500 kilovolt lattice structure with 230 kilovolt underbuild

MEETING THE DEMAND

Highly Regulated, Continually Monitored

Dominion Energy operates and builds new electric transmission infrastructure in a highly regulated and continually monitored environment.

The Northeast blackout of 2003 placed a renewed focus on the nation's energy infrastructure. The cascading outage affected over 50 million people and was the world's second most widespread outage in history. It prompted the North American Electric Reliability Corporation (NERC) to issue mandatory regulations with potential fines for failure to comply.

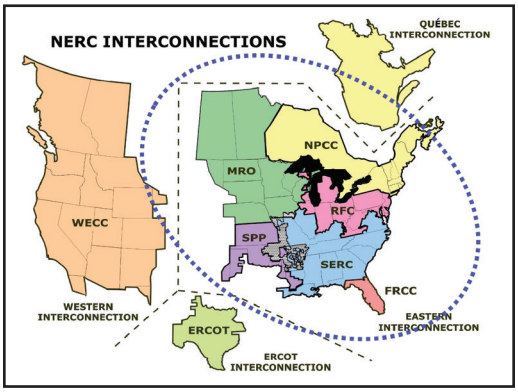
Key Regulatory Bodies

Several regulatory bodies develop and enforce mandatory reliability standards, which dictate what Dominion Energy and other energy providers can and cannot do.

- **Federal Energy Regulatory Commission (FERC)** – Exclusive jurisdiction to determine and regulate reliability of the power grid.
- **NERC** – Regulatory authority to develop and enforce mandatory reliability standards, as well as criteria and methodology to evaluate and ensure reliability of the bulk power system in North America.
- **PJM** – Regional transmission organization (RTO) that coordinates the movement of wholesale energy in all or parts of 13 states and the District of Columbia. Virginia law mandates Dominion Energy's membership.
- **State Corporation Commission (SCC)** – Regulates Virginia public utility facilities, retail rates and service, including transmission line need and routing. Issues certificates of public convenience and necessity for electric transmission lines greater than 138 kilovolt (kV) or found to be out of the ordinary course of doing business.
- **Local Government** – Regulates local land use necessary for substations and most electric transmission lines equal to or less than 138 kV.

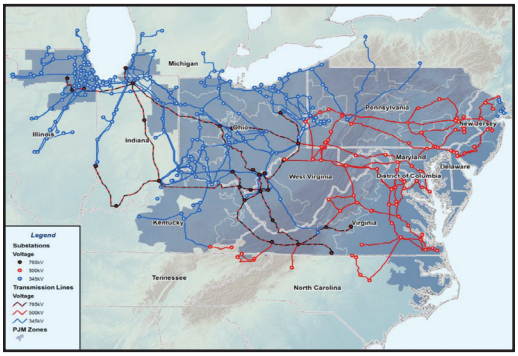
Dominion Energy seeks to provide the highest reliability at the lowest cost to its customers with the least impact to communities and the environment. Projects requiring new infrastructure are evaluated with these goals in mind.

New infrastructure cannot be built until a definitive need exists and all necessary permits are acquired.



Eastern Interconnection

The power grid is interconnected between zones in North America. The performance of Dominion Energy's transmission grid can have far reaching consequences on the system.



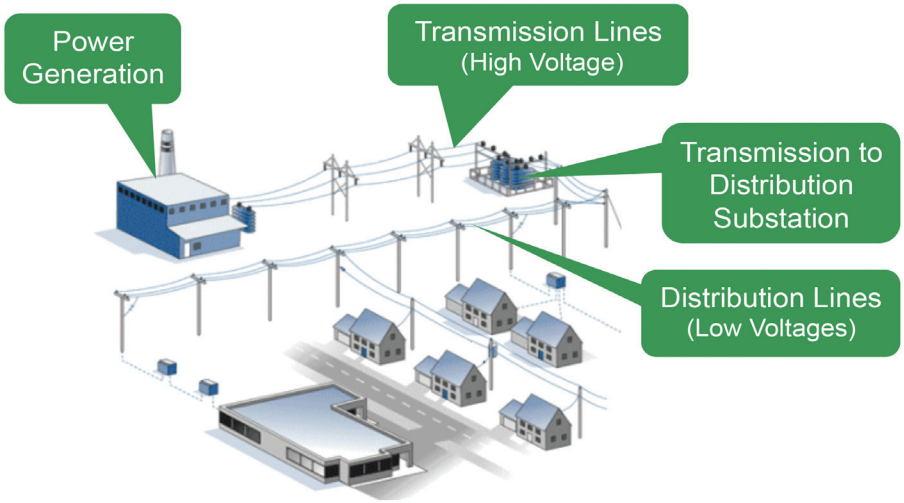
PJM Interconnection

PJM is the regional transmission organization (RTO) that coordinates the movement of wholesale energy and ensures reliability and economic benefits on a system wide basis.

Building New Infrastructure

Forces driving the need for new electric transmission infrastructure include:

- **Economic growth** – Dominion Energy has the highest projected peak load growth rates in the latest PJM Load Forecast (2017-2027).
- **Aging power grid assets** – Energy facilities and components have an expected service life and are replaced to maintain adequate reliability.
- **Addressing mandatory NERC Criteria Standards** – Dominion Energy must comply with all regulations or face heavy fines. Continuous power-flow modeling ensures full compliance.



The distribution-level system can often adequately accommodate local load growth even as new service connections increase (e.g., new residential development). Several factors determine whether or not transmission-level voltage is necessary to compensate for the distribution-level system being strained, including the amount of new load, location of available distribution facilities and specific voltage requirements.

New large load service requests are vetted through a thorough planning review process. Multiple power-flow models are created to analyze how various options would impact the reliability of the system. New and existing substation and line locations are driven by load and NERC Criteria Standards.

Planning Considerations

As Dominion Energy explores options to serve new load, it is important to ask if the proposed solution:

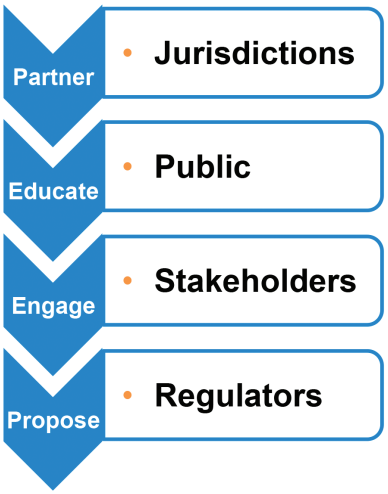
- **Meets the need requirement?**
- **Resolves all potential NERC reliability considerations?**
- **Uses existing, proven technology?**
- **Provides long-term reliability?**

Electric Transmission and Distribution System

Energy produced at a generation station flows to homes and businesses via transmission and distribution lines.

DOMINION ENERGY'S SYSTEM

- 6,600 miles of electric transmission lines serving 2.6 million customer accounts in Virginia and North Carolina, as well as 17 electric cooperatives and 16 municipalities
- 800 substations
- 45,000 transmission structures



Partnerships to Meet Future Demand

Dominion Energy is committed to working openly with local jurisdictions on projects requiring new infrastructure to find the best possible solution.

Routing Principles

Dominion Energy always begins planning solutions by reviewing existing facilities and existing right of way corridors. Finding a viable solution without expanding or securing new land limits impacts and streamlines the process.

When necessary, new right of way corridors are selected after careful consideration with the purpose of minimizing impact on private property, and environmental, historic and scenic resources. Proposed routes undergo extensive quantitative analysis to measure and compare how each route will impact these resources. Colocating facilities with other utility infrastructure can help mitigate such impact.

Generally speaking, proposed large loads at a site located near existing transmission lines can make the routing and siting process easier. However, additional infrastructure may still be needed based on load requirements.

Required Permitting

Once a route is selected, Dominion Energy must secure all required permits before construction can begin. This can be a challenging, lengthy process for all those involved. The SCC approval process can take eight to 18 months from start to finish.

In addition to the regulatory bodies previously mentioned, projects are also reviewed by the Virginia Department of Environmental Quality, Department of Historic Resources, Army Corps of Engineers, Virginia Marine Resources Commission, among others.