GEORGIA POWER
A SOUTHERN COMPANY

HYDRO

NORTH GEORGIA HYDRO GROUP

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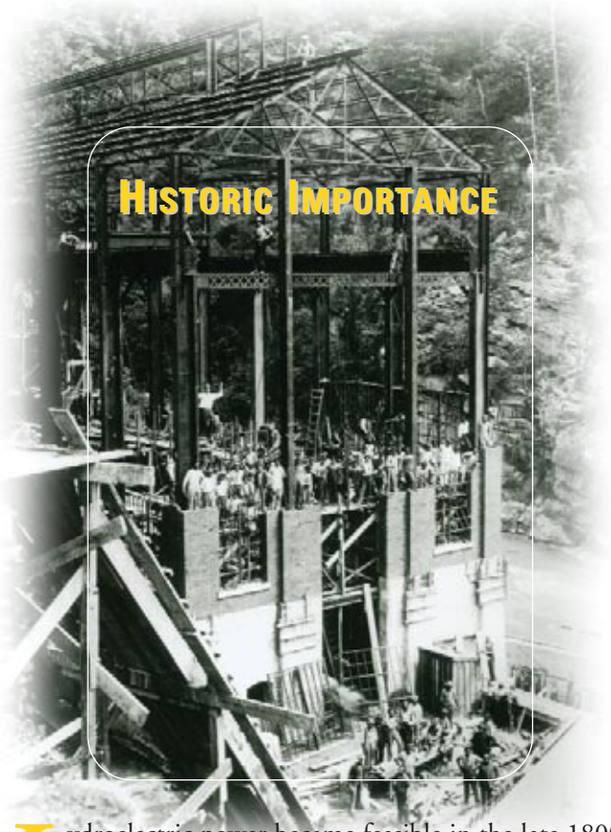
A SOUTHERN COMPANY

Nature's Energy For Work And Play

Located in northeast Georgia, along a 28-mile stretch of the Tallulah and Tugalo Rivers, are six hydroelectric plants that have profoundly influenced the landscape of this region and contributed to its growth, beauty and enjoyment. These plants - Burton, Nacoochee, Terrora, Tallulah Falls, Tugalo and Yonah - comprise Georgia Power's North Georgia Hydro Group.

Like the Company's other hydroelectric facilities, the plants in the North Georgia Hydro Group use the natural energy of falling water to produce efficient and economical electricity for Georgia. Together, these six plants can produce 166,420 kilowatts of electricity.

In addition to generating electricity for homes, businesses and industries, the North Georgia Hydro Group provides lakes for fishing, boating, swimming and other water sports as well as shorelines for parks, picnicking, camping and lakeside living.



Historic Importance

Hydroelectric power became feasible in the late 1800s, as did the ability to transmit electricity for use at locations remote from power plants. This meant factories no longer had to locate at rivers for mechanical power; electrical power could now go to factories wherever they were located.

The plants in the North Georgia Hydro Group were built between 1911 and 1927 - most of them for the original purpose of supplying power to Atlanta, as there was then so sizeable market for electricity in the North Georgia area. Though small in comparison to today's power plants, they were more than adequate for a time when electricity was still coming into everyday use.

All six of the plants in the group were built by the Georgia Railway and Power Company, a predecessor of the modern-day Georgia Power Company. These hydro projects were unique in that they used, in a continuous 28-mile stretch of the Tallulah and

Tugalo Rivers, the entire 1,199-foot head between the crest of Burton Dam, the uppermost of the six, and the normal elevation of the water in the tailrace of Yonah Dam, the lowest in the series. They were built in stair-step fashion; that is, the waters of each dam backed water up to, and became the tailwater of, the dam next above (see illustration on inside back cover).

At the time of its completion in 1927, this was the most completely developed, continuous stretch of river in the United States. In the early days, engineers from all over America and many foreign countries came to North Georgia just to view this development.

These six plants and in particular, Terrora and Tallulah Falls, are outstanding examples of early engineering achievement. Because of their significance, they are on the Historic American Engineering Record's list of "76 Historic Engineering Sites in Georgia."

Importance Today

The plants in the North Georgia Hydro Group are still in operation today, and although Georgia Power continues to maintain them and make necessary repairs, they are essentially the same as when they were first constructed. All of the dams, powerhouses and generating equipment in the group are original.

The North Georgia Hydro Group is especially important today because water power remains the most inexpensive way to generate electricity. No costly fuels such as coal, oil, gas or uranium are needed. Whenever electricity can be produced at a hydro plant, Georgia Power is able to reduce its fuel consumption and costs - a benefit that is passed on to customers.

There are 19 hydroelectric plants in Georgia Power's generating system.* These facilities work best when water is abundant, primarily in the spring and fall rainy seasons. They then supply about four percent of the Company's total electrical output.

In addition to producing electricity, hydro plants provide many other benefits. The North Georgia Hydro Group, for example, provides recreational opportunities, orderly development of the state's waterways and improved stream flow. It also contributes significantly to the economic vitality of the region. Georgia Power, for instance, regularly purchases materials and services from local vendors that are necessary for operating and maintaining the plants and parks in the group, employs some 70 people at those sites, and pays more than $400,000 each year in property taxes to the counties where they are located. In addition, the area's recreational facilities help make the region attractive to industry, businesses, homeowners and tourists.

Like other hydroelectric plants, the ones in this group are operated under licenses issued by the Federal Energy Regulatory Commission. In addition, they meet or exceed requirements by other agencies such as the Environmental Protection Agency, U.S. Army Crops of Engineers, State Game and Fish Commission, U.S. Department of Energy, Occupational Safety and Health Administration, and the Equal Employment Opportunity Commission.

For more information about Georgia Power's hydroelectric plants, write to: Corporation Communication Department; Georgia Power Company; P.O. Box 4545; Atlanta, Georgia 30302.

*Includes Barnett Shoals, a leased plant.

Using the Natural Power of Water

The principles used in a modern hydro plant are the same as those used centuries ago. Then, the natural energy of falling or flowing water was harnessed and changed into mechanical energy by paddle wheels, like those seen at old grist mills and textile plants. The water turned the wheels and the wheels turned the machinery.

In the late 1800s, hydro energy was first changed into electrical energy by allowing water to spin turbines connected to electric generators instead of paddle wheels. To meet the ever-growing demand for energy, dams were built to hold and store the enormous amounts of water (called reservoirs) needed to produce thousands of kilowatts of electricity.

In this simplified diagram (opposite page), you can see how the North Georgia Hydro Group uses the natural power of water to generate electricity:

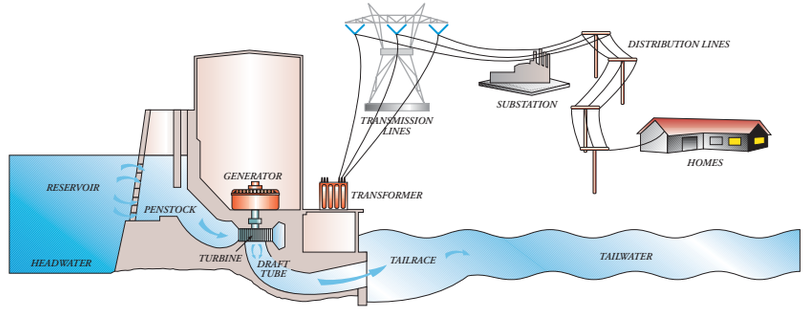
Falling water from the reservoir (A) passes through the penstock (B) to enter the powerhouse. The flowing water turns the propeller-like water wheel or turbine (C), which is connected by a shaft to the generator (D), which spins and produces electricity.

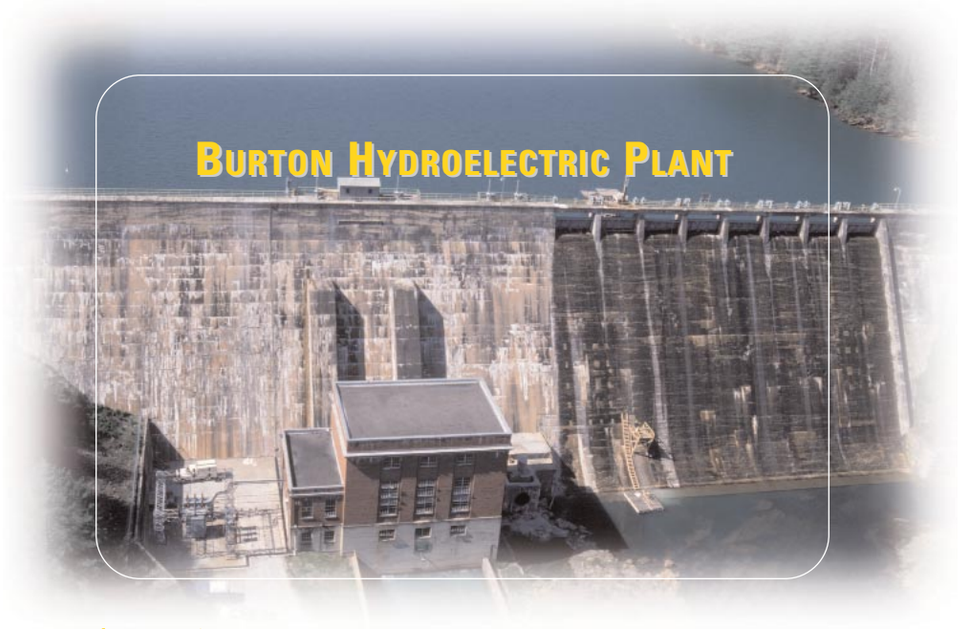
The same water that flowed through the turbine (C) is then discharged through the draft tube (E), where it enters the tailrace (F) and returns unaltered to the river below the dam.

The electricity produced by the spinning generator (D) is conducted to the power transformer (G), where the voltage is increased. The high voltage electricity is then fed into Georgia Power's transmission lines (H) for distribution throughout the state to electricity customers.

At Plants Terrora and Tallulah Falls, the process is slightly different. At these facilities, the water from the reservoir is delivered to the penstock through tunnels or pipes, rather than directly from the reservoir itself. Otherwise, the plants operate identically to the others in the group.

Each plant has a control room, located in the powerhouse, from which it is operated by Georgia Power Company employees.





Burton Hydroelectric Plant

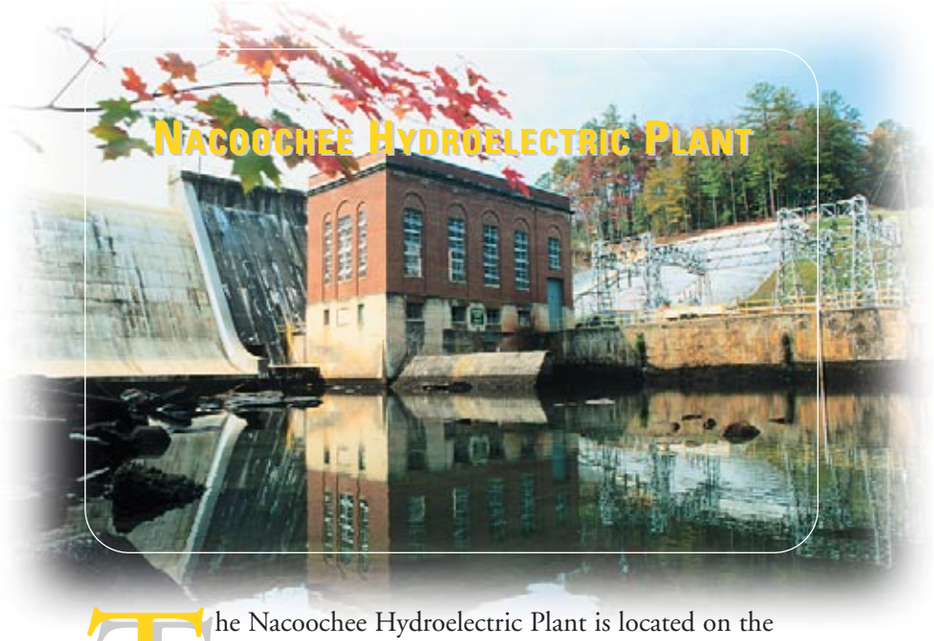
The Burton Hydroelectric Plant is located on the Tallulah River and is the uppermost of the plants in the North Georgia Hydro Group.

Plans for the development were begun in 1917, shortly following the country's entry into World War I and in response to the increased demand for electricity that had caused. The project, however, was not originally intended to be, nor built as, a full-fledged generating plant, but as a storage and flow-regulating facility for the Tallulah Falls Plant downstream. At the time, that was the only completed and operational plant in the North Georgia Hydro Group. By constructing Burton Dam, a reservoir capable of holding 5 billion cubic feet of water - the equivalent of 55 million kilowatt-hours at Tallulah Falls - would be created, thus helping the latter to achieve its full water-power potential.

In acquiring the land for the proposed reservoir area, the Company had to purchase the town of Burton (from which the plant derives its name) and surrounding lands, including the homesteads of 65 families. The negotiations for those as well as schools, churches and stores in the area were handled by J.E. Harvey of Tallulah Falls.

The gravity concrete dam, which stands 128 feet high and spans 1,110 feet across the Tallulah River, was finished on December 22, 1919, and the reservoir was completely filled by August 18, 1920. With a water surface area of 2,775 acres and a shoreline of 62 miles, this reservoir, Lake Burton, is by far the largest in the North Georgia Hydro Group.

The plant's powerhouse, considered of a secondary importance to Burton's original purpose as a water-storage facility, was built several years after the dam. Located on the river's west bank, it was completed and placed in operation in 1927. It contains two 3,060-kilowatt generating units which give the Burton Plant a total generating capacity of 6,120 kilowatts.



Nacoochee Hydroelectric Plant

The Nacoochee Hydroelectric Plant is located on the Tallulah River between Burton Dam and the head of Lake Rabun. It was designed and built to use the 60-foot fall in the Tallulah River between Burton Dam and the backwater from Mathis Dam.

Completed and placed in operation in late 1926, the Nacoochee Plant was the last development constructed by the Georgia Railway and Power Company. The installation of the generating units at Burton Dam took place after the completion of Nacoochee but that was in 1927, after the Georgia Railway and Power Company was consolidated with several other electric utilities in the state to form the modern-day Georgia Power Company.

The Nacoochee Plant was conceived by Charles G. Adsit, who joined the Company in 1911 as resident engineer of the Tallulah Falls development. He was later made chief engineer, in charge of the installation of that plant's sixth unit as well as the construction of the Burton Dam, Tugalo, Terrora, Yonah and Nacoochee projects. He was then named executive engineer with supervision over all engineering work. He eventually became a vice president and director of the Georgia Railway and Power Company as well as its successor, Georgia Power, serving in that capacity until he resigned in 1927. Mr. Adsit was one of the first six persons in the U.S. bestowed with the title of "Fellow" by the American Institute of Electrical Engineers.

The Nacoochee development includes a powerhouse, located on the river's southwestern bank, which contains two 2,400-kilowatt generating units. These give the plant a total generating capacity of 4,800 kilowatts. The facility's gravity concrete dam is 75 feet high and 490 feet long. It impounds Lake Seed, a 240-acre reservoir where water sports and other recreation can be enjoyed.

With the exception of Burton, all of the North Georgia Hydro Group plants bear Cherokee Indian names. In that language, "Nacoochee" means "evening star."

The Terrora Hydroelectric Plant is about three river miles upstream from the Tallulah Falls Plant. It is similar in operation to, and an engineering feat as remarkable as, that plant.

Terrora's history is similar to Burton's in that its dam, Mathis Dam, was built several years before its powerhouse and for the same original purpose: to create a storage reservoir for the Tallulah Falls Plant. Completed in 1915, the 108-foot-high by 660-foot-long, ambersen-type concrete dam impounds Lake Rabun. With a water surface of 834 acres and a shoreline of 25 miles, it is the second largest lake in the North Georgia Hydro Group.

It was expected that a powerhouse with two generating units would later be built into Mathis Dam on Lake Rabun. This plan was abandoned, however, in favor of locating the powerhouse at the head of Tallulah Lake, where it could use the water's 190-foot drop in altitude between these two lakes. Ninety feet of this drop was formed by Mathis Dam; 100 feet by the fall in the Tallulah River. (The force of the original river's steep descent here was, in fact, so furious that the Indians called it "Talula" or "Taruri," meaning "the terrible." From this, the name "Terrora" was taken to identify the new powerhouse.)

To best capture this drop, Charles Adsit, the Company's chief engineer during construction of Terrora, proposed the building of a mile-long tunnel to take the water from Lake Rabun, just above Mathis Dam, to the powerhouse site. The tunnel would be built through a large mountain with shoulders of solid rock.

In the fall of 1923, two crews started blasting through the mountain from opposite sides. Nine months later, on the Fourth of July, 1924, the two teams met. The exact centers of the two tunnel parts at this intersection missed each other by only a fraction of an inch.

The south end of the tunnel connects with a forebay located on the side of the hill above the powerhouse. From the forebay, two steel penstocks - each nine feet in diameter and 900 feet long - pass the water to two 15,000-horsepower water wheels. Each wheel is directly connected to an 8,000-kilowatt generating unit. The two units were completed and placed in operation in 1925. Together, they give Terrora a total generating capacity of 16,000 kilowatts.

Tallulah Falls is the oldest and largest plant in the North Georgia Hydro Group. It is also among Georgia's outstanding monuments to engineering achievement.

The property for Tallulah Falls was originally purchased by the North Georgia Electric Company before 1905. After a series of utility-company acquisitions, it was sold in 1910 to the Georgia Power Company, an ancestor of, but not the same as, the Georgia Power Company today. Envisioning a plant like no other in the Southeast, the Company immediately planned and proceeded with its construction according to designs set forth by Charles O. Lenz, chief engineer of the project. Work was soon halted, however, due to the Company's lack of financing and a sufficient market for the plant's power. This situation led the Company to merge in 1912

with several other utilities that could use the plant's capacity, thereby forming the Georgia Railway and Power Company.

About 25 percent of the plant had been completed when the new company took the project over. Soon thereafter, a lawsuit was filed that attacked its claim to the Tallulah Falls property. The Company's title, however, was held to be valid in what was considered one of the best prepared civil cases ever tried in Georgia.

The plant's first unit began operating in 1913 and by early 1914, all five 12,000-kilowatt generating units had been completed, making it then the third largest hydroelectric facility in the country and giving the Company a greater power supply than its demand for several years to come. Unit six, identical to the other five, was not added until 1919. This brought the plant's total output to its present-day capacity of 72,000 kilowatts.

The development consists of a 126-foot-high by 426-foot-long dam built across the Tallulah River just above the falls. It directs the water to an intake structure on the river's right bank, and into a horseshoe-shaped tunnel. The tunnel - 11 feet wide at the base, 14 feet high, 6,666 feet long, cut through solid rock and lined with concrete throughout - leads from the intake structure to the forebay on the side of the gorge above the powerhouse. From the forebay, the water is passed to the powerhouse through six massive steel penstocks.

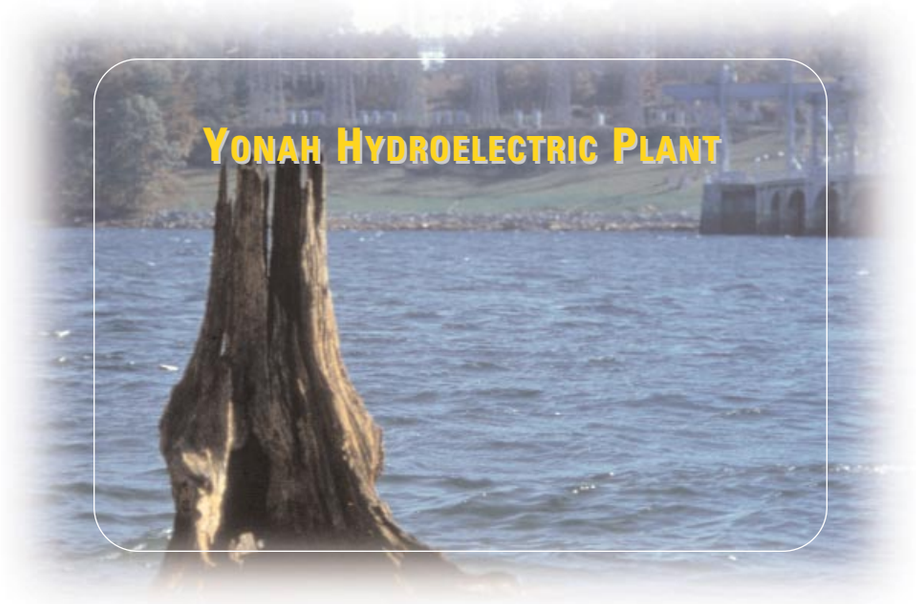
The Tugalo Hydroelectric Plant is situated about two miles south of the Tallulah Falls Plant, just below where the Tallulah and Chattooga Rivers meet to form the Tugalo River. (Hence, the reason why the river and plant were so named; in the Cherokee Indian language, "Tugalo" means "fork of a stream.") The plant's location at this confluence gives it the benefit of almost 300 square miles of Chattooga River drainage area in addition to the nearly 200 square miles of Tallulah River drainage area.

The Tugalo Plant is the second largest in size and was the second to be completed of the six plants in the North Georgia Hydro Group. It has four generating units, each with a capacity of 11,250 kilowatts. The generators are directly connected to four water wheels of 22,000 horsepower each, as compared to the 18,000-horsepower water wheels at the first-built plant in the group, Tallulah Falls.

Construction of Tugalo's dam was begun during the latter part of 1917, but was halted shortly thereafter due to the adverse financial conditions World War I created. Work on the plant was not resumed until January 1922, when it was pressed steadily forward to completion. The plant's first two generating units began producing electricity in 1923; units three and four were placed in operation the following year. These four generating units, housed in a powerhouse on the Tugalo River's western shore, collectively produce 45,000 kilowatts.

The plan's gravity concrete dam stands 155 feet high and spans 940 feet across the river. It impounds Lake Tugalo, which has a surface area of 597 acres and a shoreline of 18 miles. The dam has an available storage capacity of 500 million cubit feet, backing water up the Tallulah River to the tailrace of the Tallulah Falls Plant and up the Chattooga River a distance of three miles.

The Tugalo Plant is the operating headquarters for the North Georgia Hydro Group. Its personnel manage all administrative and maintenance functions of the plants in the group.



Yonah Hydroelectric Plant

The Yonah Hydroelectric Plant is situated three miles below the Tugalo Plant on the Tugalo River, which at that point forms the border between Georgia and South Carolina. The eastern half of Yonah's dam is, in fact, in South Carolina.

Construction on the dam was begun in 1923, the same year the Terrora project was started and a year after work had resumed on Tugalo. To get the necessary materials and equipment to the Tugalo and Yonah sites, a special railroad was built from a point in the Southern Railway near Toccoa, to Tugalo, passing the site of the Yonah development. Upon completion of the two plants, the railroad was abandoned and dismantled.

The Yonah Plant was completed and placed in operation in 1925. Its powerhouse, located on the river's west bank, houses

three generators, each with a capacity of 7,500 kilowatts. Each generator is directly connected to a 12,500-horsepower water wheel. These three water wheels, like those of the other plants in the group, were manufactured by the S. Morgan Smith Company, which was one of the largest builders of water turbines in the world. The company's founder, S. Morgan Smith, was the first pioneer of hydroelectric development in Georgia. He was responsible for the 1902-4 construction of Morgan Falls near Atlanta, on e of the earliest such power plants in the state.

Yonah's dam is 90 feet high and 980 feet long. The gravity concrete structure impounds Lake Yonah, a reservoir with 325 acres of water surface and nine miles of shoreline. In producing electricity, the plant uses all of the water that passes through Tugalo Dam, which comes from the storage reservoirs on the Tallulah River as well as from the flow of the Chattooga River. Like the other plants in the North Georgia Hydro Group, Yonah is still making an important contribution to present-day energy requirements. Its original three generating units can still produce a total of 22,500 kilowatts.

The origin of Yonah's name is from a Cherokee Indian word that means "big black bear."

Recreation

After the North Georgia Hydro Group projects were completed, Georgia Power began a land management program to preserve the natural beauty of the region surrounding the lakes and to protect its forests, wildflowers and water quality. Later, the Company provided the public access to the lakes and forests in the area by opening many recreational facilities for its use.* These facilities and their amenities include:

1. Jones Bridge Park

- Two sheltered picnic areas

2. Timpson Cove Beach

- White sand beach
- Picnic area
- Restrooms

3. Murray Cove Boat Launch Area

- Paved boat ramp for small- and medium-sized boats

4. Lake Seed Boat Launch Area

- Gravel boat ramp for small boats

5. Lake Seed Campground

- White sand beach
- Wilderness campsites
- Picnic Area
- Latrines
- No water available

6. Nacoochee Park

- Picnic area
- Restrooms

7. Terrora Park and Education Center

Camping Area

- Fifty campsites with electrical and water hookups, tables and grills
- Bath house with hot showers
- Playground
- Pavilion

Park

- White sand beach with lifeguard in summer season
- Lighted tennis courts
- Covered pavilion with stage and dressing rooms
- Playground
- Picnic area
- Restrooms
- Fishing pier
- Nature trails, including trail to Tallulah Gorge overlook
- Playing field

Education Center

- Permanent exhibits on electricity production and the North Georgia Hydro Group
- Rotating displays on the area's history, natural mountain habitat, pioneer culture and crafts
- Conference room with A/V equipment for group meetings Information on Georgia Power's recreational facilities

Tallulah Point

- Two sheltered picnic areas •Restrooms

Tugalo Park

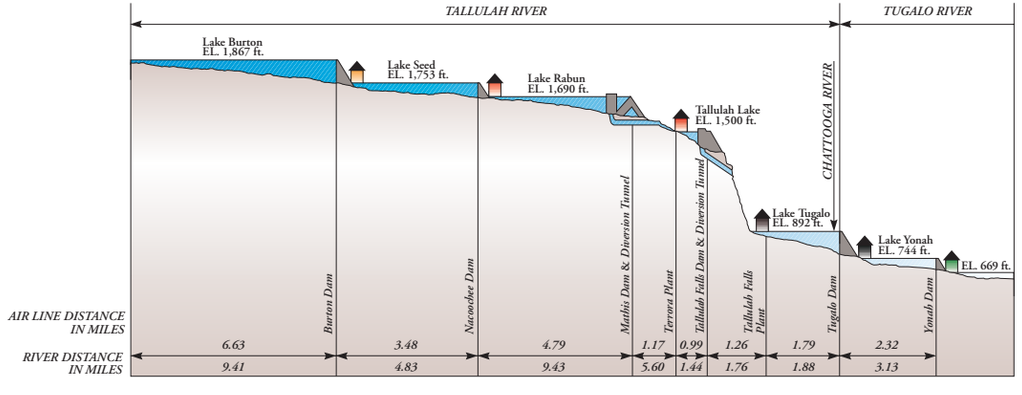
- Primitive camping area • Restrooms •Boat launch area

Yonah Park

- Picnic area

Georgia Power manages and maintains all of these recreational facilities for the public's enjoyment. For more information about them, contact: Terrora Park; U.S. Hwy. 23/441; P.O. Box 9; Tallulah Falls, Georgia 30573; (404/754-3276 or 404/754-6036.)

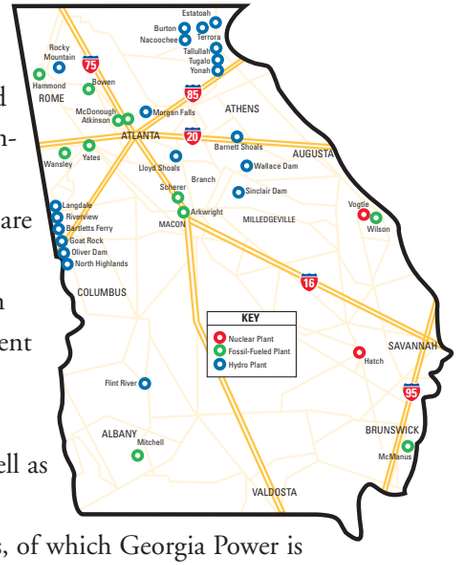
*Georgia Power provides these facilities in accordance with licensing requirements by the federal government.



Georgia Power

Georgia Power is one of the largest investor-owned electric utilities in America. Our 16,000-megawatt system supplies electricity to 97 percent of the state. With 33 generating plants and an extensive transmission network, we serve more than 1.4 million customers located in all but six of Georgia's 159 counties.

Georgia Power is also widely known as an efficient and reliable electric utility. Our plant operating availability record is one of the highest in the nation. One reason for this is a commitment to excellence by our employees. Another is that the vast majority of our generated electricity is produced by coal-fired plants, with the remainder by nuclear and hydroelectric units. These three types of facilities are much more economical to operate than oil- and gas-fired plants, which together produce less than one percent of our total generation.



The Southern Company is the parent firm for Georgia Power as well as Alabama Power, Gulf Power and Mississippi Power. These companies, of which Georgia Power is the largest, comprise the Southern electric system. We are fully integrated with all 239 generating units in this system which strengthens our ability to supply reliable electric power at reasonable costs.

North Georgia Hydro Group Data

	BURTON	NACOOCHEE	TERRORA	TALLULAH FALLS	TUGALO	YONAH
Commercial Operation Date	1927	1926	1925	1913	1923	1925
Plant Capacity	6,120 kw	4,800 kw	16,000 kw	72,000 kw	45,000 kw	22,500 kw
No. of Units	2	2	2	6	4	3
Dam	Gravity Concrete	Gravity Concrete	Ambursen Concrete	Gravity Arch Concrete	Gravity Concrete	Gravity Concrete
Height	128 feet	75 feet	108 feet	126 feet	155 feet	90 feet
Length	1,867 feet	490 feet	660 feet	426 feet	940 feet	980 feet
Reservoir	Lake Burton	Lake Seed	Lake Rabun	Tallulah Lake	Lake Tugalo	Lake Yonah
Water Surface	2,775 acres	240 acres	834 acres	63 acres	597 acres	325 acres
Shoreline	62 miles	13 miles	25 miles	3.6 miles	18 miles	9 miles
Crest Elevation	1,867 feet	1,753 feet	1,690 feet	1,500 feet	892 feet	744 feet
County	Rabun	Rabun	Rabun Habersham	Rabun & Rabun, GA.	Habersham & Habersham. GA Oconee, S.C.	Stephens & Oconee, S.C.

Total Group Capacity: 166,420 kilowatts **Operating Headquarters: Tugalo**