



Norris Bridge Transmission Line Project

Frequently Asked Questions

1. *Why is it necessary to rebuild this transmission line?*

This 115-kilovolt transmission line needs to be rebuilt to ensure safe, reliable electric service to the Northern Neck region. The line was built in 1962 and is nearing its designed end-of-life.

2. *What happens if the line is not replaced?*

If the line is not replaced, Dominion Virginia Power and Northern Neck Electric Cooperative customers could face a greater potential for unplanned, lengthy power outages.

3. *What process did Dominion follow to receive needed permissions to rebuild this line?*

Dominion used a transparent, public process in advance of getting the permits needed to rebuild this line. We met with federal, state, and local officials in 2014 to discuss the project and seek input and then communicated our plans to the surrounding counties in advance of submitting the applications for various permits needed. As a courtesy, we also sent letters to residents living in the vicinity of the line, informing them of our plans and asking those with questions to contact us.

4. *What permits did you have to secure?*

Three main steps were required. Each one was publicized to encourage community engagement.

- a. The General Assembly passed legislation in 2015 authorizing a new transmission line to cross state-controlled oyster grounds (formally known as Baylor Grounds) at the river crossing. This same legislation enabled Dominion to apply for a permit with the Virginia Marine Resource Commission (VMRC). The legislation passed 132 -0.
- b. A permit from the VMRC, which regulates encroachment on Virginia's bottomlands, was received in the summer of 2015.
- c. A permit from the Army Corps of Engineers (ACOE) was also received late summer of 2015. The joint application through the ACOE facilitated and coordinated review from the National Oceanic and Atmospheric Administration, Coast Guard, and the Environmental Protection Agency, among others.

5. *Has the project been approved?*

Yes, this project has received all the necessary approvals.

6. *Why not bury this line under the river and out of sight?*

Dominion considered many factors, weighing environmental impact, cost and reliability. The approved plan provides for adequate, secure and dependable electric service at a reasonable cost for addressing aging infrastructure of an existing overhead transmission line.

The cost to bury the line is substantially higher. The estimated \$30 million to rebuild the line above ground would increase by three to five times if placed under the river.

Restoration, and therefore, reliability would also be compromised with an underground line. When failures do occur, it would take more time for Dominion to locate the problem and require us to use specialized machines and techniques to make repairs. No matter how careful and precise, the nature of work required would result in disturbances to the river bottom, tidal wetlands, vegetation and aquatic life.

7. *What are the submerged construction methods and their potential environmental impacts?*

There are two types of construction methods to submerge a transmission line. One is to directional bore the transmission line and the other is to plow the line into the river bed.

Directional boring is a technique whereby the three phases (or wires) that make up a single transmission circuit, in addition to a fiber optics communications cable, are placed in a conduit, surrounded by oil as insulation, and drilled under the riverbed from the shore. This technique does limit the potential environmental impacts but is the more expensive option. Good undergrounding engineering practices dictate that a second circuit also be laid as backup in case something happens to the primary circuit.

The other method is plowing the wires directly into the river bed. These wires would lay in a shallow trench, 25 feet apart to use the soil as insulation. Again, we would lay a back up circuit. This means that there would be six wires, three for each circuit, plus a fiber optics communications cable, each 25 feet apart. This option is the most environmental intrusive to the river bottom but a lower cost method than directional boring.

An additional consideration to note is that regardless of construction method, if there are issues in a submerged line, it will need to be pulled from beneath the riverbed onto a barge for repairs, creating a disruption to the river bottom as the circuit is dug up.

Submerging or undergrounding a transmission line requires two transition stations, one on each side of the river, in order to facilitate the aboveground/underground orientation. These stations would require about two to three acres and potentially additional right of way easements from landowners.

There are pros and cons to both methods, each are more expensive than the overhead option with no additional reliability benefits to the system.

8. *Why not rebuild the line on the bridge?*

Rebuilding the transmission line with attachments to the bridge does not meet the U.S. Army Corps of Engineer regulations, federal clearance standards or Dominion's best practices. Stringing the wires underneath the bridge roadbed does not resolve the maintenance issues or coordination efforts with VDOT to ensure the safety of our respective crews. Moving our line 100 feet away from the east side of the bridge provides flexibility for any future plans VDOT may have for Norris Bridge.

9. *How tall will the new structures be for an overhead line?*

Currently, the structures are 83 feet above mean sea level. The new structures will be between 112 feet and 179 feet above mean sea level. Generally, the structure heights follow the rise and fall of the bridge, with the shorter structures near the shoreline and the two tallest structures (179 feet) spanning the navigation channel at the bridge's tallest point. The reason the structures need to increase in height is to bring the line into compliance with current federal electrical and Coast Guard navigation clearances.

10. *Is this project to serve the Northern Neck only?*

No. Although the transmission line is a primary source of power to the Northern Neck, power can flow in both directions on transmission lines. This means the line is critical for residents and businesses on both sides of the Rappahannock River served by Dominion Virginia Power and the Northern Neck Electric Cooperative.

11. What is the cost of this project and who pays for it?

The cost of this project as approved is estimated at \$30 million. In general, the cost of electric transmission facilities is passed on to Dominion ratepayers. We are prudent with our ratepayer's money and work hard to keep costs reasonable and reliability high.

12. Will there be an impact to air or boat navigation if the line is built above ground?

There will be no impact to either air or boat traffic. Aviation markers or lights on top of the structures are not required. We did our best to line up the new concrete structure foundations with the bridge pilings. As part of the U.S. Army Corps of Engineer application, the Coast Guard reviewed the specifications and determined no mitigation or changes to the project plans.

13. Can this project be compared with the York River crossing?

The only comparison is that each project involves a river crossing. However, every transmission project is different. As with any construction project, variables exist including availability of resources, materials, soil composition – which impacts complexity of construction methods – time of year, and other unforeseen obstacles or opportunities that can adjust a project's scope, budget and schedule. Even similar projects over land can have very little in common. This is even more so with river crossings, especially when it comes to final project costs.

14. Since we are also fed from a line from Fredericksburg, why do we need this line at all?

Federal reliability standards, as well as good engineering practices, require redundant sources of power to a region based on the amount of load. If there is a loss of power, the redundant line picks up the load so there is no service disruption.

15. When will you start construction?

We plan to begin construction very soon and will keep residents and businesses in the Northern Neck region informed about our progress and timeline.

16. If the region wanted to, could we pay the cost of undergrounding the line and if so about how much would it cost?

Virginia law sets a process for localities to pay the incremental costs of undergrounding larger transmission lines. While this statute does not apply to 115 kV lines such as this project, it does illustrate how the process would work. It would require that a locality request that a line be placed underground and that all of the additional costs of undergrounding be borne by utility customers in the jurisdictions making the request. Given that the additional incremental cost of undergrounding this project would be in the range of \$90 to \$15 million or more, this would likely prove infeasible and unaffordable for Lancaster and Middlesex Counties, given the relatively small populations of both counties.

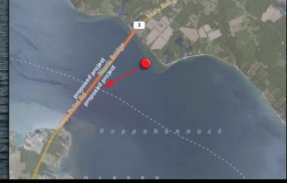
17. How can Dominion be contacted for questions or concerns?

We welcome feedback from our customers. We can be reached at 1-888-291-0190, Monday through Friday, 7am to 5pm, or by email at powerline@dom.com.



Site Name: Norris Bridge Project
115 KV Transmission Line 65

Photograph Information:
View from the Northeast
Showing the Existing Site



Site Name: Norris Bridge Project
115 KV Transmission Line 65

*For illustrative purpose only - structure design and placement are subject to final engineering

Photograph Information:
View from the Northeast
Showing the Proposed Site

