

THE POWER OF WATER



Left: Machinery for Morgan Falls Dam.



Right: Morgan Falls Powerhouse construction.

Morgan Falls is a great example of early attempts at harnessing hydroelectric power. Hydroelectric power is created by the force of falling water. Hydropower plants store the needed water in reservoirs. To create electricity, stored water is sent through powerhouse gates and goes into pipes. The water then turns the blades of a turbine. The turbine is connected to a generator. The generator spins and produces an electrical current. The current is sent to a transformer where the voltage is increased. Transmission lines then

carry the electricity over long distances to homes, businesses, and communities.

Hydroelectricity was developed in 1880 when it was used by the Grand Rapids Electric Light and Power Company in Michigan. They used a water-powered turbine to provide electricity for arc lighting. In Georgia, many early hydro plants were built to provide power to textile mills and other industries. Most of these hydro plants were eventually bought by the Georgia Power Company.

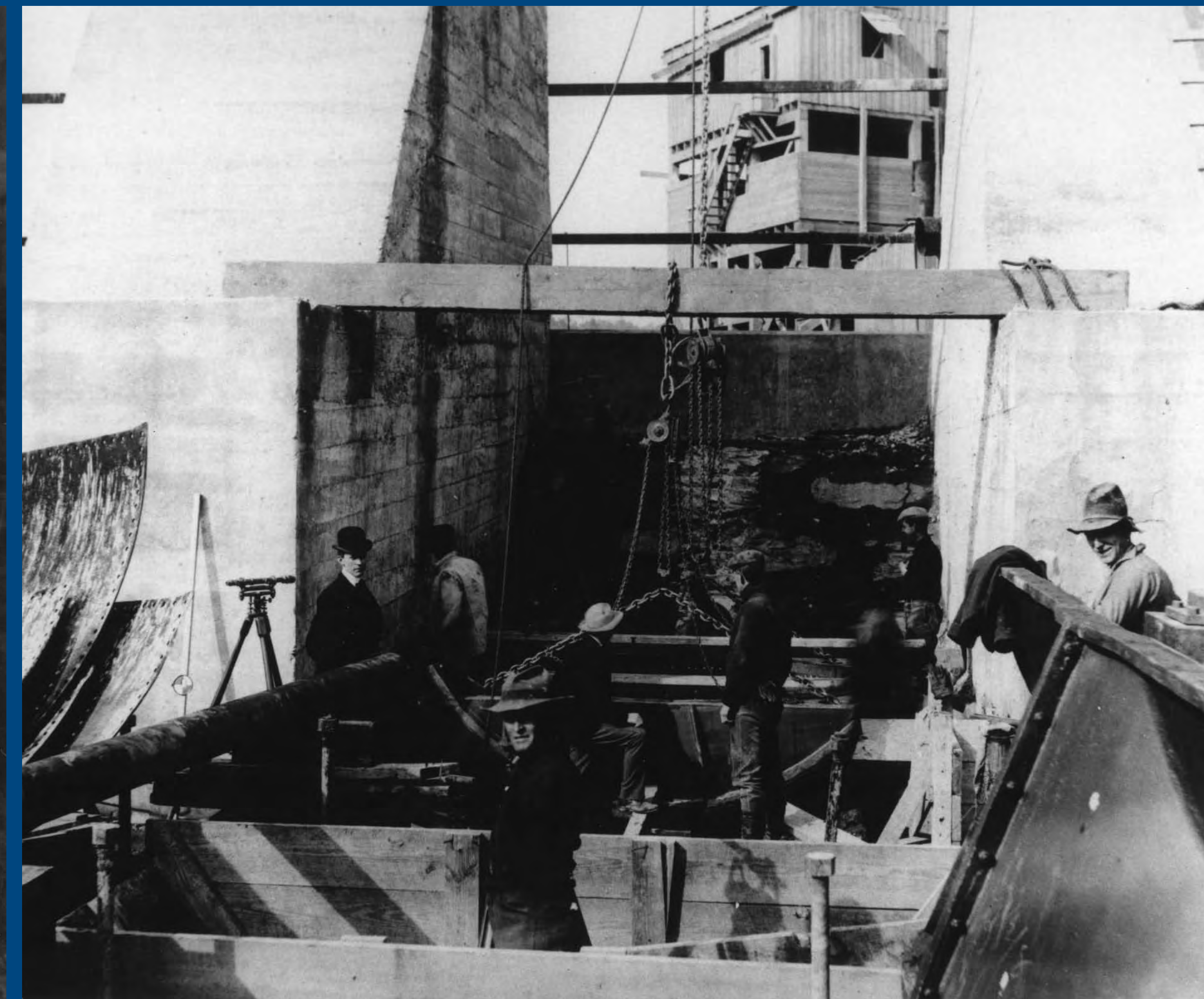
Hydropower reached its peak in the 1940s. Forty percent of the nation's electricity was generated through hydropower. Today, the United States gets only about six percent of its electricity through hydropower.

Hydropower plants are being explored as a source for clean energy. They do not pollute the air because they do not burn fuel. Rainfall provides the water needed to operate the plants, so they are durable and inexpensive.

Aerial of Morgan Falls, circa 1980s.



Construction of Morgan Falls.



THE BUILDING OF MORGAN FALLS



Construction of the spillway.

Morgan Falls is an important historic site because it's associated with S. Morgan Smith. S. Morgan Smith is best known as the inventor of "Smith's Success Turbine." Smith was born in Davie County, North Carolina in 1830. He spent his early years on a farm and became interested in machinery. After the Civil War, he became associated with the

York Manufacturing Company in Pennsylvania. That company failed, but Smith began building his own water-powered turbines for use in local grist mills. Ultimately, the S. Morgan Smith Company became one of the largest builders of water turbines in the world.

By the late 1890s, attempts to harness water power were already underway on the Chattahoochee River, northeast of



Above pictures: Views before and after construction in 1904 of same location at Morgan Falls.

Atlanta. Smith learned of a good site on the river called Bull Sluice. He bought the land and water rights and formed the Atlanta Water and Electric Power Company. Construction of a hydroelectric plant at Morgan Falls began in 1902.

To build the dam, a type of building method called "Concrete Cyclopean Masonry" was used to construct the facility. In this method, large pieces of uncut stone were set far apart and the gaps were filled with cement. Morgan Falls began generating electricity in October 1904.

Towers and cables crossing the Chattahoochee River during construction.



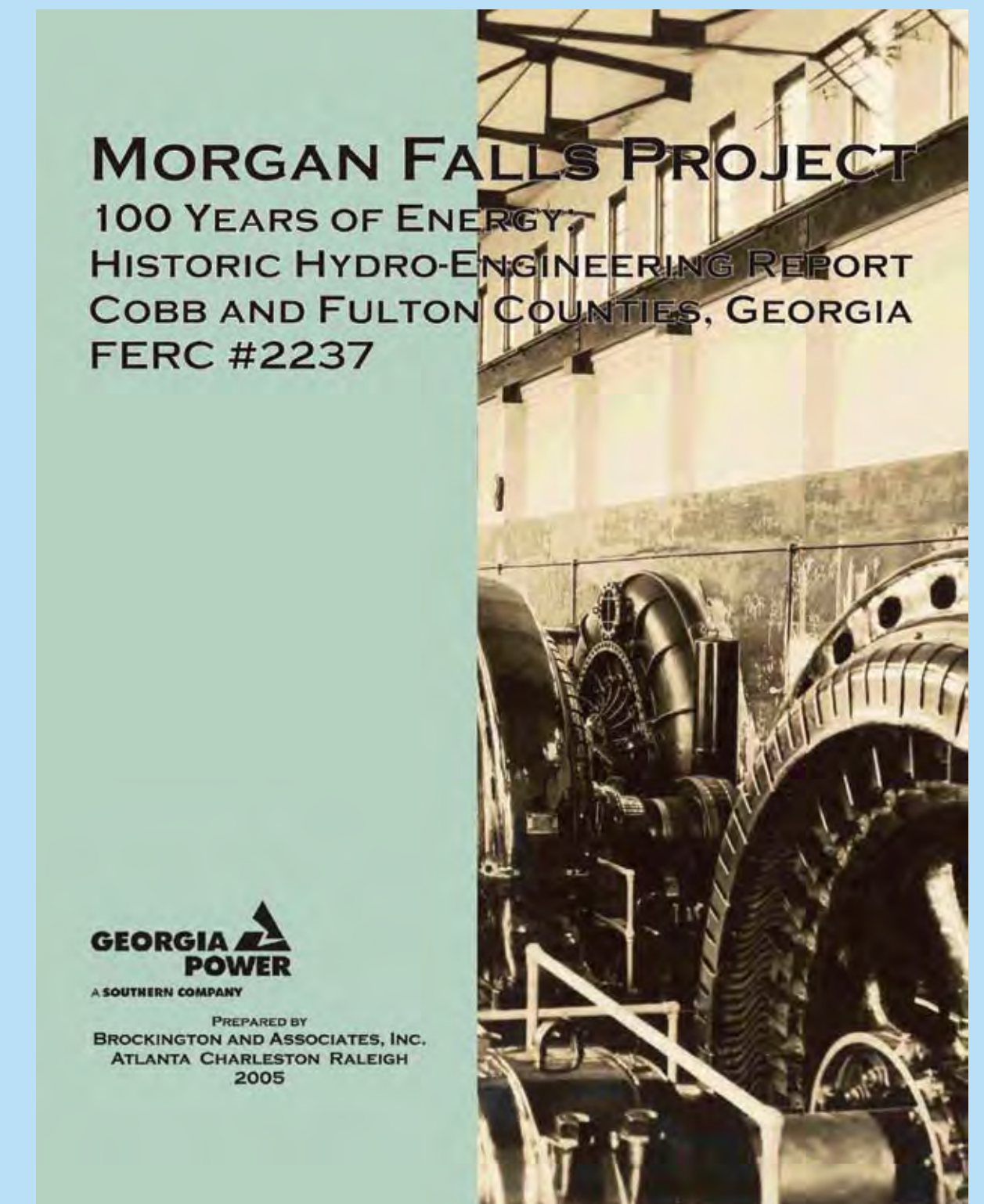
WHY IS MORGAN FALLS IMPORTANT?



Mayor William B. Hartsfield, in middle, stands outside of Morgan Falls.

As part of their Federal Energy Regulatory Commission (FERC) license renewal process, Georgia Power sponsored a history study of the Morgan Falls hydroelectric plant. In cooperation with the Georgia State Historic Preservation Office and FERC, the Georgia Power Company determined that Morgan Falls was a significant historical resource. Morgan Falls is important because of its architecture, its associations with the early development of hydroelectric engineering, and S. Morgan Smith, who is famous for inventing the water turbine.

Morgan Falls was built during a time when hydroelectric power was new and still an experiment. Plants like Morgan Falls helped with the invention and experimentation of long electrical transmission systems, dam construction, and the creation of efficient power generation. Morgan Falls was one of the first hydroelectric plants in the state of Georgia. It provided the first hydroelectric power for the City of Atlanta. With the opening date of 1904, Morgan Falls is the oldest hydro-engineering facility still operating in Georgia.



The 2005 historic resources evaluation of Morgan Falls.



The new bridge completed over the spillway, circa 1960.

LOOKING TO THE FUTURE

The Georgia Power Company is committed to protecting Morgan Falls. In 2006, the company developed guidelines for the preservation of the facility's engineering features. The company also developed a shoreline management plan, which provides guidance for protection of natural features around Bull Sluice Lake. The protection of places like Morgan Falls creates recreational opportunities, such as fishing and boating. It also preserves natural habitats for many plant and animal species.

Present-day photograph of the spillway.

