HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

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Utility Storm Response and Vegetation Management

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House Consumer Affairs Committee

Main Capitol Building
Room 60 East Wing
Harrisburg, Pennsylvania

Thursday, March 27, 2014 - 10:03 a.m.

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COMMITTEE MEMBERS PRESENT:

Honorable Robert Godshall, Majority Chairman
Honorable Sheryl M. Delozier
Honorable Brian Ellis
Honorable Warren Kampf
Honorable Rob Kauffman
Honorable Kurt A. Masser
Honorable John Payne
Honorable Mike Reese
Honorable Todd Stephens
Honorable Peter J. Daley, Minority Chairman
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Ned Smith
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MAJORITY CHAIRMAN GODSHALL: Good morning. The hour of 10 o'clock having arrived, call the meeting to order.

Today's hearing will examine electric utility storm preparation and response to power outages caused by this winter's severe weather; specifically, the February 4th, 2014 ice storm that resulted in power outages impacting approximately somewhere between a million and two million Pennsylvanians. We will also hear about the impact that vegetation management policies may have on mitigating weather-related power outages.

The hearing is being recorded. There's going to be three testifiers. We have adequate time for members for questions after each testifier.

I'd like to offer Co-Chairman Daley an opportunity to make comments. Chairman Daley.

MINORITY CHAIRMAN DALEY: Thank you, Chairman Godshall.

I'm looking forward to the opportunity, as well as members of the committee, to hear the testimony.

I guess eastern Pennsylvania got kicked this year. Western Pennsylvania, probably, I want

to say seven years ago that we had an outage that lasted in some areas for 15 days; similar to this but a little bit more snow, same kind of ice, same kind of effect, and looking forward to hearing, Mr. Chairman, exactly the circumstances that we need to look at today and consider. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN GODSHALL: Thank you.

With that, we will start with PECO, with their Chief Operating Officer, Michael Innocenzo. Michael, if you can have a seat at the front table, as soon as the gentleman is finished there.

I would just like to say that, I know this will probably come out, but I live on the edge of PPL/PECO. Part of my district is PPL; part is PECO. I do know that PECO suffered through over 700,000 outages themselves in the heart of the ice storm that hit down there. That's probably well over a million people itself that were hurt in this ice storm.

I do know that PECO had, I've heard from -- had people from all the way from, I think New Mexico, Alabama and Canada working on putting lines back up, with 6,800 people on the ground at any time, which is really a small army. The logistics

on something like that has got to be unbelievable.

Mike, the microphone is yours. Go ahead, and you have all the time you need.

MR. INNOCENZO: Thank you, Chairman Godshall, Chairman Daley, and all the members of the committee. I appreciate the opportunity to speak about the major ice storm that struck our region on February 5th.

My name is Mike Innocenzo. I'm the senior vice president and chief operating officer for PECO, southeastern Pennsylvania's electric and gas utility. PECO provides electric service to Philadelphia, Bucks, Chester, Delaware, Montgomery, and portions of York County, and natural gas service in Bucks, Chester, Delaware and Montgomery counties.

Today I'll describe our response to the destructive February ice storm. It was comprehensive, it was aggressive, and it was successful. As I'll talk about the magnitude of this storm, it was very similar, if not larger, in magnitude than Hurricane Sandy; and yet, our restoration was done in about two days less time than Hurricane Sandy.

That being said, with any storm or order

of this magnitude, there's some things that went very successful. There also were some opportunities where we could use some lessons learned and improve, and we'll talk a little bit about some of those that we've already identified that we'll be working going forward, sharing best practices with both our peer utilities, with some of our municipal and local officials and emergency response community, as well as with the PUC who's continued to be a very good partner for us throughout the storm restoration efforts.

We learned a lot of lessons from Hurricane Sandy that helped us improve our response. We'll talk about some of those that we put in place for this last winter storm, as well as some lessons learned here that we'll put in place moving forward.

I'll talk about it in several areas. First I'll talk about the continuous preparations. I think the key to any storm response is, obviously, being prepared upfront, and that's part of what you do on a day-to-day basis.

We keep our systems in good order. We've made significant investments to improve our system reliability over the years and focus on

training of our people. We've made enormous investments in the robustness and reliability of our system in the last five years.

Since 2009, we've invested $1.8 billion in improvements to our transmission and distribution system, and that investment is fairly comprehensive. It's included improving substations; installing state-of-the-art system control processes and I.T. systems, GIS map systems; adding reclosers, which are distribution automation which helps the --

If you hear people talk about the self-healing grid, it's a little bit about the ability to automatically isolate outages and to restore automatically. We've put significant investment into those devices; upgrading circuit breakers, transformers, switchgear control houses.

Again, you can see the point. It's been pretty comprehensive at this point. Our capital investment is the highest it's ever been in our company's history.

The results of these investments, 2013 marked our best year ever for service reliability in company history. We measure reliability in a term that's called SAIFI, S-A-I-F-E (sic), which is

basically the frequency of interruptions. Our rate in 2013 was point 68, which was our best ever, and it exceeded our previous best ever, which was set in 2012. So, we've had two years in a row where we've had best-ever reliability.

And the length of the outages we measure in a term called CAIDI, which is the duration of outages measured in minutes, was about 94 minutes, which places us in top quartile in the industry.

One of the primary focuses we have, in addition to all of the capital improvement, is in vegetation management. We know that about one-third of all of the outages are caused by interferences of trees and vegetation. We've consistently invested approximately $35 million a year in our veg management program, and it's a very comprehensive program. It includes tree trimming, tree removals, herbicides for fast-growing and invasive tree-trimming (sic) species.

It also includes a mid-cycle tree trimming, so we'll do a -- We're actually into the fourth cycle -- four- or five-year cycle. But, mid-cycle, we'll identify areas that need to go back and get additional trimming.

We'll work on worst-performing pockets

and circuits, and we'll also follow up on customer feedback and follow up on areas where they might have specific pockets that have multiple outages.

As anything, we have to look at the overall numbers, and the overall numbers continue to get better and better for us. That being said, you can have smaller areas or smaller pockets that can get masked by the overall numbers. And those are just as important because those have a major customer impact, and we pay attention to them as well.

While reliability's our concern, we also work with the local municipalities and customers to perform the tree-trimming work in a manner that is respectful of our communities and our customers' property. It is a delicate balance. We need to make sure that we safely trim the trees and make sure the system is reliable as possible.

That being said, we also have to respect the customers and the municipalities. The trees certainly add a lot to the beauty of our region, and we try to strike the delicate balance of that. We found very good partnership working with the municipalities and finding that balance and continue to do so going forward.

In addition to driving the overall system reliability, we do look at those pockets. We're keenly aware that all reliability is local, and some individual customers might have an experience that's different from the overall. So, in those areas we work closely with elected officials, municipalities and with the customers directly to identify those areas that need additional improvement.

One of the follow-ups that we're doing from these storms is, we're holding workshops in several areas throughout the territory. We're describing the overall process to improve reliability, but we're also going customer by customer and identifying areas where we might have some additional follow-ups, and we're committed to follow up on every one of those customers who's attended those workshops.

Let me get into the summary and event itself. Again, I talked about the magnitude of the storm, and I'll talk a little bit more of that in a second here. But also, before I do that, I want to just thank all of you, all of our local municipal officials, the emergency response officials. This was a monumental effort for us. Our peer utilities

who are here with us. As I'll describe, we received help from a lot of folks to restore power. It's a storm that was as large or larger than Sandy; restored about two days sooner; so, very successful overall.

That being said, I know for our customers, especially those customers that were off on the longer duration of the event, this was a very trying event. I want to also thank them for their patience both during the event and their partnership with us working forward.

We appreciate and we realize that, although the event itself went very well, for any customer who's been off for several days, it is a very difficult situation, and I appreciate their patience and partnership as we worked through that event and as we work going forward.

Winter Storm Nika knocked out power to, as the Chairman said, between 1 to 2 million Pennsylvanians. In our territory alone, 715,000 of our customers, which is about 40 percent of our customers and almost -- If you look at the suburban counties, which were more impacted than the city of Philadelphia, almost 70 percent of the customers in our suburban counties were without power at some

point in time during the event.

It is the, in terms of customer accounts, second-most damaging to Sandy, but in other ways more impactful to the customers, not only because of the magnitude, but also because it happened during frigid temperatures. So those that were without power were without power during times when temperatures were extremely cold.

Our emergency response organization was active prior to the event. As you recall, there was a snowstorm that came through on the Monday of that, so we were already activated and prepared, both in storm restoration from that event, as well as preparing for this event and bringing in additional resources. We actually got our last customers on the evening before the snowstorm hit, but we maintained the readiness, focus, and kept the emergency operation centers open.

Our goal was simple. That was to get customers back online as soon as possible without losing our focus on safety. We focused our performance on three key areas: Customer and community safety, operational readiness and performance, and then customer care and the information flow to our customers. And I'll

provide a post-event (sic) situational analysis.

In terms of customer and community safety, that's paramount for us. We deal with a very hazardous situation, with a hazardous product. First and foremost is the safety of our customers, our residents, and making sure that they are safe. Our workers; making sure that when they go out to restore power that they return home safely to their families. And all of the assisting utilities and contractors who came from as far away as Canada and New Mexico to come help us, our obligation is to make sure that they're able to work, get customers back on safely and then return home safely to their families.

I am very proud to say that we had no serious injuries. We had four minor incidents; the most severe being stitches in the ear of one of the employees who was hit by a falling tree limb. But no serious injuries beyond that, which I am very pleased to say.

In terms of the restoration, we focus on public safety first. So our first focus is restoring power to public safety facilities such as hospitals, 9-1-1 centers, water treatment plants, prisons, regional government, transportation and

communications hubs. And then, throughout the storm, we worked on the next level of priorities and continued to keep the balance between getting the most customers back on, opening up the road closures and working the priority customer lists.

It's important to note that, even when we have some customers that are on the critical list, by the nature of the damage, some of those customers might take more time to get back on than others just because, it may be the highest priority. But, in this case, we had locations where we had to almost rebuild the system to get power back on. So it may be the ones we were working on, but we had to build the backbone of the system before we could even restore power to some of our critical facilities.

We also responded to over 3,800 police and fire and wire-down jobs, and extensive media interview and outreach to our customers.

In terms of operational readiness and performance, the lessons learned that we've had from the previous events Irene and Sandy, we've been able to build those into operational procedures that have been every effective. I think one of the key things here is, if you look at

Hurricane Sandy, we had about five to six days' notice that that was coming our way and we were able to get all those resources coming.

In this particular case, if you remember, the storm that was coming 20 miles to the south, 20 miles to the north could make a difference in terms of the ice damage and the amount of damage. We were able to gear up in a fraction of the time than we did during Hurricane Sandy; and actually, had more resources on the ground by a third-fold more than we did during Hurricane Sandy. So, that's attributed to a couple of things.

One is certainly the procedures that we put in place, but also the partnership and the effectiveness of the mutual assistance process with our peer utilities and contractors. We had assistance from our sister utilities at BGE and ComEd.

Just sort of some of the numbers: Our staffing levels grew from about 2,700 on the 5th to about 6,800 on Sunday, February 9th. That is both in the field and the back office. As a reference, at our peak during Hurricane Sandy, which is at the end of Hurricane Sandy, we were about 4,700

personnel. So we were about a third higher than we had working Hurricane Sandy.

They came from all over: Canada, Massachusetts, Maine, Alabama. Again, I would thank all of our folks that helped us out during that.

We opened 21 operation subcenters. When you're mobilizing an army here, one of the things we try to do is decentralize control. So, throughout the region, we mobilized about 21 subcenters that would do the response in the communities to those local outages. We had about 60 percent of the customers back on in two days and almost 99 percent back on by Monday.

Throughout the event, again, as we mentioned earlier, we focused on critical customers. Those priorities were continued to work down the list. Through the weekend of the event, we were focused on getting the schools back online for Monday. We know the impact that this winter has had to the schools. We were able to get everybody back on by Monday the 10th.

Then we also worked with the county emergency operations centers. We staffed those and also had a process to continue communications with

those in terms of opening road closures. That was a big impact on this event; the amount of damage and the amount of roads that were closed. During Hurricane Sandy, there were approximately 280 to 300 roads that we needed to work with the counties and open. That was about 900 during this event, so triple the amount that we had during Hurricane Sandy.

So, we worked from Hurricane Sandy to this storm, working some processes with the county 9-1-1 centers. This probably wouldn't be the first one that I wanted to try it out on, but sometimes you've got to do what you've got to do.

I think, overall, it went very well. We got some feedback on some things we needed to tighten up, and we've had some after-action reports both with PEMA and with the county emergency operations centers. Some good lessons learned that I think we can -- I think a lot of it went very successful. There's some things we can do to even make it better the next time we go out.

Then we spent a lot of time around caring and informing of our customers. We received about 1.1 million customer calls. We conducted 500 media interviews; a lot of activity on our website.

We activated our storm center. We used that as a way to inform customers. We took about 4.6 million web page views during this event, which is more than we've ever seen and an order of magnitude higher than Hurricane Sandy.

Then a new use for us was the use of social media. This is a lesson learned that we had both from our -- some of the best practices opportunity visits with our peer utilities. The utilities helped us get on board with the social media, and we found that to be very effective both in communicating to our customers, but also getting feedback about areas where maybe we weren't communicating as well and we needed to up our communications. So it helped us sort of, real-time during the storm, make adjustments. I think it's a good first start for us, and we'll continue to leverage that going forward.

In addition, we opened up six neighborhood customer care centers. As we got to the mid-range of the storm, towards the tail end of the storm, those customers had been off for multiple days. We realized we needed to have some folks out there talking face to face to give them a sense of where they were, what was happening with

their outage.

Lastly, I'll talk about some of those lessons learned that we had from both the PUC-led efforts to the best practices; visits that we've had with our peer utilities, as well as from our own internal lessons learned. The use of social media was one. Changing how we do estimated times of restoration, I'll talk about that a little bit. That was both a positive in some ways and, I think an opportunity for us to improve; frustration for some, particularly those on a longer duration. I'll talk about what we've learned there, and some things we'll look to do going forward.

The expansion of our outage map on the website, we had regularly-scheduled calls with townships and municipalities to keep them informed, and our elected officials to keep them informed. That was a new process that we had administered; the road closure process and the customer care centers.

Now I'll just go into a quick post-event situational analysis. First and foremost, safety. I think that was very positive. Again, we have a lot of folks that are coming from a long distance to come and help our residents, and we have an

obligation to keep our residents and customers safe and to keep those folks that are helping us safe.

The fact that we went through with four minor injuries, we took a lot of pain-staking efforts to make sure that -- If you think about this, 6,800 people working the storm event; 5,600 of those are in the field, and they're all starting to get into the same areas. Making sure you keep command and control of those areas, and making sure that you're very deliberate about who has control over what areas; something that's very important to do, and that went very well.

Mutual assistance, again, was a very positive impact; the fact that we were able to get them on; get the lights on quicker than Hurricane Sandy, and to do that -- and to get so many resources. I want to thank again the mutual assistance process and our peer utilities; a third higher than Hurricane Sandy.

Customer education: Social media was a very valuable tool, and the customer care centers, I think, worked very well for us.

Estimated times of restoration: One of the things that's very important for customers is, they know that their lights are off, but they want

to know when they're gonna come back on. Our goal is to give them the best available information that we have.

Early in the event, we actually did not provide estimated times of restoration. That was a lesson learned on Hurricane Sandy is, don't tell customers before we have a good handle on when they can expect to be back on. So, for the first day, as we assess the storm --

And as you remember, the storm continued to cause damage throughout Wednesday afternoon into Wednesday evening. And as we're getting resources on the system, we suspended our restoration times. We implemented those on Thursday morning, and we put them into, basically, days where we were going to go back on: Customers we expected to get back on Thursday; customers we expected to get back on Friday; customers we expected to get back on Saturday, to try to give customers the best information available. We had hundreds of thousands of customers we were able to meet those restoration times.

One of the frustrating things for many of our customers were when those dates would change. For some of those customers that were in

what we call embedded outages, we would restore a large portion of the circuit. We'd get 80 to 90 percent of the customers back on, but there would be additional trouble; additional either primary trouble, transformer trouble, or even the wires that would go to customers' homes.

We would know that the entire circuit was out; we know we had a lot of trouble on there. We know we're doing the restoration work that would restore most of those customers. Until we restored that first 80 percent, we did not have a line of sight to those other embedded outages. Those customers experienced a change in ETR.

We understand that that's extremely frustrating for customers, and that's one of the things we'll continue to work going forward working with our peer utilities. Difficult situation to solve. We got better at it during this storm than we were in Irene or Sandy, but still some opportunities to improve, especially when you get into multiple-day events, and that will be one of our key takeaways.

Communications and operations with the emergency -- the county 9-1-1 centers. Again, we staffed the 9-1-1 centers. We had people in there.

We got some feedback early on just that, the magnitude of an event, that communication needed to be ramped up. We were able to change that mid-event. Overall, we think that went very well in terms of what we were able to accomplish.

We had about 900 road closures; about three times more than Hurricane Sandy. We also prioritized those to different levels, and the highest levels, road closure 1's, priority 1's, we had about 89 percent of those restored within one working day. Overall, we think that went very well.

We also have some opportunities to improve, and we've worked very closely -- We've already conducted an event with the county 9-1-1 centers along with PEMA, and we're doing individual one-offs with each of the county's 9-1-1 centers, and we'll work to enhance that process even further. We think we did well, but we think we can do even better.

Overall, again, I want to thank everyone for -- all of our customers, our elected officials, municipal officials and emergency response. Something of this magnitude could not have been done without all of that partnership, including the

patience and cooperation of all of our customers.

By applying the lessons learned, we were able to complete it safety; two days less than Hurricane Sandy. But again, we know we have some lessons learned, and we're continuing to work those.

We're about a third of the way through a series of workshops that we're having in all of our counties to hear feedback directly from customers about what worked well and what we can improve upon, and we are committed to following up with all of those individually, as well as enhancing our processes going forward.

With that, I'd be pleased to answer any questions that the committee might have.

MAJORITY CHAIRMAN GODSHALL: Chairman Daley.

MINORITY CHAIRMAN DALEY: Mike, I'm very impressed what you've done here. I think it's rather significant and should be noted. You said 44 percent were on within 24 hours, 62 percent within two days, 91 percent within three days. I think that's significant as seeing, historically, this type of problem in the past.

Question: The cell towers, as we know,

have you worked with the various companies on backup generation for those towers? Because I know the whole communication system shuts down when we have a problem like this. What type of backup generation is there in your area?

MR. INNOCENZO: Actually, we have a very good relationship with all of the communications providers. We communicate with them both kind of on a day-to-day basis as well as during the events. They're all very responsible. They all know that they've got to have backup generation, and they do.

Typically, what will happen during an event like -- including our own facilities. We have facilities that have the backup generation; communication facilities with our new AMI network.

Typically, what will happen is, most of those are in good shape on backup generation. As you get multiple days in the event -- As I talked about kind of working down the priority list, usually, kind of mid-event, we'll get some of those locations that have been on generation for multiple days that we'll look to try to work in where we can. And if there's any area where there's some critical communications that are being hampered by that, we'll work that as part of our priority list.

MINORITY CHAIRMAN DALEY: You do work with the various emergency management programs in the counties to do that, as well as PEMA.

MR. INNOCENZO: That's correct.

MINORITY CHAIRMAN DALEY: I think that's very significant.

The fact that you had 4,000 extra feet on the ground very quickly goes to show how it's a team event all over the country. I know on Interstate 70 and 79 in western Pennsylvania, we saw caravans of utility trucks heading your way; on the Turnpike heading your way.

Let me just ask you: Have you given an estimation as to the cost for the restoration that was impacted by PECO?

MR. INNOCENZO: We have. It's actually going to be our most expensive by far. We're still working on the ranges, but we're probably somewhere between 110 to 130-million- dollar range.

MINORITY CHAIRMAN DALEY: This winter has been cataclysmic for all of us in terms of the number of snowstorms; western, central, eastern Pennsylvania. I think you noted this; that once this was completed, you almost had this wrapped up, the second snowstorm hit, and then I think even a

third snowstorm hit the same area.

MR. INNOCENZO: Correct.

MINORITY CHAIRMAN DALEY: By that time, did that impact on the restoration or generation, or did you have a significant number of people that, again, lost more power?

MR. INNOCENZO: We did. The first storm impacted us about 60 to 70,000 customers. The second storm was the big one. That one hit us about 700,000 customers. The third one, the nor'easter that was coming through, if you recall, that was also the one that hit down south where there was some significant ice damage down in Georgia, Atlanta and the Carolinas, that impacted us less so.

We got impacted a little bit, but we still had a significant number of our resources. We lost some of the resources that had to go down south to respond to their own home states, so we lost some of the southern crews. But we had a significant number of resources to just basically clean up the outages that we had during that, basically, the day that they occurred.

MINORITY CHAIRMAN DALEY: I want to thank you and publicly say I think you did a great

job. I know for those people that were out for more than three days, it became very cataclysmic for them. However, nevertheless, this is something that's out of everyone's hands, unless we move the state of Pennsylvania to Florida, and I don't think we can do that legislatively.

MR. INNOCENZO: Thank you.

MAJORITY CHAIRMAN GODSHALL: I just want to mention, I did talk directly to the deputy at the emergency operations center in Montgomery County. They said the cooperation couldn't have been any better than what it was. Each event there was a learning process, and each event there was a plan developed on how to approach these things and it's going to be renewed and developed.

I also talked to the emergency operations center in Bucks County, and I had the same report about how well everything and the coordination worked. We were working together, and there was really no big hassles or -- Everybody was working together to try to get this thing taken care of. So, I just wanted to mention that.

I have a number of other -- Representative Payne has -- We'll start at the bottom end and work up.

REPRESENTATIVE PAYNE: Thank you, Mr. Chairman, I think.

Mike, real quick. For me, I think it would be interesting, being from the central Pennsylvania or Hershey area, is to just see a little fact sheet on where all did the other utilities come from; how many from other states, how many people.

And the second part of that is, we do the same thing. You go to those states --

MR. INNOCENZO: Absolutely.

REPRESENTATIVE PAYNE: -- and maybe that would be -- At least for me, I think it would be interesting. In the last--you pick a time frame--five years, 10 years, you've been out of the state 20 times to help these states; they've been in to help us. I think that speaks volumes when people say the utilities don't cooperate or there's not enough competition or they're not working together. You are working together.

MR. INNOCENZO: It is. I would say it's unique to the utility industry. I don't think that's quite -- It's probably unique in the private industry to utilities in the amount of sharing that we do for resources. But I think the good example

is government. So, just as the government would move resources around from county to county to help and support where there's the needs, that's similar to what we do. When you get an event like that, everyone helps out.

REPRESENTATIVE PAYNE: And I think the biggest difference -- And I've been in the private sector now and the government, too. That's an expectation of government; to help people to do those kind of things; to move your National Guard or your resources there.

But when you're a for-profit company, sometimes that's something different. So, if you could provide that, I think it would be interesting.

MR. INNOCENZO: Sure.

REPRESENTATIVE PAYNE: The six customer care centers that you mentioned that you set up, as a best demonstrative practice, is that something you've done before? Do you go back to the same area so people know where they're at? Are you going to communicate that and try to stay with those locations so, in the future, it's not a new learning curve; they know?

MR. INNOCENZO: Actually, we don't go to

the same locations, and here's why: The goal for those communications centers, when you get down to those --

In the first or second day of the event, you've got several hundred thousand customers off. Usually, the best form of information to be able to handle that is through your phone systems and the media, in general. Then you're getting hundreds of thousands of customers that are coming on fairly quickly within a couple of days.

As you get to the lengthier day, now the customer has been off for two or three more days. They obviously want more specific information, and we want to be able to help them out understanding why; and also, make sure that we've got all the information we have. So, we set up these customer care locations to go to those hardest-hit areas.

We have a number of them that we're ready to staff and ready to execute on that we've done all the logistics ahead of time on. Which ones we activate depends upon which storm hits and where the damage is.

REPRESENTATIVE PAYNE: All right. I understand that. Last question, and I am a proponent of the smart meters. I think that's

something that most consumers just don't appreciate yet how beneficial that can be.

If the smart meters are in effect, won't that -- I think I know the answer to this, but I need you to confirm that. Won't that tell you that that single house doesn't have power yet?

MR. INNOCENZO: It does, but it's a little bit of the nature of the embedded outage. So what a smart meter knows is, a smart meter knows I either have power or I don't have power. What a smart meter can't tell is, am I without power because the wire between the pole and my house is out, or is it that the transformer's out, or is it that large wire that's out on the highway that's out, or is it all three.

REPRESENTATIVE PAYNE: Okay.

MR. INNOCENZO: So, we still need -- The smart meters were a huge advantage to us in Irene, Sandy and in this storm. What they enable us to do is identify as we continually poll the meters to find out which customers are still off and avoid unnecessary truck rolls. If a customer is already back on because of a larger outage, we don't send an unnecessary truck roll.

Our estimations, in probably all three

of the events, we probably had about a two-day less of a restoration because of avoiding an unnecessary truck roll. So, it was very effective.

REPRESENTATIVE PAYNE: Thank you. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN GODSHALL: Thank you. I'd just like to comment on that. John, they have -- Smart meters have changed now to advanced metering. We changed the nomer (phonetic), just like global warming has been changed to weather changing. So we've changed smart meters to advanced metering, for your information.

Representative Stephens.

REPRESENTATIVE STEPHENS: Thank you. And thanks for answering the question on smart meters. That takes one off of my list.

In all seriousness, my hometown in my district was probably one of the hardest-hit in the storm; Horsham Township, and the response from PECO was terrific. Hands down, I think you guys did a great job.

One of the reasons that I had asked the Chairman to have this hearing is to focus on what we can do to prevent these outages, and there are a couple of things in your testimony I wanted to ask

about. You noted that Philadelphia didn't really experience significant outages, and I don't know if you've had a chance to look at whether that was because of the path of the storm or whether it's because there are less trees and vegetation near homes. Has there been any assessment on why that was the case?

MR. INNOCENZO: Little of both, but mostly the path of the storm. If you recall, most of the damage, it was, the further you got west of I-95; the further you got -- closer to 95 that you got, and east, just because of the way this one traveled, you had either less or, in some cases, no damage at all.

As you got further west and north of 95, that's where we saw that ice line and the severe damage. So, a lot of it was this particular path of the storm. We've had previous storms that have been -- Philadelphia, and there is also the issue of the tree density, which is different in Philadelphia than the --

REPRESENTATIVE STEPHENS: And I guess, one of the things that jumped out at me and one of the reasons why this has become a concern of mine is when -- I think there was a sewage treatment

plant in Bucks County that was out for five days, six days as a result of this storm. We had hospitals that were off-line. We had significant emergency services and necessary facilities that were not available as a result of this.

And I know I mentioned to you, the day we were out at PECO during the storm, the idea of burying these power lines. When you look at the costs that you'll incur for the repairs, has an assessment been done by anybody, either by your company, by the PUC or even other states -- I guess other states would be tough because their climate isn't identical to ours --

MR. INNOCENZO: Sure.

REPRESENTATIVE STEPHENS: -- to take a look at, could we be spending our money more wisely by burying these power lines as opposed to just coming back and putting band-aids on the same power lines that keep getting knocked down?

I have communities that just, every single time there's a storm like this, because of all the vegetation, because of all the trees near the power lines, they're knocked out. They continually tell me, if we just buried them once, we wouldn't have this problem every single storm.

Can you speak to that a little bit.

MR. INNOCENZO: Yeah. There's actually been fairly extensive, kind of, review of that cost-wise and reliability impact, both with our company as well as other utilities, I'm sure, will tell you the same thing, as well as nationally.

Burying the lines solves some problems; it doesn't solve other problems. It certainly would help you during a storm like this. There are other issues that come with underground. And just the cost, the order of magnitude is 10 times to 1 in terms of underground lines versus aerial lines.

So, a blanket that says, hey, what if we just bury lines, is that something that makes sense, or is that something that, from either a reliability standard or a cost perspective, really doesn't work.

What does work, and I think there's more pocket -- Undergrounding is a very good tool in your tool belt for isolated areas. As we look at a specific area that's got poor reliability, you've got to look at all the tools. Tree trimming, do we have all the tree trimming that we can; preventive maintenance. Undergrounding is certainly one of those if there's pocket areas where you just can't

solve it any other way.

Undergrounding in an isolated area certainly would be more expensive, but if you're not talking about the entire area, you can manage those costs and solve a specific reliability problem.

REPRESENTATIVE STEPHENS: I hate to interrupt you, but let me just get to that point. My neighborhood, which was built in the early '70's, all the power lines are buried, but we still lose power because, right outside of our neighborhood, none of the power lines are buried.

MR. INNOCENZO: Right.

REPRESENTATIVE STEPHENS: I guess to that point, does it really help unless you're going to do something on a broader scale? If you just do an isolated area, how much benefit do you really get out of that?

MR. INNOCENZO: You're exactly correct. You can have the entire development buried, but if it's fed from an aerial line that runs through a heavily-densed tree area, you're going to be just as susceptible to the tree outages that are there. Again, unless you bury everything, you're not going to be totally immune to tree damage.

But there are areas where, if you have, let's say a really heavily-densed area that the outages occur in that specific area over and over again, that might be an area where, either through more aggressive tree trimming, additional installation of reclosers, undergrounding maybe that particular area.

We have something called tree wire. It's a more heavily aerial -- it's an aerial cable. It's not as expensive as the underground, but it also helps to protect against some incidental tree damage. So there's a lot of tools that you can use in it to try and take a balance approach.

REPRESENTATIVE STEPHENS: One of my other questions, then, involves the vegetation management and the tree trimming. I know you said PECO spends about $35 million a year?

MR. INNOCENZO: Correct.

REPRESENTATIVE STEPHENS: Has that remained constant? I mean, is that $35 million every year? So we're getting less value out of that each year, then, if the number stays the same; obviously, costs go up and everything else like that. I'm sure you have more power lines to take care of each year, especially down in our area. I

mean, there's still growth and a lot of new development.

So, are we getting less bang for the buck, then, every single year if we're seeing the same expenditure?

MR. INNOCENZO: No. We're continuing to get -- 35 is a nominal number. Some years it's a little higher, but it's essentially that. But, no.

We have an aggressive five-year cycle for that. That started in the late '90's, so we're in the fourth cycle of that. We do pocketed areas that have more dense trees. We do more aggressive tree trimming in those areas. We do what's called a mid-cycle trimming for an area where we have -- We have some species of trees that are more rapidly growing than others. So, those areas we won't wait until the next cycle. We'll come and get that on the mid-cycle.

If you look at overall reliability, part of this is making sure we're balanced; what work are we doing and how does that show up in the results. We've had our best overall reliability in 2012. We beat that again in 2013. We'll constantly look at that, but I think we feel very confident in what we've done with the veg

management.

REPRESENTATIVE STEPHENS: Okay. I continue to -- I have great concerns that we aren't doing enough to prevent these outages. I'll continue to work with you and the other utility companies to try to figure out a way to help address this.

But, to me, having sewage treatment plants off-line for six days, having hospitals without power, having emergency facilities without power is a problem. And I certainly don't want to diminish -- Your response was terrific in getting all those troops mobilized and getting them out and getting power restored as quickly as possible; certainly a massive undertaking, and I think you did a great job with it. I just would like to see if we can do more to prevent the outages to begin with.

MR. INNOCENZO: We'll be happy to continue to work with you.

REPRESENTATIVE STEPHENS: Thank you.

MAJORITY CHAIRMAN GODSHALL: Representative Masser.

REPRESENTATIVE MASSER: Thank you, Mr. Chairman.

I want to first commend you for the part where you said you're concentrating a lot more on working with the municipal leaders, because I think that's so key when things like this occur. There are oftentimes folks who are actually on the trucks themselves, on their township trucks and things, working. Folks are always turning to them looking for the information. I commend you for that.

When you talked about smarter grids, I should say, and the switches that are being incorporated now to sort of isolate those outages, how long has this technology been in use in your service area?

MR. INNOCENZO: In our territory, I would say it's almost about 20 years now. I would probably put the first generation of these devices in in the early '90's, and we've continued to both grow it, as well as enhance the technology that we use. REPRESENTATIVE MASSER: Any estimations what a storm like this would have done had you not had those types of technologies?

MR. INNOCENZO: Well, just sort of rough numbers, the way these devices work is, they -- essentially, on a raw level, they'll take an outage that would have affected an entire circuit and

break it up into a third. Without those types of devices, you would have probably seen double the amount of outages that we saw in this.

REPRESENTATIVE MASSER: Thank you.

MAJORITY CHAIRMAN GODSHALL: Representative Kampf.

REPRESENTATIVE KAMPF: Thank you, Mr. Chairman.

Mike, I'm in Chester and Montgomery counties, and, in particular, Tredyffrin Township and Schuylkill Township and Chester County were pretty hard-hit.

On the subject of using some of the tools in the toolbox, like isolated areas, maybe looking at some intense vegetation; trim back or even burying some of the lines, I probably could provide you with a short list of some areas. So I'm encouraged by that testimony.

I did have a bunch of folks talk about, with the ETR system, this kind of phenomenon where they were told at 11 o'clock that night they'd be restored, and then 11 came and went. And then it sort of reset and it said 11 o'clock the next night. There were even some reports, although sometimes it's not clear whether it's totally

accurate, it happened even a third time.

What would you say was going on there?

MR. INNOCENZO: For the most part, that's that, I guess, the issue I described where you have the embedded outage. What we'll do is -- we'll know, let's say, an entire circuit is off. It feeds 3,000 customers. We'll know that all 3,000 of those customers do not have power. They've called us. We can see from the automatic meter reading that their power is off. What we don't know is how many pieces of trouble between getting the electric back on and the customer themselves.

So, we make the first piece of trouble -- make the restoration on the first piece of trouble; restore 80 percent of those customers. Those 80 percent of the customers that were told that, you'll be on by 11 o'clock tonight, we got them back on, but with additional embedded outages and additional trouble that we have to fix. Now those customers are not back on and we need to get another crew out there to fix that.

In some cases where we're able to -- The way we worked this storm and with the number of resources, we were able to mitigate some of that by

patrolling entire circuits and patrolling lines. And just because of the sheer volume of resources we had, we were able to make that a lot less than we had during Hurricane Sandy, but it's something that we weren't able to eliminate, so we'll continue to look for ways to mitigate that going forward.

REPRESENTATIVE KAMPF: So you think there may be technological ways to reduce that kind of phenomenon going on in the next one?

MR. INNOCENZO: There is. We're continuing to look at both work process-wise. We were able to do some work-process changes in this one that helped to lessen it. We saw much less of it during this event than we did during Sandy.

Also, as we further deploy the AMI network, we're looking to ways we can maybe further leverage that technology to help us get at that better.

REPRESENTATIVE KAMPF: Mr. Chairman, just two other quick ones, I promise.

I did have a couple of municipalities ask for circuit-by-circuit information about outages; not to share with the general public, but so that they would have an idea if a particular

neighborhood, say, needed more police patrols or something like that. So, I don't know if that's possible, but I was asked if I could try to achieve that.

Then the other is determining whether the line that has now fallen over a road is yours or some other utility's. We had a couple of difficulties like that in my area. Can you speak to that and how we might improve that?

MR. INNOCENZO: Yeah, sure.

First on the information available to outages, we'll continue to work with you on that. Obviously, it's a balance between privacy security for customers, but we want to make sure the townships and the municipalities have what they need to effectively work that, so we'll take that one.

In terms of the wires, obviously, we're not the only wires that are on the poles; a lot of communication cables that are there. The way we work the process is, we will -- Again, I'll thank again our county emergency response directors for helping us work this process. They've worked the process where we funnel all of those road closures up at the county level, and that really helps us

prioritize which ones we should get on first and which ones we should get after. It helps us also -- when you can see all of that kind of gathered at the county level, it also helps us make sure we resource that appropriately.

What we will do is, we will send -- As we get the prioritized list from the counties, we'll then work the highest priority ones first; the road closure ones where we've got the road closed and it's impacting travel, safety throughout the community.

At the same point in time, we send folks out there that may not be able to repair the line but can at least patrol and identify. So we have a lot of resources that work that portion of the list as well.

For example, 40 percent of the ones that we came across -- maybe 30 to 40 percent of the ones we came across were not PECO wires at all. We were able to identify it as communications cables, cable TV, phone and be able to get that information back to the counties to say, hey, look, the wire is still there, but it's not an electric wire. And, therefore, you can either work with the communications officials or safely do your work.

MAJORITY CHAIRMAN GODSHALL: Chairman Daley.

MINORITY CHAIRMAN DALEY: Just a remark about the five-year plan, and spending about $200 million over the five years is a lot of money. Most people don't realize the way utilities have done--correct me if I'm wrong--the abatement program that you have concerning non-toxic sprays that can be placed on some of the shrubbery and vegetation, which retards growth. So, year 6 you're probably getting a bigger bang for your buck than you did in year 1 because you're not back, maybe, in the same area. But, generally, you may be back in the same area, but you may be doing something more extensive because of the abatement program you have between 1 and 5.

MR. INNOCENZO: That's correct.

MINORITY CHAIRMAN DALEY: Am I correct?

MR. INNOCENZO: That's correct.

MINORITY CHAIRMAN DALEY: I mean, it's a different world now than it was, say, 15 years ago in terms of --

MR. INNOCENZO: It is.

MINORITY CHAIRMAN DALEY: -- sending somebody to cut the trees down. It's not like that

anymore.

MR. INNOCENZO: That's right. The first cycle is certainly the most intense. Each time you go through it, you're staying on top of it. You're maintaining it, both the growth retardance that you described as well as the directional trimming that we do. So that, even as you get growth, it grows in a direction away from the lines. So, it's helped us as we go through each cycle.

MINORITY CHAIRMAN DALEY: It is a science now. It's not like, we gotta cut that tree down here, here and here. I mean, they know growth patterns of trees; how fast they grow, what tree needs to go, and the proximity from the center line of that power line.

MR. INNOCENZO: That's correct.

MINORITY CHAIRMAN DALEY: I mean, I'm amazed by some of the science that you're utilizing.

MR. INNOCENZO: Our folks do some really good work there.

MINORITY CHAIRMAN DALEY: Right.

MR. INNOCENZO: Thank you.

MINORITY CHAIRMAN DALEY: Thank you, Mr. Chairman.

MAJORITY CHAIRMAN GODSHALL: Just a couple of things. I was one of the fortunate ones that did not go out this last outing. A lot in my neighborhood -- I didn't have gas. We all know that.

But, one of the things that was brought to my attention by a couple of the municipalities was, bamboo has been a problem, apparently, in some areas underneath the lines, and bamboo apparently spreads and goes right up into the lines. Is that becoming more and more of a problem?

MR. INNOCENZO: It is. But, again, I will credit to the -- It is more of a problem, but I'll give credit to the township. We work very closely with the township. One of the things we talk about with each of the townships and municipalities is promoting proper tree planting and, you know, planting the right species in the right locations.

I think we've gotten very good cooperation from the townships and municipalities around making sure that is both communicated throughout there and also policed; making sure there's the right planting. We want to peacefully coexist with the trees, but it's the right species

and the right location.

MAJORITY CHAIRMAN GODSHALL: Thank you very much. I also want to thank you for the monumental effort that you put into this last storm and getting people back onboard.

I wanted to ask you, the 6,800 people that you had out working on the storm, coming from other states and so forth, are these volunteers? Or, when you send people into somebody else's outages to help them, are they volunteers or is that part of their job?

MR. INNOCENZO: Well, it is a volunteer -- When we send folks to another utility, we look for volunteers. I mean, they're compensated for their work, but it is a volunteer effort. So that's folks that decided to leave their families, leave their homes and, in some cases, leave their homes with trouble to come and help us and help our customers. So, they're absolutely to be commended.

MAJORITY CHAIRMAN GODSHALL: Well, thank you very much. We appreciate you being here today with us. Thank you.

MR. INNOCENZO: Thank you very much.

MAJORITY CHAIRMAN GODSHALL: At this

time, we'd like to call up Dennis Urban, Vice President of Finance and Regulatory Affairs, from PPL.

MR. URBAN: Good morning, Chairman Godshall, Chairman Daley and members of the committee. I'm Dennis Urban, Vice President of Finance and Regulatory Affairs for PPL Electric Utilities.

I submitted, in addition to my written testimony, a PowerPoint presentation, and I'll be speaking to that presentation here this morning rather than the written testimony.

So, starting on slide 2, generally speaking, PPL and its customers faired pretty well this winter, outside of the storm event in early February. As Mike mentioned, the storm hit our service territory late in the night of February 4th and into the morning of February 5th.

In total, we had 92,000 customers' outages that were impacted, but the bulk of that was concentrated in the Lancaster area where we had 74,000 customers out. Just for the frame of reference, this is more customers impacted in that area than we had during Hurricane Sandy. Happy to say, we had 60 percent of our customers back within

one day, and 99 percent of our customers were back within 72 hours.

We had 1,600 resources in the field, including our crews, contractors and line workers from utilities as far away as Alabama and Georgia. We also had utility workers from Duquesne Light Company, in the western part of our state, aiding in our restoration effort. The crews restored over 800 individual jobs.

So, if you think about the amount of damage, each of those individual jobs impacted relatively few customers, and the bulk of the damage was caused by the falling trees and limbs. They couldn't withstand the weight of the ice buildup on the branches.

Noteworthy for us is that we had no transmission lines impacted in the Lancaster area, and we only had one transmission outage on our entire system during this event. This is due, in large part, to the aggressive tree-trimming practices we put in place over the last several years.

I'm onto slide 5 at this point.

Our vegetation work is beginning to pay dividends in the form of improved reliability.

We've expanded a tree-trimming concept, or vegetation management concept that we use on our transmission lines into our distribution lines, and I'll talk about that a little bit on the next slide. But we believe, without this stepped-up effort on the vegetation side, that we probably would have had a much more severe impact related to this storm.

So, on slide 6, there's a before-and-after picture of the vegetation management practice I'm talking about. So, on our transmission lines, we have employed a tree-trimming concept, or a vegetation management concept known as wire zone/border zone. So we basically go down to the ground level of the right of way and all the way out to the perimeters of the right away and trim all the trees out and remove everything at the ground level.

So, if you look at one of our transmission lines that have gone through this process, it looks like an airport runway with a power line running down the middle of it. What that does is that it lessens the potential for trees that are outside of the right of way being able to fall into the right of way and impact the

wires.

So, what you're looking at on this slide is a distribution line. On the before side is what looks like our -- it was our previous tree-trimming practice where we basically cleared around the line. We didn't remove anything below the line. And in a lot of cases, the overhanging branches weren't removed at all.

So, what we're doing going forward, and we've been doing this for about 18 months at this point is, on our distribution lines, we have ground-to-sky clearance. So we're clearing out the entire right of way that our distribution lines sit in, all the way down to the ground level and all the way up above where the circuits extend.

The other thing we're doing as we're going through this process is, we're removing what we call danger trees. Danger trees are trees that are outside of the right of way that, either through blight or some other disease or rot or potential damage from prior storms, have the potential to fall into the right of way. So, as we're going through this cycle, we're also removing those trees as well. And, a lot of times they may be on the customer's property. We've gotten really

good cooperation from customers because they understand the risk of that tree impacting the lines on the streets.

So, the payback for us has been improved reliability for this. We've had 43 percent less tree-related outages in 2013 compared to the average of the previous three years, and this is after removing the impacts associated with the major storms in 2011 and 2012.

Now, moving on to some of our improved assets out on the system. So we're also seeing improved reliability from installing the smart devices that Mike was referring to. These devices limit the impact of the interruption by automatically rerouting power around the impacted area. And at the same time, they also send a signal to our control center so our operators can react much quicker.

In the Harrisburg area where we piloted this technology, the customers in Harrisburg experienced a 45 percent increase in reliability just one year after the installation. So, we're installing these devices across our system, and we're doing it by targeting what is deemed to be our worst-performing circuits; so, places where we

can get the most bang for the buck immediately. But also, as we're installing and investing in other reliability-type projects, we're installing those devices in those areas as well.

In terms of communications, we continue to improve with our communications to customers during major storm events. We're using the social media contacts. We have stepped up our website. We also have a stepped-up mobile device site that customers can access.

For this storm, we had over 180,000 customer contacts, both for reporting outages and to track our status during the outages, and over 90 percent of them were handled through self-service means. So, less than 10 percent of those contacts had to come into our customer care center, and they actually talked to a representative.

We also have continued our practice of outreach efforts to inform customers where they can get free ice and water during these events, if they're out of service, and also to alert them to the location of warming centers as they go through the restoration process. And we continued our practice of conducting daily conference calls with local officials to provide status updates and to

hear of any concerns with our restoration strategy.

So, much as Mike alluded to, we also conduct a lessons-learned exercise after each of these events, and we share information through a utilities' best practices working group with other members of our peer utilities. Some of the things that came out of this that we appeared to have done well is, once we did the initial assessment of our system to understand where the damage was, we broke away the regions that were less impacted so that they could manage them on an autonomous basis. That allowed us to focus our efforts down in the Lancaster area.

Based on lessons learned from Hurricane Sandy, we also implemented a practice in this event, whereby, we had dedicated crews that were assigned to restore an entire circuit. This ended up being much more efficient for the crews, and it also allowed us to mitigate some of those embedded outages that Mike referred to before, because the crews, as they were restoring the circuits, they were still there to look at all the way out to the end of the circuit to understand if there was additional damage that needed to be dealt with.

Then we also set up centralized material

trailers during this event, which worked out very well for us because the crews didn't have to waste time traveling from a job back to a service center to get material and then go back out to the job. We basically had the material right where the damage had happened, and they were able to move from job to job way more efficiently.

So, our customer reaction to our efforts during this event were very good. Couple weeks after the storm, we surveyed a group of customers in this area, and 78 percent of those customers gave us high marks on our restoration efforts, which was a marked improvement from both Hurricane Sandy and the May 2011 storm.

Some other areas for improvement. We can do a better job of understanding the skills and capabilities of foreign crews, I'll call them, or contractors and, also, foreign utility crews that are coming into our service territory, so we can better prepare jobs for them as they arrive, and get the material ready for them so they can be expedited into the restoration effort.

We also have observed that we can do a much better job on the material side. So, we're looking at a, I'll call it a just-in-time-material-

delivery type of concept, whereby, we can have the material at the next job location waiting for the crews, to expedite them from moving from job to job.

We also are committed to improving our process for providing estimated restoration times. We employ some of the same practices as Mike talked about for PECO. Early on in the stages of a storm event like this, we suppress the estimated restoration times to allow us time to get out on the system and really understand the damage and the resources that we'll need.

And then, as we plan our strategy for the day, we begin providing what we call regional estimated restoration times. And then as we get further out and there's less and less customers impacted, then we move to a more of an individual restoration time for those remaining customers.

One of the things we did for this storm event that was a lesson learned coming out of Hurricane Sandy is that, if we understood, you know, partway or most of the way through the day that some customers weren't going to be restored as we had anticipated, we did some proactive calling to those customers. It was well-received because,

as you can imagine, the unknown is what bothers customers. If they know that they're going to be out for another period of time, they can make plans to make their accommodations for that evening.

Our system reliability is improving thanks to that stepped-up vegetation management practice that I talked about earlier, but also because of the targeted reliability investments we've been undertaking.

In 2013, the number of power outages on our system decreased by 9 percent. The duration of those outages also decreased by 11 percent compared to the outage of the previous three years. Again, this is after adjusting for the major storm events.

A lot of that investment is shown on slide 15. So, as you can see here, we're investing about a billion dollars per year over the next five years in both our transmission and distribution system. And the majority of the investment in transmission is all reliability-driven, and around 60 percent of the distribution investment is geared towards reliability.

On slide 16 -- And most of that investment on the distribution system is targeting our aging infrastructure. The bulk of our system

was built out in the '60's, the '70's and early '80's. As we had urban sprawl, more and more customers were using electronics and the introduction of more and more electric appliances. Now that infrastructure is 40, 50, 60 years old, and it's at the end of its useful life, so we're replacing a lot of transformers, circuit breakers, wires and substation equipment. And as we're doing this, we have a storm-hardening in mind. So, as we're replacing poles and we're replacing wires, we're installing bigger, stronger, more resilient poles and wires in the process.

This may surprise some folks, but another leading cause for outages, outside of storms, is animal contact. We have a program in place where we're installing animal guarding throughout our system to keep the playful critters away from our equipment.

At the same time, we're modernizing and automating our system. That's a lot of the smart grid investment we talked about earlier; so that we have a lot more automation that we can reroute customers and get them back in service much quicker.

So, a lot of the distribution-related

investment we are able to perform and able to undertake thanks to the distribution system improvement charge that was part of Act 11 of 2012. That gives us a more-timely cost recovery of that type of investment. And it allows us to more efficiently plan the work, buy the materials and finance those activities. Again, I don't miss a chance to thank Chairman Godshall for his leadership in making that legislation a reality.

Then again, as Mike mentioned as well, we have stepped up our preventive maintenance programs. So, we have helicopter line patrols, pole inspections, substation inspections, infrared inspections out on our system looking for hot spots. This is a proactive identification of areas that could be a concern, and we're addressing them before it has an impact to our customers.

This last slide is our commercial, but, actually, it's at the forefront of our daily work. It's our goal to have top quartile performance in safety, reliability, customer satisfaction and community involvement. After all, that's why we're in business.

That concludes my remarks, and I'd be happy to answer any questions.

MAJORITY CHAIRMAN GODSHALL: Representative Payne. No, I'm sorry. Representative Stephens.

REPRESENTATIVE STEPHENS: Thank you for your testimony. Do you know how your vegetation management plan differs from PECO's, by any chance?

MR. URBAN: No. I'm --

REPRESENTATIVE STEPHENS: Maybe I need to get the two of you around the same table.

MR. URBAN: I'm a finance and regulatory guy. I'm not an operations guy. I can tell you that our approach has changed drastically in the last few years.

The philosophy that we have is that, because we've been hit with these numbers of storms, the competition for outside resources is getting more and more robust. So, if you think about the last few years, the entire eastern seaboard has been impacted, and one of the challenges is making sure you get enough resources in to deal with it.

We've become real aggressive on the tree trimming side because of that. So, we know that in the future it may be difficult for us to get resources in and the numbers we have in the past,

or in the time frame we have in the past, so we're really aggressive on the tree side to make sure that we're trying to mitigate the damage that can happen in these storms.

REPRESENTATIVE STEVENS: I don't know if you can answer it or staff or somebody else. Are there vegetation management plans that have to be submitted to the PUC and everything else like that? Anyone know?

MR. URBAN: I'm not sure in terms of the vegetation management practices.

REPRESENTATIVE STEVENS: Yes?

(Unidentified voice...inaudible words).

REPRESENTATIVE STEVENS: Okay. So I can get those and compare what different companies do and how they approach it? All right. Thank you.

(Unidentified voice...inaudible words).

REPRESENTATIVE STEVENS: They're filed, but they might not be public. All right. We'll have to find that -- All right. I'll look into it.

Thank you very much. I appreciate it.

MAJORITY CHAIRMAN GODSHALL: Under vegetation, as aggressively as you talk, how do you get by the homeowners who want to protect all their

trees? I know that's been a problem in the past in some areas. Unfortunately, the person that's protecting this individual tree affects the people down the road and up the road. So, how do you get around that situation?

MR. URBAN: So, we don't get around it. We basically go through it. That sounds rather aggressive. We start with proactive notification that we're going to be coming through the area and trimming trees. And we get a lot of -- not a lot, but we do encounter some homeowners that are more difficult than others. We work with them and we explain to them the purpose for it.

In a lot of cases, we'll actually mitigate the area where we -- well, in all cases we mitigate the area where we remove the trees, but we'll also agree, in some cases, to plant replacement trees for them on their property; you know, a show of good will in a lot of cases.

But you're right. This has been received real well by 95 plus percent of the customers that we have dealt with, and the other 5 percent are just very attached to their trees. And really, we're just enforcing our rights, so they shouldn't -- Anything that grows up within

that right of way, we have the right to remove.

MAJORITY CHAIRMAN GODSHALL: Chairman Daley.

MINORITY CHAIRMAN DALEY: I was just going to advance the utility right of way. Most people, when they buy properties, there are right of ways; there's easements on those deeds. I just dealt with FirstEnergy on a situation where they came in and there were some really ornamental trees that needed to go, and there were replacement trees offered.

The mitigation process with utility companies is a lot different than it was 15, 20 years ago where they'd come and say, like, too bad; it's gone. It's a whole different world now, and I know there's a lot of mitigation on terms of quality of tree, quantity of tree, different shrub, low-growing shrubs. That's much more within the parameters of the legal framework that you have, but it's also more of a customer service type of thing, too.

MR. URBAN: Sure.

MINORITY CHAIRMAN DALEY: It's a different world now; am I not right?

MR. URBAN: It is. It absolutely is.

I guess the other thing I would point out is, the first time through is the hardest part, right? Going forward it gets much easier and easier because now we're just trimming back, you know, anything that might have grown into that right of way, and the treatment of the ground cover is much more cost-efficient going forward. We have less customer intervention the second time through.

MAJORITY CHAIRMAN GODSHALL: Thank you very much. I do -- I've been -- I was directly in line down where I live with the PECO situation. I heard very little on PPL problems as far -- I know you were out in Lancaster more than our area where you serve also. We didn't have the ice in Montgomery -- the upper end of Montgomery County and Berks and so forth where I live.

I appreciate your efforts and appreciate the efforts of your people in trying to get us back on service as quick as you have. I just want to say thank you, and I appreciate your testimony.

MR. URBAN: Thank you.

MAJORITY CHAIRMAN GODSHALL: At this point, the last testifier is David Karafa, President of Pennsylvania Operations for FirstEnergy.

Mr. Karafa, I hope I pronounced that semi-correctly.

MR. KARAFA: As good as anybody else.

Good morning, Chairmen Godshall, Daley and members of the committee. I'm David Karafa, President of FirstEnergy's Pennsylvania Operations. I appreciate the opportunity to provide information regarding the response of Met-Ed to Winter Storm Nika that hit our service area on February 5th, 2014.

My testimony will address key issues, including our planning and preparation in advance of the storm; the scale and scope of our restoration efforts; as well as our communication outreach to customers, state and local officials, emergency management agencies and media outlets. I also would like to discuss the substantial capital investments in our energy delivery infrastructure, our ongoing vegetation management activities, and the implementation of lessons learned from Hurricane Sandy, all of which enabled us to restore service safely and quickly in response to this winter storm.

To put the impact of Winter Storm Nika in perspective, the severe weather disrupted

service to nearly 136,000, or 25 percent, of our Met-Ed customers.

Before I discuss our efforts specific to the February storm, I would like to underscore our commitment to continuously improving our response to our Pennsylvania customers on two fronts: Strengthening and enhancing day-to-day service reliability, and providing options for customers to connect with us and get the information they need if they do experience a power outage.

Regarding our electric system, FirstEnergy's Pennsylvania utilities spent more than $366 million last year to expand and strengthen our infrastructure. Major projects included maintaining overhead and underground circuits and inspecting nearly 130,000 utility poles, as well as energizing new substations and installing sectionalizing devices to help limit the impact of unplanned outages. Of particular note are infrastructure projects completed in recent years across our Met-Ed service area that are helping to reduce the number and duration of outages.

In 2013, we produced some of the best service reliability numbers ever reported for

Met-Ed, surpassing the benchmark established by the Pennsylvania Public Utility Commission.

To further reduce service interruptions, this year, FirstEnergy expects to spend nearly $460 million in major projects designed to meet our primary objective of providing the quality of service our customers expect and deserve. In addition to operational and maintenance work, these projects include upgrading existing distribution circuits, replacing underground cables, installing automated and remote control devices, and ongoing tree-trimming activities, all designed to enhance electric service reliability.

As you may know, tree-related storm damage is the leading cause of power outages in the Commonwealth. To address this reality, we have spent nearly $256 million since our merger with Allegheny Energy in 2011 trimming trees and other vegetation across our Pennsylvania service area. And this year, we're spending approximately $83.5 million as part of our ongoing program to trim trees and help maintain proper clearance along thousands of circuit miles of lines.

Now I would like to provide a brief overview of FirstEnergy's service restoration

process, which is recognized by the Edison Electric Institute as one of the best in the industry, and was implemented by Met-Ed in response to the severe winter weather in early February.

Let me begin by highlighting that safety is essential to all FirstEnergy activities, and throughout every stage of our service restoration process, safety is the top priority. To that end, we make sure our employees have the information, procedures and equipment to perform their duties in a manner that helps ensure safety for themselves, their co-workers and the public.

Another key element of our service restoration process is the planning, preparation and pre-staging efforts that we initiate days before a storm strikes. As part of those efforts, FirstEnergy's in-house meteorologists monitor weather reports and track storms to assess the potential impact on our electric system and service area.

If we determine that a storm could potentially disrupt service, company leadership and operations managers from across the affected area evaluate the need for crews, materials and equipment, including crews from other FirstEnergy

operating companies, our mutual assistance partners, line contractors, outside utilities and electrical co-ops.

During early stages of the service restoration process, hazard responders assess damage to the electric infrastructure and locate electrical hazards, such as downed and potentially energized wires and other equipment, and then remain at those locations to protect the public until linemen safely isolate or clear the hazard. Next, forestry crews clear fallen trees and other vegetation so utility workers can repair and reenergize the power lines.

Crews then focus on restoring service to high-voltage transmission equipment, substation facilities that supply power to local distribution systems; then, on a high-priority basis, to hospitals, critical care and life-support facilities, fire departments and other first responders. After that, we make repairs that will bring the greatest number of customers back in service.

At the same time, we implement an integrated communications process for reaching customers, state and local officials, emergency

management agencies, media outlets and other stakeholders to keep them apprised of our preparation and planning efforts. We do this through proactive outreach by phone and e-mail, as well as communications materials, including news releases, public service announcements, media advisories, website content and social media. Working in tandem with FirstEnergy's communications team, our external affairs managers establish one-on-one communications with state and local officials and county EMAs.

As a result of lessons learned from Hurricane Sandy, we're making information more accessible to customers so they can check the progress of service restoration efforts when experiencing an outage. Our 24/7 Power Center outage maps, available on our website, displayed the status of crews restoring service after a power outage. With this enhancement, which launched February 28th, customers can see when crews have been dispatched, when they are working on a repair, and when additional crews and equipment are needed to complete restoration work.

Following Hurricane Irene, we also acknowledged the need to more aggressively pursue

social media as another chance to communicate with customers during a storm. We now include enhanced social media components to our communications efforts, including Twitter feeds and two-way conversations with customers, via Twitter, regarding service issues.

Customers who visit Met-Ed's Facebook page can use the new "Report an Outage" tab to let us know about a power disruption. The app, which we introduced earlier this month, is integrated with our automated reporting system to help ensure outages are quickly and accurately recorded. These new tools complement the broad array of communications service we've introduced in the past year, including our e-mail and text message alert notifications that contain weather alerts in advance of major storms and updates on scheduled or extended power outages. Customers can also use two-way text messaging to report outages, request updates on restoration efforts, and make other inquiries about their electric accounts.

Now I would like to provide information specific to our service restoration efforts in response to Winter Storm Nika, which brought up to a half an inch of ice that downed trees and power

lines in eastern Pennsylvania.

Several days before the storm hit, we began monitoring weather conditions and preparing for the possible impacts of heavy ice and snow accumulations across the region. Due to the weather forecasts, we implemented our storm preparation process, including staffing additional dispatchers and analysts at our regional dispatch office, and making arrangements to bring in additional line, substation and forestry personnel, as required, based on the severity of the weather. In addition, our on-site contractors were notified they were on standby to assist, if required, with storm restoration efforts over the next several days.

The ultimate goal of our pre-planning efforts is to accelerate the restoration process and minimize any inconvenience our customers experience due to the weather. To that end, we pre-staged line and hazard crews while increasing the number of forestry personnel and support staff at various locations in Pennsylvania. And to further prepare for the efficient deployment of crews and equipment, we established a staging site at the York County Fairgrounds.

Our service restoration activities required the efforts of support staff and utility crews, including 640 workers from Met-Ed, 865 workers from FirstEnergy and other FirstEnergy utility companies, 560 line contractors and mutual assistance workers, and nearly 410 forestry contractors.

In all, approximately 2,500 individuals, including FirstEnergy employees, contractors and mutual assistance crews, responded to more than 1,615 damage locations. Due to the damage caused by scores of fallen tree limbs and other debris, we repaired or replaced 174 poles, 526 cross arms, 115 transformers and 31 miles of wire, in addition to the miles of wire that were reattached to poles.

Although the storm disrupted service to 136,000 customers over the duration of the storm, 122,000 customers, or more than 90 percent, experienced an outage duration of less than three days.

Well before the snow and ice began falling, we issued news releases regarding the possible impacts of heavy ice and snow accumulations across our service area and our efforts to prepare for the oncoming storm. In the

releases, we encouraged customers to report any outages and downed wires, and provided information on how to receive updates on reported outages. Over the course of the storm, we issued numerous news releases and media advisories.

Through social media, including Facebook and Twitter, we shared pre-storm information, as well as updates throughout the service restoration process, and responded to customer inquiries on both platforms. We had nearly 2,500 Twitter followers and about 950 Facebook "likes" by the time we concluded our restoration efforts.

On our website, our newsroom and storm information pages provided a central source of information, including outage updates, safety information and tips, available shelters and warming stations, and ice and water distribution locations. As another follow-up to lessons learned following Sandy, we created a mobile version of our website that customers can access through their mobile phones or other devices.

Our 24/7 Power Center outage maps, which are updated about every 15 minutes, were available on our website and displayed the status of crews restoring service after a power outage. We also

displayed information including the number of customers affected and cause of the outage, as well as estimated restoration times. Our outage maps received nearly 132,000 page views for the mobile version, and 82,000 page views for the web version during our service restoration process.

From Tuesday, February 4th, through Sunday, February 9th, our communications department conducted daily interviews with radio and TV stations, including in-studio and phone interviews and at our Met-Ed offices in York.

In preparation for the severe weather, Met-Ed's external affairs managers began sending notification e-mails to local officials, emergency management agencies and Red Cross chapters in the nine counties expected to be most affected by the storm. Our customer contact centers handled approximately 83,000 outage-related calls from Met-Ed customers from February 5th to February 9th.

Over the course of this weather event, we continued making outbound calls and sending e-mails to emergency management agencies and local officials, as well as schools, water treatment plants, hospitals and other critical facilities located across the affected area. These

communications provided status updates on our storm activities, outage numbers and safety tips. We conducted calls with elected officials and public officials in York County, one of the hardest-hit areas of the storm, and helped post current outage information on their website.

Our outreach continued with service restoration updates, including detailed information as individual circuits were restored, and we responded to inquiries from legislators to resolve issues with specific customers. In addition, Met-Ed representatives were made available as needed to assist county emergency management agencies and operations centers.

In closing, I would like to thank our customers for their patience as our dedicated crews worked around the clock to restore service safely and quickly following the severe winter weather in early February. And on behalf of the thousands of employees, contractors and others who assisted in our efforts, I would like to extend a special thank you to the emergency management agencies and the Red Cross, as well as state and local officials, for their invaluable help during the storm.

While Winter Storm Nika presented many

challenges, our response was well-managed, effective and safe. We believe there's always room for improvement and remain committed to enhancing our service restoration process in ways that should even better serve our customers during storm-related outages in the future.

Thank you for the opportunity to provide testimony today.

MAJORITY CHAIRMAN GODSHALL: Chairman Daley.

MINORITY CHAIRMAN DALEY: 83,000 customer contacts in four days is absolutely unfathomable. A few years ago we could have never seen that. Today, those types of contacts are really remarkable. You have to be committed, as well as the other utility people that were here and spoke.

That's into a call center? How does that work? Does it come into a call center and then that information is just sent right out to the field -- to the different field locations? Is that how that works?

MR. KARAFA: Yes, that's correct.

MINORITY CHAIRMAN DALEY: And you got pretty well everybody turned back on in five days?

MR. KARAFA: That is correct; yes, sir.

MINORITY CHAIRMAN DALEY: Total event, from the three testifiers today, was about 970,000 customers affected. Although you're a little smaller than PECO, I mean, it's substantial, nevertheless, when it's you, unless it's Bob Godshall who doesn't get power outages --

(Laughter).

MAJORITY CHAIRMAN GODSHALL: I have gas outages. We all know that.

MINORITY CHAIRMAN DALEY: We've heard about that.

I want to congratulate you and everyone else that's participating today. I think you've done a remarkable job. You're on the ball, and you're trying to make the ball even a better solution in the future. I think that's remarkable in itself, too. Thank you very much.

MR. KARAFA: Yes. And thank you very much. A lot of this has to do with lessons learned in Hurricane Irene, Snowtober, Hurricane Sandy; all the utilities working with the commission and best practices and sharing lessons learned. So we can continue to improve on it, but all the utilities have really done a remarkable job from where we

were a couple of years ago.

MINORITY CHAIRMAN DALEY: What was that one great thing? If you don't learn from history, you'll have to relive the history again. I know I kind of changed that quote, but I mean, one thing about the utilities companies is you get it. You learn from history, and you start doing from there so it doesn't happen again, and you don't get caught with your proverbial power lines down in the process.

MR. KARAFA: Thank you.

MAJORITY CHAIRMAN GODSHALL: I just want to say that, the purpose of this hearing was really to bring out to the public exactly what you did and what the companies did to address a bad situation. I don't think anybody really knows the degree to which you people worked around the clock to try to take care of the situation that we were in here in Pennsylvania.

As I said in the beginning, when you calculate that out with the outages, it really amounts to someplace between a million and 200 million people, of our 12 plus million people, affected here in Pennsylvania by this storm, which is a tremendous amount of people that were

affected; a tremendous job that the utilities did to try to bring them back on board, which was done successfully in a relatively short period of time.

So, I just wanted to say thank you. I wanted to -- There was only one way to go at this point is to go forward from here. I think some of the things that were suggested by the various utilities here today, as far as tree trimming and so forth, is something we have to look at.

As you said in your testimony, that the biggest cause of the whole problem is trees and limbs. That's what we're living with here in Pennsylvania, and it's got to be looked at and it's got to be taken care of.

Anyway, I appreciate it all. I appreciate the members here today. I appreciate the testifiers and the people that joined us and say thank you, all.

With that, the meeting is adjourned.

(At 11:34 a.m., the hearing concluded).

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C E R T I F I C A T E

I, Karen J. Meister, Reporter, Notary Public, duly commissioned and qualified in and for the County of York, Commonwealth of Pennsylvania, hereby certify that the foregoing is a true and accurate transcript, to the best of my ability, of a public hearing taken from a videotape recording and reduced to computer printout under my supervision.

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Reporter, Notary Public