

Frequently Asked Questions

Greensboro-Randolph Megasite 100kV Transmission Line Siting Study

The Greensboro-Randolph Megasite Foundation is initiating a collaborative effort for an industrial development opportunity with local government and business entities in Guilford and Randolph County. This development is called the Greensboro-Randolph Megasite – a 1,500-acre parcel currently under development to attract a large-scale advanced manufacturer and create as many as 1,750 jobs in the heart of North Carolina.

The Greensboro-Randolph Megasite Foundation has partnered with Duke Energy to conduct a transmission line siting study to gather data to minimize impacts on homes, cultural resources, the community and the environment while meeting the legal and engineering requirements of the project. The study will identify the preferred corridor in the study area to connect Duke Energy's transmission infrastructure to the megasite.

The purpose of the public information meeting is to explain the siting process, discuss how the preferred corridor will be selected and obtain valuable feedback from the community.

What is a megasite?

A megasite is a large parcel of land – at least 1,000 acres – that is ready for large-scale industrial development and has utilities, roads, railroad connections and other industrial amenities.

Why does Duke Energy need to build an additional transmission line?

Duke Energy has a responsibility to meet our customers' growing energy demand and to maintain reliable service as that demand grows. The existing distribution line network does not have the capacity to support the electrical demand planned for the megasite, therefore, a new source of 100kV power must be provided.

How will Duke Energy choose transmission corridors and route?

Duke Energy is utilizing a three-phase transmission line siting study, widely recognized within the electric utility industry as the most comprehensive, fair, and balanced method, to identify the future transmission line route. The following is a brief summary of that siting process.

Siting Phase I: Alternate Corridor Development

An 84-square-mile siting study area has been delineated to include the entire area through which it will be practical to locate the new line, and an array of environmental, land use, aesthetic, and cultural resource data that will influence its final location has been collected and mapped. The goal is to identify and apply all factors that influence the final route selection decision. Landowners in the siting study area often have important information to be considered. The Greensboro-Randolph Megasite Foundation conducted an open house to provide the community an opportunity to share any substantive information they believe should be considered in the siting study. Once all known data was gathered and evaluated relative to the sensitivity of transmission line construction, a constraint/opportunity map was used as a basis for the development of a number of alternate corridors.

Siting Phase II: Alternate Corridor Evaluation and Comparison

The Greensboro-Randolph Megasite Foundation will conduct a second open house soon after alternate corridors have been developed. During this open house, alternative corridors will be displayed and the factors that led to their development will be discussed. The key objectives of the second open house are to allow the community a chance to continue to participate in the process by closely inspect the alternate corridors; to demonstrate the comprehensive approach that Duke Energy is executing to select the route; and to gather information relevant to the routing of the line. A team of planners, engineers, landscape architects, and real estate specialists will develop a list of factors that are unique to this line siting study to evaluate and rank each of the alternate corridors. Phase II will conclude with the selection of a preferred corridor for the new 100kV line.

Siting Phase III: Study Documentation and Agency Approval

Siting Phase III begins with a survey notification from a Duke Energy Real Estate representative to property owners along the preferred corridor. Community leaders and local government agencies are also among those that are notified of the selected corridor. This phase of the siting study includes surveying the selected corridor, conducting environmental/cultural resource studies along the corridor, and acquiring all necessary project permits.

What is the length of the new 100kV line and what will it look like?

Considering the distances from the two existing 100kV power sources to the megasite, it is estimated the new line could be between 5 and 11 miles long and built within a 68-foot-wide easement. Additionally, to ensure safe and reliable electric service to customers, Duke Energy acquires danger-tree rights to extend outside of the 68-foot-wide easement.

Duke Energy's anticipated structure design for the project is single-pole steel structures. In addition, the proposed 100kV line will utilize this standard structure type, but it may become necessary to deviate from the single-pole design in specific locations such as sharp turns in the line or placement of the line over/under other transmission lines. The average height of the above-ground structures are approximately 65 to 90 feet, however, exceptions are made based on varying topographic conditions. Preliminary plans estimate an average of 500 to 700 feet between each transmission structure.

How much maintenance should I expect on a transmission line easement?

Except for emergency situations, a property owner can generally expect the transmission line to be patrolled by helicopter several times a year and by foot about every five years to identify any needed repairs. Repairs identified during these patrols will be scheduled and completed.

Can you put lines underground?

Overhead construction is Duke Energy's standard for 100kV lines, as it is for all electric utility companies in the United States. In the southeast, high-voltage lines are rarely placed underground unless they are located in intensely developed urban areas where it would be impractical or impossible to place them overhead. Duke Energy would consider exceptions to the overhead construction standard in situations where a new 100kV line must be built but circumstances preclude overhead construction. For example, if a new line was required near an airport runway but could not be built overhead for safety reasons, Duke Energy would place the line underground if necessary to avoid conflicts with controlled aviation airspace. The time required to repair underground high-voltage lines and associated costs are key considerations that have led electric utility companies to adopt overhead construction as the standard for 100kV lines.

Repair Time Consideration

Overhead and state-of-the-art underground 100kV transmission lines are comparable in terms of reliability; however, they are very unequal with regard to the time required to make repairs. Overhead 100kV transmission lines can usually be repaired in hours or in worst cases, days. Repairing underground 100kV transmission lines could possibly take weeks.

Underground Line Cost vs. Overhead Line Cost

The risk associated with underground radial 100kV lines being out-of-service, for long periods of time, to undergo repairs is unacceptable to Duke Energy, its consumers, and the State of North Carolina. This risk can only be mitigated by installing two underground 100kV lines rather than one. One line would be energized continuously and the second line would be a spare in case the primary line fails. The cost to build two underground lines – a primary and a spare – could easily be 10 to 20 times the cost to build a single overhead line that would serve the same purpose with equal reliability.

When will the line be built?

The timeline for constructing new 100kV transmission line from existing 100kV Duke Energy infrastructure to the megasite is dependent on the megasite securing a customer requiring electricity.

Who is going to pay for it and when?

System expansion and improvements are made on a regular basis and these costs are typically recovered through the regulatory and ratemaking process. We propose recovery investment through Duke Energy customer rates over a 30-year period. Ultimately, a rate request must be reviewed by the N.C. Utilities Commission, which is our regulator responsible for establishing rates in this state. A noticeable increase specifically due to the cost of this project is not anticipated.

What is the impact of the construction of the lines and rights-of-way?

Duke Energy considers community and environmental impacts in the evaluation process and will select the best possible route while minimizing impact. Once the preferred corridor is announced, the company will determine specific placement of poles or other structures and begin engineering and designing the line.

Installing transmission structures and lines can be similar to a typical construction site, with numerous crews, trucks and other heavy equipment. In mountainous areas, helicopters may be used where the terrain is difficult to access.

Generally, homeowners can anticipate skilled contractors and trade workers, who are subject to specific requirements, to work during daylight hours. Phases of construction will include surveying the land, clearing and grading, installing structures and foundations and stringing the transmission line.

If the transmission lines cross my property, what can I have underneath them?

Typical agricultural crops that do not reach a mature height above 12 feet (corn, tobacco, cotton, etc.) may be planted and harvested on the rights-of-way. A property owner can build a fence across or along the easement, if it includes a gate at least 16 feet wide to allow Duke Energy trucks access to the easement. Before installing any structure within an easement, the owner must receive permission through Duke Energy's Transmission Rights-of-Way Use program.

Please also note that during construction of the line, uses within the easement may need to be removed or relocated to prevent damage. Existing fences may remain in place, but Duke Energy may install a gate or temporarily remove the fence during construction or maintenance of the transmission line.

What is the difference between the 400-foot preliminary alternative corridor and the final route?

The preliminary alternative corridor, is the area being studied for final placement of the route/easement. The final easement will be 68 feet for the construction and maintenance of the transmission line, or possibly less if the route parallels an existing transmission right-of-way. Property owners within the 400-foot preliminary alternative corridor and those within 1/8-mile on either side of the corridor's centerline were contacted by direct mail to obtain input into the siting process. Additionally, property owners outside the direct mail area were notified of the siting process through public media channels.

What gives Duke Energy the right to cut my trees, some of which may not even be within the rights-of-way?

Before a power line is built, Duke Energy acquires easements from property owners along the selected route. The easements obtained by Duke Energy grant the company the right to clear any tree and vegetation that pose a threat to the safety of the public and the reliable operation of the line.

Trees that exceed mature height requirements for the rights-of-way, are dead/dying, are diseased or damaged, are leaning toward the conductors or are otherwise unsafe or pose a risk to the facilities are considered danger trees. Danger trees can be located inside or outside of the Duke Energy rights-of-way.

The power line planned through my property doesn't appear to benefit me. Why?

The new transmission infrastructure provides the opportunity for future economic development and industrial growth. The Greensboro-Randolph Megasite Foundation – a consortium of governmental and business entities – is developing a 1,500-acre megasite in Randolph County to attract a future advanced manufacturer and create as many as 1,750 jobs in the heart of North Carolina. The megasite project and related infrastructure is important to the Greensboro-Randolph Megasite Foundation because it stimulates the North Carolina economy, provides jobs and creates awareness of future economic development opportunities in the area.

Why can't existing rights-of-way be utilized?

Duke Energy considers the consolidation of electrical facilities beneficial, in most cases, to minimize impacts to the environment, the community, and aesthetic quality of the region. All existing electric transmission line rights-of-way within the study area are currently occupied. Therefore, additional right-of-way width will be needed where alternate routes parallel existing transmission line rights-of-way to maintain the required separation between the two line circuits.

I'm not impacted by the line, but the line may impede my view. What can you do to help?

While Duke Energy believes that the state of North Carolina generally does not recognize an unobstructed view as a property right, Duke Energy is evaluating ways to minimize visual impact on landowners. The design of the structures, along with their placement, is under close evaluation based on public input and our siting study, which includes the review of physical, cultural and ecological characteristics of the potential route. Our goal is to find viable route options that minimize impact on homes, the community and our environment.



Do you condemn property when you build a transmission line?

Duke Energy attempts to purchase rights-of-way easements in locations that minimize impact to the property, the environment and the community. Duke Energy will make every effort to negotiate an easement with property and homeowners, and, in most cases, we are able to reach an agreement. However, in some instances, Duke Energy must seek to condemn areas where an agreement cannot be reached with the property owner. Duke Energy makes substantial efforts to avoid such condemnations.

Will this line cause health problems?

Extremely low-frequency electric and magnetic fields (EMF) are all around us – not just in power lines, but also in electrical wiring in buildings, electric motors and appliances, TVs and computers. After decades of research, scientists still have not clearly identified any effects EMF exposure might have on human health. Please see the electric and magnetic fields page on the Duke Energy website for more information.

https://www.duke-energy.com/about-energy/electric_magnetic_fields.asp

Does my opinion count?

Yes, we value everyone's opinion. The energy challenges we face – and the solutions developed to meet those challenges – affect all of us. Duke Energy will utilize input received from the public through open houses and other meetings, comment forms, through a dedicated project email, CarolinasTransmissionEnhancements@duke-energy.com, and a toll-free phone number, 800.365.8979.