Serving Customers and Communities

Electric Reliability

WHAT YOU SHOULD KNOW

We are transforming the grid, burying outage-prone lines and improving physical security and resilience to minimize the amount of time customers go without power.

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Grid Reliability Projects

Smart meters like this one can be turned on and off remotely, permitting faster service and reducing service vehicle emissions.

Grid Transformation

In July, 2018, Dominion Energy proposed a 10-year upgrade program for the electric grid in Virginia, made possible by the Commonwealth's Grid Transformation and Security Act (GTSA). The undertaking would accommodate renewable energy from multiple sources. Among other things:

- We propose to move forward on our plan to deploy 2.1 million smart meters to give customers more control over how and when they use energy.
- We propose to deploy automated control systems and other smart-grid devices. These will speed the restoration of power during outages by quickly identifying and isolating the causes. They also will help protect the grid against cyber and physical attacks.
- New construction and material standards would improve grid resiliency and reduce outages caused by severe storms and other events. Hardening of substations will also improve our ability to keep electricity flowing without interruption.

Virginia's State Corporation Commission approved only a portion of the company's 2018 grid modification

Strategic Undergrounding

Using a data-driven process, we continually analyze the performance of tap lines — the overhead wires that go into neighborhoods — over a 10-year period. Those most prone to outages are considered for placement underground. Tap lines typically sustain the most damage during storms and require the highest number of repairs. In addition to reducing outages for those served by the lines converted to underground, our Strategic Undergrounding Program has a broader advantage: It allows repair crews to move to other outage locations more quickly, thereby restoring power sooner for everyone.

In October 2018, the program placed its thousandth mile of power line — and nearly 3,000 individual tap lines — underground. Over the course of the calendar year, the company placed underground 844 individual tap lines spanning 300 miles, thereby avoiding 412 annual outage events. The process required partnering with customers to obtain more than 6,400 easements. The company plans to place another 3,000 miles underground in the coming years. We expect these measures to reduce the time it takes to restore service for all customers after a major storm by as much as 50 percent.

Crews and equipment must be ready to respond at any hour of the day or night.

Storm Preparation and Training

These highlights don't cover the many other efforts we make to sustain and improve power delivery — from replacing transformers and adding utility poles to installing new switches and sensors.

In 2018, we expanded on another tool in the reliability toolkit: storm preparation and training.

We have an obligation to serve all our customers, which means we have a duty to plan for severe weather. That starts long before the first cloud appears on the horizon, with annual training for everyone who will work on the front lines when a major event happens. The training takes place through both online learning modules and hands-on, face-to-face instruction, and covers topics such as damage-assessment patrolling, coordination with first responders, proper procedures to ensure safety around downed power lines, and the different responsibilities for each role in the company's storm-response system.

We practice and prepare all year long for severe weather. Among other things, we take part in the Southeastern Electric Exchange Mutual Aid Conference and exercises held by state departments of

When a major storm approaches, we stage crews and equipment in the field so they can begin work as quickly as possible. In Virginia and North Carolina, our regional operational centers coordinate with the system-wide storm center in Richmond, and coordinate with local emergency management and jurisdictional authorities. We alert the public about the storm's potential and offer advice on how customers can be prepared.

And when severe weather hits, we follow careful and detailed emergency restoration plans. These begin with an initial damage assessment within the first few hours, followed by swift action to restore power to critical public-safety and health facilities first, then residential and commercial customers.

Smart-grid improvements we are proposing as a result of the GTSA should enable us to locate and fix outages even more quickly in the coming years — helping to reduce service interruptions even under the most difficult conditions.

Physical Security

New Infrastructure

The combination of increasing demand and the retirement of two coal-fired generation units in southeastern Virginia led to the installation of the Skiffes Creek 500-kilovolt transmission line, along with a new switching station (a kind of substation) to the south of Williamsburg. Much of the work on that project was carried out in 2018.

We also completed the rebuilding of two 500-kilovolt transmission lines, increasing their capacity by 57 percent and roughly 40 percent, respectively.

We methodically evaluate existing lines and replace them as necessary. In 2018, we replaced 128 miles of transmission lines. In response to increased demand from data centers and other consumers, we also built 74 miles of new line.

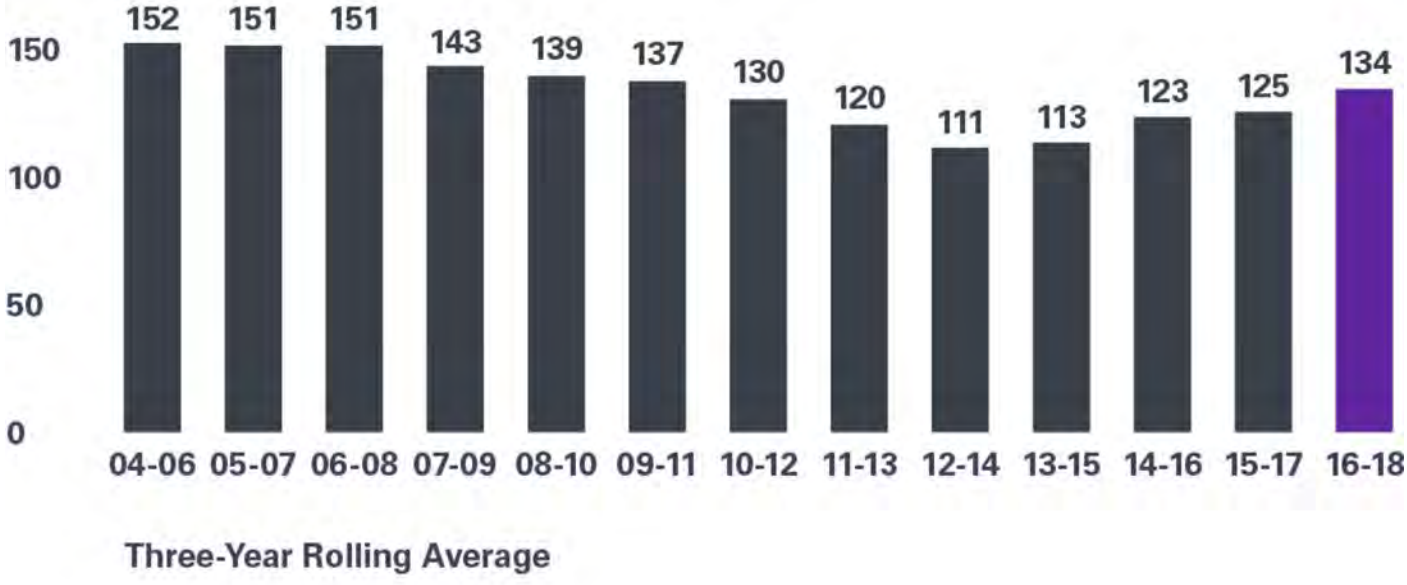
Resiliency and Security

For years, Dominion Energy has used the National Electric Safety Council's (NESC) combined ice and wind loading criteria as the basis for design standards for typical distribution facilities. In order to harden the system even further against extreme weather, the company proposes to design all future construction to meet the stronger of the NESC's heavy loading criteria for combined ice and wind, or the extreme-winds criteria of the American Society of Civil Engineers. This will lead to a stronger, more resilient distribution grid by dictating larger poles and shorter spans between them. Additional standards include establishing a minimum pole class across the system, requiring deeper pole setting or select backfill in areas with poor soil, expanding the use of fiberglass cross-arms and using upgraded insulators.

We also intend to further harden electric substations commensurate with the risks associated with ensuring reliable operations to the customers served by the substation. Additionally, the company maintains a concerted effort to harden boundaries and implement sophisticated asset monitoring around the perimeter of our substations.

Reliability Performance

Energy Reliability Performance 2018



Excluding major events, 3-year rolling average, average minutes out per customer.

WITHIN ENERGY RELIABILITY & AFFORDABILITY

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Smart Meter FAQs

Smart meters are the latest technology advancement in the metering world, providing customers with new ways to conserve energy and improve Dominion Energy's operations. The network of smart meters is referred to as Advanced Metering Infrastructure, or AMI. Smart meters are the foundation to create a smart grid.

About Smart Meters

What are the benefits of having a smart meter? >

Smart meters help provide better service – like power outage detection, faster problem resolution and remote meter readings. Because the meters communicate electronically, they reduce traffic and vehicle emissions in your neighborhood caused by reading the meter. Smart meters can also help customers manage their energy use by providing daily energy information through Manage Account.

How does the smart meter system work? >

The smart meter is part of a system that enables remote two-way communication between the meter and Dominion Energy. The system uses radio frequency mesh technology to securely gather data from the meter. The network access point (router) collects the data and periodically transfers the data to Dominion Energy via a secure cellular network. The routers are strategically placed in the field to ensure information is passed from its source to its destination as quickly and efficiently as possible.

Why is Dominion Energy upgrading meters now? >

We are installing smart meters in limited locations to continue deployment within territories serviced by Dominion Energy offices already outfitted with advanced metering technology.

These meters will provide customers with more reliable delivery of energy, better power-outage detection, more responsive problem resolution and remote meter reading. Here's some more information on our plans to improve service across Virginia.

What is a smart grid? >

The U.S. Department of Energy states that a smarter grid applies technologies, tools and techniques to increase knowledge capable of making the grid work more efficiently. A smarter, more efficient and reliable electric grid means better service for customers, benefits for the environment and lower costs in the long run.

Will I still have to contact Dominion Energy if I have a power outage? >

The smart meters help us identify and respond to outages more efficiently. However, it is still important for you to call 866-366-4357 and report your outage so that your information can be reported in our outage management system. By calling in, you can help us identify safety hazards such as downed wire or provide specific information that will help our company restore power more efficiently.

Smart Meter Upgrades

Will I get a smart meter? >

Customers will receive notices in the mail notifying them of any meter upgrade. The mailing should arrive two to four weeks before the new meter will be installed.

View a map with smart meter locations to see recent installations.

Where will the smart meter at my house or business be placed? >

The meter will be placed in the existing meter base at the customer's location.

How big is the smart meter? >

A smart meter fits into the existing size and shape of the meter base currently at your residence. The “smart” components are inside the meter.

What should I expect on the day of installation? >

At most sites, a field metering technician will be at your property for 10 minutes or less. During this time, there will be a short interruption to the electric service.

The technician will wear a Dominion Energy badge and drive a Dominion Energy vehicle or a vehicle identified as an authorized contractor for Dominion Energy Virginia.

Can I make an appointment for the meter upgrade? >

This type of work does not require an appointment. On the day of the upgrade, the technician will knock on your door before beginning work and leave a door hanger if you are not there, indicating the exchange occurred earlier that day. We can schedule appointments for smart meter upgrades in locations where meter technicians encounter an access issue. If you have questions about smart meter upgrades, call 866-566-6436.

Will a smart meter affect my bill? >

No, it should not. Like a standard meter, a smart meter measures the actual electric usage.

Smart meters capture meter readings more frequently, typically on a daily basis and reduce the need for estimation. When billing a customer’s account, if there is a recent meter reading, that reading will be used to generate a monthly bill. Although rare, there may still be times that remote meter readings are not able to be captured in the window needed to generate the bill, resulting in an estimation.

Additionally, the smart meters have been tested under various conditions, and they show accurate readings. If you experience an unexpected increase in your bill, it might be due to changes in your usage such as heating and cooling spikes or your purchase of

additional electronic equipment, such as a large-screen television. A customer who notices an unexplained significant change in the amount of electricity being used should contact us.

What if I have a security alarm engaged during the meter upgrade? >

Upgrading to a smart meter does require a brief power outage, which could trigger a security system alarm. Security systems should have a battery backup that is designed to last for 8-12 hours in case of a power outage. Of course, if the alarm triggers a call to police, you would need to verify that there isn't an emergency at your home or business. The usual process that you would go through with a typical power outage when it relates to the security alarm would be the same during a meter exchange.

Are there alternatives to receiving a smart meter? >

We offer a Non-Communicating Meter Option, (Opt-Out) for customers who do not wish to have a fully functional smart meter installed at their home. The Non-Communicating meters are smart meters with both the two-way communication and data storage features disabled. View requirements.

Smart meters offer customers many benefits that are not available with the use of a Non-Communicating Meter. Benefits include:

- remote outage detection
- remotely connecting and disconnecting your service, and
- pricing plans.

For more information, call 866-566-6436.

Can I purchase and install or remove my own meter? >

No. As part of the provision of electric service, customers are subject to Dominion Energy's Terms and Conditions. All meters are to be owned and operated by Dominion Energy. Anyone who tampers with or damages any metering device is putting themselves in danger. These guidelines are meant to protect our customers, as electricity is an ever-present safety hazard to persons not certified or instructed on how to appropriately handle electrical equipment.

Additional Information

How do radio frequency concerns relate to smart meters? >

Radio frequency levels for smart meters are set by the Federal Communications Commission and the meters used by Dominion Energy comply with the FCC standards. Radio frequency levels measured from smart meters are well below the approved limits. Learn more about smart meters and radio frequency.

How will Dominion Energy prevent hackers from accessing meter data? >

Our system is and will continue to be in compliance with standards on cybersecurity and privacy. Our systems also comply with federal and state regulations. Network devices and smart meters will remain in alignment with the established standards and will use internet protocol to drive strong cyber security. (In the case of network devices, this refers to National Institute of Standards and Technology (NIST) standards; and American National Standards Institute (ANSI) standards apply to meters.).

Detailed information on my electric usage will be collected. What will Dominion Energy do with the information? >

Just like other types of meters, smart meters measure total energy consumption - how much energy is being used - not how the energy is used. Dominion Energy uses the information to manage and bill customer accounts and uses aggregated data to develop load forecasts to help manage the business. We do not monitor how a customer uses energy. The meter does not know what appliances are in use within a customer's home. Learn more about how customer privacy is protected.

Will my account information be sold or provided to a third party for marketing or other purposes? >

No. Unless required in a legal proceeding or through a subpoena, the only way a third party can see or view your energy use data is with your permission, and a signed letter of authorization from you must be on file before we would move forward with any requests. Learn more about how customer privacy is protected.

How accurate are the meters? >

They are extremely accurate. Meters are subject to strict design standards when they are manufactured. Meters are tested by the manufacturer and those results are sent to us. We have a procedure to select and test meters on a random basis both before and after putting them into service to confirm they operate satisfactorily.

The standards for smart meters must meet requirements set by the American National Standards Institute (ANSI).

Why aren't smart meters tested according to UL standards? >

Underwriters Laboratories (UL) develops standards for consumer products like televisions, cell phones and blenders. Smart meters aren't sold as a consumer product. Instead, smart meters are manufactured and tested under stringent standards set by the American National Standards Institute (ANSI).