueled plants also have the capability to start up quickly to meet immediate customer demands. This feature helps operators deal with power line voltage issues – helping to prevent blackouts, such as those experienced in other parts of the United States.

With its three combined-cycle units, Plant McDonough will consume more water but ultimately will have less thermal impact on the river due to the use of new water cooling technology.

Beginning in 2011, Plant McDonough's three natural gas-fueled units will result in the following emissions reductions:

- 95 percent reduction in Nitrogen Oxides (NO_x) emissions
- 99 percent reduction in Sulfur Dioxide (SO₂) emissions
- 100 percent reduction in Mercury (Hg) emissions
- 50 percent reduction in Carbon Dioxide (CO₂) emission rate



About 95 percent of the pipeline route will be within an existing Georgia Power electric line right-of-way.



1. More than 95 percent of the pipeline will be within an existing transmission right-of-way. Photo 1 shows the right-of-way prior to construction. Photo 2 illustrates how the pipeline will be buried underground.



3. Photo 3 shows how the pipeline trench will look shortly after it is re-covered. And Photo 4 shows the area after relandscaping.

Transporting Gas to Plant McDonough

In order for Plant McDonough's natural gas-fueled units to operate, Georgia Power plans to install a pipeline to transport natural gas to the plant from the Southern Natural Gas system north of Union City, Georgia.

More than 95 percent of this natural gas pipeline will be located within an existing electric transmission right-of-way. The 30-inch pipe will be buried a minimum of 5 feet underground and it will be located on a route approximately 19 miles long. Also, the line will cross under the Chattahoochee River and several other small creeks, as do other pipelines throughout the state. These crossings will be bored underground at greater depths.

All environmental, cost, design and safety issues associated with constructing and building the pipeline were taken into account before the final proposal was submitted to the Georgia Public Service Commission for approval. Georgia Power will continue to work with all state agencies to ensure proper installation and safety of the pipeline.

Safety and Large Natural Gas Pipelines in Georgia

Southern Natural Gas

Southern Natural Gas, a major natural gas transmission line company, is upgrading a line to supply the Plant McDonough line. Southern Natural Gas has been safely operating large natural gas lines in Georgia since 1930. The company's natural gas lines – some of which are the same size or larger than the Plant McDonough line – have never caused an injury or fatality to a member of the public residing on property where the company's pipelines are located. The company owns 14 lines that cross the Chattahoochee River, and other lines that cross 13 other rivers in Georgia.

Natural Gas Lines Owned by Southern Company

Southern Company also owns seven large gas pipelines that serve generating plants in Georgia, Alabama, and Mississippi. Southern Company contracts with other pipeline operators to maintain and service these lines. Like Southern Natural Gas, Southern Company's large natural gas pipelines have never caused an injury or fatality to a member of the public residing on property where the company's pipelines are located.

The Pipeline

- The natural gas pipeline will be a line buried a minimum of 5 feet underground, meeting all the federal and state safety standards for a delivery system that has a superb safety record.
- To minimize impact on local communities and property owners, Georgia Power has identified an existing transmission corridor for the pipeline route. More than 95 percent of the pipeline will be built on an existing Georgia Power right-of-way.
- **No homes or businesses will have to be displaced.**
- Property owners whose land includes easement rights for this transmission right-of-way will receive fair market compensation for the gas pipeline easement.
- Any construction disturbances will be minimized and on-site coordinators will be actively involved in ensuring property owners' concerns are met.

The Power Plants

As Georgia Power prepares to meet the growing energy needs of its customers beginning in 2011, the company plans to build three 840-megawatt combined-cycle natural gas generating units at its Plant McDonough electric generating facility, located in Cobb County.

As construction is under way for the three combined-cycle gas units, Georgia Power will retire two 270-megawatt coal-fueled units that became operational in the 1960s.

With the completion of Plant McDonough's three combined-cycle units in 2012, there will be more than 2,500 megawatts available near the largest electricity demand center in Georgia. Combined-cycle natural gas units allow Georgia Power a substantial amount of long-term quick-starting generation for the metro Atlanta area, in addition to greater flexibility in dealing with voltage issues to prevent potential blackouts, such as those in California and New York.

Georgia Power's Environmental Commitment

All Georgia Power plants, including Plant McDonough, meet or exceed state and federal requirements to protect public health and the environment. Since 1991, Georgia Power has invested \$1 billion for the installation of environmental control equipment at its power plants and will be investing an additional \$1.9 billion in environmental controls for existing power plants over the next three years (2007-2009).

Over the years, Plant McDonough has adhered to increasingly strict environmental standards. The plant's transformation into a natural gas-fueled plant will continue to allow Georgia Power to meet environmental standards, while providing environmental benefits to the metro Atlanta area.

Georgia Power is committed to supplying safe, reliable electricity to the state of Georgia. The company has demonstrated its commitment to make further emissions reductions and it will continue that practice into the future.

