# Before the

# Senate Democratic Policy Committee

# Hearing on

# Electricity Outages, Reliability,

# and Preparedness

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## Testimony of

## Scott Wyman

## President of Pennsylvania Operations

## FirstEnergy

**FirstEnergy Greensburg Corporate Center**

**800 Cabin Hill Drive**

**Greensburg, PA 15601**

**Tel: 724-838-6150**

**Email:** wymans@firstenergycorp.com

Good morning, Chairman Boscola and members of the Committee. My name is Scott Wyman, President of Pennsylvania Operations for FirstEnergy.

FirstEnergy's Pennsylvania Operating Companies include the Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("Penelec"), Pennsylvania Power Company ("Penn Power"), and West Penn Power Company ("West Penn") (collectively, the "Companies"). Our Companies serve more than two million Pennsylvania customers and their service territory covers more than 20,000 square miles. From the physical field employees up to and including top management, the Companies endeavor to operate their distribution systems in a manner that results in safe, reliable, and cost-effective service for their customers.

The purpose of my testimony is to answer the multifaceted question posed by the Senate Democratic Policy Committee:

***"Specifically, we would like to hear how First Energy assists to ensure electricity reliability amid the coming winter months, where severe storms and other challenges will pose a threat to Pennsylvania's citizens."***

The responses herein will detail FirstEnergy's storm restoration process to restore power to our customers as safely and quickly as possible in the wake of all types of severe weather. Equally important are the measures our utilities take to inspect, maintain and ready our electric equipment for the rigors of inclement weather, as well as our vegetation management and other work to harden our infrastructure and enhance its resiliency to both prevent electric service interruptions and shorten their scope and duration when unavoidable outages do occur. Finally, I will talk a little about FirstEnergy's award-winning Power Systems Institute ("PSI") that has been established to train the next generation of line workers and substation electricians.

**Extreme Weather Challenges**

Over the past three years, Pennsylvania has experienced more severe weather than usual, presenting unprecedented challenges to the operations and electric service reliability for FirstEnergy's Companies as well as other electric distribution utilities throughout the Commonwealth. Winter storms can be particularly damaging to our distribution infrastructure as they further exacerbate the ever-present challenges posed by off-right-of-way ("ROW") trees, which continue to be the Companies' number one cause of outages. High winds, heavy snow and ice build-up can bring down branches or topple entire trees into our facilities, breaking cross arms, snapping poles and bringing down lines. Fallen trees can also close roads, making it more difficult for our line crews to access and repair storm damage.

Before discussing the Companies' robust storm restoration process designed to keep our employees, customers and the public safe while getting the lights back on as quickly as possible, I will spotlight the work we do year in and year out to reduce the frequency of service interruptions, shorten their duration and reduce their scope.

**FirstEnergy's Vegetation Management Programs**

Our Companies work to mitigate the impact of trees along our power line corridors to help enhance electric service reliability for our customers. While not always popular with property owners, the importance of tree trimming and removal to maintain proper clearances around electrical equipment as a leading tool for us to reduce the frequency and duration of tree-related outages cannot be overstated. Power line easements free from vegetation also help our crews more easily access damage so they can make repairs and more quickly restore service.

Like painting a battleship, the job is never done. Lush vegetation in our well-forested service territories never stops growing. Our Companies trim trees on an annual basis across our service areas to help enhance service reliability for customers, with all companies targeting a best in class goal of trimming the entirety of each of their territories on a four-year cycle.

Of course, this work can be very costly, and the Companies must balance the reliability impacts with the rate impacts to customers, as well as customers' desire to preserve vegetation within their own property boundaries. In recent years, our Companies have increased their vegetation management budgets, and plan collectively to spend more than $120 million to trim trees and maintain vegetation along more than 13,000 miles of transmission and distribution lines in 2020 alone. Our Companies work diligently with property owners to address identified problem trees that we otherwise do not have legal rights to trim or remove under our easements. This is what I was referring to earlier when I referenced off-ROW trees. Where property owners permit us to perform work outside of our easement rights, we target dead or damaged off-ROW trees that endanger our facilities. But at the end of the day, the work we are permitted to perform on off-ROW vegetation falls within the prerogative of the affected property owners, many of whom simply do not wish to grant us access.

Not only does vegetation growth pose a risk to our facilities, but invasive species have further complicated our vegetation management efforts. In the last five years, we have proactively removed hundreds of thousands of ash trees along power lines that were harmed or killed by the Emerald Ash Borer. These afflicted trees become brittle and can collapse without warning into electrical facilities to disrupt power, even on windless, blue sky days. Ash trees often grow together in clusters and pose significant danger to not only our equipment, but also the public and our employees who must remain extremely vigilant when cutting ash to avoid injury. We expect our ash-removal efforts will continue for at least several more years, as the borer has killed millions of trees in Pennsylvania and surrounding states.
In addition, our foresters, particularly in the Met-Ed service area, are closely monitoring the spread of the Spotted Lantern Fly so as to ensure that we make the necessary adjustments to our vegetation management programs to the extent that this species creates vegetation impacts that would threaten our power lines.

**Infrastructure Improvement Plans**

Our Companies strive to help ensure electric reliability for our customers and identify and undertake projects that strengthen a vast distribution network exposed to severe weather, time, tree contacts, vehicle accidents and other hazards. In January, the PUC approved our Companies' second Long Term Infrastructure Improvement Plans ("LTIIPs") for our Pennsylvania Companies which provide for $572 million in capital investment over the next five years incremental to our Companies' baseline annual capital investments in our distribution system. These recently-approved plans build on the Companies' first LTIIPs, which led to nearly $360 million in incremental investment made in distribution projects from 2016-2019.

As I mentioned, the programs supplement our normal reliability investments, and include accelerated replacement of older wooden poles, wires and other equipment as well as reconfiguring circuits and installing advanced technology to help minimize service interruptions and speed restoration. These investments are designed to benefit customers during both mild and inclement weather, with an eye toward the increasingly volatile weather patterns Pennsylvania has been experiencing.

Major initiatives include:

- Accelerating the replacement of older infrastructure with new poles, overhead lines, underground cables, substation equipment, network vaults and manholes;
- Reconfiguring and sectionalizing circuits to minimize the number of customers impacted by service interruptions; and
- Installing more advanced "smart" devices that can detect and isolate problems, in some cases automatically, to quickly restore power to impacted customers.

With a vast distribution system that was built out and evolved over decades, our work is far from finished. We strive to consistently achieve the desired reliability benefits across FirstEnergy's sprawling rural Pennsylvania footprint, and that will require a multi-year investment – particularly if the stormier weather pattern of the last three years persists. We are continuing to evaluate the benefits of the LTIIPs and are committed to a sound investment approach that will result in consistent reliability performance, which may include the filing of additional LTIIPs in coming years, while balancing cost-effectiveness and rate impacts to customers.

**Winter Readiness Inspections and Maintenance**

Not only do we need to upgrade our infrastructure with new investment, but we must also care for the equipment already in place to continue serving our customers well. Winter's bitter temperatures produce increased demand for electricity to operate heaters and furnace blower motors. Snow and wind have the potential to cause damage to poles, wires and substations, requiring our crews to make repairs in difficult and often dangerous conditions.

With winter just around the corner, inspecting and completing maintenance on existing weather-sensitive equipment in the field is a key component of enhancing system resiliency before the snow begins to fall. Our fall work includes inspecting heaters for substation components such as capacitor banks, and gas- and oil-filled transformers. Certain larger substations have buildings that house remote-controlled relay equipment, which are winterized and inspected to ensure their heating systems are prepared for the season. Meanwhile, substation electricians diligently inspect batteries used to power relays that sense faults on our network, as well as motors that automatically operate switches to isolate those problems, helping to prevent service interruptions or limit their size and scope. Crews use thermal-imaging cameras to detect hot spots invisible to the naked eye on equipment prone to overheating and malfunctioning when cranking up their heaters to combat the cold. Finally, we perform helicopter patrols on our higher voltage lines. The inspections are designed to spot danger trees, damaged wire, broken cross arms, failed insulators and other hardware problems invisible from the ground.

And the preparations do not stop at our electrical facilities. Our mechanics inspect bucket trucks – the trusted workhorses of our fleet – to ensure they are safe to operate and ready to roll on snow-covered roads and freezing temperatures. Special emphasis is placed on the condition of tires and air brakes, which can freeze up if moisture is present. Snow removal equipment is checked as well, to ensure that a simple detail like ensuring access to substations, clear work areas and sidewalks at our service centers and other facilities, etc. is not overlooked.

The safety of our employees is always the top priority at FirstEnergy. Ours is an unforgiving business where one misstep or failure to adhere to time-proven safety procedures could lead to catastrophic injury or death for our employees. Keeping that in mind, we review cold-weather operational procedures with our linemen, substation electricians and other field employees in advance of frigid conditions. Although many of our vehicles are four-wheel drive, treacherous driving conditions can delay crews. If roads are impassable for a school bus, they are often too difficult to navigate for our larger trucks.

**FirstEnergy's Storm Restoration Process**

We will continue to take the necessary steps with trimming trees, hardening our infrastructure and preparing for harsh winter weather, but despite our best efforts, our Pennsylvania service territory will inevitably experience potent storms that create outages for our customers. That's when we rely upon our dedicated employees to implement our battle-tested storm restoration process.

FirstEnergy employs company meteorologists who continuously monitor the weather and sound the alarm whenever a significant weather threat begins to take shape, often well before it merits mention on the nightly television news. That advanced warning allows us to mobilize line workers, contractors, forestry crews and other support staff – even set up material staging sites if the situation warrants – well before a storm strike. We also make plans to increase our

customer service staff at our contact centers to handle a potentially large volume of incoming calls.

Employees at FirstEnergy's 10 operating companies are more than capable of handling most outages, and personnel from our Pennsylvania Companies routinely pack and travel to assist one another in localized storms. We also reach out to our sister companies in Ohio, West Virginia, Maryland and New Jersey to send line workers and equipment to lend a hand to recover from storms such as the derecho that slammed Met-Ed's Berks County service area earlier this summer.

For the worst of the storms, we have pre-arranged mutual assistance relationships with other neighboring electric utilities to help us restore power more quickly. We are members of the North Atlantic Mutual Assistance Group, the Great Lakes Mutual Assistance Group and the Southeast Electric Exchange, providing us access to thousands of utility company line workers, contractors and other personnel to help us when extreme weather causes widespread, severe damage. These mutual assistance agreements have allowed us to muster armies of line workers numbering in the thousands during past storms to help us close out events much faster than if we had needed to go it alone. FirstEnergy also has a long-standing tradition of assisting other electric companies during large-scale power outages as part of its membership in these mutual assistance groups.

Once our preparations are in place, it becomes a waiting game to see where the storm unfolds and where it wreaks the most damage. Dispatchers at our regional distribution and transmission operations centers monitor weather forecasts from our company meteorologists and the National Weather Service round the clock and watch for the first signs of foul weather disrupting service for our customers. As our customers begin to phone or text us to report power outages, the data enters our outage management system ("OMS"). The system automatically evaluates the pattern of reported outages and determines the likely location of the trouble. Because our OMS work best when there is plenty of information to analyze, we encourage our customers to report their outages even if they think a neighbor has already reported the outage. In addition to their regular jobs, many of our utility employees have a specific storm role when bad weather hits. Engineers or other trained employees venture into the field as soon as it is safe to document damage to the electrical system. These damage assessors relay the information back to our storm headquarters, often via a mobile device, where it can be documented on maps for crews later in the restoration event. Damage assessment data is vital for us to effectively deploy and manage our resources and provide situational reports to government agencies, community leaders and the media. For example, we use the information from these damage assessments to formulate global estimated times of restoration ("ETRs"). The news may not always be what they want to hear, but we must provide our customers timely information so they can determine whether they need to hunker down safely at home or weather the storm elsewhere depending on their personal circumstances.

In the aftermath of a major storm with downed wires, our first priority is to safeguard the public from potentially deadly live wires. When downed wire calls are reported to our contact center or through 911, we'll send out personnel trained as hazard responders to block off the electrical hazard and stand by (literally) to protect the public until a line worker arrives to either de-energize the wire or determine the situation is safe. Early in the storm event, line workers are singularly focused on making hazards safe. However, it is important to keep in mind that our workers cannot begin to make repairs until the worst of the storm has passed for their own personal safety. As an example, it is unsafe to be in the air in a bucket in high winds when debris is flying.

It is also important to note that as much as we would like to, it is simply not possible to restore power to everyone at the same time when outages are widespread. Power may be knocked out to large blocks of residential customers, hospitals, fire and police departments, schools, water treatment plants and other important public facilities. Once restoration begins, our crews must follow an established protocol to help ensure public safety in returning customers to service as quickly and efficiently as possible. Our crews generally begin their restoration efforts on damaged transmission and substation facilities that supply power for local distribution networks while working in parallel to repair smaller distribution lines fed by the transmission infrastructure. Next, we give priority to hospitals, communications facilities, and emergency response agencies. We then address outages that restore the largest numbers of customers before moving on to outages with smaller customer counts. For instance, it is not an efficient use of resources to tie up several crews for an entire day to reset multiple poles at the end of a lane if only a handful of customers are restored when the job is completed. It is not that those customers are any less important to us, but our storm process (and the standard industry practice) dictates we work the outages with a broader-reaching impact first. Only after local power lines are repaired and re-energized does damage to individual service wires become apparent. Newly installed smart meters in Pennsylvania allow us to send a signal or "ping" an address to see if electric service has been restored to the property, further speeding the restoration process.

Throughout the entirety of a storm restoration effort, our local affairs consultants continuously update elected and public officials with status reports that include damage accounts, plans to import crews, restoration progress, and ETRs. These two-way conversations also keep us abreast of special community needs. We also interact closely with emergency management agencies on key issues such as road closures or restoring service to vital communications facilities. In addition, when it becomes apparent that our customers might be facing a multiple-day outage, we activate our water and ice program, which leverages agreements we have in place with strategically located vendors to be called on during such times. This allows our customers to visit participating grocery stores to pick up free water and ice to help them while the power is out.

**Facing Challenges of Covid-19**

Winter storms are hard enough to combat in the best of times, not to mention during a global pandemic. I have been incredibly proud of our field employees for their work responding to significant spring and summer storms through these difficult times. Although we have instituted numerous precautions to prevent the spread of coronavirus through our workforce, it has not hampered our ability to safely and quickly restore power to our customers. With this in mind, I am confident that we are prepared to respond safely and efficiently to winter weather while ensuring the health safety of our employees, contractors and the public.

In addition to our storm response measures, in March, we transitioned nearly all our office employees to work remotely from home to keep them safe and healthy. For our field workers unable to work at home remotely, we have implemented preventative measures to help keep them safe on the job. This includes the distribution of protective equipment like masks and other supplies such as thermometers so employees can to do self-temperature checks. We have also increased cleaning and disinfecting of facilities and vehicles, relocated job briefings and reporting locations to sites conducive to social distancing and adjusted work schedules to separate incoming and outgoing shifts. To help mitigate the risk of spreading the highly infectious coronavirus, we have structured crews so they are working with the same small group of people each day in units we call pods. By taking this approach, we have ensured that where one person in a pod falls ill, they have not exposed workers in different pods. Those pods also consistently use the same vehicles and the same equipment to limit exposure.

Our work practices also keep customer safety at the forefront. Because our line workers and field personnel perform almost all their work outside of homes and businesses, there is little to no need for them to interact with customers. When interactions with our personnel are required, appropriate preventive measures such as wearing masks and maintaining proper social distancing are used to protect everyone's personal health.

**Power Systems Institute Training**

Finally, we remain focused on developing our workforce to ensure that we have a complement of properly trained employees at the ready to not only deliver safe and reliable electricity to customers day-to-day, but to ensure they are up to the increased challenge of service restoration after major inclement weather such as winter storms. I am pleased to report that our award-winning PSI program that we established to train the next generation of line and substation workers recently restarted classes after shutting down for several months during the coronavirus health emergency. The program was resumed with well-informed and measured precautions to keep both our students and instructors safe, including daily temperature checks, smaller classes, proper social distancing, facemasks as needed and remote coursework for new applicants.

I think of PSI as our farm system to bring along a new generation of line and substation line workers as more and more of our veteran employees retire after decades of faithful service. These are fantastic careers that offer family-sustaining wages and unlimited potential for advancement. These high-demand jobs can never be shipped offshore because they support the operation of our local electric grid.

PSI has already provided FirstEnergy's utilities with more than 2,000 highly skilled employees working in the field today, many of them right here in Pennsylvania. They use the unique training they have received to keep the lights on for our customers. The program partners with regional community colleges to provide both classroom and hands-on training, where FirstEnergy pays for tuition, required books and lab fees.

On behalf of FirstEnergy's more than 2,000 Pennsylvania employees, I thank the committee for the opportunity to share the team's good work and dedication to serving our customers. We take our responsibility for delivering safe, reliable electric service to the homes and businesses of the Commonwealth very seriously. I'm proud of our employees' commitment to keeping the lights on – and for the hard work they do to restore power safety and quickly, often in extreme and dangerous weather conditions, when storms do occur. What they do makes Pennsylvania a better place to work and live, and I'm honored to represent them here today. Thank you.