

PRIVATE PROPERTY- PUBLIC USE

*Understanding land acquisition for
transmission lines and substations*



GeorgiaTransmission

About Georgia Transmission Corporation (GTC)

Georgia Transmission Corporation delivers electricity from power suppliers to 39 Electric Membership Corporations (EMCs) in Georgia. Together, these EMCs serve 4.5 million people across Georgia.

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Maintaining reliable electric service in one of the fastest growing states in the nation is a continual challenge. Sometimes, it requires building new transmission lines and substations. While the result – dependable electricity – benefits everyone, we realize that the construction of new transmission lines and substations can be unsettling. Understandably, you may have many questions and concerns. That’s why Georgia Transmission Corporation (GTC) has developed this booklet. It is designed to answer frequently asked questions about our projects and our land acquisition procedures. It also provides information about landowner rights, utility company rights – and about our responsibilities to you in the process.

If you have questions after reviewing this material, please direct them to the resources listed on the back cover.

Commonly Asked Landowner Questions

Q. Who is Georgia Transmission Corporation?

A. Georgia Transmission Corporation (GTC) is a not-for-profit cooperative that provides electric transmission services. For 23 years, GTC was a part of Oglethorpe Power Corporation (OPC), which was founded in 1974. GTC became a separate company from OPC in a 1997 restructuring. GTC is owned by 39 Electric Membership Corporations (EMCs) in Georgia. Our primary service is to transport electric power from power generators to the EMCs. The EMCs, in turn, deliver the electricity directly to consumers. Under the rules of the Federal Energy Regulatory Commission, GTC also transports electricity to other power companies outside of the EMC network.



Q. We have reliable electric service now. Why is a new substation or new transmission line needed?

A. Georgia continues to be one of the fastest growing states in the nation. Maintaining a reliable electric grid requires new transmission lines and substations to meet this growing demand for electricity.

Q. How do you know when new facilities are needed?

A. Operations and planning engineers at GTC and at local EMCs routinely monitor system performance. Whenever a problem is identified, GTC evaluates the system's performance under projected future electrical loading conditions.

If it is determined that the existing facilities will no longer be adequate to maintain reliable electric service, a study is conducted to analyze potential solutions including potential upgrades to existing facilities and construction of new facilities. Of these alternatives, the solution that most effectively meets the electrical need and other criteria is released for construction.

Georgia Transmission Corporation participates in a statewide network called the Integrated Transmission System (ITS). The ITS allows GTC and other electric transmission providers in Georgia to share electric transmission facilities. This results in joint planning to enhance electric service reliability, avoid duplication of facilities and reduce cost of electricity for Georgia consumers.



Q. What role does the local EMC play in locating new substations and transmission lines?

A. A local EMC determines that a new substation is needed to maintain reliable electric service to its customers and the EMC determines the general area where the substation must be located to meet the electrical need. This area is known as the "load center." Generally, a load center is near where two or more EMC electrical circuits

intersect and the electric load can be evenly distributed. To meet the electrical need effectively, the new substation must be located within this load center. When a new substation is built, a new transmission line may be needed to connect the new substation to an existing transmission source. Although the EMC defines the load center boundaries based on electrical attributes of its system,

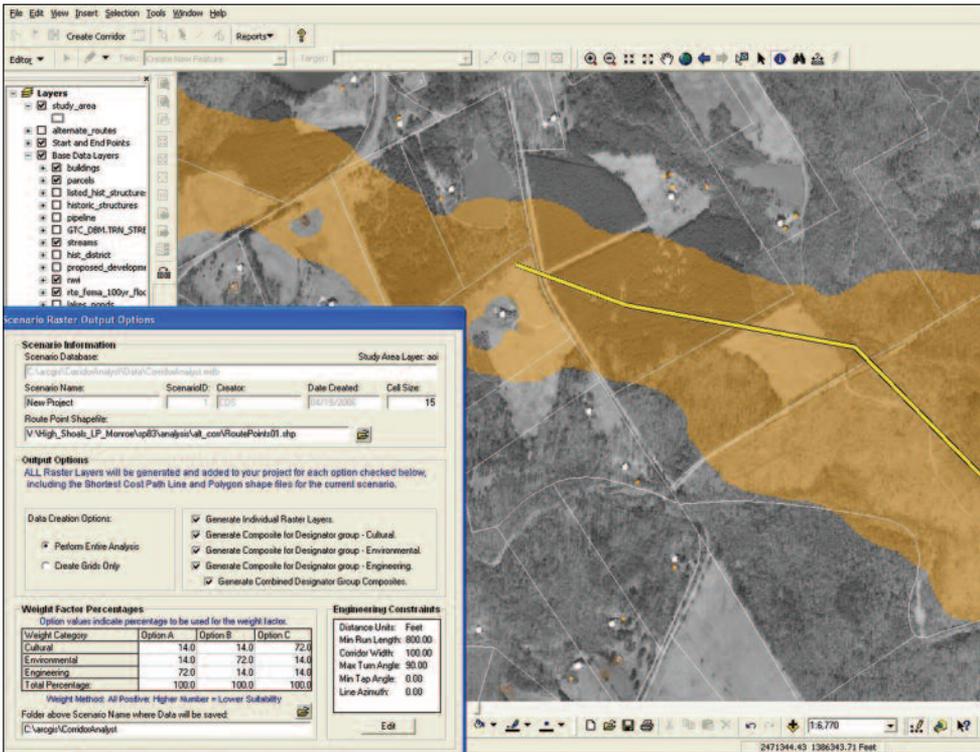


GTC selects the specific substation site and routes the transmission line. Some new transmission line and substation projects do not involve upgrades to local EMC facilities. On these projects, the local EMC has no involvement.

Q. How does GTC develop alternate substation sites and transmission routes?

A. GTC has worked closely with the Electric Power Research Institute to develop a model for improving the way utilities site transmission lines. That model is gaining widespread attention within the electric utility industry. In selecting a practical and feasible route for the location of an electric transmission line, GTC considers existing land uses in the geographic area, existing corridors, existing environmental conditions in the area, engineering practices and costs related to construction, operation and maintenance of the line.

In cases where a transmission line with a design operating voltage of 115 kilovolts or greater and a length of one mile or longer is involved, and where eminent domain may be necessary, GTC is required to conduct public meeting(s) and provide an opportunity for the public to comment. Under this process, GTC must provide notice by mail and through newspapers to potentially affected property owners and to the chairperson or chief executive of their county and to the mayor of their municipality. In the notice and at the meeting, GTC will describe the proposed project, general route and width of the transmission line right of way, provide an explanation of the alternative



construction approaches considered by GTC and a statement of why such alternatives were rejected.

For substation sites, once a study area is defined, GTC uses an overlay map to identify land use, community, cultural, environmental and physical features of the area and to locate potential corridors and substation sites that would minimize the project's overall impact to the extent practical. Factors such as design, access, costs and constructibility are also considered as part of this process. Based on this analysis, GTC selects the most suitable location for these facilities. Our goal is to meet the growing electrical needs of the system while minimizing the overall impact on the community and the environment.

Q. What is GTC's process for buying my property or acquiring an easement from me if my property is needed?

A. First, GTC will contact you for permission to survey your property. The survey will enable us to accurately locate property lines and improvements, create a profile of the topography and identify any cultural resources, wetlands delineation and protected species. During this process, it will be important for you to inform us of any future improvements or changes you plan to make to your property so that we can minimize any impact in designing the new transmission facilities. During the survey, it may be necessary for GTC to trim or cut trees to establish a line of sight, or to take soil borings to determine subsurface characteristics. Gathering this information is critical to establishing correct boundaries and assuring appropriate siting for transmission facilities.

As part of this process we will conduct an appraisal to assess the fair market value of your property or use appropriate sales data. We will provide you with a written statement and summary of the fair market value of your property based on this assessment. This will serve as the basis of our offer to purchase your property or acquire an easement.

Q. What is an easement?

A. An easement is when a landowner retains ownership of the property, but conveys limited rights to the easement holder for specific uses. When GTC obtains an easement, we do so for the construction, operation and maintenance of our electric transmission line and associated facilities. The acquisition document contains the easement terms and conditions in full. Our land agent will also explain the easement to you and answer any of your questions.

It's important to know that only the acquisition document is binding. Any terms or conditions that are stated verbally are not binding unless they are contained in the written acquisition document. Please make sure you read and understand this document before signing it.



Q. What types of property rights does GTC acquire?

A. We acquire easements for the construction, operation and maintenance of our electric transmission line and associated facilities; however, property owners retain rights to utilize the property (as described, in part, on page 12). We usually acquire fee simple property rights (meaning GTC becomes the property owner) for the construction of substations so that GTC can maintain our facilities in a safe and reliable manner.

Q. How will I be compensated for my property?

A. If GTC needs to acquire an easement or purchase property from you, you will be entitled to fair market value, which is defined as the estimated price the property would bring on the open market in a transaction involving a willing seller and a willing buyer with both exercising reasonable judgment.

The amount would be determined through an internal property evaluation by GTC or an independent, external property appraisal. The acquisition document sets down in writing all of the points of final agreement between the landowner and GTC. After you sign this document, you will receive compensation for the agreed-upon amount.

Q. If GTC needs an easement from me, or purchases a portion of my property, does the appraisal take into account how the value of my remaining property might be affected?

A. Yes. Part of our appraisal includes an assessment of how the remaining property is affected. If the appraiser determines that the value of your property not within the easement is affected, we will separately state in our offer to you the amount of consequential damages, as determined by the appraiser, to the remainder of your property.

Q. What happens if we cannot reach an agreement?

A. The Constitution of the State of Georgia and the U.S. Constitution both provide that private property may be acquired for a public purpose or use, such as locating power facilities, and that the property owner will receive just compensation. In cases of property acquisition, GTC attempts to negotiate with each owner in good faith. In fact, nearly all land and easement acquisitions are achieved through mutual agreement with landowners. Historically, less than four percent of GTC's land acquisitions have been obtained through eminent domain, and recently that number has been less than two percent. However, when an agreement on the acquisition of necessary property rights cannot be reached, we will file a condemnation action in the Superior Court of the county where the property is located.

Q. What is the condemnation process?

A. In the event we do file a condemnation action to acquire property to be used for an electric power substation or an electric transmission line of less than one mile in length or less than 115 kilovolts, landowners have certain rights in connection with GTC's decision to move forward with an exercise of eminent domain. These rights are spelled out in the Statement of Rights established by the Georgia Department of Community Affairs, a copy of which will be provided to the property owner(s) involved. Where these types of projects are concerned, a condemnation action cannot be filed with the Superior Court until at least 30 days after the date GTC approves exercising eminent domain.

In all condemnation actions, following a hearing (unless waived by GTC and the property owner), the Superior Court Judge will appoint an attorney to

serve as what is known as a “Special Master” in the case. The Special Master will conduct a hearing at which GTC and the property owner(s) may each present relevant evidence. (The hearing will be held 30 to 60 days after the Special Master’s appointment.) The Special Master, upon considering all such relevant evidence, will render an award within three days of the conclusion of the hearing and serve the award by mailing it to the parties involved. Either party may file an appeal of or exception to the award in Superior Court.

Q. Why do public utilities have the right to acquire private property?

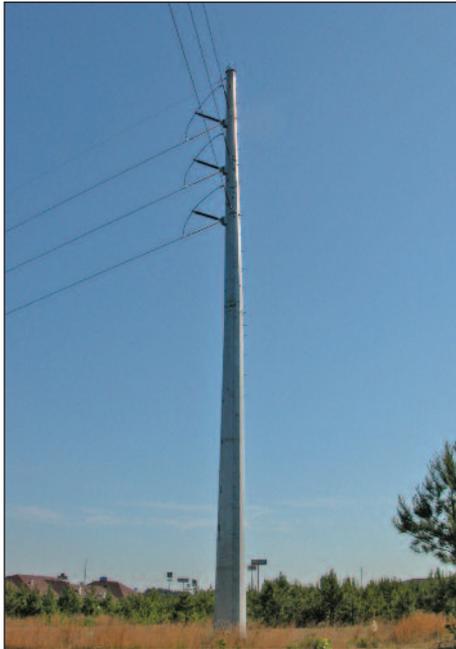
A. The constitutional right to acquire private property for a public purpose or use is known as eminent domain. Public utilities, such as GTC, are authorized by the government to exercise the power of eminent domain to locate facilities where they are needed to maintain reliable service. The use of land for the creation or functioning of public utilities is defined as a public use under Georgia law. Eminent domain, which may only be exercised for a public use, exists because services such as electricity, natural gas and water are considered necessities. They are essential services upon which lives and livelihoods depend. The only way to provide these services is to build the infrastructure where it is needed. The purpose of eminent domain is to prevent any property owner or group of property owners from denying an entire community adequate service.

Q. If GTC needs an easement from me for a transmission line, how wide will the easement be? Will there be a structure on my property? What type and size structure will be used?

A. Easement widths vary from project to project, as do the sizes and types of structures used. If you are contacted for survey permission, the GTC land agent will share with you information concerning the size of the transmission line (for example, a 115 kilovolt, 230 kilovolt or 500 kilovolt line). However, at that time, the type, size and location of structures and the exact easement width will not be known. This is because information gathered during property surveys is needed to finalize the transmission line design. This information will be communicated to you later.

We can provide you with approximate ranges, so you will have some idea of what to expect. Typically, on a roadside corridor, a single-pole design is used, and the poles are made of concrete or steel. Typically on a cross-country route, either a steel or concrete single pole, a concrete, steel or wood H-frame, or a steel lattice structure is used. Structure heights may vary based on terrain, distance between structures and other factors.

Typical ranges in structure heights and easement widths are shown in the table on the next page. These are approximates.



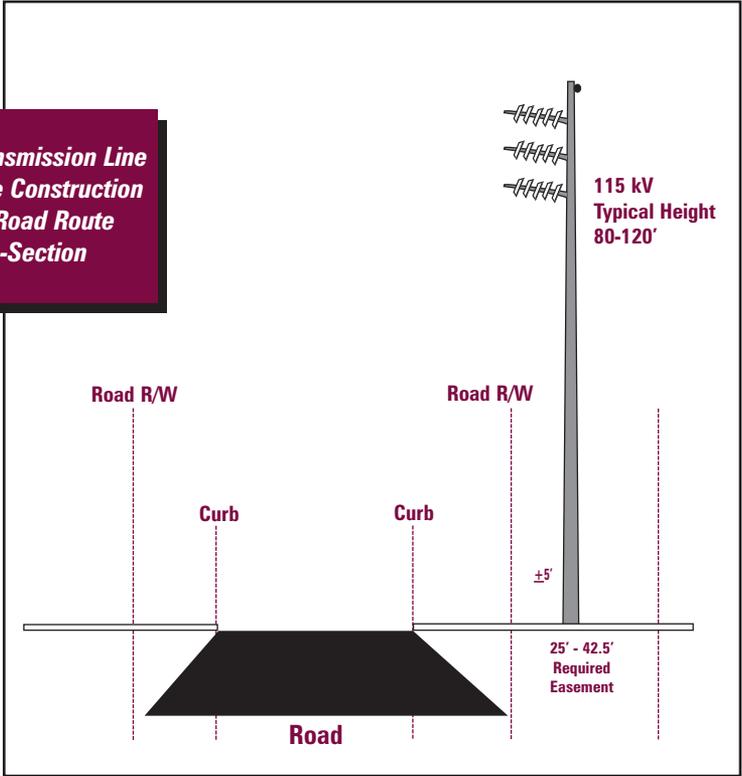
Typical Transmission Line Structure Heights (approximates)

	Roadside	Cross Country
115 kV Line Single pole	80-120 feet	60-80 feet
115 kV Line H-frame	n/a	60-90 feet
230 kV Line Single pole	80-120 feet	75-90 feet
230 kV Line H-frame	n/a	65-95 feet
500 kV Steel Lattice Structure	n/a	100-150 feet

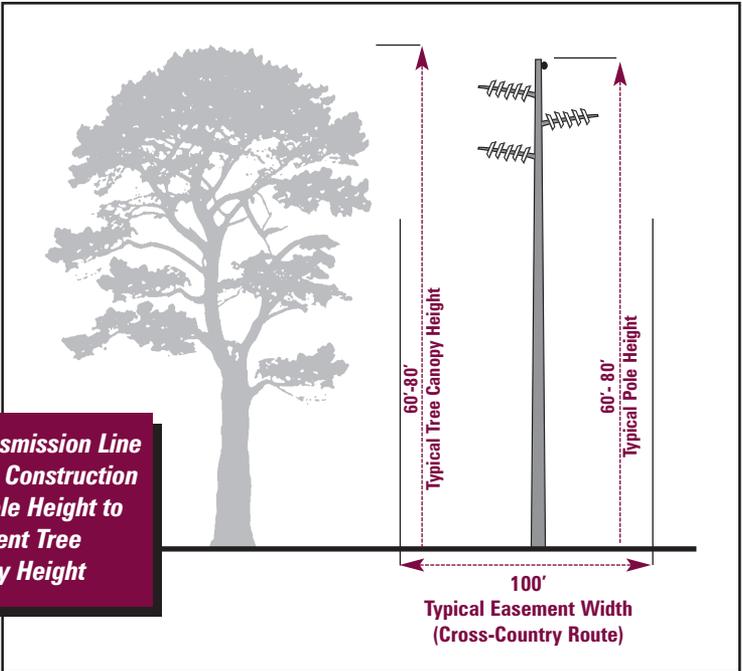
Typical Transmission Line Easement Widths (approximates)

	Roadside	Cross Country
115 kV Line Single pole	25-42.5 feet	± 100 feet
115 kV Line H-frame	n/a	± 100 feet
230 kV Line Single pole	25-42.5 feet	± 100 feet
230 kV Line H-frame	n/a	± 125 feet
500 kV Steel Lattice Structure	n/a	150-180 feet

**115 kV Transmission Line
Single Pole Construction
Typical Road Route
Cross-Section**



**115 kV Transmission Line
Single Pole Construction
Typical Pole Height to
Adjacent Tree
Canopy Height**



Q. What should I anticipate during construction of a transmission line?

A. While the inspector will be a GTC representative, we hire independent contractors for the clearing and construction work. Occasionally, this contractor might need special construction access from a property owner. If so, the contractor will contact you directly to make these arrangements.

The contractor will attempt to notify you to let you know that the work is about to begin. The work process will include the following steps:

- Staking the clearing limits and structure locations
- Installing erosion control devices
- Installing creek crossings and access roads, if applicable
- Clearing easements by mechanized equipment or hand-clearing
- Removing any danger trees, which are trees outside the easement that could cause future damage to the structures or transmission line because they are dead, weak, diseased, and/or leaning. Please note that removal of danger trees is covered in the acquisition document.
- Setting in place transmission poles, H-frames or lattice structures. After all of the structures are placed, overhead wires will be installed.
- Grassing and other right-of-way restoration

During clearing and construction, we will take necessary measures to control erosion. If necessary after construction is completed, additional restoration measures will be implemented to re-establish permanent ground cover so as to control offsite erosion and sedimentation.

Also during clearing and construction, a GTC inspector will oversee the day-to-day activities. Our independent contractors are responsible for ensuring:

- compliance with contract terms and project specifications
- compliance with regulatory requirements such as sedimentation and erosion control
- that danger trees are properly removed
- that any fences that were temporarily removed are reinstalled
- that gates are properly re-closed
- that construction crews are courteous and professional at all times
- that you are not unnecessarily inconvenienced during the process and that impacts are minimized.

Q. What do I do if I think my property was damaged during construction?

A. If you are concerned about any activities that take place on your property during clearing and construction, please notify the inspector in the field or your land agent as soon as possible. They can be reached at (770) 270-7400 or (800) 241-5374.

Q. *Is it safe to live near transmission lines?*

A. Electric and magnetic fields (EMF), which are associated with transmission lines, surround us every day. They are natural consequences of our use of electricity. These fields are produced by lights, motors, television sets, power lines, coffee makers, hair dryers and all other devices that use electricity.

Numerous EMF studies have been conducted during the past 35 years to determine if exposure to EMF is harmful. More than 20 scientific review panels have analyzed this body of research and concluded that none of these studies has established a cause and effect relationship between EMF and any harmful health effects.

GTC is committed to providing electricity in a reliable and safe manner that protects the health and safety of our consumers, our employees and the general public. We provide electricity based on all applicable safety codes and government requirements.

Q. *What activities are permitted on land being used by GTC for an easement?*

A. You may use property within the easement in many ways, including:

- yards
 - gardens, pastures and farmland
 - driveways and streets*
 - fences*
 - landscaping*
 - subdivision entrances*
 - recreational areas*
 - utility lines*
 - drainage fields for septic tanks*
 - parking lots*
 - railroad spurs*
- * Your proposed use should be reviewed with GTC to ensure that it is not in conflict with the easement terms and the National Electrical Safety Code (NESC).

If you have additional questions or concerns about possible uses, please discuss them with the land agent or phone GTC at 770-270-7086.



Q. What kind of trees and plants are allowed in rights of way?

A. Most species of shrubs, vegetables and grasses are allowed as long as they do not prevent access to or use of the easement area commonly referred to as the right-of-way. Trees, however, must be kept away from power lines and are subject to many federal safety and reliability regulations. In general, the following rules apply:

- The height of vegetation in rights of way is highly restricted to no more than 15 feet maximum at maturity and shall be strictly enforced.
- Electric utilities routinely inspect rights of way and will cut or remove trees that present a current or future risk to safety or electric reliability.
- Before planting vegetation in rights of way, we recommend that landowners have proposed species and uses reviewed by GTC to ensure compliance with the National Electrical Safety Code and other federal reliability standards.

Q. What is the maintenance schedule for a transmission line easement?

A. GTC must keep the easement clear of vegetation that could interfere with the safe and reliable operation of the transmission line. The easement will be maintained on a periodic cycle. GTC maintains rights-of-way by using either mechanical equipment or by applying non-restrictive use herbicides that are approved by the Environmental Protection Agency. By using herbicides, we are able to reduce soil compaction, erosion and sedimentation and leave nesting animal species undisturbed.



Steps to Building New Transmission Line Facilities

1. Identify the need and electrical alternatives.
2. Determine width and route of transmission line facilities and develop a description of alternative construction approaches considered by GTC and a statement of why such alternatives were rejected.
3. Define study area; conduct review of existing land uses; existing environmental conditions in the area; engineering practices relating to the construction and operation of the line; and costs related to the construction, operation and maintenance of the line.
4. Identify potential transmission line corridors/substation sites; analyze and rank alternative corridors/sites; and select preferred transmission line corridor using siting criteria.
5. Begin contacting landowners for survey permission to perform additional environmental and land surveys.
6. Conduct public meeting(s), as required.
7. Complete environmental and land surveys. Finalize transmission line route and design.
8. Acquire property rights through good faith negotiations and written offer.
9. Acquire necessary permits.
10. Construct facilities.



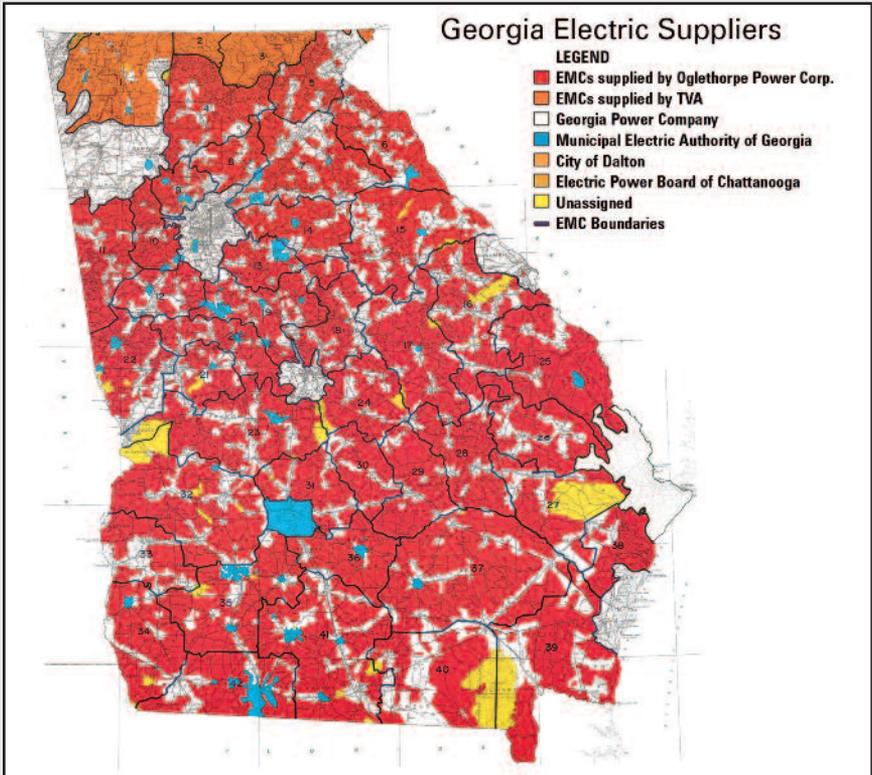
Steps to Building New Substation Facilities

1. Identify the need and electrical alternatives.
2. Determine study area for location of proposed substation facility based on need and electrical alternatives identified.
3. Review transmission line corridors and conduct engineering and environmental review of study area for proposed substation sites.
4. Analyze and rank proposed substation sites and select preferred site.
5. Begin contacting landowners for survey permission to perform additional engineering and environmental review of property.
6. Finalize substation designs.
7. Acquire property rights, as required by Georgia law, through good faith negotiations and a written offer which would be based on an independent appraisal.
8. Acquire necessary permits.
9. Construct facilities.



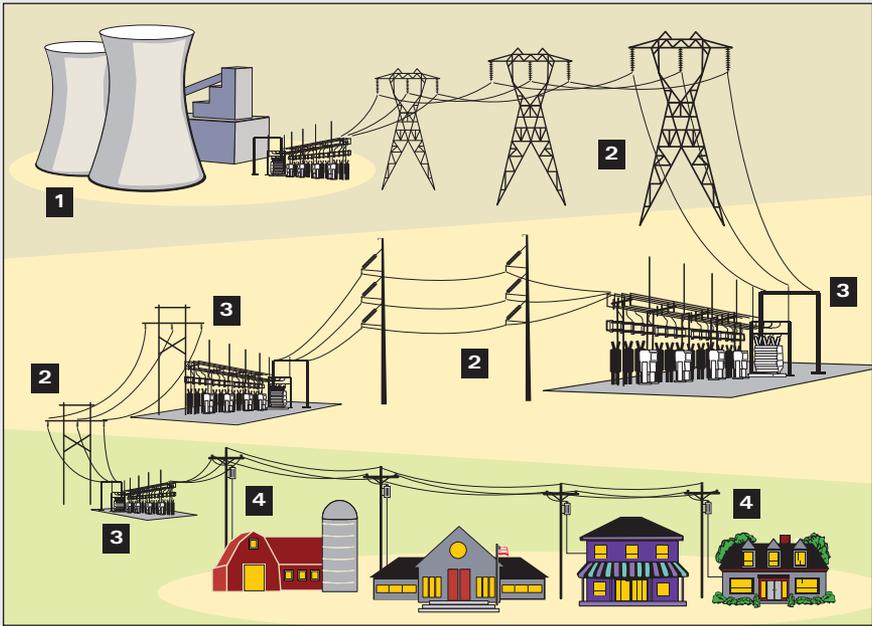
MISCELLANEOUS REFERENCE SECTION

Georgia electric suppliers



- EMCs serve nearly half the state's residents.
- Georgia Power is the state's largest utility and has the most customers.
- Georgia's 42 electric membership cooperatives (EMCs) are the second largest utility group, serving just under half the state's population. Co-ops are not-for-profit and are collectively owned and governed by the people they serve. EMCs' service territories cover 73 percent of the state.
- Other electric suppliers in the state are MEAG Power, Dalton Utilities and the Tennessee Valley Authority.
- EMCs own three not-for-profit companies located in Tucker, Ga., in the Atlanta metro area. These not-for-profit companies are Georgia Transmission Corp. (electric transmission), Oglethorpe Power Corp. (power generation) and Georgia System Operations Corp. (energy control/system operation services).

How electricity gets to you



1. Generation:

Power comes from baseline plants and a host of intermittently used gas, diesel, coal and hydro units in and out of the state. EMCs, through Oglethorpe Power Corporation, are partial owners of some of the state's largest power plants.



2. Transmission:

Power is relayed along transmission and subtransmission lines of decreasing voltages (500 kV, 230 kV, 115 kV, 69 kV and 46 kV), using all available power lines along the grid in relation to the resistance on each line. At different points along the chain, power is taken by an EMC's industrial customer or it is transferred to local distribution lines.



3. Substations:

At each point where power line voltage changes, this transfer is accomplished by substations. Substations have large transformers that "step up" or "step down" the voltage. Voltage is similar to the pressure in the line that the current travels along.



4. Distribution:

EMCs and other utilities use separate networks of local distribution power lines to serve individual customers.



Georgia's most common power lines

Power lines are defined by their voltage. If a power line were a garden hose, the volume of water flowing through it would be current and the pressure in the line would be voltage. A kilovolt, 1000 volts, is abbreviated kV.

The power trip from plant to customer is actually a continuous relay between power lines of decreasing voltages. It begins with the heavy weights (500 kV in Georgia) and ends with 120- and 240-volt lines that connect to homes.

Transmission lines carry power from plants to local utilities. In Georgia, power travels down a series of different size transmission lines: 500 kV, 230 kV, 115 kV and some subtransmission 69 kV and 46 kV. Transmission lines are often thought of as the large cross-country variety, but lines of 230 kV and lower voltages are common along roadsides too.

TRANSMISSION



500 kV



230 kV



115 kV

SUBTRANSMISSION



69 kV



46 kV

DISTRIBUTION

Distribution lines, typically 25,000 (25 kV) and 12,000 (12 kV) volts, are networks of local power lines that EMCs and other utilities use to deliver electricity to homes, businesses, schools and so on. In some cases, industrial customers take service directly from a transmission line. While distribution lines are often thought of as the ones on wooden poles along neighborhood streets, they are also built on metal and concrete poles. Unlike their transmission counterparts, these lines are commonly built underground. The most common distribution lines in Georgia are 25 kV and 12 kV.



25 kV or 12 kV

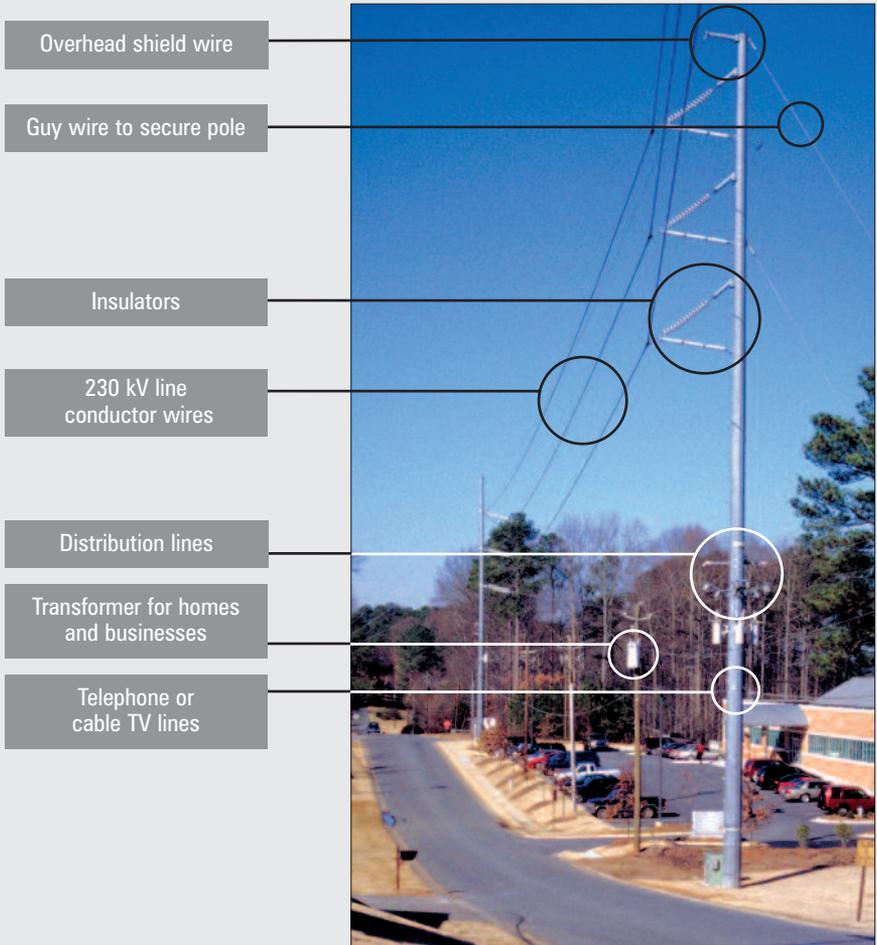
Underground seldom understood

- Unlike lower-voltage “distribution” power lines which deliver electricity to homes and businesses, high-voltage “transmission” lines are not frequently installed underground because of cost. Some relevant facts:
 - The need for insulated underground cables and a concrete trench with truck-size manholes along the length of an underground line increases construction costs 5 to 10 times,
 - As for scope, some studies estimate the average cost of underground high-voltage transmission lines at five to eight times more than above-ground transmission lines, or up to \$10 million per mile vs. \$1.5 million per mile. GTC builds up to 70 new miles of lines and rebuilds about 10 miles of lines each year, and
 - Who benefits and who pays is an important issue, sometimes involving third-party cost sharing.
- While underground transmission lines are expected to have fewer weather-related outages, underground lines can still fail. And when outages occur, it takes an average of 8 to 10 days to repair an underground line, instead of hours to repair an overhead line.
- Transmission lines are not a major contributor to outages (85 percent are on distribution systems). Also, the lifespan of underground lines is estimated to be about half that of overhead lines.
- Georgia has less than 25 miles of underground transmission lines (115 kV and above) at nine locations.
- With a few notable exceptions, our nation’s utilities have found that building cross-country transmission lines underground is cost-prohibitive.
- Underground construction results in more soil disturbance because construction involves digging a trench typically four feet wide and five-to-eight feet deep, and installing a series of truck-sized concrete vaults to connect individual sections of cable every 1,200 feet.



What's on those poles?

230-kV transmission line and distribution line



Miles of transmission lines in Georgia: more than 17,500.

Power line safety

Please remember to stay away from power lines. Two things you should know:

ALWAYS STAY AWAY

Lines carry thousands of volts, and they are dangerous when in working order or when downed by storms or accidents. Remember to stay away from any downed wire and puddles and other water that could be contacting live lines. Power lines can be dangerous and should always be avoided.

IT'S THE LAW: CALL BEFORE YOU WORK NEAR HIGH-VOLTAGE LINES

Did you know it is against the law to work within 10 feet of a high-voltage power line without first notifying the Utilities Protection Center (UPC). Here are the rules:

Georgia's High Voltage Safety Act (HVSA)

The state of Georgia has a law addressing procedures for working in close proximity to high-voltage power lines. Specifically, the High Voltage Safety Act (HVSA) provides that the general public and contractors must comply with the following requirements prior to beginning work within 10 feet of a high-voltage line:

- At least three business days prior to beginning the work, give notice to Georgia 811, the Utilities Protection Center, by calling "811".
The notice should include:
 - Location (description of the land where work is to be done)
 - County
 - Town – closest to work location
 - Name, address and phone number of person in charge of work
 - Type of work
 - Your name and telephone number
 - Your company name and address
 - Date(s) upon which work will begin and end

- Once notice is given, the person responsible for the work must ensure that no work is done within 10 feet of a high-voltage line, with one exception. Work may be done within 10 feet if the appropriate arrangements have been made with the owner or operator of the lines for effectively guarding against accidental contact.

- If work is delayed, the person responsible for the work must give new notice.

For additional information on Georgia's High Voltage Safety Act, see the following: www.georgia811.com

