

Chanceford 500 kV Project

Introduction

A resilient transmission system helps us deliver safe, reliable, affordable and sustainable electricity across the region. That's why we've invested in focused upgrades and have continued to innovate and advance our electric grid through transmission projects that help to improve reliability, protect the grid from extreme weather, reduce outages and enable renewable energy interconnections.

We'll be upgrading an existing transmission line and installing a new switchyard in York County to provide additional capacity that will help to balance the electric grid and maintain reliability for customers for years to come.

Frequently Asked Questions

PJM Interconnection and the Competitive Transmission Process

Why is the project needed?

A strong transmission backbone is key to opening pathways for Pennsylvania's rich energy resources and to boost regional growth. In this instance, PJM identified a need for additional 500 kV transmission infrastructure in the greater York County area to eliminate future reliability concerns on the bulk electric system. This project will connect to transmission lines within PJM's operating area to improve electricity flow and reliability.

With more than 100 years of experience, PPL Electric Utilities has invested in transmission system upgrades and continues to innovate and advance our electric grid through projects like this to improve reliability, protect the grid from extreme weather, reduce outages and enable renewable energy interconnections.

What is PJM? How does PJM fit into the process?

PJM Interconnection is a Regional Transmission Organization. They act as the Independent System Operator to coordinate the sale and movement of electricity for a region of the U.S. bulk electric system that includes 13 states and the District of Columbia (all or portions of OH, PA, MD, NJ, DE, VA, WV, KY, IL, IN, NC, MI, TN and DC).

PJM is also responsible for planning the bulk transmission system (100 kV and above) and determining upgrades required to maintain bulk transmission system reliability. When a need is identified, PJM opens a competitive planning process as part of its Regional Transmission Expansion Process for transmission owners and other developers to submit solutions.

For more information on PJM, visit pjm.com.

Why was this project selected by PJM as the proper solution to solve the need?

PJM opened a solicitation window during the summer of 2023 and received a variety of proposals from both incumbent and non-incumbent utilities. The Chanceford 500 kV project is one of a portfolio of projects selected by PJM to resolve the bulk transmission system reliability concerns. Projects are evaluated based on metrics such as capital cost, cost containment, constructability risks, schedule, efficient right-of-way usage and outage coordination.

After a thorough evaluation, PJM selected PPL Electric’s proposal as part of a larger regional solution, as it was the most efficient and cost-effective solution due to the project resolving concerns while utilizing an already existing transmission corridor.

How many people will benefit from this project?

A regional transmission project like this will benefit millions of customers within the PJM footprint.

PPL Electric Utilities Project Details

Why has the name of this project changed?

PJM Interconnection identified a similarly named project within their service area and asked us to change our project name to avoid confusion. Otherwise, the project itself, and information presented, has not changed.

What are the specifics of this proposed project?

PPL Electric will be constructing a new 500 kV switchyard near the existing Peach Bottom – Three Mile Island 500 kV transmission line in Chanceford. From the new switchyard, PPL Electric will seek PUC approval to use existing transmission line corridors to construct a new 500 kV circuit running south through Chanceford, East Hopewell and Hopewell Townships to the Maryland Border.

The new 500 kV circuit will primarily be co-located on the existing Otter Creek – Conastone 230 kV transmission line. This line will be rebuilt and upgraded to a double-circuit to accommodate the second circuit. At the conclusion of the project, the transmission line will have one 230 kV circuit and one 500 kV circuit.

What townships will the transmission line run through?

The upgraded transmission line will utilize an existing transmission corridor that runs through Chanceford, Hopewell and East Hopewell Townships as part of a larger regional solution.

The new switchyard will be built in Chanceford Township.

Will any of the existing infrastructure be reused, such as the poles?

We will seek to re-purpose any existing infrastructure and equipment to the greatest extent possible. Due to the increased size of the 500 kV conductors (wires), the poles will be replaced. The new transmission poles will generally look the same as the existing towers but will be approximately 20 to 30 feet taller.

PPL Electric is evaluating opportunities to re-purpose other infrastructure associated with the line such as access routes, structure pads and structure foundations.

What will these transmission poles look like?

The new transmission poles for the double-circuit 500 kV and 230 kV transmission lines will be self-weathering (brown) steel poles, similar to what is currently in the right-of-way, ranging between 170 and 190 feet in height. Generally, the line will be approximately 30 feet taller than what is currently in the right-of-way. The actual height of each pole will be finalized when the line is designed.

Why are the new poles bigger than the old poles?

To account for the increased size of the 500 kV circuit, the poles are required to be taller and more robust.

Will the increase in operating voltage of the line require additional right-of-way?

Yes. Consistent with company and industry design standards, PPL Electric intends to expand the existing right-of-way by 25 feet for a targeted total width of 175 feet. The proposed 25 foot expansion will be on the western side of the route.

Where will the new switchyard be constructed?

We'll review multiple sites for the switchyard and select an appropriate location that meets the needs of the project while reducing impacts to the community and environment.

The line was just rebuilt six years ago, why are you rebuilding it again?

PPL Electric had previously rebuilt the Otter Creek – Conastone 230 kV Line because the infrastructure had reached the end of its reliable service life due to the age, condition and maintenance considerations. The operating voltage of the line was not changed and remained at 230 kV at the time of the rebuild. With the new need established for a 500 kV line, the existing infrastructure must be upgraded to accommodate the revised need.

Will this project need to be approved by the Pennsylvania PUC?

Yes. The siting of the Chanceford transmission line project will require Pennsylvania PUC review and approval.

When will this project be built?

A final construction schedule has not yet been prepared.

Is this project related to the Independence Energy Project?

No. This project is not related to the Independence Energy Project that was previously planned in this area. This project is required to address 500 kV reliability concerns while the Independence Energy Project was designed to address market congestion.

Is this project related to the hydroelectric dam project that was recently being considered?

No. This project is not related to the hydroelectric dam. This project is required to address 500 kV reliability concerns within the PJM footprint.

Customer Rates and Cost**What is the cost of this project?**

As proposed, we expect to invest about \$116 million in this project.

Who sets the rate of return on transmission projects?

The standard return on equity on transmission projects is approved by the Federal Energy Regulatory Commission (FERC).

Who is paying for this project? Do ratepayers in Pennsylvania have to pay for transmission to serve other states?

Costs associated with regional transmission projects are allocated according to methodology approved by the Federal Energy Regulatory Commission. Overall, costs are allocated according to a scale of benefits received.

PJM publishes a searchable database of project status and cost allocation on pjm.com.

Working with Property Owners**Will PPL Electric Utilities need to purchase any additional land or right-of-way to complete this project?**

Yes. Easements (right-of-way) will be purchased from property owners for the transmission line.

Will this project affect my property value?

Residents who sell us easements will be fairly compensated. We have no evidence that there is a long-term effect on property values from a project like this. Additionally, this project utilizes an existing 230 kV transmission line corridor and visual impacts of the larger structures will be negligible.

How is the value of the easement determined?

We determine the value of the easement by obtaining a fair market value analysis from a certified appraiser, and then we negotiate with the property owner to reach a mutually agreeable payment.

Is there any compensation for those property owners near the line from whom PPL Electric Utilities doesn't need to purchase right-of-way?

No.

Is it possible PPL Electric will use eminent domain?

Our first choice is always to negotiate and reach an amicable settlement. If we have not reached an agreement with a property owner from whom we need to acquire right-of-way, we will file an application with the Pennsylvania Public Utility Commission seeking authorization to use eminent domain. In the eminent domain process, PPL Electric pays the estimated just compensation as determined by the certified appraiser's fair market value analysis report.

How is PPL Electric communicating with area residents and other stakeholders?

We will host an informational open house on January 25, 2024, to share more details about this project and answer questions. Input received at the open house will be considered during the project planning. We are also working directly with all three townships and area residents to keep them updated on each step of the project.

Additional information is available on our website at ppl electric.com/chancefordproject.

Other Questions

What is a transmission line?

Transmission lines carry electricity at high voltages across long distances to efficiently connect power plants with areas where customers need the power. Transmission lines are similar to interstate highways in the interconnected electric system.

What is a switchyard?

A switchyard houses electrical infrastructure, including circuit breakers and protective devices, required to safely control the flow of high voltage power across transmission lines.

Does EMF have any effect on health?

"EMF" is an abbreviation for "electric and magnetic fields" and "electromagnetic fields." Power lines, appliances and home wiring all produce electric and magnetic fields.

Current scientific evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields. More information, including links to studies by outside agencies, can be seen on our website at ppl electric.com/emf.

Could this line be built underground?

The vast majority of PPL Electric’s transmission system is above ground. We consider a host of factors in siting transmission lines, including costs and potential impacts to the community and the environment, which are paid for by customers. Building a transmission line underground can be up to 10 times more expensive than overhead construction. There are several reasons for this:

- It takes multiple underground lines to equal the capacity of a single overhead line.
- Underground lines require more earth disturbance for trenching.
- If damaged, underground lines can take substantially longer to repair, a delay that could seriously affect reliable electric service.
- If the underground line is placed within a roadway, there are often other underground utilities that must be avoided.

Underground lines are not invisible – they require a surface right of way stripped of all vegetation and trees and manholes for access. Because of these issues, underground transmission construction typically only makes sense in areas where there is no viable aboveground route.

Some transmission lines make an audible “buzz.” Will that be the case with this line?

The buzz that you may hear from the proposed transmission line is caused by small electric discharges on the surface of the wires known as “corona.” This harmless phenomenon is most noticeable on humid days when water droplets form on the transmission lines. PPL Electric will make every effort to minimize any increases in audible noise during the engineering phase of the project.

Open Space and Environmental**Will this project have any adverse impact on the environment?**

We will work very hard to minimize any impacts on the natural environment. Our track record shows that we work cooperatively with regulatory agencies, obtain all required permits and meet all environmental requirements and regulations under the terms of our permits.

What happens if there are wetlands in the area where this work will be completed?

PPL Electric has an excellent record of building projects in a way that is extremely sensitive to environmental issues, and we will address wetlands in a manner consistent with all applicable regulations. This includes trying to avoid putting poles in wetlands and instead placing them on either side of a wetland and spanning it with the wires.

If you disturb the current wetlands, are you going to build new ones elsewhere?

PPL Electric plans to meet Pennsylvania Department of Environmental Protection and U.S. Army Corps of Engineers regulations that exist for conducting work in wetland areas.

Will PPL Electric Utilities need to cut down trees to build this project?

Yes. In some cases, there will be tree removal where necessary to maintain a safe path for the power line.

Why does PPL Electric Utilities use herbicides to maintain its right-of-way?

Herbicide use is an effective vegetation management technique that minimizes the physical impact on a power line right-of-way while enabling us to maintain safe and reliable electric service.

All herbicides are applied selectively by Pennsylvania Department of Agriculture certified contractors working on the ground with hand-held equipment or with all-terrain vehicles.

Compatible species are preserved as much as possible since they provide natural competition for tall-growing species of trees. This low-growing plant community also provides ideal habitat for wildlife that feeds on saplings of many of the tall-growing species. The combined effects of the plant competition and wildlife activity help minimize the herbicides needed to ensure safe and reliable electric lines.

What effect will herbicide application have on wildlife and the environment?

We will apply only products that have been approved for use on utility right-of-way by the U.S. Environmental Protection Agency. These products have undergone significant testing to ensure that, when used according to labeled instructions, they pose no threat to you, wildlife or the environment. In fact, some of the materials we use are the same as those commonly used by homeowners. There are significant, well-documented benefits resulting from the selective herbicide application techniques we use. Ideal wildlife habitat is created within these right-of-way corridors.

Other Resources

- [PJM Interconnection Questions and Answers](#)
- [PPL Electric Utilities Chanceford 500 kV Project Webpage](#)