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REVIEW OF ELECTRIC UTILITY HURRICANE PREPAREDNESS AND RESTORATION ACTIONS.

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COMMISSIONERS PARTICIPATING:	CHAIRMAN ART GRAHAM COMMISSIONER JULIE I. BROWN COMMISSIONER DONALD J. POLMANN COMMISSIONER GARY F. CLARK COMMISSIONER ANDREW G. FAY
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I N D E X

P R O C E E D I N G S

(Transcript follows in sequence from Volume 1.)

COMMISSIONER BROWN: All right. Welcome back. The time is roughly 1:45 and we are back on the record here in this hurricane workshop, day one, of two-day workshop. And next up is FECA, Florida's Electric Co-Op's, and with us is Michael --

MR. BJORKLUND: Bjorklund.

COMMISSIONER BROWN: Bjorklund. Thank you. Welcome.

MR. BJORKLUND: Thank you, Madam Chair. I appreciate you all giving us the opportunity to be here today.

My name is Mike Bjorklund. I am the general manager of the Florida Electric Cooperative Association, and as far as storm experience goes, I've been a part of FECA for a little over ten years and I've been -- the majority of that's been a lull. With Irma, that was my first active role within a hurricane. So I was much like Jerry Clower, the first football game I ever went to, I got to play in it. So there was a lot of learning on the fly and we made it through and I think we did a good job.

But just a little about co-op's. Ma'am, before we get started, co-op's are not-for-profit electric utilities. We are owned by those we serve and governed by an elected board of trustees. We have been in business in Florida since the '30s and '40s respectively, depending on what part of the state you're in. We are made up at FECA of 15 of Florida's 16 distribution cooperatives and two G&T's. We serve approximately 11 percent of the population, but we cover 60 percent of the land mass, which equates to approximately 12 co-op members per mile of line. So we deal with the same process of restoration, but we don't have the density. So because we get up a mile high, we're not having the same effect as some of our partners out here in the electric utilities. So we have to be a little bit more dynamic in some instances.

One of FECA's primary responsibilities is to help after storms. We manage the mutual aid program for the electric co-op's and we also help manage and request resources as needed. We also act as the liaison to the state EOC on behalf of our members and also through other government entities. However, it may work out that we need to perform that function.

And I can tell you, Madam Chair, we have very much enjoyed working with Rick Moses and his staff. He is the best; and when you're in that crisis situation and you've got to make the call or get the call, having that cool, calm, collective voice on the other end, that makes a difference.

But as been pointed out, storm restoration actually begins with storm preparation and we do that as part of our duties at FECA. We maintain a mutual aid workbook that we update annually and distribute to our members so everybody understands what the plan is, what our processes are. We also go through and participate in several conferences to help broaden our horizons. I work with my counterparts around the country with storm coordinators to talk about the lessons they've learned throughout the year and also relate what we have to offer. We also participate in FCG's hurricane conference and we are going to be holding our hurricane conference for our members later this week, actually on Friday, and we'll be working with our folks on getting them ready for our process.

At the co-op level, each of our members does their own version of this and that includes several things. A lot of the stuff we've already talked

about, mock drills, storm manuals, plans, they also meet with their local governments and EOC's, not only prior to the storm, but throughout the year, and when they get to the storm aspect of their restoration efforts, they begin meeting days or sometimes weeks in advance to start trying to come up with scenarios and probable outcomes so they can be best prepared for what they're going to need as far as personnel to restore and resources they're going to need to effect that job, and also to get their logistics together. I think it's been mentioned many times, but it's worth noting, just because you have help, that doesn't mean they're already fed and have a place to stay. So you have to make sure all the logistics are handled, as well.

But in addition to the planning and the drills, there is also the active role that the co-op's play on maintaining their system and hardening it. Since 2006, a lot of it's per Rule 25-6.043 here at the Commission. We file annually what we do as far as co-op's construction standards. We also let you all know about our pole inspection process and our vegetation management program. And a lot of what happens in that rule is

also mirrored through RUS. And RUS is the Rule Utility Services, which is housed under the USDA. This is a federal loan program that the co-op's can access. And in order to get the money you have to abide by strict standards and regulations and these dollars can be used for anything from grid maintenance, upgrades, modernization and other projects.

COMMISSIONER BROWN: If you don't mind me interrupting, can you use the RUS funds, I guess funds from RUS, to pay for, I guess, for restoration activities?

MR. BJORKLUND: No, ma'am, we don't do that. We are able to apply for FEMA dollars so we generally will go through, start our repair process, and then go through the FEMA process to get reimbursed for the dollars we spend.

COMMISSIONER BROWN: Thank you.

MR. BJORKLUND: Yes, ma'am.

In addition to the standards that you have to abide by through RUS, they've also been a little bit ahead of the curve in emergency restoration planning. They started in the '60s recommending that each co-op bar have a written plan, which evolved in the '90s, to a requirement to have such

a plan, and they also started in the mid-90's with pole inspections, which the basis of that is in the rule that we abide by and file with you all annually.

As the storm approaches and it becomes clear that Florida is in danger, we at FECA begin doing several things. Number one, as I mentioned before, we're already working with the EOC. We're talking to decision-makers on what they see coming, keeping them in the loop on what we're -- our activities are. We also start communicating with our managers, our FECA members, to make sure they have their issues all in a row and we understand what they're expecting and what we might need. Key staff is also included on those calls.

And then, from my standpoint, I also activate our mutual aid network and that's comprised of about 834 distribution co-op's across the country. I thank our map is in the presentation that we submitted to you all and it shows how far our co-op family reaches around the country. And we utilize them extensively during Irma. We had 11 of our 15 distribution co-op's were affected by Irma, which we serve from the Panhandle up around Century all the way to the Upper Keys. So pretty much

everybody east of the Apalachicola River got a taste of it. So we had 11 of the 15 co-op's, there were 44 counties that were affected. We requested mutual aid from 16 various states. We were -- had that mutual aid committed. In some instances, pre-staged where it was available. If they were coming from extraordinary distances, we had them rolling this way so they could be in as soon as the weather calmed and we had them coming in from as far away as Minnesota, Wisconsin, Texas and all points in between.

Our total workforce was well over 5,000 and that included our incumbent utility force, our over 1,3000 mutual aid folks that we had come in and an additional 1,300 contractors that were working with us, as well. And as with every storm, the conversation comes up about underground versus overhead and which is better. And it always comes back to, as it's been pointed out several times, that underground seems to be the way to go, and obviously it is not the silver bullet. Quite honestly, if there was a silver bullet, it would make things a lot easier, but where it is available and cost-effective, the co-op's have initiated undergrounding programs, particularly on new

construction, new subdivisions where the cost differential is low. You get in on the front end and in the areas where it makes the most sense.

But just to reiterate what's already been said, we've got problems with everything you do. So with underground, as long as you're dealing with primarily a wind event and you don't have to deal with the tree roots upending the system, it's -- it can generally be better if you're dealing with a flooding event like we saw in other parts of the state. Particularly down in the Upper Keys, we had everything from debris and sand going into our systems, our equipment boxes, to washing -- have our pad-mounted transformers washed away and a myriad of other things that come along with having high water. So it's a mixed bag, but where it makes sense, we do try to implement it particularly when it's cost-effective.

Impediments to restoration, I think everything that we experienced has fairly well all been said. The primary concern that we had when dealing with fuel was the shortage. I mean, it was the perfect scenario of having Harvey and the shortage in Florida. So we had to expand on what our current plans were. Many of our contracts that we had were

not able to be fulfilled because they just didn't have access, so we went well beyond our traditional means reaching sometimes outside the southeast to bring in fuel tankers and then we used our co-op's as fueling depos. So that kind of gets into our lessons learned, but I'll save that for the closing.

We also found a shorting -- a shortage of staging sites, and that came from a combination of issues. Sometimes it was because they had already been taken up, other emergency personnel had gotten them. Sometimes the state needed them. There were other instances were electric utilities got them before we got them, and it was just a matter of right place right time. But then some of our facilities that we normally had access to were not available because of the storm track and intensity. It just wouldn't make sense to be in that particular place, not knowing exactly what the outcome would be.

We also had -- we didn't have very much success with the escorts. I know that some folks seemed to think it worked out well. For us, we had several instances where we had -- I tried to get the escorts for our crews, to get them down to

various parts of the state. We had instances where the utility crews waited hours for them to arrive, only to just merge into traffic and just become part of the crowd. And that's okay. I mean, we -- I mean, it's okay as in we understand, because we were in the middle of a historic evacuation and historic influx of everybody trying to get back, but had we known what the process was exactly, we might have had an opportunity to make some different arrangements, or at least get the guys on the road a few hours earlier so they could have just been moving, albeit slow.

Hotels, which I think's been fairly well covered, we had a couple of instances where we had crews in hotels that were asked to leave because of events that were in the greater vicinity. There was a football game where the hotel was booked for, so they moved us out. They had a golf tournament at another hotel. We tried to work with them. It proved that would move us to an impasse so we had to make other arrangements, and I don't think I have to tell you how much more difficult it is to try to complete a restoration process when you're working with crews and trying to find new hotel accommodations.

COMMISSIONER BROWN: If I could just interrupt you. That's just really deplorable. I mean, is there something that we could have done to have aided you a little bit more?

MR. BJORKLUND: We have tossed around a couple of options. We don't know that if something might be included in the Governor's executive orders, or emergency orders, but I don't know the legality of all that. I don't know if that's even a possibility, but --

COMMISSIONER BROWN: That sounds like a very unfortunate situation, though, and unexpected -- and my apologies.

MR. BJORKLUND: Well, thank you very much, but it wasn't your hotel, so -- but moving into our customer and stakeholder communications, electric cooperatives have a great benefit of living and working within their communities, but they're generally, as a rule, smaller. So everybody knows everybody. If you've been -- or if you're from a small town or been to it, that's kind of the areas that we're in and so we have a very good relationship with our local EOC's, our local governments. We work with all these people throughout the year on various issues, so it's easy

for us to maintain that relationship in addition to going to them annually, talking to them about what we need to do as far as our coordination and then also talking to them about how we need to handle critical infrastructure, what we need to do as far as any type of prioritization. And for a lot of things, these communities with us and these folks have such a long history, it's more of just trying to make sure that nothing's been added that we don't know about. So it's a good back-and-forth that we've been able to enjoy with our folks and we try to make sure that those relationships are maintained and operating at peak performance.

The electric co-op's have various means that they communicate with their members. We talk to our folks before, during and after the storm, trying to keep them with the information that they need. Folks are much more likely to endure the hardship of a storm if they understand what they're dealing with. If they knew that there's going to be an extended outage because there is a substation that's down or because there's a transmission down, we try to keep them abreast of what the process is. That's a big deal and we do that through a variety of media, everything from traditional press

releases to radio ads, to all the electronic versions including social media.

And social media, I think everybody gets it, but it's almost one of those captain obvious things, but for us it really was a lesson learned after Hermine and Matthew. We had -- the two co-op's that got hit during that had fairly mature social media programs, but if you'll recall, those were the first storms we had since the advent of social media. So we got to see a microcosm of how that worked for our members and how well they were able to access it and how well we were able to distribute information. So going into Irma, we already had that in our hip pocket.

Again statewide FECA, we operate with as the liaison between the state EOC and state government and try to make sure that wherever the needs are, whatever questions they have, we can be the central clearing house and the one-stop call so that if anybody needs to talk to a co-op, we need to make sure that happens or we try to head things off at a pass so that we have the information already handy so that we can take care of things immediately.

From our lessons learned, it's each storm has a different personality and I wish I could tell you

that everything we learned in Irma was going to translate directly into the next one. That's not necessarily the case. That doesn't mean we don't write it all down and make sure that we are including it in our next version of updates and manuals, et cetera.

And we also have learned really about the fuel supply chain. That was something we had not experienced. And when I talk about this, I don't want you to think we had anybody sitting on the side of the road without gas. That wasn't the case. I mean, we were able to react quick enough and get a plan put together. We didn't have that type of experience, but we have gone well outside traditional means to make sure that our fuel supply chain and other materials is extended well beyond not just the state and the region, but even outside of that. So our plan B has a plan B.

And from there, I would say that the biggest thing that our folks have now is we had a whole generation of cooperative employees that never had necessarily been through a storm and those folks have been storm hardened and they're going to be ready for the next one, which we hope we don't ever have to do.

COMMISSIONER BROWN: Great. Thank you. Thank for your presentation. Chairman Graham.

CHAIRMAN GRAHAM: Thank you. Michael, I've got a question for you. Now, I know it's unfair asking a question about Irma just because it was just such a beast of a storm and everybody in -- it was all hands on deck in the state of Florida, but why don't the co-op's, and I'm not picking on you, it's just -- it seems like most of your mutual aid is coming from other co-op's. Why is it not coming from more muni's or the IOU's? Is there barriers there that we or somebody needs to work on to kind of -- kind of lower those things down?

I know after Matthew the Governor had a big push to try to see about all three groups working closer and better together, but it seems like, you know, the IOU's all work with IOU's and the muni's work with themselves and the co-op's work with themselves, but it just seems like, you know, on a smaller storm, you know, your -- like in this case, Gulf was right there. It seemed like you could have gotten, you know, resources from there and not have to reach up into Kentucky.

MR. BJORKLUND: Well, I don't want to speak for any of the IOU's, but -- and I should have

mentioned this when I was speaking before, but the -- with the municipal electrics, we do have mutual aid agreements existing with them, not only within the state, but also throughout the country, and we do that as part of our national association. With our experience with IOU's, they may want to talk more about this, but they also have their own mutual aid agreement. So like with Gulf for instance, in your example, I believe they were already committed to go help elsewhere. So I'm not sure they necessarily had the capacity to do that, or they may have been headed up to Georgia. So, like I said, Irma may not be the fair example, but we're willing to work with anybody and as long as we make sure all the terms are equitable, we'll definitely do that.

CHAIRMAN GRAHAM: So right now, off the top of your head, there's no obstacles stopping you from doing that, it's just right now it's this is the way you've done it?

MR. BJORKLUND: Well, it's not only that. I mean, you have some other things you have to consider. So as a recipient of FEMA dollars, we have to make sure as the way we go about it is going to be acceptable in FEMA's eyes. Now,

obviously the storm is a disaster, a big enough disaster, there's going to be certain ways that you can work within that realm, but if you're dealing with your normal storm situation, they're going to want you to deal with the normal avenues of government that they want you to go, if that makes sense.

CHAIRMAN GRAHAM: Yes.

MR. BJORKLUND: So there's that aspect of it, but when you're dealing with electric utilities outside the family, you just have to make sure all the I's are dotted and the T's are crossed and there's legal aspects of it. And for that part of it, like I say, we're happy to work with anyone. We just have to make sure all the terms are equitable.

CHAIRMAN GRAHAM: Okay. Thank you.

COMMISSIONER BROWN: Commissioner Clark.

COMMMISSIONER CLARK: You might -- just a couple questions. Acknowledging your role is a little bit different than the other utilities in that you facilitate 16 different independent companies, if you will, but in terms of -- you mention in your presentation you're dealing -- these companies are being held to certain set of

standards and RUS standards. Are all of your utility companies using RUS standards? Are they all RUS borrowers?

MR. BJORKLUND: The short answer is, no, they're no all RUS borrowers. However, most of all the co-op's at one point in time have been RUS borrowers and that has been the basis for their own standards of construction. So even though they may not be an RUS borrower now, they're still implementing those same type programs and standards.

COMMMISSIONER CLARK: Are they required to maintain that same RUS standard or are they allowed to basically -- who has supervision and oversight of their construction standards if they're not an RUS borrower?

MR. BJORKLUND: From that perspective, it would come back to the board of trustees to make sure that the oversight at the co-op is happening and doing what they're supposed to do.

COMMMISSIONER CLARK: We talked about the EOC and the involvement at the local level and each of the utilities has talked about their interaction with the local EOC's. One of the things that seems to have worked well is when the utility companies

have an individual that is located inside those facilities during an activated storm. What would the co-op's position be in manning each of the EOC's in the affected areas?

MR. BJORKLUND: It's a mixed bag. We have some co-op's that have -- that are big enough that have enough staff that can do that and they do do that.

CHAIRMAN GRAHAM: Mike, can you pick your mic up a little bit?

MR. BJORKLUND: Yes, sir. Sorry about that.

So we have some of the co-op's that actually have staff that's big enough that they can accommodate that right now and they do. We have some co-op's whose staff are literally so small that it would be taking one person away from a critical operation to do that. So in those instances, it goes back to reaching out to those folks beforehand, making sure that they have all the critical information that they need as far as contact information, whether it be the manager, the operation's folks, or whomever to make sure the messages are conveyed.

COMMMISSIONER CLARK: And, finally, this is more of a pointer, I guess, to the remainder of the

Commission. You don't represent all of the electric co-op's in the state. There's one that does not choose to be represented by FECA, is that correct?

MR. BJORKLUND: That is correct.

COMMMISSIONER CLARK: It's also probably the second or third largest co-op in the United States. And just to the Commission's point, it probably would be appropriate, there may be certain municipals that are not represented by FMEA, as well, that we reach outside of these two organizations to see what the particular plans for those utility companies are that aren't being represented by an association here today.

COMMISSIONER BROWN: Thank you for that point. Why would a co-op in Florida not be a member of the association? Is there a reason why there's two that are not members?

MR. BJORKLUND: Well, there's one distribution co-op that's not a member and, quite honestly, it happened well before my time. I'm not sure of what the history is. They --

COMMISSIONER BROWN: Maybe Commissioner Clark is.

COMMMISSIONER CLARK: I was there.

(Laughter.)

COMMISSIONER BROWN: All right. Commissioners, any other questions? Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Madam Chair. The issue of mutual aid has been talked about here several times and it clearly is a critical aspect of the recovery, the restoration process and training on that is very, very important.

Chairman Graham raised a very interesting point. And just as a follow-up, I don't think we can explore all the details of the point he raised and I think you answered it in a very important point, being there's a lot of legal issues associated with that and meeting the FEMA criteria is an important point. There is a lot of detail behind that. And I, for one, perhaps my colleagues would benefit from learning a little bit more about that.

Perhaps there -- and this may go to all of the representatives here. You raised the notion of the inside the family, outside the family, and I appreciate that language. So the categories of different utilities and how you deal with mutual aid, I would invite you in speaking to staff now at

this point to try to gather a little bit more information on how this works, how does the mutual aid concept work with regard to the different types of utilities and what aspect of that puts boundaries or brackets or limits on how that works.

Perhaps, just so that we have a better understanding, what you can do, what you are limited on. And I don't know if there's anything that this Commission can help facilitate. I simply don't know. So I would like to get a little bit more information on it.

I know, you know, when the incident occurs you have a process of calling upon resources and scheduling resources. A lot of that's advanced planning, but it's kind of like, let's get the job done, worry about how it gets paid for later in some regard, and I have some experience in my work history with that. There's a lot of magic that occurs and people show up and things -- let's get the work done, but then it takes months, if not longer, to figure out who did what and who gets paid and perhaps that's part of the notion of an agreement. It's a mutual aid agreement and that may be well a significant part.

So, if you would, anticipate that there may be

some effort from staff to try to gather so we're better informed, and there may or may not be some improvements that could be made. So, thank you.

MR. BJORKLUND: Yes, sir. And if I may, Madam Chair, I'd just like to say to you, with our mutual aid system that we have in place, we didn't experience a skipped beat. I mean, we had exactly what we needed when we need it, and outside of the extraordinary circumstances that everybody dealt with, with the traffic and other things, it was -- we got them where we wanted them.

COMMISSIONER BROWN: Commissioner -- Chairman Graham and then Commissioner Clark.

CHAIRMAN GRAHAM: Yeah. I mean, I understand where you're coming from and I didn't mean for it to be specifically about Irma, but as one of the IOU's earlier said they ordered -- they had the mutual aid and had more-than-they-needed trucks coming down this way and it just seemed to be a shame that you had to have people come down from up north when, you know, they had an abundance that was right here. And I think -- you know, if we view this more as Team Florida, you know, than the individual families then maybe, you know, we can probably help each other along here.

MR. BJORKLUND: Yes, sir. Thank you.

COMMISSIONER BROWN: Thank you, Chairman Graham. All right. Commissioner Clark.

COMMMISSIONER CLARK: Just another couple points on the mutual aid. I think that -- I understand the logic way and the way that we've structured in the past, muni's working with muni's and co-op's with co-op's. There are some construction standards that each one are probably a little bit more familiar with and kind of tend to operate towards those particular standards, but at the same time we've also been in the situation where most of the time when disasters occur your neighbor is about as affected as you are, so that kind of changes the balance of local mutual aid.

The resources that are available from a statewide perspective, I don't recall any instance where any of the utility companies have had the failure of an ability to get folks in to be able to do the work. And Chairman Graham's point is right on target, yeah, but we had a lot of folks here that probably could have helped out and maybe we wouldn't have had to brought these individuals in from quite so far away, but I'm just asking a general question. Have any of the utilities

experienced any problem receiving the number of workers that they needed? I realize we did have some particular utilities that didn't ask for help when they probably should have asked for help in some previous storms, but has there been any specific issues where you couldn't get the amount of workers that you needed in a storm?

MR. HAINES: Commissioner Clark, I would just -- I think I mentioned it during my presentation that our challenge was a lot of the utilities that were close to us were not sure they were in the clear so a lot of utilities were holding resources. We had to reach further away which adds to our cost, adds to our travel time, all those things. So those are the kind of challenges. But at the end of the day, we got all the resources we need. And I would also just add that we have helped, I believe it was JA in the past, so as long as we can get our attorneys comfortable and get an agreement, individual agreement in place, we have shown we can kind of help out other utilities in the state of Florida.

COMMISSIONER BROWN: Florida Power & Light.

MR. OLNICK: Thank you. And I could just add a couple other comments, too. The mutual exchange

agreements in process, there are, as mentioned earlier, throughout the country for the investor-owned utilities about seven major organizations here in the southeast, and I'll use that as an example. We're members of the southeast electric exchange. That covers utilities as far west as Texas and Oklahoma and then all the way up through Pennsylvania. So that's what the southeast electric exchange is.

And that organization has been in place for decades. And during a natural disaster, whether it's a hurricane an ice storm, whatever it is, that the organization that we all sign up to to ensure that whoever has the most damage, whoever has the most damage first, whatever resources are available within the entire southeast electric exchange, they're the broker to ensure that everybody gets the appropriate share of resources that are available based on how much damage there is, how many resources are available and so forth. So that's the value of those organizations. They make sure that everybody is somewhat equitable based on how much damage you really have. If the damage is so bad that you have to go outside of those mutual exchange groups, then you go to the next one in the

northwest or the midwest, and so that's the value of having that organization to help broker that.

If it's a much larger event, organizations like EEI, and the DOE get involved to help broker it. So I think there's a pretty -- that makes things fair. When it comes to investor-owned utilities like ours, and I think others here at the table, in the last two storms, Matthew and Irma, I can think of right of the top of my head at least six of the co-op's here in the state that we supported. And so that -- that offer is always there. I think no matter if you're a municipal, a county co-op or, you know, we are all in the same business and we will assist. Agreements and legalities are a challenge, but I don't think that's something that's ever stopped us from doing the right thing.

COMMISSIONER BROWN: Chairman Graham.

CHAIRMAN GRAHAM: It's funny that you just said that. That's where I was heading, the agreements and legalities, and maybe this is something that staff can look into because I could imagine when the Governor declares a state of emergency there should be a whole nother set of laws that go into place that take care of the

legalities of a lot of this stuff and takes care of, you know, the insurance and all that kind of stuff because sometimes it gets crazy, you know, when everybody's looking and especially when the storm that's on its way down and you're looking to sign agreements, and it seems to me maybe our legislative buddies can work this thing out so we do have something when the Governor does make that declaration that, you know, you don't have to worry about dealing with that. And I don't know, like I said, as staff looks going forward, maybe there's something we can come up, with suggestions that we can make to legislators.

MR. BALLINGER: We probably talk about this more in June. We really didn't delve into that under this review. I can tell you though, another thing to consider is not only the resources but the management resources at the host utility. Can they handle the number of crews, maybe a fact or two to consider in getting this. Just throwing more people at it is not always the answer. It's a complicated thing. I agree with you that some of these things should be worked out ahead of time of that, but we have seen the cooperative effort of all the utilities through these storms when push

comes the shove.

CHAIRMAN GRAHAM: And I hope that no one walks away with the feeling that I'm pointing fingers saying that you guys aren't working together because I know better than that. I'm just -- it just seems like little things that kind of slow -- little hiccups that slow the process down and I'm just trying to see if we can't smooth everything out as well as possible.

COMMISSIONER BROWN: Would Ms. Collins from Gulf or Mr. Cutliffe from Duke or Mr. Puentes from FPUC want to join in the discussion here or offer any comments?

MS. COLLINS: Yes. Thank you. I did just want to share that we did have the opportunity to help out with the City of Tallahassee. And after that experience, Chairman Graham, you talked about the difficulty of trying to get through an agreement, so we were able to work through that. And the lesson that we learned is we really need to get those agreements done ahead of time, and we have been able to secure mutual assistance agreements with all the municipalities in the State of Florida, so it can be done. And just as my colleagues stated, we're very welcoming and open to

helping out the co-ops in the state, as well.

COMMISSIONER BROWN: I agree with getting it done. In advance would save time and headaches. Mr. Cutliffe.

MR. CUTCLIFFE: I would just add that this a very constructive area to work on in peace time. A lot of progress has been made in the last couple of years. I know we've worked with JEA and with OUC, as well, in the last couple of hurricanes. So that's a valuable resource. I will say, those contractors, speaking of, there are some significant issues in there in terms of liability and some payment agreements that are worked out that are important to have properly handled, but progress is being made in that area.

COMMISSIONER BROWN: Thank you. And, Mr. Puentes, would you like to add anything?

MR. PUENTES: Just like our colleagues were saying, we also participate in that and I, in my presentation, I gave a little notion to the fact that sometimes it is difficult to be able to obtain the number of resources you need because of the way the hurricane is going and -- but at the end we do always get resources from the assistance. Thank you.

COMMISSIONER BROWN: Thank you. And I know we're still on Mr. Bjorklund. So, Commissioners any, further questions of Mr. Bjorklund? Am I pronouncing that correctly?

MR. BJORKLUND: You can call me what you like, just don't call me late to supper.

COMMISSIONER BROWN: Thank you. I will.

All right. Thank you very much. Seeing no questions, we will move on to FMEA now.

Welcome, Mr. Jody Finklea.

MR. FINKLEA: Good afternoon. My name is Jody Finklea and I have the privilege as serving as general and regulatory counsel to the Florida Municipal Electric Association, or FMEA, and I'm feeling a little bit on the spot here because you just identified the legalities as being the problem and now here comes the lawyer.

COMMISSIONER BROWN: Always the lawyer.

MR. FINKLEA: I had some prepared remarks, which I'll go to in just a minute.

First, if I may, I'd like to speak to mutual aid directly. Historically in this state we had barriers in between different segments of the electric utility industry. IOU's work with IOU's, muni's and co-op's worked together, but had

preference for their own kind.

I think over the last several years we've made tremendous headway in breaking down those traditional barriers. Through FCG -- following Hermine and Matthew through FCG, we all came together as an industry and recognized our shared goal of getting people back online. And through the leadership of Clint Bullock initially, who headed up the FCG mutual aid assistance working group, and now through the leadership of Lee Collins with TECO who is now charing the FCG mutual aid assistance working group, we have come to a statewide compact which provides a mechanism by which investor-owned utilities can provide assistance to IOU's or co-op's or vice versa. That was a big step. That was a big step.

There are some issues remaining. They largely deal with risk allocation and liability allocation and their insurance issues and we're working with a very large insurance carrier who has provided us an insurance product by which we can probably solve those issues. The question, of course, would be cost. So I think we've made tremendous strides on that as an industry because we are all trying to do the same thing, which is to quickly and safely get

customers back online.

So FMEA. We are a statewide trade association. We represent of Florida's public power utilities. There are 34 public power utilities in the state. Collectively, these utilities serve approximately 1.3 million customer meters or about 14 percent of the population of the state. Our utilities are very diverse in size and in geography. We go from large systems in north Florida or central Florida, like Jacksonville and Orlando, to small systems in the panhandle or in south Florida, like City of Blountstown or City of Moore Haven.

Each of FMEA's member utilities prepare for hurricanes throughout the entire year. Our utilities review and update their internal emergency disaster plans every year, incorporating lessons learned. And as local governments ourselves, we naturally have strong relationships with other local governmental entities in our communities, including the local emergency management officials and emergency operations centers.

Prior to hurricane season, our utilities participate in preparedness and disaster drill

exercises, not just within the particular utility department, but citywide, and often countywide, involving police and fire and other emergency management officials and first responders of both the city and the county.

When county emergency operations centers are activated during a disaster, many of our utilities have employees who are staffed inside of the EOC or, at a minimum, have established direct lines of communication between the city or county officials to immediately address any issues as they arise.

And, in addition, just as we communicate with our local emergency management officials before and during restoration events, our utilities conduct post-storm assessments and incorporate feedback from our other local governmental officials on issues or concerns so that we can make improvements in the future.

For restoration, the safest and quickest restoration of all customers who can take service is always goal number one. Our utilities prioritize restoration as do other electric utilities with generation and transmission and substation repairs first, followed by a restoration of emergency needs facilities and other areas of

critical infrastructure -- hospitals, police and fire stations, lift stations, et cetera. And then after that crews work, safely restore customers and generally try to restore customers where the largest numbers of customers can be restored first.

As everyone else has said, this is nothing new, Hurricane Irma was a storm event like no other in memory. All 34 public power utilities in the state were affected by Hurricane Irma, which has never happened before. At peak, more than 827,000 of our 1.3 million customers were out of power. We had half of those customers restored in 24 hours. We were at 80 percent restored in 48 hours, and 98 percent restored in less than a week.

Keys Energy Services, or Keys, serves approximately 28,000 customers in the Lower Florida Keys. It was ground-zero. It sustained a direct hit from Hurricane Irma as a category four hurricane with sustained winds in excess of 120 miles an hour in gusts reported -- or recorded, rather, of up to 150 miles an hour. There were approximately 60 Keys employees and some of their families who volunteered to stay through the storm in one of Keys two category-five-rated buildings. They wanted to be there. They wanted to be there

so that as soon as conditions were safe they could go out and begin restoration work.

All emergency services in the Lower Keys were evacuated. The police, the fire, EMS. The Sheriff unloaded the jail and took them to Miami. These 60 folks were all that stayed. Those brave souls were left with significant damage to the transmission and distribution system after the storm came through. They had no water. They no communications. And they had no immediate support from the outside world at all. Within a day or two, they were able to use a satellite phone to get a hold of FMEA, but that communication was not stable. It would often break off after just a few minutes, and it was not reciprocal. The satellite phone could be used to call us here in Tallahassee. We could not call them. And so mutual aid is key. Mutual aid is key.

We have in public power a vibrant mutual aid network and it's coordinated in the state by FMEA working directly with our national association, the American Public Power Association. Twenty-three of our 34 electric utilities used mutual aid assistance in Hurricane Irma. We brought in approximately 2,000 line workers from more than 200

individual public power utilities in 26 states and Canada -- we had some folks speaking French -- plus contractors to assist us in restoration efforts. This mutual aid response more than tripled our standard internal crews. Several public power utilities are also -- were also called upon and provided mutual aid assistance to the state's investor-owned utilities under our new mutual aid compact, which was signed last year, as utilities -- municipal, cooperative, investor-owned -- were all focused on getting the lights back on safely and quickly.

To address storm hardening and undergrounding for a minute, previous storm hardening and pole inspection efforts under this Commission's guidance have proved very worthwhile. Hurricane Irma was a testament to those storm-hardening efforts with hardened structures withstanding the destructive forces of the hurricane much better than other structures.

For example, in the Lower Keys, for Keys Energy Services, they had to replace ten damaged transmission poles and 625 distribution poles. None of those were hardened structures. All of their hardened structures made it through the storm

without damage. Undergrounding has some benefits, but there are some challenges, too. Tom Ballinger alluded to this in his earlier presentation. We have some utilities who have made significant investments undergrounding large portions of their system. For example, cities of Winter Park and Jacksonville Beach, Chairman Graham, your old stomping grounds, have made significant advances undergrounding. They're approximately 80 percent undergrounded, but those portions that were undergrounded received less damage, but it's not fool-proof. Water intrusion from flooding, along with all the stuff that water brings down into the cabinets and to the underground facilities and uprooted trees still did result in some failures of underground systems, and while those outages weren't as prevalent, they were longer in restoration periods generally.

So restoration impediments. Despite everyone's best efforts, there were some impediments to restoration during Hurricane Irma, as well. Severe traffic delayed crews from out of state that were arriving immediately following the storm. Of course, this was a result of the millions of evacuees also trying to return home.

Fuel shortages along the major highways also imposed impediments on getting crews to their locations in a timely manner. And Keys Energy Services had their very own particular restoration challenges in that each island is connected by a bridge. Those bridges were shut down for the hurricane and before they could be re-opened to vehicular traffic, each of them, and you know there were hundreds, each of them had to be inspected so that they could be used again.

Communications during any major outage event is critical. Hurricane Irma was no exception. The way utilities communicate with customers today is not the same as communication with customers ten or five or even two years ago. For Hurricane Irma, our utilities were fully engaged on several social media platforms to communicate with our customers, through Facebook, through Twitter, through Next Door, sharing outages and restoration information as well as responding to customer inquiries in addition to using all the traditional means of communication through the media and text alerts.

The City of Tallahassee did something very notable in Hurricane Irma. Taking lessons learned from Hurricane Hermine, their customer service

agents went out to all of the nursing homes and assisted living facilities here in the City of Tallahassee. The purpose was to ensure that each of those facilities had a personal contact with the city so that they could call and ask questions. They emphasized to these customers that the power could be out for several days and they provided some proactive advice on how to deal with long outages in an emergency. So building on those lessons learned is what we do.

And so we have three recommendations. In closing, FMEA would like to recommend these three improvements: First, following the storm in mass evacuations, there needs to be a plan in place for how to balance, coordinate and prioritize traffic to support utility restoration efforts. You know, practical considerations could be designating particular lanes, or those kind of things. Second, fuel for ingress routes needs to be available and designated for responding mutual aid crews. Third, consideration should be given for how to implement emergency communications on a statewide basis. As I mentioned earlier, Keys was not able to communicate with anybody for days except for on a spotty basis using a single phone, which required

you to be outside. A strong backbone for communications following the storm is essential.

And so, if I may, having the benefit of going last and having heard many of the questions, I'd like to address just a couple. Commissioner Polmann and Commissioner Clark both asked, if I can take them correctly, essentially what can we do for you, what can the state do for you. And I will tell you that you are critical folks in the state of Florida. You are policy leaders, statewide commissioners, and anywhere that you have interaction with other branches of government or with other agencies within the state, if you could communicate the need to prioritize restoration work that's going on in the aftermath of a hurricane or any kind of emergency event, that's a tremendous value to this industry. The troopers are worried about getting people safely on the roads. The Governor is worried about making sure that the citizens of the state are cared for and know the state is open for business. DOT is worried about clearing debris. No one specifically is the cheerleader for the restoration efforts that have to go on and the back-up work bringing people out of state, or moving people in state to get that

restoration work done. And that role, wherever you are, wherever you can speak, with whomever you are speaking in other agencies and other branches of government, I think, is critical for us.

COMMISSIONER BROWN: I just have to say, I do think we are the cheerleader, so thank you for that piece of advice and we will absolutely heed -- listen to it and take that with us.

MR. FINKLEA: You do a tremendous job in that already, but that really is, from our perspective, key. Mutual aid's been a big discussion and I started with that, but let me mention also mutual aid. At our FCG mutual aid workshop, just a couple weeks ago, we understood that mutual aid is not traditional line crews only anymore. Mutual aid can come in the form of call center assistance. Mutual aid can come in the form of assessors. Mutual aid can come in the form of engineers and even managers. There are now mutual aid -- there is now a recognition -- excuse me -- now a recognition that you don't just need line crews, but you also may need managers to coordinate those line crews or assessors to go out and find what needs to be fixed. And so mutual aid is being used now in a broader sense than I think it has been

before and that's for the benefit of the state.

And, finally, I would say, Chairman Brown, you spoke several times about customer communication. There is no more important role for a utility, besides getting the lights back on, than communicating effectively with our customers. That is a lesson learned over and over again and one that our utilities from the municipal side always are striving to improve upon through our social media outlets and through traditional media and through customer contacts directly as I mentioned with the City of Tallahassee. We are always working to improve those customer communication roles.

You know, I do a lot of traveling around the state and I've stood in front of the Shell gas pumps on the Okahumpka Turnpike gas station a number of times and watched the video that shows -- public service announcement that shows the lights and sirens. Says, you know, if you see lights or sirens, you best get over. You know, maybe -- and this goes to Commissioner Polmann's point, about how do we communicate with customers. Maybe if the State wanted to look at -- Commission wanted to look at doing public service announcements about

trimming outside of the right-of-way or being cognizant of the types of trees you grow around power lines or those sorts of things, I think you have a tremendous opportunity. You do a tremendous job of this already, but you have a tremendous opportunity to communicate directly with our customers in a way that's complementary to the way that we do.

So, with those recommendations and those answers to the questions I've heard, I'd be happy to take any questions. Thank you.

COMMISSIONER BROWN: Thank you. Excellent suggestions, as well. Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Madam Chair. It was striking to me, the Key West experience with one satellite phone. That's just remarkable. And you mentioned the mutual aid being more than line workers. Is there a clear aspect of that that includes equipment? And that's one question. You know, who brings the satellite phones with them when they come, but even more importantly, why would it not be the case where all the utilities would have something like that?

MR. FINKLEA: And, Commissioner Polmann, they have more than one, but their connectivity was

pretty poor. They had one that worked more reliably than others. You asked the question about bringing equipment. It's a critical question. We actually relied on our colleagues at FPL to assist us with some drones. The main transmission line that goes from Florida City down to Seven-Mile Bridge which starts the Keys system kept faulting after the power was restored. We couldn't figure out why. We realized we were looking at it from the wrong perspective. We were looking at it from the ground-up. FPL brought down some drones for use through mutual aid and when we overflew with drones, we realized they had insulators that had shorted out. We could have only seen that from the air. And so mutual aid for equipment provision -- or provision of technology that some of our cities frankly are not big enough to afford on their own is a key role. And, again, all of us work together in the state to get those things done.

COMMISSIONER POLMANN: And to that point, you mentioned assessors or engineers. It occurs here in that example, as well, that may be the particular type of knowledge or expertise that you wouldn't normally need, bringing that into the point of drone or other type of more specific

analytical equipment or testing equipment or something to that effect. I don't know, but it may have been helpful in identifying a fault, something like that. I'm just -- I mean, just an example. I don't know even know a specific, but something like how do we find a problem that occurred may be a special case, but certainly it's been mentioned bringing in technical expertise that are not the line workers. I think it's a very interesting discussion. Thank you for the Keys example.

COMMISSIONER BROWN: Commissioner Fey followed by Commissioner Clark.

COMMISSIONER FEY: Thank you, Madam Chair. Mr. Finklea, I was listening to your comments and some of it was -- I was getting a bit frustrated and then you started talking about drones and I couldn't be mad anymore so that was a good strategy on your part.

So when you make your recommendations, I think one thing that's helpful for us as a Commission is some of the specific hurdles that apply to those recommendations, so if there are improvements for communication for areas that you're speaking about that may help assist in a relief effort, that's a pretty broad recommendation and so I think if you

could -- you could help us understand what specific hurdles or burdens stopped you from getting those resources or prevented you from being able to get those things that you need, then I think it would give us a better idea as a Commission what might be appropriate for within our jurisdiction to do.

MR. FINKLEA: Yes. Certainly. And we've worked with staff and we will work with staff in narrowing the recommendations for things that are within your jurisdictional grasp, but our -- we often find that our problems are in a larger magnitude and they don't deal directly with the electric utility operations, but they deal with what we have to get around or encounter to get to getting the operations stuff done. So we'll work with your staff on doing that. Absolutely.

COMMISSIONER FEY: Thank you.

COMMISSIONER BROWN: All right. Commissioner Clark.

COMMMISSIONER CLARK: Thank you, Mr. Finklea. In regard to your operation, you're unique in the fact that you have a body that you're accountable to, to an electric, but you have some systems that have quite a number of consumers, I would say, that are outside of the city municipal areas that I am

concerned about their interest, as well. How do you feel that your organization would feel about having someone from each of the municipalities inside the EOC during a major disaster?

MR. FINKLEA: Many of our cities do have folks who are staffed inside of an EOC, unless it's a city that has such a small staff that we'd be taking away someone from some critical restoration effort. Also, many of our city employees are closely connected with the EOC in their local counties because on other matters the cities and the counties closely work together. Our connectivity with the EOC is, I would say, a fairly comprehensive and year-round. It really doesn't start or stop with storm season, but it goes year-round in all of our communities.

COMMMISSIONER CLARK: And how do you coordinate your priority efforts in working with the county in terms of the city, those that are inside your municipal areas versus those that may be in a county area?

MR. FINKLEA: Commission Clark, I won't kid you. That's sometimes a challenge. There are those who have priorities and then there are others who have to do the work who have priorities, but

our relationships with local government are very good. Often we are the local government and so we can always come to commonality. I'll give you a quick example and it was in the data request that was submitted in response to Staff's Data Request leading up to this. Leesburg, City of Leesburg, which has the Villages that abut it, had a significant problem with traffic in restoration efforts because as soon as the storm passed, everybody got on their golf cart and they came out to see what was going on. Right. So you had a line crew that's there trying to restore a transformer and you've got three people in golf carts running around the truck.

COMMISSIONER BROWN: Real smart.

MR. FINKLEA: Yeah, so we had to get -- we had -- we called the police department, the Leesburg Police Department, said please, please come over here and help us. And so then they started assigning police officers with each crew that was going out and doing restoration work and it tremendously sped up the restoration efforts. And so that's an example of the close coordination we have.

COMMMISSIONER CLARK: Thank you very much.

MR. FINKLEA: Yes, sir.

COMMISSIONER BROWN: Commissioners, any other questions? If not, that concludes the utility presentations and at this time. Folks in the audience and everyone here, staff will be conducting questions of the utilities. And if you could break it down utility by utility, that would be helpful. Commissioners, you are not limited from asking questions at any time. Just let me know and you can jump on in there, as well.

MR. BALLINGER: Commissioner Brown, just so -- a little bit. What staff has done is arrange the questions by topic areas.

COMMISSIONER BROWN: Oh, okay.

MR. BALLINGER: So we're going to go various utilities, but please feel free to jump in whenever you want. We found it a little easier to organize our questions that way.

COMMISSIONER BROWN: Okay. That works. I think I have a copy, too, so thank you. We'll follow along. Does anybody need to take a break before we get into the staff questions?

All right. We'll go ahead. Please.

MS. KING: Good afternoon. I'm Laura King with Commission Staff with the Division of

Engineering and my first few questions are for Florida Power & Light. Good afternoon, Mr. Olnick.

MR. OLNICK: Good afternoon.

MS. KING: My first question is on slide 12 of your presentation. You show that FPL restored approximately 50 percent, or 2.2 million accounts, within one day following Irma and I was wondering if you could tell us what type of repairs or actions were taken to accomplish this task in one day.

COMMISSIONER BROWN: Laura, could you speak up a little bit? I know it's being transcribed and it would be helpful to --

MS. KING: Would you like me to repeat the question?

COMMISSIONER BROWN: Yes, please.

MS. KING: I'm sorry. Looking at slide 12 of the presentation, FPL showed that it restored approximately 50 percent, or 2.2 million accounts, within one day following Irma, and I was asking if they could please tell us what type of repairs or actions were taken to achieve that goal of 50 percent in one day.

MR. OLNICK: Yes. Certainly. So as is typical in the first day of a storm, the kinds of

repair work that you can do is minimal, so the approach is to try to leverage technologies, like automated feeder switchings, data and so forth, to try to isolate a damaged line section so that you can bring the remaining portion of a good line section into service.

So the restoration, what I'll call the restoration curve, during usually the first day or two, is rather rapid because the goal is to try to not get into what we'll call heavy lifting repair work, but do the minimal repair work that you need do to restore the most amount of customers you can. And so that is -- that is really our goal. We'll leverage as much automated technology as we can, combined with manual switching and that -- the key to a lot of that, too, is we deploy our line resources in hardened facilities that we'll call storm riders around the state. So that, as soon as a storm passes and the winds have subsided enough that you could raise a bucket truck in the air, we are restoring as quickly as possible. And so that's the kind of work that you'll do.

You'll typically go to the first line section that's damaged on a main line. You may open a switch, remotely restore the front end of the line,

and then go to the next damaged section. So the very first day or two is all about trying to get the most amount of customers restored as you can, and that's typically what we've done in that case. There was some minor repair work. It could be things like splicing quickly to get one line section up, but it's usually not the heavy pole-setting kind of stuff that you would do the first day.

MS. KING: Thank you. My next question is a clarifying question with response to one of our data requests that we had asked. It's regarding our First Data Request and it's specifically Question No. 7, and it's specifically related to Irma, and this deals with your number of crews and incident commanders. You guys noted in that response that you had 29 incident commanders working with approximately 230 crews each, which is over 6,600 crews. Could you tell me how many employees typically make up a crew?

MR. OLNICK: We had 29 incident commanders because we had 29 staging sites. So a staging site is a location that can have many, many hundreds of personnel, line workers, engineers, patrollers, and the incident commander is the person that's in

change of that site. So the structure under that incident commander would typically have, let's call it, deputy incident commander, section planning chief, and then usually about anywhere from, let's say, five to ten what we'll call production leads, or they're field supervisors that would be managing the crews themselves. And so in Irma we had, I think, in excess of maybe 130 production leads supporting the 29 incident commanders.

Now, within a staging site, besides the production leads, which a production lead might supervisor 75 crews, let's say, within a crew you would also have -- you would also have foremen and lower-level foremen's managing parts of that crew. So in a structure like that, that's kind of the overall way we do it. And I think there was a second part of the question. I'm not sure if I got to it.

MS. KING: No, you answered my question about how many typically make up the crew, but I do have a follow-up --

MR. OLNICK: I'm sorry. You asked how many make up a crew.

MS. KING: Typically, yeah.

MR. OLNICK: So typically at Florida Power &

Light we refer to a crew is two to three person, linemen and linewomen as one crew, but it is not uncommon for a contract crew to have four to five personnel so it just all depends on -- if it's typically the utility in our case, it's two to three workers, but sometimes a contract crew, it's not untypical to have a four- to five-person crew.

MS. KING: Okay. And you note in that response that your incident commanders typically have about, on average, 12 years-plus of experience. How many incident commanders does FPL currently have? Is 29 about it?

MR. OLNICK: No. No. We used -- I used 29 during that event, but our incident commanders are typically individuals that their day-to-day job is somewhat similar in managing a large area service center, state line workers, engineers. Throughout the experiences we've had in not only Irma, but many other hurricanes over the years, we probably have well over 50, what I would call trained qualified and experienced incident commanders. It's not always age that defines that capability. It's really a knowledge and experience. I would say on average 12 is probably a good number. We have incident commanders that may be in the

ten-year range that could be in the 30 years of experience, but I would say 12 is probably a good average number.

COMMISSIONER BROWN: Laura, Commissioner Polmann has a question.

COMMISSIONER POLMANN: Thank you, Mr. Olnick. We were referring to incident commander. This is a designation within the incident command system and that is a standards type of organizational structure that comes from FEMA, is that correct, or from -- it originated there?

MR. OLNICK: It is. It's the same incident command structure that's used. When it's referred to an incident command structure here within the state, FEMA, Department, it's pretty much the standard incident command structure.

COMMISSIONER POLMANN: In fact, that's used across the country, as far as I know. So the incident commander is a person, as you just indicated, is trained specifically for that assignment. And that will change over the course of a day. Now, that with -- below that could be many, many people. Each one of those persons is trained for a specific level of assignment, is that correct?

MR. OLNICK: Correct.

COMMISSIONER POLMANN: And even a line worker within the incident, whatever their assignment type is going to be, is that person also trained within the command system, as well as their actual day-to-day job assignment?

MR. OLNICK: So within a typical site that we would, we use the incident command structure and I would say the worker level, which we're referring to as the line worker. You know, that is the working level, but from the incident commander, it is a very formal structure that we follow and it's important because I could be an incident commander at a site in Daytona and halfway through a storm, I get reassigned because we've completed our work and now we have to go to a new site. And so you have to be prepared to not just know a site, but know the structure. And so many of my incident commanders have worked many, many sites here in Florida and around the country, but to have a similar structure in process, it ensures that everybody knows what their role is no matter where they're at.

COMMISSIONER POLMANN: Would there be occasions where an entity other than the electric

utility would take command and, for example, depending on the nature of what's going on there, law enforcement agency or some other agency would come in and take over?

MR. OLNICK: Well, what we've done, and I think was referred to earlier, which I think is something to talk about as far as mutual assistance, you can reach a point where you may need additional incident command structure outside of your utility.

And so within -- when we had Irma, for example, we actually reached out to six other utilities through mutual assistance and they brought in their entire incident command structure to help supplement ours in some locations because we were moving rather rapidly. So it is a benefit to use that structure throughout the industry so that we can support each other. We haven't had a case where we've used the military, although in Irma the National Guard was a very big help to us in many ways. They played a key role, but from a restoration and electrical restoration response, we found it a little bit more beneficial to leverage the entire industry and the incident command structure throughout the industry.

COMMISSIONER POLMANN: And everybody uses that same system so there's a seamless --

MR. OLNICK: I wouldn't say everybody, but I thank it has become over the years a little bit more standardized. Some may refer to a role slightly different than others, but it's become more of a standard mode of operation only because utilities, when they're working with the state EOC or local EOC, most of them have chosen to go to the incident command structure so it's just when you all speak the same language and all know what each other's role is, it makes the whole process run smoother.

COMMISSIONER POLMANN: Is the use of that system something that you or your counterparts would suggest be mandated? I'm not -- I don't know to what extent it's not used. Would it be helpful if it was a requirement?

MR. OLNICK: I'm not sure in this case if a retirement -- if a mandate was really required. I think what you're finding is throughout this industry, and I think others, is we work with all of the other first responder agencies, everybody is speaking the same language now. So I think we've all naturally migrated there. I'm not sure if it's

something I would even recommend that we push for any kind of a regulation type standpoint. I think all the first responders industries are tending to go that way.

COMMISSIONER POLMANN: Thank you.

COMMISSIONER BROWN: All right. Laura.

MS. KING: Thank you. I just had one other follow-up question along those same lines. Obviously incident commanders and those under them have tremendous responsibility and it would seem like you would need to have some type of plan in place for succession planning for the personnel, you know, as the workforce ages, et cetera. Can you tell us a little bit about that?

MR. OLNICK: We do. And it is such a key role and part of being an incident commander is really understanding the role, is a very key leadership role in a very confusing time. And so part of our entire kind of development and succession planning process looks for that. One of the things that we do, for example, when we do have an incident like Irma or any disaster that we're supporting here in Florida, or another state or another territory, we always take that opportunity to leverage employees to give them experience that they may not have had

a chance to get here.

So, for example, we were fortunate to go almost ten years without having a natural disaster here and a named hurricane, but over that ten-year period we responded to many around the country, from Super Storm Sandy to events in Texas, to Alabama, to Georgia to many other places prior to Hurricane Irma hitting. And so we try to take every opportunity we can to make sure that we're continuing that succession planning and that, you know, truly it should never be people to a person dependent and that it is part of all of our leadership training.

All of our incident commanders go through rigorous, not just leadership training, but critical thinking training to ensure that any kind of moments of crisis like that, you know how to make decisions. Some of that is even based on some military training, just to understand how you can make decisions in really critical times.

MR. KING: Thank you. That's all the questions I have for Florida Power & Light.

COMMISSIONER BROWN: Thank you.

Commissioners, any questions of Florida Power & Light?

All right. Continue, Laura, please.

MS. KING: Thank you. I have some questions for Duke. Good afternoon. Again, I'm looking at Staff's First Data Request, Question 7, and specifically as it relates to Hurricane Irma and it would be -- let me start with the same question about your succession and planning for your zone and transmission incident commanders. Could you give us a little information on that, please?

MR. CUTCLIFFE: Certainly. So our incident command roles are filled by general managers. It's a position within our organization and so the succession for those roles occur naturally within the organization as people move up in levels of management, get experience, and then that is training for them to move into those IC roles.

MS. KING: Okay. Thank you. Yeah, I saw -- you noted on average your incident commanders have over 30 years of experience so that's quite a bit of experience. And I want to look specifically -- there was a table you provided us that addresses Irma crews. Are the numbers shown in that table the number of employees or the number of crews?

MR. CUTCLIFFE: Employees, individuals.

MS. KING: Okay. That's individual, which is

about a little over 14,000. And that was managed by five incident commanders. So how many crews is that roughly per incident commander?

MR. CUTCLIFFE: The number of individuals per crew varies by -- we found different contractors view it differently. And, honestly, one of the lessons from us a few years ago was in order to get bed counts right and meal counts right, we had go to how many people are in these contingents.

So in order to provide the correct or the appropriate oversight of those resources, one of the advantages of the ICS is it's so scalable, we have a role -- a field coordinator role that's in our plan. We have a target of 30 to 50 field workers per field coordinator. And as has been mentioned before, it's a standard role. In fact, we being part of Duke Energy and a six-state utility, we had two chartered aircraft come to Florida with 125 field coordinators who could oversee the workers as we added, you know, to our restoration workforce. And so underneath those incident commanders, what cascaded it is, the number of those field roles that kept a target ratio of the number of folks that they were overseeing.

MS. KING: Thank you. That's all the questions I have for Duke.

COMMISSIONER BROWN: Thank you.

Commissioners, any questions?

All right. Please continue.

MS. KING: Okay. Tampa Electric. Good afternoon, Mr. Haines.

MR. HAINES: Good afternoon.

MS. KING: Again, I'm looking at the same Staff First Data Request, question No. 7, and I'd like to talk to you a little about your crews. You said that your restoration personnel were responsible for managing 684 crews. Can you tell me about how many individuals that is?

MR. HAINES: Right. So when I mentioned we had 3,400 foreign crews -- foreign resources come and help us, that included, you know, mutual assistance we have for vegetation management, damage assessment's been mentioned, call center assistance. So the 684 crews, are just line crews. Right. They're out restoring on the distribution system. And so -- in the presentation I think I broke it down. I think we had roughly 2,400 line workers, so that would be, you know, linemen, utility workers, flaggers, anybody that came with

those foreign crews to come help. So roughly three to four people per crew.

MS. KING: Okay. Thank you. It appears that the staff managing the crews, you guys note that they have on average more than 26 years of experience, and this is a similar question that I asked the others. With the aging workforce, what succession planning does your company have in place to replace these managers?

MR. HAINES: Right. And similar to what's been said, the incident base commanders are usually the operation center managers that are familiar with that area. You know, they manage line crews everyday. And the 26 years of experience average is just kind of industry experience. And so we have a succession plan that we review every year and, you know, the feeder pool for those positions could be linemen that work their way up through supervisor, leadline supervisor, and then eventually can become an operations manager, or it could be an engineer that gets into distribution operations or distribution engineering.

And we have a pretty robust rotation program where we move engineers around, supervisors around, to give them those different experiences because

it's not just the experience and the skill, but it's the leadership, too, that's needed to really run those incident bases and they have to be able to make that decision-making pretty independent of getting a lot of direction. So you want to make sure that they've got the skills, the experience and the leadership.

MS. KING: Thank you very much. That's all I have. Thank you. And -- I'm sorry. I have a few questions for Mr. Puentes with FPUC.

COMMISSIONER BROWN: Certainly.

MS. KING: Good afternoon. You guys note in your response to Staff's First Data Request Question 7 that for Hurricane Irma you had an assistance -- assistant operations manager for the northeast and northwest divisions, as well as a safety coordinator for the northeast and northwest divisions. Are those individuals interchangeable? If someone from the northeast division wasn't available, could they go help out in the northwest to --

MR. PUENTES: Yes, that is correct. The individuals that are the assistant operation managers are able to exchange with each other. We work very closely together. As a matter of fact,

both divisions are managed by one director of electric operations and he -- working with his team, we'll make decisions as to where -- like I was telling him at the beginning, where the resources should go, but, yes, they're interchangeable. Both the operations and the safety coordinators, too.

MS. KING: Thank you. And I notice you guys show that only one engineer position is listed. Would that engineer be shared by both divisions?

MR. PUENTES: What we were trying to respond on that question is how many crews those individuals were addressing, and that engineer was handling ten crews. However, we have other engineers that are in staff that support both divisions. So maybe -- does that help clarify what you're trying --

MS. KING: Yes, it does. Thank you. And that's all I have on preparation and restoration efforts. And I believe Mr. Brennan is up next with questions.

COMMISSIONER BROWN: Thank you.

Commissioners, do you have any further questions on this topic? Seeing none.

Hi, Jim.

MR. BREMAN: Hello. First question for FPL is, can you please describe the process for industry inventory control of facilities during restoration efforts.

MR. OLNICK: So the process for inventory control on really the restoration efforts starts with a template that we've developed with kind of pre-packaged construction materials and they are shipped in kind of pallet containers to staging sites in an amount that ensures that by day one there is enough of the typical material that is needed by day one, or two, to be utilized by who is at that site.

We typically have that material delivered, in Irma's case, to about ten of the sites, almost a day or two ahead of time once we've identified where the sites are and we're pretty confident of the path, and there's some risk there, but we'll deliver that material. And so that material is used as the initial piece of inventory.

At each one of those staging sites, kind of part of the incident command structure requires for an inventory specialist that's there that is usually supported by, depending on the size of the site, anywhere from, let's say, one to five

inventory services specialists. And then throughout the subsequent days, as whether they're FPL or contract crews, if they're required to obtain additional material, whether it's major material, pole transformer, or minor material such as connectors and so forth, they'll check that out through the inventory services individuals that are there. And then at the conclusion of the event, as resources are released from the site, any excess material is collected by that lead inventory service and his support inventory services individuals and accounted for. And then when -- at the very end of the storm, then we reconcile all of the material that has been issued to everything else that has been returned, so that's kind of a high level of how we do inventory kind of control during the restoration process.

MR. BREMAN: Next question has to do with Staff's Third Data Request, No. 7. FPL responded that there was a significant reduction in hardened feeder pole and transmission structure failures and that hardened distribution feeders performed significantly better than non-hardened, and I think that was on one of the slides. Is there quantitative data that supports this conclusion

other than the forensic report?

MR. OLNICK: I believe all of the quantitative data was supplied in the forensics report, and I think there was some other data responses that was supplied, too. At least in my records here I show that not only the forensics report, but in one of our supplemental responses, Data Request 29, and then another Data Request No. 4, I think we responded to that. And the -- as I did mention in my remarks the -- both in the transmission arena for both Matthew and Irma, it was zero failures for hardened poles. Matthew it was zero in distribution and for Irma we had 26 hardened pole failures.

COMMISSIONER BROWN: Jim, I think --

MR. OLNICK: I think that equates to .02 percent.

COMMISSIONER BROWN: Pardon me for interrupting. Commissioner Polmann has a question for you.

COMMISSIONER POLMANN: Thank you Madam Chairman. We've had quite a bit of mention of hardened versus non-hardened. I'm simply uninformed about what constitutes hardened and it will be specific, perhaps, to the type of

infrastructure. I guess my question is to any of the utilities, but it's your turn, and then to staff can maybe provide me some follow-up later, but are there degrees of hardening of particular type of infrastructure? And not to get into all the details here, but maybe just a point of clarification. If you're replacing a pole, then I think that's fairly obvious, but what constitutes hardening in general? I mean, can you harden something a little bit or a whole lot or is it just yes or no?

MR. OLNICK: I'll answer with one of those, it depends, but I'll try to be brief. The pole strength and design is based on National Electric Safety Code and there are different levels of strength categories that will withstand certain levels of wind. Category C, B and something we call extreme wind loading. Back in 2007, Florida Power & Light chose to elevate its design to extreme wind loads -- extreme wind loading. So every pole that we purchase now meets our design criteria for that strength of a pole. I think the difference from a clarification standpoint is when we refer to a hardened feeder, that feeder has been designed and strengthened and reviewed every single

pole to meet extreme wind load loading for the entire feeder. And that could also mean adding additional things like added span guys and other things. So it's just behind poles and lengths of sub-poles.

As we have been building any new construction, or anything using a pole since 2007, it's using now a pole that meets extreme wind loading, but until that entire feeder has been designed and reviewed, to be called a hardened feeder, every pole had to be analyzed. So that's the difference between calling something just a hardened pole and a hardened feeder. It's a system. And every pole that we have been replacing or installing since 2007 meets the pole criteria. Now it just needs to become part of a system. Did that help?

COMMISSIONER POLMANN: Okay. There would also be the case of replacing underground cabinet that was open-end. You would obviously upgrade that to the current technology and things like that. There was an example here earlier where you don't own a pole in a run that you use as a feeder so there's a weak link there and that needs to be dealt with, but I appreciate your explanation. That was very helpful, so thank you.

MR. OLNICK: Could I also add that when we do hardened a feeder, I don't want to leave it on the perception that we leave a non-FPL pole there unhardened. So when we have a process where we're going through and that feeder was designated to be hardened then every pole on that feeder gets hardened and if there is -- if there is a different utility telephone pole on there, we will harden that and exchange that with that telephone, or whoever owns it, with another one somewhere else. So I just want to make that point of clarification.

COMMISSIONER POLMANN: Thank you.

COMMISSIONER BROWN: Jim.

MR. BREMAN: Thank you. For Duke, could you please describe the process of inventory controls during hurricane restoration efforts?

MR. CUTCLIFFE: Sure. And I'll speak to two different, I guess, lines of business that -- the transmission and substation inventory control and then the distribution inventory control. In both cases it's really a streamlining of normal business processes. So in transmission and substation equipment is much more complex and highly engineered and so what's done is the work order process is used in order to charge equipment to a

work order and track its use. That process is expedited and streamlined so it happens very quickly.

On the distribution side with the large numbers of crews that come into Florida and material needs to be where they're working, where the damage is, the inventory control process consists of opening a storm charging account number, that's the first step. Then material is, from our central warehouse, is charged against that account and delivered to, in the case of Irma, we had 26 staging sites. It's delivered to those staging sites for use. It's distributed to crews on the staging site. It's monitored. It's -- they don't go by reels. It's hand quills of wire and cut-outs and transformers and poles. And there is also 24-hour security on those sites to ensure there is prudent control of that material. And when the event is over, all the unused equipment is returned to the central warehouse and charged back against that storm project number, so the actual usage is cleared against what's returned.

COMMISSIONER BROWN: That's all?

MR. BREMAN: No. I have another question. I was waiting.

COMMISSIONER BROWN: Commissioners, any other questions?

All right. Please continue.

MR. BREMAN: Okay. Earlier today we heard some talk of FPL's flood monitors on their substations and they're continuing with that program. In Staff's First Data Request No. 3, the staff that reviewed Duke's response to this has a question about whether or not Duke is pursuing flood monitors on its substations on account of some of its locations may be susceptible to flooding and storm surge.

MR. CUTCLIFFE: So we don't have a history with flood risk or flood damage in our substations. What we have done is targeted mitigations where appropriate. Equipment has been elevated. We've raised battery racks. And then there are temporary measures that can be employed when there is any kind of a surge risk to limit the ingress of water. And also in any siting of equipment and new substations, the flood risk is one of the selection criteria that's used.

MR. BREMAN: So you'd rather raise the substation than put the alarm on it like they're doing up in New Jersey?

MR. CUTCLIFFE: It's not practical to raise the whole station. What we do is based on the layout of the yard; specific equipment can be elevated to minimize the risk.

MR. BREMAN: Again, for Duke. In response to Staff Question No. 2 to Second Data Request, Duke provided a copy of their forensic review and in that report there is discussion of a transmission tower that failed due to winds and corrosion. Could you please elaborate a little bit on that event?

MR. CUTCLIFFE: Sure. So that specific tower that was referenced in that, in that Question No. 2, has been replaced and inspection of -- it was a 40-year old structure. It had been inspected in 2016 and so it had been surveyed. And what we've done is initiate an inspection of the rest of that tower line to search out any kind of similar failure points.

MR. BREMAN: That's all my questions for --

MR. BALLINGER: Can I follow up with that? I'm sorry.

COMMISSIONER BROWN: Sure. Can you tell us when that inspection with the rest of the line may be completed?

MR. CUTCLIFFE: Be completed in 2018.

MR. BALLINGER: Okay. Thank you.

MR. BREMAN: Okay. Moving on to TECO.

MR. HAINES: Yeah.

MR. BREMAN: On slide 16 of your presentation you state that 20 hardened distribution poles failed during Hurricane Irma. Were the causes of these failures trees and, if so, were you surprised by that?

MR. HAINES: Based on the forensic analysis that we had done, it revealed that a majority of the issues that caused pole failures were trees and trees outside the right-of-way. So while our process doesn't necessarily document the root cause failure of every single pole that's changed out, we have to kind of fall back on the forensic analysis that was done. And so, yes, I would say it most likely would be due to trees outside of the right-of-way.

MR. BREMAN: And did those -- did that type of failure, cause of failure, surprise TECO or --

MR. HAINES: I would say, no, not necessarily. I mean, again, something has got to give when a large tree falls on the line right through the intilay or the crossarm or the pole's going to

give. So, yeah, I would say those situations are going to happen with overhead system.

MR. BREMAN: Okay. Next question -- if that's okay.

COMMISSIONER BROWN: Of course.

MR. BREMAN: In response to Staff's Data Request to No. 4, TECO said it did not avoid outages due to automated switch gear and switches. Is TECO looking into automated feeder switches?

MR. HAINES: Right. Like I mentioned earlier, we're currently putting mid-circuit re-closers out on our system and trying to get as many circuits, especially the ones that have a history of, you know, a lot of momentary interruptions or outages covered. And long term, with our good modernization plan and our road map, is to have self-healing networks in place. So in order to do that, you've got to have probably at least three of those automated switches on each circuit with a normal open point so that you can automatically close back in. So I would say that part of our long-term strategy is eventually get there.

COMMISSIONER BROWN: Can I just followup? When you say long-term, what time frame are you talking about?

MR. HAINES: It'll probably be five years to ten years, I mean just order and magnitude.

COMMISSIONER BROWN: Okay.

MR. BREMAN: That's all the questions from me.

COMMISSIONER BROWN: All right. Next up.

MS. BUYS: Penelope Buys. I'm going to ask questions on the impediments, hopefully they haven't answered those yet. First one is to FPL. In response to Staff's First Data Request 32, you reported for Hurricane Matthew that there was limited hotel accommodations, but Hurricane Irma was large -- had a larger impact on the state. So was this not an issue for Irma as it was for Matthew?

MR. OLNICK: I think as we've mentioned many times, each hurricane is slightly different and Irma was significantly larger, but one of the differences in Irma and Matthew was when Matthew was coming up the east coast of Florida, it was right off the coast of Miami as a category four, 50 miles off of West Palm as a category four and potentially coming in to the Brevard area as a category four. And so up and down the east coastline, primarily from the north of the West Palm Beach area, all the way up into Daytona, there

were many evacuation orders. And so most of those folks that lived up and down the coastline had no where to go but consume all of the hotels that are in that part of the state. And in that part of the state there is a whole lot less hotels than there are, frankly, in the tri-county area and other parts of the state. So even though Irma was much larger, it was just kind of a function of the type of storm, the location, and in this particular case where we needed more people and there was just less hotels there. So that just made it a little bit unique and a little bit more of a challenge.

MS. BUYS: Okay. Next question is for Duke. In response to the Staff's Data Request No. 32, please explain what Duke meant when it listed access to repair locations as impediment to restoration. For example, did the customers not allow to access or were trees, debris, blocking the areas where the repairs were needed?

MR. CUTCLIFFE: Yes, that reference was specifically to storm-driven effects. So it was downed trees, debris and the effects of ground saturation and flooding.

MS. BUYS: Okay. Next question is for the co-op's. In Florida Keys Response to Staff's Data

Request No. 32, they reported that a lack of trauma care for their workers immediately following the storm was an impediment. Can you elaborate on that?

MR. BJORKLUND: Yes, ma'am. So when Monroe County issued their residential evacuation order effective of 5:00 p.m. on Wednesday, September the 6th and area hospitals at that time began closing because most of their staff evacuated, the final hospital closure within that service area happened around 7:00 p.m. on Thursday, September the 7th. The county-owned trauma star medical evacuation helicopters were also flown out of the area to protect them. So as of 7:00 p.m. on September the 7th, there was no ability for us to have excess to medical care, trauma care, in the event of a serious accident and those facilities weren't available back to us until Tuesday, September the 12th.

MS. BUYS: Okay. Another question concerning Suwannee Valley and their response to Request No. 32, it was reported when noting about having more restoration crews that there is a tipping point from safety and operational standpoint where more is not necessarily better. Can you elaborate on

that?

MR. BJORKLUND: Yes, ma'am. And when we're talking about this, we're talking about the restoration crews out in the field more than other folks that might come help. So if you're looking at an instance of having restoration crews on the ground, you have to make sure that you can operate in a safe manner and make sure that logistically you can handle that amount of people.

So, for this instance, if you look at a case where you have someone that they call a bird dog, and a bird dog is basically the person that's familiar with the system, the safety requirements, the electrical network topography, construction standards, communication protocol, how to deal with everything from A to Z, including the dispatch, and their function is to be with the crews as they go around to make sure that everything is operating in the safest, most efficient manner. So once you get to a certain point you run out of people to send out with those folks, and there's also just the point of diminishing returns. Even though you might have more people, you're not necessarily going to be able to keep it working at an effective and an efficient pace.

MS. BUYS: Okay. Thank you.

MR. BJORKLUND: Yes, ma'am.

MS. BUYS: My last question is for the muni's. OUC reported that the customer site systems needed repair and permitting before the power can be restored was an impediment. Does OUC think it took longer because the people were evacuated or was there no contractors to fix the customer equipment before they can restore power?

MR. FINKLEA: Yes, ma'am. The central problem here was that OUC was trying to restore power to folks who needed to get county or city building inspectors to come out and inspect that they could take service. Generally, this had to do with weather heads or breaker panels. At first, those city or county inspectors were not working other than 9:00 to 5:00 and they weren't working over the weekend. So an OUC crew or a mutual aid crew may be there on a Saturday trying to restore service, but they couldn't restore service to the customer account because they had a weather head that needed an inspection. Once OUC raised the issue to the city and the county, they put their inspectors on a more-extended work schedule and they had inspectors out available after hours to get those customers

back online.

MS. BUYS: Okay. That's all the questions I have for that category.

COMMISSIONER BROWN: Thank you. Commissioners, any questions? All right.

MS. THOMPSON: Takira Thompson, Commission staff. My first questions are for FPL. The majority of customer comments were about inaccurate restoration estimates. Did this inaccurate information to customers result in a delay in restoration of electric service or is this more of customer service issue?

MR. OLNICK: So if I understand the question, did the information that the customers were receiving on the website or their iPhone, given that sometimes the information was not as up-to-date as possible delay restoration?

MS. THOMPSON: Yes, that's the question.

MR. OLNICK: So the answer is no. The information that was being supplied via our -- to our customers via either the website, or any of our digital portals, didn't in any way delay the restoration process. As I mentioned earlier, we -- you know, during Irma the website and our systems experienced just an unprecedented amount of volumes

and there were some challenges and it did slow and there was some information that was delayed as far as providing the best ETR we could, but it didn't delay the actual restoration of service at all.

MS. THOMPSON: Okay. So do you see this as more of a customer service issue?

MR. OLNICK: It is a -- I would say not -- if you classify communications under customer service then I would say, yes. It wasn't a restoration issue since then. What we've done in not only enhancing this system and kind of reengineering the application itself, but to tie a little bit more information that's in our restoration systems and outage management systems to enhance the information that we give to the customer.

MS. THOMPSON: Okay. These questions -- well, I'm going to actually pose the same question to Duke. Would you like me to repeat it?

MR. CUTCLIFFE: No need. Thank you. Yeah, so the inaccurate restoration estimates that were given did not delay restoration in any way. They were a customer service, a communication gap, and as I mentioned earlier we've addressed that in some upgrades and testing of our outage management system, as well as modifications to the tools and

the processes that we used to set the ETR's, and to take into account all factors that can affect restoration.

MS. THOMPSON: Thank you. And this question is for FPL again. The lack of tree trimming also accounted for a portion of the negative customer comments that were received. How does your utility decide when and where to trim?

MR. OLNICK: So where FPL trims really depends on multiple factors. One of the key ones, of course, is where it is in the regular trim cycle, whether it's on a feeder averaging every three years or on a lateral every six years, but there's also other pieces of that, too. There is mid-cycle trimming. We trim -- we trim all of our identified CIF feeders each year prior to storm season, which we are just finishing up right now. There is also other customer trim requests and so forth. So the timing of it really depends on various factors. So from a customer perception standpoint, it may just be a function of where they are in that time line.

MS. THOMPSON: Okay. And are customers notified prior to tree trimming processes?

MR. OLNICK: Normal day-to-day absent kind of storm restoration, our process is that an outbound

communication typically is in the form of a letter, goes out to customers usually a couple weeks ahead of time and then it's followed up by a door hanger if we know we've got to get into their yard. Customers don't like surprises, so we try to make sure that they know we're going to be there.

And then one key point, too, and I know although you didn't ask, an important point about the tree trimming is on all of our feeder trimming we make sure that 100 percent of that is reviewed by either one of our FPL arborists, or one of our contract arborists, to kind of ensure quality control. And I know customers may not agree with trimming standards and how we trim, but we do need to ensure that the work was done properly.

MS. THOMPSON: Right. That was my next question, actually. Thank you.

So similar questions for Duke, as well.

MR. CUTCLIFFE: Yes. So the most cost-effective and most operationally-effective trimming that we do is what we call production trimming and that's when it's planned and it's not reactive and it's done on a cycle. And the way we select the portions of our feeders to trim in production is through some data analytics. We

include the time since the last trim as well as the operational -- the reliability performance of those segments as well. And all that goes into setting the schedule for the year.

We contract all tree trimming out so a vendor does that for us, but we pay per span and there are a number of different trimming types that can be done anywhere from mechanical trimming that's side walls to people that climb trees and do it, you know, from a loft in the trees and everything in between. And so we -- we call pre-inspect every span that gets trimmed to determine what type of trimming is appropriate for that span. We turn that over to our vendor who then completes the work and we do 100 percent audit on what is done to ensure we got what we paid for and that the right type of trimming was used.

And in regard to communication, we send letters out one to two weeks ahead of time to notify everybody we have on account. You miss people that way. So it's our practice to knock on doors, walk house-to-house, to notify people when we're on their property to do the trimming, and if we miss them we leave door hangers with an explanation of what's been done and a contact

number.

MS. THOMPSON: Okay. Thank you. Those are all the questions I have.

COMMISSIONER BROWN: I have a question for FPL. Can you directly attribute in some type of metric from Irma whether a certain area of outages occurred directly as a result of lack of tree trimming?

MR. OLNICK: I would answer it that the outages that we saw in Irma, and I think you've heard this probably from others today, too, were typically not from a lack of the annual three- to six-years cycle trimming that we do, but more so from trees that were outside of an area that we typically trim from either fallen trees outside of the right-of-way, uprooted trees from outside of the right-of-way. So I wouldn't call that maybe a lack of trimming as much as damage from trees that we would typically not trim.

COMMISSIONER BROWN: And not trim because they were not in the rights-of-way?

MR. OLNICK: Correct.

COMMISSIONER BROWN: Okay. Thanks. Commissioner Polmann.

COMMISSIONER POLMANN: Not to pick on your

answer, so I'll ask somebody else and then you'll here me. Same question for Duke. I think you, likewise, have a lot of trees that are outside of the right-of-way and I talked about that earlier, but is there a particular way to measure or have you considered the metric of in the corridor where you have facilities what part of your corridor has trees outside of your control that is not being maintained by the entity that is adjacent to the right-of-way that has some potential, whether it's damage to your lines or hasn't. I mean, there's a risk factor that's right next to your facility. So have you measured it or could you measure it, I think would be helpful information.

MR. CUTCLIFFE: Yeah, I would answer the question this way. So in non-hurricane type of operations we do get information on causes and we differentiate between what we call a preventable and non-preventable tree-caused outage. And in those cases, about 60 percent of what we see, 60 to 70 percent is in a non-preventable category, so we still have -- you know, that still leaves 30 or 40 percent of what occurs is from what we determine to be a preventable cause on the site. And that number has gone down in the last three years. We

increased the specification in 2014 and got better performance. Our cost went up slightly, but it was a good bargain. In these kind of measurements, it's always a balance. We've never going to get to zero of the preventable type. We try to optimize our trimming specification so that we get the best performance at the best cost and it -- just as an example, when we changed the specifications we now trim as far up as a bucket will reach. We used to stop at the level of the primary conductor and if the limb that's overhanging is greater than four inches in diameter, we'll leave it because it's expensive and time consuming to take it down. The presumption is that it's strong, but if it's less than four inches, we will remove it. And since employing that specification, we've seen improvement in overall tree performance and specifically in the preventable category. I just share at as an example of the balance that struck between the amount of work and the cost and the result.

In a hurricane, we do not collect that type of cause-specific information at each repair location. What we have is a surrogate for that is our forensics on pole failures. And the overwhelming

cause is entire trees coming down, as we said before, it sounds like a broken record, but from outside the right-of-way. And the difference there is our specification, even if a tree's off the right-of-way, is intended to target diseased trees or trees that are leaning or that we call danger trees, but there's a reason to think that tree can fall and jeopardize the primary. And I believe those are prudent choices under normal conditions.

In a hurricane, those same factors don't apply. And healthy trees come over with saturated ground. Trees that are otherwise well-rooted and structurally sound to come over and that's been our experience from our forensics.

COMMISSIONER POLMANN: Let me -- thank you for those comments, very helpful. Let me just follow up. Commissioner Clark alluded to this -- well, more than alluded. If this Commission were to make some effort to advocate for better efforts adjacent to the right-of-way, improvement in vegetation management, quantitative information to persuade those who can better manage that would be extremely helpful, rather than anecdotal information and the experience saying, well, all those trees are the problem, not these trees. So along those lines,

even in non-storm times, is some examination of a risk factor such as diseased trees and so forth, recognizing it would be quite an effort to walk the line with an arborist and say, well, so many trees per mile, or maybe a sampling of some type, that would say X percentage of trees along per mile is likely to be a problem in non-storm times. Now, in storm times it's a different question, but -- and then from the forensics, we can interpret again per line mile how much damage.

Now, those are just some measure but I think having something quantitative to go try to persuade somebody X, Y, Z needs to be done will be very, very important, so I would encourage all to consider what we need in order to measure. And, Madam Chairman, I think maybe that was your question.

COMMISSIONER BROWN: So that may have been, but Commissioner Clark jumped in.

COMMMISSIONER CLARK: Thank you. I agree with, Mr. Polmann. The data is very important in helping us make that decision, but I think you've given us a little bit of the data, at least enough to begin to -- for me personally, to say I think it's worth exploring. You said 40 percent of the

trees -- 40 percent of the outages you've identified were preventable. That means you have identified the cause of that problem most likely in advance and you weren't -- you didn't have permission to address the cause is usually, I'm guessing, the problem.

You've identified a tree outside of your right-of-way that's on private property that is a potential damage to the line. Either it's dead or about to fall or leaning or there's some problem with it and the owner of that tree doesn't want to take care of it, yet we know that it is going to take out a line segment and take out 500 or 1,000 customers depending on the situation. You're responsible for that. So we're just sitting here waiting for it to happen and instead of taking a proactive position and saying, no, I'm sorry, but this tree has to be removed or someone is going to have to be responsible for the damages that occur, and I think you've got some of that data, just in the numbers you already provided us.

MR. CUTCLIFFE: I would agree. I do need to correct. I misspoke earlier. When I said 40 percent, I meant 40 percent of our tree-caused outages from that -- what we'll call the

non-preventable off the right-of-way. In total, about 23 percent of our customer minutes come from tree causes so it's 40 percent of that 23 but your point is valid.

COMMISSIONER BROWN: Can you just say those numbers one more time?

MR. CUTCLIFFE: If you look at all of the outage time that we have, we categorize each -- we categorize by cause about 23 percent of those come from tree causes. We break those tree causes down between preventable and non-preventable based on our trimming spec and about 40 percent of that 23 percent is from the non-preventable category.

COMMISSIONER BROWN: Excellent. Thank you. Commissioners, any other questions before we say -- go ahead staff.

MR. BALLINGER: Can I have a follow-up on that?

COMMISSIONER BROWN: Yes.

MR. BALLINGER: This is for the other utilities. I don't know that the other utilities break down that data in that level of degree of preventable and non-preventable. Am I correct?

COMMISSIONER BROWN: Okay. Florida Power & Light.

MR. OLNICK: We do on -- but not in a storm situation, so the --

COMMISSIONER BROWN: Have you been able to provide that information thus far, though, in this docket or in any docket?

MR. BALLINGER: This would be in our annual distribution reliability reports is where we would get this information because it's not non-storm related information. I'm just -- I'm drawing a blank on what other utility's report is preventable, non-preventable. I'm not sure that it's identical to the way they're qualifying. I just want to --

COMMMISSIONER CLARK: Couldn't you extrapolate that data? I mean, how far off of that is it going to be from what really happens during a storm? If you've got, you know, 60 percent of your tree-caused outages were preventable during non-storm activity, couldn't you pretty much just assume it's going to kind of follow at least close to the same pattern?

COMMISSIONER BROWN: Are you asking FPL or --

COMMMISSIONER CLARK: Anybody. I'm just throwing that one out there, I think, and see what sticks.

MR. BALLINGER: I'll take a shot at it. Perhaps, I will say that, perhaps you could, you know, the non-preventable damage that occurs is usually because of a local storm. It might be a thunderstorm came through and blew over a perfectly healthy tree so it wasn't one you could have trimmed to take out or identify. Would that have happened in a hurricane? Probably so. So it's possible. It's more of getting to, how do you identify that as a preventable tree or preventable outage?

COMMISSIONER BROWN: Do any of the other utilities have any comment on that? Gulf. TECO.

MR. HAINES: I believe TECO does track preventable versus non-preventable tree-related outages. Probably what we submit, we just roll it all up to a tree outage.

MR. BALLINGER: That's what I'm thinking. It's not reported to us in that level of --

COMMISSIONER BROWN: The way Duke's is.

MR. HAINES: But I would maybe add a little bit to Commissioner Clarks' comment on the percentages being the same. I think kind of day-to-day normal storm season, a tree outage might be a branch just gets on the line and locks a

circuit out. Right. Troublemen will go out there and they can clear it up pretty quickly. There's really no repairs to be made. Whereas the type of tree issues that we saw during Irma are bringing lines down. So that's why the majority, I think the larger branches, larger trees, are outside the right-of-way, what we consider non-preventable because it's not something we would typically trim during our normal cycles.

MR. BALLINGER: If I could add, recall in the distribution liability, major storm events are excluded out. So we're looking at what I call blue sky data of what happens. So he's correct. It would be more outages that are a tree branch comes into fault and kicks it out, as opposed to a whole tree coming over and taking out a line so you're looking at different metrics.

COMMISSIONER BROWN: Anybody else would like to add anything before we continue? Commissioner Clark, anything?

All right. Emily.

MS. KNOBLAUCH: Emily Knoblauch with staff. My questions are related to suggested improvements that we asked of the IOU's so it relates to the Third Data Request. And my first questions go to

Duke Energy.

Okay. In response to Staff's Third Data Request No. 3, DEF provided the primary factors that are considered when determining the most cost-effective location for hardening projects. These factors that were provided are operational and storm performance, remaining life, assessment of equipment and cost repair or replace, is the number of customers impacted also considered?

MR. CUTCLIFFE: Yes, it is, in the form of customer minutes of interruption is one of the criteria.

MS. KNOBLAUCH: Okay. Would these factors also be appropriate for targeted undergrounding?

MR. CUTCLIFFE: In the targeted undergrounding, the focus of that program is what we call the fragile fringe. It's the chronic outage areas. So our focus there is areas where the tree environment cannot be effectively mitigated with our tree specification. So we use a measure of outages per mile to gauge the effectiveness for that program. So it's a bit different because it's targeting a different problem, if you will.

MS. KNOBLAUCH: Okay. In response again to

Staff's Third Data Request No. 9, DEF suggested that the eight-year wooden pole inspection could be lengthened to save resources since decay to wooden poles and poles maintenance programs were not prominent causes of outages for Hurricane Irma. Does DEF anticipate filing a petition to lengthen the eight-year wooden pole inspection cycle in the near future?

MR. CUTCLIFFE: No, we don't. We are assessing possibly an extension of the 16-year CCA pole exemption.

MS. KNOBLAUCH: Okay. And if it's okay, my next questions go to FPL. Again, in response to Staff's Third Data Request No. 5, FPL stated that it's improved its processes to facilitate the identification of critical infrastructure functions by emergency operation center personnel. Will this updated process, will that be reflected in FPL's reliability report or in its next storm hardening plan?

MR. OLNICK: We are just kind of wrapping up this year's process in discussion with the EOC's and we've had a lot of nice enhancements to that and our -- I think our plan is to include all of those improvements in next year's March filing.

MS. KNOBLAUCH: Okay. For No. 6, FPL reported non-utility -- or, excuse me, non-electric utilities that own poles with electric facilities attached are not mandated by the Commission eight-year inspection program and I believe you mentioned a number so I wanted to make sure I have this correct, for the number of non-electric utility poles that FPL attaches to, I believe you said it was over 200,000. Is that correct or do you have a specific number?

MR. OLNICK: It is. And I checked on that after I stated that and it's 217,000.

MS. KNOBLAUCH: Thank you. And do you know the percentage of total poles? So it would be the percentage of non-electric utility poles to FPL-owned poles?

MR. OLNICK: We have almost 1.2 million of our own poles, so that's about 15 percent.

MS. KNOBLAUCH: And the power lines that are attach to those non-electric utility poles, are those primarily feeders or laterals?

MR. OLNICK: Actually, they're primarily laterals and probably primarily on the east coast.

MS. KNOBLAUCH: And has FPL ever considered installing an additional electric pole owned by FPL

next to or in the vicinity of one of these non-electric utility poles?

MR. OLNICK: No, that's not something we would really consider as a good alternative, only that it does add another pole and would add a significant amount of customer push-back, I think, too, by adding a second pole in place.

MS. KNOBLAUCH: If a non-electric utility pole is damaged, who handles and pays for the repairs?

MR. OLNICK: There's a process in place today that during normal day-to-day, the non-FPL utility pole owner is responsible for replacing the pole. If it's an emergency though, and certainly during a storm situation, we have a process in place that we'll go ahead and replace it. I say we. Could be a contractor, too, in a hurricane where we use a lot of resources. And then we would back-bill that utility for the work.

MS. KNOBLAUCH: Okay. My last question --

MR. BALLINGER: I'm sorry. Can I follow-up with that?

COMMISSIONER BROWN: Sure.

MR. BALLINGER: If FPL replaces a pole, let's say it's a telecomm pole, does it replace it with one of FPL's extreme wind loading poles?

MR. OLENICK: It does.

MR. BALLINGER: And so it bills in the telecomm company for that?

MR. OLNICK: It does -- we do. Sorry.

MR. BALLINGER: Thank you.

MS. KNOBLAUCH: So for No. 5, FPL stated that undergrounding, particularly laterals, may be the best solution for eliminating vegetation-related outages. And then also in response to No. 7, FPL stated it's planning to conduct an underground hardening pilot that will convert certain select overhead laterals to underground. Does FPL anticipate filing a petition to conduct an underground hardening pilot in the near future?

MR. OLNICK: No. Our intention is not to file a petition, but what we intend to do is again in the March filing next year, in 2019, we were -- our plan was to include that in the filing and just discuss what our plans are for '18, '19 and '20.

MS. KNOBLAUCH: Okay. And would the costs incurred, would those be spread across FPL's entire customer base or would it just be the customers where the undergrounding occurs?

MR. OLNICK: Our plan is to follow a very similar approach that we've done in all of our

hardening and we would spread that across the entire rate base since really the entire rate base, in our perspective, is really beneficiary of that hardening.

MR. BALLINGER: Just a quick clarification. You said a couple times, filing in March. You're referring to the hardening plan that comes up every three years?

MR. OLNICK: That's correct.

MR. BALLINGER: Okay. Thank you.

MS. KNOBLAUCH: Okay. The last question I have is for Gulf and this is very similar to the questions that I was asking FPL. So this was in response to No. 4 that you guys provided and Gulf reported that many third-party-owned poles that Gulf attaches to may not have inspection programs. Do you have the number of third-party-owned poles that Gulf does attach to?

MS. COLLINS: Yes. We have over 62,000 poles that were attached to that are owned by third parties.

MS. KNOBLAUCH: And I think you mentioned earlier the percentage, I think you said, it was over 30 percent if I remember correctly?

MS. COLLINS: Approximately 31 percent. We

owned a little over 200,000 of our own poles.

MS. KNOBLAUCH: And same question is are the lines that are attached to those, are those primarily feeders or laterals?

MS. COLLINS: For us they're both.

MS. KNOBLAUCH: And again, same question, has Gulf considered installing an additional electric-owned pole in addition to the -- or next to the non-electric utility pole?

MS. COLLINS: So for some very similar reasons the additional cost to our customers is one reason for not doing it. With the relationships that we have with the cities and counties, the preference of not having multiple utility poles or doing it along utility easement is the preferred method is another reason. And then in terms of close proximity along the same right-of-way condition, same right-of-way are, we also have to think about the safety and the ability for us to be able to access in that same area. So those would be reasons why we would not consider that. We do have some locations in our service area where we are on different sides of the roads and there are pole lines, but that was an older construction, but we've moved away from that.

MS. KNOBLAUCH: Okay. And same question for the last one. If a non-electric utility pole is damaged, who handles the repairs and pays for the repairs?

MS. COLLINS: So very similarly in an emergency situation, for instance, if a car were to hit a pole and it would be broken, then Gulf Power would respond to that location and replace the pole. We would then bill the pole owner and transfer the ownership of that pole to that not-third-party utility.

MS. KNOBLAUCH: Thank you. That's all the questions I have.

COMMISSIONER BROWN: Thank you. All right. Staff, any other questions of the utilities? Looking at all of you. Tom.

MR. BALLINGER: No, ma'am. I think staff is done and we appreciate your participation today. As I said earlier, this is for you all to gain knowledge and I appreciate the questions you asked. We have learned a lot, as well.

COMMISSIONER BROWN: Awesome. Well, I have to say I really thank staff, Bralio, Mark, Tom, you guys for organizing this workshop. I think it was a very comprehensive discussion and exchange of

ideas. Appreciate the utilities' participation in it. Looking forward to continuing the discussion tomorrow and hearing from non-utility organizations. After that, as staff alluded to earlier, they're going to file a report at the June internal affairs, summarizing the large amount of information that's been gathered in this generic docket as well as provide us recommendations and options for further action.

Before we adjourn, I wanted to ask Commissioners, Chairman, are there any comments? Commissioner Fey first, followed by Commissioner Polmann.

COMMISSIONER FEY: Thank you, Madam Chair. Just one quick comment. I just want to say thank you to you and staff. I think this has been extremely beneficial for me. I have -- I've been extremely impressed with the differences, and I don't know if I'm complimenting you or the utilities, but the difference in the hardening and the improvements that's made and the results that we've seen from the recent storms --

COMMISSIONER BROWN: Oh, it's Art and I. It's totally Art and I.

COMMISSIONER FEY: Well done. Well done.

Chairman, Chairwoman. But it's amazing to see that. So I just appreciate the work that's being done in helping some of the newer Commissioners get up to speed on an issue that's extremely complex, but it seems like there are still some good areas to improve in. So thank you.

COMMISSIONER BROWN: Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Madam Chairman. My thanks to you for, as Chairman Graham indicated earlier, thank you for pursuing this last year and helping us, bringing everyone together. I appreciate all the efforts from staff. I know it's been a lot of work to compile everything. I especially thank the utilities for your efforts. I know it's been a busy time just following up from the storm.

I want to say this has been a tremendous day. I think it's very successful as a workshop. I've learned a lot. I appreciate your tolerance for some the detailed questions and my thanks to my colleagues here for their patience in tolerating my questions. So great day. I look forward to tomorrow. Thank you very much.

COMMISSIONER BROWN: Thank you, Commissioner Polmann. And Commissioner Clark followed by

Chairman Graham.

COMMMISSIONER CLARK: I like Commissioner Polmann's statement and thank you for indulging me. I probably gotten a little further into the weeds than I needed to or should have, but I appreciate your candor and appreciate your support. Thank you to you and to your staff. I know that putting this information, you guys are sitting here today presenting it, but a lot of work goes in from a lot of staff people that do a lot of research and keep a lot of records, especially during those storm times.

We were talking the other day. I've had the opportunity to sit and work dispatch during storms and trying to determine and record what's a tree outage, what's a squirrel outage, what's a car outage. There's a million moving components to this process and so my hat goes off to your staff. Our line crews and line techs get a lot of the credit, and of course they deserve it, but those folks that are in there managing this dispatching process, managing the AVR and the outage management systems, they deserve a lot of credit, too, so please pass our appreciation on to them, as well. Thank you.

COMMISSIONER BROWN: Absolutely. And Chairman Graham.

CHAIRMAN GRAHAM: Thank you. I want to thank -- well ditto to what all my colleagues said. I want to thank the utilities for spending the day here doing this and this is over and above board of going through the storm recovery because, you know, we're going to go through a lot of this later on in the year, but I do appreciate you guys coming up and generically handling a lot of this stuff and I know all your attorneys sitting back behind you telling you what you can and cannot do, so don't think that went unnoticed. I do appreciate the, you know, the openness that you spoke to us, but I do understand the difficulties here you're also dealing with.

I want to thank staff. I think staff's done a great job of collecting all this data and trying to organize it and also following up with the questions. I want to thank Julie Brown for handling this. I have been asked why I decided to pass the gavel and it just so happens -- I mean, we haven't had a hurricane in ten years and just so happens the three that we had all came during her chairmanship and --

COMMISSIONER BROWN: As well as the rate cases.

CHAIRMAN GRAHAM: And so she also was the one who was down at the EOC center and she's the one that had to deal with this the entire time, and she's the one that came up with the idea of this workshop. So I think she did everything leading to it so she and -- I think she needed to be the one to bring the ship home and I do thank you for your effort.

And I thought, as all my other colleagues said, this has been well worth the time. Thank you.

COMMISSIONER BROWN: Thank you. Thank you, Commissioners. Thank you for your participation and we will see you all tomorrow at 9:30 if you plan on being here. The will be the non-utility folks, but you are all welcome to join and we will be recessing for tonight. Thank you again. Safe travels.

(Transcript continues in sequence in Volume 3.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, DANA W. REEVES, Professional Court Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 11th day of May, 2018.

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DANA W. REEVES
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