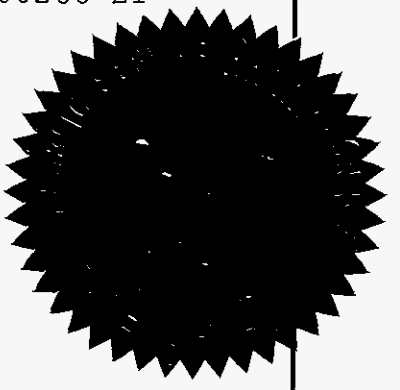
BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

REVIEW OF 2010 ELECTRIC INFRASTRUCTURE STORM HARDENING PLAN FILED PURSUANT TO RULE 25-6.0342, F.A.C., SUBMITTED BY PROGRESS ENERGY FLORIDA, INC.	DOCKET NO. 100262-EI
REVIEW OF 2010 ELECTRIC INFRASTRUCTURE STORM HARDENING PLAN FILED PURSUANT TO RULE 25-6.0342, F.A.C., SUBMITTED BY TAMPA ELECTRIC COMPANY.	DOCKET NO. 100263-EI
REVIEW OF 2010 ELECTRIC INFRASTRUCTURE STORM HARDENING PLAN FILED PURSUANT TO RULE 25-6.0342, F.A.C., SUBMITTED BY FLORIDA PUBLIC UTILITIES COMPANY.	DOCKET NO. 100264-EI
REVIEW OF 2010 ELECTRIC INFRASTRUCTURE STORM HARDENING PLAN FILED PURSUANT TO RULE 25-6.0342, F.A.C., SUBMITTED BY GULF POWER COMPANY.	DOCKET NO. 100265-EI
REVIEW OF 2010 ELECTRIC INFRASTRUCTURE STORM HARDENING PLAN FILED PURSUANT TO RULE 25-6.0342, F.A.C., SUBMITTED BY FLORIDA POWER & LIGHT COMPANY.	DOCKET NO. 100266-EI

_____/



PROCEEDINGS: IOUs STORM HARDENING WORKSHOP

DATE: Thursday, June 10, 2010

TIME:	Commenced at 9:30 a.m. Concluded at 11:29 a.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	JANE FAUROT, RPR Official FPSC Reporter (850) 413-6732

P R O C E E D I N G S

MS. L'AMOREAUX: Okay. Before we get started, I'm just going to go over some housekeeping items. There is a sign-in sheet and the copies of the presentations to your right. If everyone can please sign in and get a copy, then we will begin.

Good morning, everybody. I'm Melissa L'Amoreaux with staff. Following the 2004/2005 hurricane season, the Florida Public Service Commission took several steps to minimize future storm damage to electric infrastructure and resulting outages to customers. In addition to requiring pole inspections, vegetation management, and other actions, on February 27th, 2006, the Commission directed staff to begin rulemaking proceedings to require electric utilities to strengthen Florida's electrical transmission and distribution infrastructure to better withstand severe weather events. The Florida Public Service Commission also issued an order that required investor-owned utilities to file plans and estimate implementation costs for the ten on-going storm preparedness initiatives.

On May 7th, 2007, Florida Power and Light,

Progress Energy Florida, Tampa Electric Company, and Gulf Power each filed their respective 2007 electric infrastructure storm hardening plan, which included wooden pole inspection programs and the ten on-going initiatives. On December 28th, 2007, the Commission voted to approve all four plans.

Florida Public Utilities Company requested and was allowed to file its storm hardening plan as part of its general rate case. Florida Public Utilities Company's storm hardening plan was approved May 19th, 2008. Consistent with Rule 25-6.0342, also known as the Storm Hardening Rule, the Commission order approving the storm hardening plans require that each plan be updated and filed with the Commission every three years.

The first plan updates for the IOUs were filed May 3rd, 2010. The storm hardening rule requires that each plan contain a description of the IOU's construction standards, policies, practices, and procedures to enhance the reliability of overhead and underground electrical transmission and distribution facilities.

We are here today pursuant to notice issued May 11th, 2010. This time and place has been set for the review of the 2010 electric infrastructure storm hardening plan updates filed pursuant to the storm

hardening rule. By letter dated May 21st, 2010, staff has asked each IOU to discuss five key topics at today's workshop. Those topics are briefly discuss the ten on-going initiatives; compare and contrast the approved plans versus the updated plans; address any budget concerns and impacts of any changes to the updated plans; briefly explain any struggles encountered in achieving the ten on-going initiatives; and explain how restoration and hardening is improving the overall system.

The letter also indicated that staff proposed the presentations be in this order: Florida Power and Light, Progress Energy Florida, Tampa Electric Company, Gulf Power, and FPUC. With that, I'll hand it off to David Bromley with Florida Power and Light.

MR. BROMLEY: Good morning. My name is David Bromley. I'm the Manager of Regulatory Activities for Distribution Business for FPL. I'm going to try to provide you an update today on our storm preparedness initiatives as well as our hardening plans.

The initiatives and hardening plans cover various departments within FPL's distribution and transmission business units. While we haven't been able -- weren't able to bring everybody associated with implementing these plans, we did bring some individuals

to potentially help answer any questions you all may have. As to the extent that you have questions we can't answer today, we certainly would be glad to answer them subsequently.

I'm planning to cover first the ten storm preparedness initiatives, and then we will go into the specific hardening plans. Storm preparedness Initiative No. 1 deal with our vegetation management initiative. We are continuing to maintain our feeders on a three-year average cycle. Our laterals are continuing to ramp up to reach a six-year average cycle by 2013, and we are continuing to emphasize removing trees when we can with customers in order to avoid problem trees. This certainly is our most costly initiative of the ten storm preparedness initiatives. In 2010, we expect or plan to spend around $61 million associated with this plan.

This is consistent with what was previously approved by the Commission in 2007. All of our storm preparedness initiatives as well as our hardening plan are really a continuation of what was approved back in 2007 with the exception of one, which I will get into later, small tweak associated with a transmission pole replacement. Our plans are essentially the same. We are continuing the same path as what we had originally

been approved for.

Joint use, Initiative No. 2, is associated with two initiatives in that plan. One is looking at viewing on a five-year cycle all of the attachments to FPL's facilities. And really this is for primarily billing purposes as well as assuring that the attachments have been authorized to attach to FPL facilities. So every five years we complete a cycle through our old system and those billings are trued up and any unauthorized attachments are identified and taken care of and addressed with attachers.

Historically our number of unauthorized attachments is very small. We have a permitting process that we use and it seems to work very well and it's not a concern for FPL. We also conduct as part of the pole inspection program the same pole strength and loading inspections on these joint use poles as we do all the other poles throughout our system. As you would expect, we do find a little bit higher failures associated with loading failures on our poles with joint facilities more so than, you know, those that don't have attachments. But essentially 95 percent of these, you know, these poles are, you know, pass inspection.

Initiative No. 3, transmission inspections. All of our lines, substations, and structures are

inspected on a six-year cycle, and we're completing that -- we're in the process of completing that six-year cycle. Everything is on schedule there. As things are identified for failures, they are -- you know, they are identified for failure and then replaced the following year, either the same year or the following year.

Initiative No. 4, transmission hardening. This is the one area we had a slight tweak to a previously approved plan. Initially as a result of the 2004 and 2005 storms, we saw in our transmission system some issues associated with single pole unguyed transmission structures, so we initially set out to replace those. However, a year or two later we modified that, and we are now replacing all wood transmission structures in our system. Additionally, we saw some failures associated with ceramic post insulators on concrete poles, and we are continuing to replace those throughout our system.

Initiative No. 5 deals with developing and maintaining a distribution GIS system. We have essentially incorporated into that all of the data associated with our distribution facilities. We have now added all of the joint use information showing poles that have attachments on them. We've included the hardening information associated with, you know,

projects since 2007. All of our pole inspection data is now being incorporated into that as well as our streetlight data which was recently added to our systems. So we have essentially caught up with loading our system and now are in the process of maintaining that and updating it for new information, including hardening, pole inspections, joint use, and so forth, as well as day-to-day activities.

Initiatives No. 6 and 7 really have to do with evaluating our facilities after a storm has passed through our service territory. Fortunately, we haven't had the ability to test this yet, but we do have systems in place to gather -- forensics teams have been identified, data collection processes have been established, a database has been established. Annually when we go through our hurricane dry run we also test those systems, as well. And the same goes for, you know, looking at our overhead versus underground performance of those facilities, as well.

Initiative No. 8, increased government coordination. Since 2004 and 2005, we have really done a lot to try to improve our coordination and communication with governmental agencies. We saw as a result of those storms it was important to keep them informed as to what was going on, what we were doing,

what the plans were, what the activities were. So in addition to our normal process where we have, you know, representatives in our external affairs departments as well as our customer service people who deal with governmental agencies. We also work with EOCs in staffing those accordingly. We have EOCs throughout the 27 counties in our service territory. We have a group of 80 people that are assigned when storms or events occur that are ready to staff those facilities and have people there, you know, around the clock as necessary to support them.

The EOCs also help us in identifying critical infrastructure facilities for us, which helps us to prioritize and identify hardening projects in their locales. So, additionally, community outreach teams were developed. Last year in 2009, we had approximately 168 presentations done throughout our service territory on various electric issues, but also including storm preparedness plans and activities. These are like the homeowner associations as well as city and county government meetings.

We also enhanced an e-mail process and established a specific governmental update website so when we do have storms there are places that they can go and find out specific information about our plans, where

our service locations are in their areas as the storm occurs, estimated time of restoration for their particular locales. A lot of information that's available to them that previous to 2004 and 2005 was not available.

Continue our research with PURC. The beginning of this year we signed another memorandum of understanding along with the other IOUs, co-ops, and munies in Florida. There are efforts that have been taking place regarding undergrounding, wind, the evaluation of wind.

Initiative No. 10. Every year we update and review our plans, disaster recovery plans, and those are provided. I think a copy of that is provided on file for the Commission. This includes primarily plans associated with the distribution and transmission facilities dealing with major weather events and fires.

All of our ten preparedness initiatives we believe are on target. As I mentioned, they are consistent with what was previously approved. Our plans for 2010 are consistent with what we have done in 2007 through 2009, with the small exception with the transmission pole replacements. I think that's it for the storm prep plans.

I'm going to move on to hardening. We are

continuing our approach with hardening, our three-prong approach, and that is we're going to continue to strengthen our critical infrastructure facilities to extreme wind loading. We are going to apply incremental hardening which strengthens specific feeders associated with community projects along major thoroughfares, drug stores, gas stations, pharmacies. And incremental hardening can include strengthening that feeder up to and including extreme wind. And then we're continuing to apply extreme wind for all of our new overhead construction, including major plan work, relocation projects as well as daily work activities.

We are continuing to apply over three wind regions these specific wind profiles which would include 105, 130, 145, depending on the area within our service territory. The 105 mile per hour extreme wind loading criteria is primarily in the northern central part of our territory. The 130 covers the northeastern/central part of our service territory, and then the 145 covers the southern part of the territory. Again, this is consistent with what we had previously approved, so we are continuing with that plan.

Just to give you an idea of what we've accomplished to date through the first three-year cycle of the hardening plan, we've hardened to extreme wind

loading for 227 feeders serving 266 critical infrastructure customers. We've hardened 103 highway crossings and 192 O1 (phonetic) switches, which is essentially the first pole out of a transmission substation. We have completed all of the hardening associated with acute care facilities and hospitals as a result -- at the end of 2009 in our service territory.

In 2010, we will almost complete all of our 911 centers, and then in 2011 we will complete all of our 911 centers as well as all the EOC facilities in our service territory.

We applied incremental hardening to 68 feeders that are serving community needs, and we applied to all new construction, major planning work and relocation our extreme wind loading criteria. Our total cost for 2007 to 2009 was $162 million for these activities. That relates to primarily the -- or solely the hardening extreme wind loading as well as the incremental hardening. There is also some additional costs associated with new construction, but we don't track what it would have cost to build that, you know, under our old construction standards versus what it would have cost to build it under extreme wind. So that's not something that we track, so there is some additional money associated with hardening that we can't

specifically incrementally track, but there is an addition to that 162 million.

Our plans for 2010 are to harden 39 feeders serving 52 critical infrastructure customers, 16 highway crossings, and 20 01 switches. We are also going to incrementally harden five feeders serving community needs. And, of course, continue to apply extreme wind loading to all new construction.

Our plans for 2011 and 2012 still would be to develop -- we are actually starting the 2011 budget process now. Those will be firmed up subsequently, but we have, you know, have a target of how much we think we will be doing during 2011 and 2012, and our estimates for costs for these for the next three years is in the 135 million to $163 million range.

During the initial hardening planned workshops back in 2007, and in review of those plans, there was a lot of issues associated with attaching entities. So as a result of the outcome of those plans, we have worked very closely with attaching entities in making sure that they're kept up to date with what our plans are, what our costs are, that they have inputs into the development of our plans. At the beginning of this year, in March we send out 93 packages of our hardening filing, a draft at that time, seeking input, if any,

from our attaching entities. This would include cable companies, telephone companies, local government, anyone attached to our facilities have the opportunity to review those and provide input to us. We did receive feedback from eight of those entities. Some of them range from, you know, we got your filing, thanks. There was a couple of clarifying questions. No one expressed any issues with our plans.

Additionally, we're continuing to comply with the process that was established as a result of the last three-year cycle where in the September time frame of a given year we provide preliminary plans to our attaching entities of what we're planning to do the following year, which includes a listing of the specific projects, their locations, what our plans are. You know, whether it is extreme wind, incremental hardening. And then when our plans are finalized for the budget process, generally in the December time frame, they are provided those final plans, as well.

Additionally, when we're constructing or getting ready to construct these projects, we hold meetings with our attachers. They are invited to attend prior to design as well as construction -- prior to construction so that any issues are identified and resolved prior to those things taking place. And then,

of course, coordination takes place during the actual construction, as well.

Benefits of hardening. As I mentioned earlier, we haven't really had any storm activity since 2004/2005, so we are continuing to rely on that information that we had available back then to continue with our plans, and this includes the experience of the 2004/2005 storm seasons. It includes a report that was done by an outside firm, KEMA, back in the -- I'm not sure of the exact date, but subsequent to the storms that looked at the forensics associated with particularly Wilma, but looked at also some of the '04 storms and really served as a basis for a lot of our hardening plans and initiatives.

Also, during Wilma we saw that our transmission poles performed much better than the distribution poles. Of course, transmission poles are already constructed at the extreme wind loading criteria, and so that served as a basis for us moving that to our distribution facilities.

And then there was analysis done by a consulting firm, Davies, that indicated that stronger poles, in this case FPL's Grade B poles at the time, performed better than lesser strength Grade C poles, which the majority of utilities throughout the country

built to. We believe that hardening will reduce the number and the duration of outages, both on a storm as well as nonstorm basis. That restoration costs will also be reduced, and an analysis that FPL performed showed that we expect hardened feeders to save restoration costs.

We think our plan is cost-effective and that it focuses on certain critical infrastructure that we are dealing with initially as well as community projects, and then, of course, over the long-term as we build new facilities that will be built to extreme wind that eventually, you know, our system will be built to extreme wind. That's the end of the presentation.

MS. L'AMOREAUX: Okay. We have a few questions for you --

MR. BROMLEY: Okay.

MS. L'AMOREAUX: -- or the people that you're with. One is how does FPL determine the amount of feeder and lateral miles the company must maintain for the approved years if there is an increase or decrease in feeder miles within that given year?

MR. BROMLEY: Say that again.

MS. L'AMOREAUX: Okay. If you have a feeder and you have so many miles, and you increase those miles, do you count those for that three-year cycle or

do you wait until the next cycle to clear them?

MR. BROMLEY: Are you talking about vegetation?

MS. L'AMOREAUX: Vegetation management, yes.

MR. BROMLEY: Okay. Our vegetation management cycle, of course, is an average three-year cycle. So just to make sure we are all understanding what that means, we could have some feeders on a two-year average, some feeders might be on a three-year average, and some feeders might be on a four-year average. So we're looking at our feeders primarily based on that.

The miles is really an outcome of addressing feeders when they need to be addressed on their cycles. So I'm not sure -- we don't let the miles force us or direct us as far as our budgeting process. I mean, it is a function of it, but we really focus on when does that feeder need to be trimmed and what is the resulting miles. You know, we report resulting miles on that.

As a result of the average cycle, miles can change, miles trimmed can change from year to year. It is not always going to be one-third of the system. So what drives our feeder cycles or our feeder trimming is really, you know, when those feeders need to be trimmed and the miles is really an outcome result of what got trimmed.

MS. L'AMOREAUX: The next question we have is FPL states that neither the company nor the other utilities generally have much experience with hardened distribution facilities. Based on the company's experience, what difficulties does FPL encounter with hardening just distribution facilities?

MR. BROMLEY: Well, certainly budget dollars are always a factor in really just about anything we do, so that certainly comes into play. Most recently, we have seen an increase in permitting issues that is making us -- making it more difficult for us to complete projects in the time lines that we would like to complete them. We are seeing a lot of permitting, new permitting requirements at local and county levels that didn't used to be there. Whether it's associated with, you know, revenue, additional revenue for these cities and counties may be part of it, but that is something that we are seeing increasingly making it more difficult for us to complete -- complete our projects on a timely basis.

Without any storm experience, we have seen that hardening is giving us some benefits. We have seen on a nonstorm basis hardened feeders showing an increase reliability performance a year after they're hardened versus the year before they are hardened. So we feel

like even on a nonstorm basis we are seeing some benefits associated with that.

MS. L'AMOREAUX: Well, you kind of answered my third question, which was since no named hurricanes have affected Florida since 2005, does FPL have any evidence of its hardening efforts to enhance its service quality, but I think you kind of covered that.

MR. BROMLEY: Yes. Additionally, I know within our service territory, and I am not sure if it was a year -- the exact time -- but we did have a tornado event come through. And I don't know whether we had any specific comparisons, forensic data that showed, you know, hardened feeder versus a nonhardened feeder. But I know in the specific area where there was extensive damage, our hardened feeder that was in that area did perform well. There was some damage associated with some of the facilities, but the poles themselves, you know, were not damaged. And all around them, you know, we saw extensive damage with the trees and so forth. So there was one, you know, side event that we were able to see some, you know, some of the benefits of hardening.

MS. L'AMOREAUX: Well, thank you for your presentation.

MR. BROMLEY: Thank you.

MS. L'AMOREAUX: Next we will have Eric Sachon from Progress Energy Florida.

MR. SACHON: Ladies and gentlemen, good morning. Before I get started, I'd like to introduce a couple of colleagues of mine who have joined me here today. Charlene Rubano is the Manager of Asset Performance in our transmission organization, and Nabil Benwahoud is the senior engineer within our distribution systems engineering organization.

My name is Eric Sachon, and I am the Manager of the Distribution Systems Organization. On behalf of Charlene and Nabil, we certainly appreciate the opportunity to come here to speak about our storm hardening plan, the ten on-going initiatives, and our reliability and the hardening efforts in 2010.

Before I get started, I'd like to -- okay. There we go. Thank you -- I'd like to go over the outline of what we are going to present today, and that is I'm going to talk a little bit about at a high level what our hardening strategy is and the components that make up our hardening strategy. We will also go into the ten point on-going -- or ten-point plan and the on-going initiatives, and we will cover the 2010 through 2012 storm hardening plan and how that compares and contrasts to the '07 through '09 plan, and then we'll

touch on a little bit of the reliability and hardening efforts that we are employing here at Progress Energy Florida.

As you can see on the slide, there are three main components to our hardening strategy. The ten-point plan is something we will discuss in-depth today. The wood pole inspection program is also a component, and that is something we'll not really touch on today. And the third component is the storm hardening plan, which we will go over in some detail as well today.

So let's go ahead and get started on the on-going initiatives. Just to preface a little bit, I'm going to talk about the first eight initiatives, and then I will hand it over to Charlene to talk about the two transmission initiatives.

From a vegetation management perspective, the PEF integrated vegetation management program consists of five sub-programs. The five sub-programs consist of production trimming, demand trimming, herbicide application, vine removal, and mowing. The objectives of this plan are simply safety from both the customer as well as the employee perspective and reliability from the perspective of mitigating or minimizing tree-caused outages. Certainly customer satisfaction is another

component of the objective, and we want to make sure that we maintain costs in a cost containment effort.

We do have a vegetation management program that consists of a three-year and a five-year cycle. The three-year cycle is for our feeders and our backbone infrastructure. The five-year cycle is for our laterals or branch line infrastructure.

From a vegetation management perspective and the challenges that we foresee, there are numerous variables that can come into play. Some of those can include resource constraints, changes in our philosophy on what we want to do for that particular year from a prioritization perspective, and certainly the impact of a major storm can have some play with regards to vegetation management efforts. However, I will say that if we feel we have not met our obligation in any one given year, that in the subsequent years we will make up for that loss of not completing our expected budget expenditures and meeting that cycle.

The next initiative is joint use audits. Progress Energy Florida has committed to auditing all of our distribution and transmission poles that have joint use attachments within an eight-year cycle. There are approximately 500,000 distribution poles with joint use attachers and approximately 2,500 transmission poles

with joint use attachers. At this time, we do not foresee any major challenges with the joint use audits other than this thing that I mentioned with regards to vegetation management, and resource constraints, and potential major storm implications.

From a GIS upgrade perspective, that is the next initiative, in 2008, Progress Energy Florida completed the changeout of our GIS system. We went from a frame system to a geoelectric system. We are currently in the process of replacing our work management asset management system. The expectation is by the end of this year in the fourth quarter we will complete one of our four regions, the south coastal region with this new work management system. The expectation is to committee the other three regions by the end of 2011. At this point from a GIS perspective, we do not foresee any challenges to not meeting this opportunity.

The next initiative, forensic analysis. Progress Energy Florida has initiated a forensic analysis program within our storm plan. The forensic analysis program is a process that we employ immediately following the impact of a major storm. We have two person teams that are designed to go out throughout the service territory in generally the same location where

the storm has impacted our service territory and record any type of pole infrastructure damages, whether that be leaning or broken. They are to collect demographic information such as size, height, clearance, conductor, number of conductors primary, number of joint users, where the pole broke, and a host of other pieces of information.

The teams comprise of an engineer that is a Progress Energy employee, and the intent there is to put the right resource in the right place. There is not a better resource that understands how our design characteristics nor our components, so they will definitely understand whether the pole is actually leaning or has broken and, in essence, what caused the break from a perspective of attachers, tree debris, et cetera.

The other individual on these teams is a meter reading representative. Again, the right resource being the fact that we have a representative who knows the area and is very familiar with the area and can meander throughout the county or the area in the event that there are obstacles in the way such as a fallen tree. They can find an alternate route very quickly.

The areas that they will do some forensic analysis or conduct a forensic analysis consists of

certainly the path of the storm, whether it's the eyewall of the hurricane, or the direction and the impact of a tornado and the path that the tornado took. They will generally get in those areas and look for downed poles and damaged poles.

There is another component that these teams will look at, though, and that is our storm hardening projects that we have completed since 2007. We are asking these forensic analysis teams to identify these particular projects, access those particular projects, rather, and identify any type of performance issues with regards to these projects resulting from the impact of the storm.

Unfortunately or fortunately, however you want to look at it, we have not had a major storm impact our service territory to really see how our storm hardening projects have performed, and that is a good thing, I guess, and we will see as time goes on if we do have some storm impacts and how our projects have withstood.

The next initiative -- and by the way, from a challenges perspective on forensic analysis, we do not see any type of issues or concerns with regard to meeting this obligation and this initiative.

Coordination with local governments. Progress Energy takes pride in the fact that we try to

collaborate as best we can with our local governments. We have a 70-member team that is in place throughout our service organization that meets with all the local governments to talk about our hurricane and storm preparedness prior to, during, and after the impact of a major storm. With regards to challenges with this initiative, we see no issues or concerns with continuing and meeting this obligation.

From an overhead and underground reliability initiative, Progress Energy Florida collects a tremendous amount of data to review the percentage impact -- or outages, rather -- I should say a percentage of outages as a result of the storm impact to both our underground as well as our overhead distribution systems. There are three -- basically three systems that we look at. One is our outage management system that basically tells us how our facilities are connected to each other; the customer service system, which pretty much tells us which customers are tied to which transformer. The view behind that is that our outage management system is able to, when we get customer calls, identify the upstream device that is most likely the device that has tripped as a result of the outage or the fault. And finally, our GIS, our geographic information system is utilized

to check all the data points of our infrastructure on our distribution system. From a challenges perspective, we see no challenges in continuing this initiative.

The collaborative research initiative. Progress Energy is continuing our efforts to work with the academic community from a collaborative perspective. We have sponsorship with regards to the University of Florida's Public Utility Research Center, otherwise known as PURC. We have members on the team that work with the initiatives.

The PURC team members have looked at and researched as mentioned in the previous presentation. Some of those certainly include the fact that there is a modeling system with regards to undergrounding that is still on-going to see the benefits and the costs associated with that. There is also, as was mentioned previously, a wind monitoring initiative that was completed, and there is a host of wind monitors throughout the state that we have access to so we can identify what the wind speeds are when a major event occurs, whether it's a tornado or a hurricane. We can then see how our infrastructure has withstood those amounts of winds, those significant winds, which we haven't had in the past. We really had no idea what wind level had some type of impact on our distribution

facilities. Now we do.

Two other issues with regard to collaborative research include the forensic analysis. We improved that process and try to maintain some consistency throughout the organization and other utilities. And the other is certainly vegetation management. As far as a challenge, we see no challenge with this initiative. We feel very comfortable and appreciate the opportunity to serve on this team.

From a hurricane preparedness perspective, Progress Energy prides itself in being prepared for hurricanes. We have a storm plan that's in place. We have an annual drill that occurs regularly. This year, as a matter of fact, we had the distribution drill on April 22nd. We also had a transmission storm preparedness drill that occurred on May 19th.

Some of the things that go into our preparedness include the fact that we stage materials or talk with our material vendors to make sure we have materials on-site or available in the event of an impact of a major storm event. We discuss with fuel vendors to make sure we have enough fuel for our fleet. We also actually during the off season meet with vendors and contractors to help train them in our damage assessment philosophy so that when we do have an impact that we can

leverage these individuals and they are familiar with our processes on conducting the pole-to-pole patrols and what devices they need to look for.

From a resource perspective, we have certainly engaged in the regional municipal -- I can't remember what that name is. Excuse me. The regional mutual assistance organizations where we make sure that we have negotiated relationships with other organizations so that if we are impacted they will send crews to our service territory, and likewise in the same situation. With regards to challenges with the hurricane preparedness, we see no concerns and we expect to continue maintaining our preparedness on the hurricane initiative.

For the next two initiatives, I will turn it over to Charlene Rubano.

MS. RUBANO: Good morning. Our PEF transmission system is inspected every year by two methods. We have area patrols where we will patrol approximately two times a year our circuits. The other method that we use is ground line inspections, and that is we will patrol approximately one-third to one-fifth of our transmission circuits every year by ground line inspections. These ground line inspections are looking for deficiencies in the structures and the assets that

are on the structures, such as insulators. These ground line patrols will collect the data of these deficiencies and categorize the amount of deficiencies into levels two through five, and we will prioritize based on those results to have those replaced within the year and within subsequent years.

Also, transmission structures are hardened through a few methods. Through our ground line inspections, when we realize that poles need to be replaced from those ground line inspections we will replace wood poles with either steel or concrete poles, and they are prioritized based on the highest need of deficiency in any given year.

The second method for hardening our existing structures would be through customer or DOT type requests where we would rebuild those lines and move those lines, and we would build those structures to our existing standards, which either meet or exceed the NESC code.

The third way that we harden our transmission structures are through our planning projects, which will be either rebuilds or new circuits. And, again, those will be constructed to meet or exceed our NESC guidelines. And then anytime we relocate, or we rebuild, or build new, we are building to steel or

concrete structures. So those are our two methods in transmission in the ten-point plan that we are existingly doing.

The challenges that we -- we don't really see any challenges for either of those other than any resource constraints or schedule changes from the customer requests, or any resource issues, we may need to change our schedule based on some of those resource issues.

Next we will talk about some similarities and some differences in our 2010 plan from our 2007 plan, and I will start with the transmission hardening philosophy, and then Eric will go into the rest of the distribution philosophy. The transmission hardening philosophy has not changed since our 2007 plan. We are still looking to inspect our transmission structures and change our wood pole structures as needed to steel or concrete poles to harden that system. We are also utilizing the relocation requests, and our planning projects with the rebuilds and our new projects to build to our existing NESC standards, whether they meet or exceed those standards, and we will utilize concrete and steel structures for those philosophies. So that particular philosophy has not changed for our 2010 plan.

And next I'll let Eric talk about

distribution.

MR. SACHON: With regards to our 2010 plan, there are many, many similarities to the 2007 plan. I'm just going to highlight a couple of similarities. And the first one I would like to say is that we have not changed or deviated from our philosophy on construction standards. They are the same as the '07 plan, so nothing has changed in regard to our construction philosophy.

The other issue is we utilized in 2007 the Davies Consulting incorporation prioritization model. We will continue to utilize that prioritization model, as well, in the 2010 plan.

With regards to variations to the plan, three main situations, three main areas that we have changed. From the prioritization model that I just mentioned from Davies Consulting, we actually will be utilizing that prioritization model, but we have enhanced and improved that utilizing or adding additional criteria to help us prioritize our projects.

From a geomedia perspective, we are utilizing geomedia in the plan this year to help us identify where our distribution areas are prone to flooding and surge. This is going to help us prioritize as well as identify areas for our submersible projects. And, finally,

another hardening alternative that we have actually implemented into the plan is feeder ties. Although we know that feeder ties will not mitigate outages, we do know that part of outages that customers are frustrated with is the duration that they are out for. And feeder ties will provide us with another opportunity to reconnect some of our customers in a much more expedient manner of time. Those are the main variations of the plan.

MS. RUBANO: We are next going to talk about restoration and hardening efforts that are existing today. Again, I will talk about transmission briefly and then Eric will finish up. The transmission hardening plan has not changed since our 2007 plan. We are continuing to prioritize based on needs and deficiencies that we see in our system and also our planning needs and customer requests.

Our main difference that we saw in our 2007 plan to now is our spending has increased in our hardening effort on the transmission side mainly due to the number of projects and the number of requests that are from the DOT projects, customer request projects, and also from our planning projects. We did not anticipate that kind of increase when we filed in 2007, and our actual spending in 2008 and 2009 were higher due

to that number of projects. And next I'll let Eric finish.

MR. SACHON: A continuous focus on restoration. We have implemented several changes this year with regards to our efforts on restoring power and changing our philosophies on how we respond and restore power to our customers. One of those situations involves our trouble men (phonetic). We recognized very quickly that most of our outages are occurring during the week day not the weekends. We did have and we continue to have trouble men working during the weekends, but we have changed those schedules on some of those trouble men to stay on more of a week-day shift rather than weekend shift. This is going to provide a greater response rate to our customers that are sustaining outages during the week day, which is, again, where we see most of our outages occurring, as well as provide the restoration needs improving the customer satisfaction.

The second area that we worked on or focused on restoration involved our new service crews. We typically have had a crew work five eight-hour days during the week. We have changed that schedule. Not in all of our regions, but in most our regions we have changed that schedule to a four ten-hour day. This

helps with addressing appointments later on in the day improving customer satisfaction and helping to reduce costs.

The last one deals with our call-out process, our call-out procedure. Typically, when an outage occurs in the past what we have done is had the distribution control center dispatcher contact our trouble men to access the site, identify the issue, and then if other resources were needed, call in the other resources. We recognize that in some of the larger impacted outages where we had a high degree of customers impacted that routinely we were calling out another unit to help in the restoration efforts. So in light of that fact we decided that with high customer impact outages we are not only going to dispatch the trouble men, we are also going to dispatch a two-person crew to the scene at the same time. This is going to help, again, with response rate as well as restoration improving customer satisfaction.

The other focus is a reliability engagement model. We just initiated that this year. What that involves is in the past we have had staff really review outages from a system perspective to see trends and issues of repairs and recommendations on how to mitigate these outages. What we have done with this reliability

engagement model is actually put more eyes on these outages. And we focused in three areas. The first area is high customer minutes of interpretation impact, otherwise known as CMI impacts. The second area involved customers that were out of power for at least three hours or more. And the third one involved, again, high impact customers where we had outages that had a large number of customers go out at the same time.

What we are doing with that now is it is not just a system staff engineer perspective where they are looking at it, we are having eyes from the operation center personnel, DOMs, distribution operation managers. We have incorporated an outage champion at each of the op centers to review these. All of these outages that I mentioned in the three different areas are looked at and viewed on a daily basis by all of these different entities. The intent there is more eyes on these outages will help to address these concerns, issues, and projects that are needed to mitigate and resolve these outages.

From a targeted hardening perspective, we still continue to focus our hardening efforts on the reliability side of the fence. Since 2007, we have completed 48 storm hardening projects. In the 2010 plan we have proposed 61 -- I should say we have identified

and proposed 61 projects then to be done over the next three years from a hardening perspective, as well.

That concludes our presentation, so I will open it up for questions.

MS. L'AMOREAUX: Thank you very much.

Just a few questions. Can you please briefly explain why PEF has not adopted extreme wind standards for all distribution construction, including critical infrastructure?

MR. SACHON: Yes, absolutely. It is our belief and experience from the '04 and '05 hurricanes that distribution facilities generally are damaged not as a result of wind, but more as a result of flying debris, trees, et cetera. The installation of extreme wind loading facilities would not alleviate that situation. If a tree is going to fall on that pole, that pole is coming down. So we felt from that perspective that really what we would be doing if we went to that level of extreme wind loading on the distribution system would be complicating our restoration practice even more so from the perspective of that we were having -- we would have to be now not only staging material for our normal construction, but we are also having to stage material for wind loading facilities. So, again, we do not feel from our

experience as well as industry experts we have contacted that on the distribution system extreme wind loading is of benefit to our customers.

Other issues that we have seen is the situation where extreme wind loading requires larger sized poles, and that is going to cause some issues with customers in particular in the more urban areas where the span lengths are not quite as long, and so you may have several poles that are very close together. And these are larger-sized poles, it becomes an aesthetic problem for some customers as we have recognized in some of our storm hardening efforts. So that generally is the reason why we've decided not to go to an extreme wind loading philosophy on the distribution system. We do have that on the transmission system, though.

MS. L'AMOREAUX: My next question you touched on it a little bit about the feeder ties, but can you please discuss the use of feeder ties as a hardening alternative and why PEF believes this concept is beneficial and cost-effective?

MR. SACHON: A great question. You know, we know that outages are going to occur when a major storm impacts our service territory. It's a foregone conclusion. We also know that we have facilities that are called radials. Basically, they are not tied to any

other feeders. When the radial goes out, literally that feeder and those customers are out of power until we are able to repair that radial. Feeder ties gives us a contingency that we did not have in the past, particularly on radials, but it also provides a greater contingency effort for those feeders that are looped. And what I mean by that is if a feeder were to go out and we have identified the fault, very quickly we can do some switching and we can refeed the tail end of that feeder from another feeder if we have the feeder tie.

And that is why we feel -- again, we know that it is not going to mitigate the outage, that is not the intent, but we also know that duration is a concern of our customers, and this will certainly reduce considerably the duration those customers would have been out had we not had the feeder ties.

MS. L'AMOREAUX: This question is kind of for everybody, but since no named hurricanes have affected Florida since 2005, discuss how PEF -- discuss PEF has any evidence in hardening efforts and has it enhanced its service quality? Do you want me to restate?

MR. SACHON: Could you please restate.

MS. L'AMOREAUX: Sorry. Yes. Since no named hurricanes have affected Florida since 2005, does PEF have any evidence of hardening efforts and has it

enhanced its service quality?

MR. SACHON: I wish I could say that we do have evidence, unfortunately we have not had situations to impact our service territory to actually look at the performance of our storm hardening projects since 2007. So, unfortunately, I do not have an answer to give you other than we're waiting on the impact of an event and then we will monitor and identify the performance of those projects.

MS. L'AMOREAUX: That's all the questions I have.

MR. SACHON: Thank you.

MS. L'AMOREAUX: Next up is Tampa Electric, T.J. He told me not to say his last name.

MR. SZELISTOWSKI: Thank you.

T.J. Szelistowski -- and T.J. works great -- I am the Director of Engineering for Tampa Electric Company in the Energy Delivery Department, and I'm happy this morning to share with you Tampa Electric's storm hardening update, our 2010 plan.

As requested of the company, I'm going to cover a number of things. The status of the ten-point initiatives and our on-going efforts there; our three-year storm hardening plan in two parts. I'll touch on the 2007 to 2009 plan as well as the 2010 to

'12 plan and the differences between those; and then touch also on the improvements to the overall system based on those hardening efforts.

A key part of Tampa Electric's hardening effort in the ten-point plan as well as in our hardening effort overall is our vegetation management. We have made a significant investment in vegetation management. Tampa Electric Company has a three-year vegetation management plan both on the feeders, on the main feeder lines as well as on the laterals.

We started in the 2007 plan. As we put that forth we said we would be transitioning to a three-year plan. This year we are on track to complete one-third of our system, both feeders and laterals together, and we have over 225 tree-trimming resources on site working toward that end. In addition, we have reactive trimmers that when we have either customer complaints or specific construction projects that require tree trimming, we also apply tree trimmers to those areas, as well.

We continue to work with local governments in terms of vegetation management, tree planting guides, address concerns from local governments in terms of trees. Tree trimming is kind of a two-edged sword. On the one hand it certainly helps with your liability, on the other hand from an aesthetic standpoint in some

areas, park areas, those type of things, there's a lot of customer concerns with trimming, especially getting adequate tree trim clearances. The aesthetics involved with that sometimes are a challenge. And so we continue to work with our local governments to make sure that we are balancing that.

Another part of the ten-point initiatives involves a joint use attachment audit. We completed that, our last one in 2008. We have a commitment to do that at least every eight years, and our next one will be starting in 2011 or 2012, so we will be doing it before the eight-year cycle, but we do have that coming up in the near future.

In the meantime whenever we have as part of our pole inspection program as we have joint users on poles, we do a comprehensive loading analysis on those poles to ensure that we don't have undue stresses on the poles due to joint attachers as we go through that inspection process.

Transmission inspections is another point of the ten-point plan initiatives. Specifically, the six year inspection comprehensive inspection cycle we do generally by helicopter. We have in the past done a climbing inspection, but generally by helicopter and do a comprehensive inspection, one-sixth of the system

every year. And, in addition, we, of course, have the eight year ground line inspection cycle for transmission and distribution. And we also every year do two things on the transmission system. We do an infrared patrol by helicopter where we identify any unnatural heating of connection elements. In addition to that we have a ground patrol once a year on the entire transmission system.

In terms of transmission hardening, Tampa Electric Company since the early 1990s has installed non-wood poles for all transmission. They are either concrete or steel. We continue to do that as part of our ten-point initiatives and overall hardening. We use, again, generally concrete or steel, but either -- both in new construction as well as maintenance change-outs we replace poles and add new poles for transmission.

GIS. Tampa Electric Company accepted its GIS program officially from the vendor in the fall of 2009. And so we do have the GIS system implemented as was part of the ten-point plan initiatives. We continue to work with that program to make sure it is as efficient and user friendly as possible with our system and with our designers.

Post-storm data collection forensics, another

name for the same thing. We have a contract in place. We have not had to use it yet, but we have a contract in place with a vendor to come in after the storm, after any hurricane or large storm effects Tampa Electric's service territory and do the storm data collection and forensic analysis on the structures. In addition, we are set up so that we can do outage data collection for overhead versus underground after a major storm event.

Increased coordination with local government. We have always had strong relationships with the local governments. We have continued to increase that coordination since the 2004/2005 hurricanes, and we have a number of events every year that we hold with local governments, both storm related and nonstorm related, including mock storm events, exercises, that type thing to make sure that we are working closely and in conjunction with the local government.

Collaborative research. PURC was mentioned several times. We have been involved with that throughout the last three years and we will continue to be involved, both on the underground to overhead or overhead versus underground tool that was developed as well as the vegetation management.

And the disaster preparedness plan. We have exercised that plan this year. Every year we revisit it

and come up with lessons learned and improve that plan every year. And we have done that and are well prepared for storm season for this year.

In a nutshell, we are on track in all the areas with the ten-point storm initiatives. We believe that those ten points have improved our overall system both for storms as well as for every day operation.

I will go now into the three-year storm hardening plan, 2007 plan versus the 2010 plan. And I will talk about, again, some specifics in those plans as well as the status of where we are and what we have coming for the 2010/2012 plan.

Both plans, the plans are very similar in their design. They focus in three distinct areas, construction standards, the deployment strategy, as well as attachment standards and procedures, and I will talk about each of those. Under distribution design, Tampa Electric Company since the early '70s has built to Grade B construction, National Electric Safety Code, Grade B. Generally, distribution facilities are required to be built to Grade C, which is a lesser standard, or not as strong a standard as Grade B. There are certain distribution facilities that do require a Grade B, but Tampa Electric Company designs and constructs all of its distribution to the higher standard, to Grade B

construction.

In addition, we have gone to stainless steel construction on our underground switched gear and transformers, and that is a slight change from our 2007 plan. In the 2007 plan the switchgear was stainless steel as well as the outside of the transformers, but we have now gone to a stainless steel tank, as well, and that is something new for us.

On the transmission side, I mentioned that our standard is non-wood construction for all installations, both replacement as well as new construction. That includes maintenance replacement as well as road widenings, and then, of course, new construction.

We use extreme wind for all the transmission. In addition, transmission construction at Tampa Electric for our 230kV, which is our backbone, we go to an even higher standard. The extreme wind in Tampa, the extreme National Electrical Safety Code extreme wind would require anywhere between 110 and 120-mile per hour wind speed design depending on how far you are from the water. And the first point is we use the 120-mile per hour wind across the entire service territory, so we use -- we err on the side of the higher wind speed. In addition to that, for all of our bulk 230 transmission, we design all of that at 133-mile per hour design wind

speed.

Getting now into the deployment strategy a little bit. Vegetation management I mentioned. Again, we are very proud and a significant part of our hardening commitment is in our vegetation management with the three-year both on the laterals as well as the feeders. And, again, in 2010, we believe we are on track to get to one-third of our system in terms of that vegetation management.

Inspection and maintenance. Certainly we will continue with that. I mentioned the transmission inspection before, and, of course, we have the eight year distribution inspection cycle on the ground line and we will continue that.

We did 12 overhead-to-underground conversions of crossings. These are interstate crossings in the Tampa area along major evacuation routes, and we have completed the undergrounding of all of those, all of those 12 that were in the original 2007 plan.

We have several extreme wind pilot hardening projects. Tampa Electric Company identified several critical facilities, one of which is St. Joseph's Hospital, I'll talk about that in a minute, the Port of Tampa, and then another project that we have involving Tampa International Airport, and I'll go into detail

about all three of those.

St. Joseph's Hospital is a Level II trauma center in Tampa. We rebuilt the feed to that to an extreme wind feed. The distribution feed to that involved a number of transmission poles that we changed to non-wood structures as well as quite a few distribution poles, again, to bring that up to extreme wind design. We completed that in 2008.

The Port of Tampa hardening was divided into three phases. The Port of Tampa is a critical port to Florida. Approximately 40 percent of the gasoline for the state comes in through that facility, so it is very critical to the state after a hurricane. A lot of times lack of fuel is a big hindrance in terms of restoration efforts from the community standpoint. We completed the first phase in 2008, where we rebuilt some transmission to non-wood where we had distribution lines underneath the transmission conductors, and changed out a number of distribution poles, as well.

There are actually three circuits in that area that serve the port, and so those were the three phases. We completed the first phase in 2008 and the second phase in 2009. We replaced quite a few transmission poles and distribution poles again to bring that up to extreme wind. And we are in the process now for Phase

3. We will complete that by the end of this year. It says transmission poles. There are also 30 or so distribution poles that would be replaced, as well. And again, this project will bring the distribution that feeds that Port of Tampa area up to extreme wind design.

Tampa International Airport. This was in our 2007 to 2009 plan, and I've got some diagrams here to go through, but the original plan was to harden the source to the airport. And we've talked to the airport facility and our planners and we came up with what we think is a much improved plan, and that is what we have embarked on, so I will talk about that a little bit.

This picture, a real basic schematic of the way Tampa International Airport is fed. It's fed out of a substation that is not dedicated specifically to the airport. It serves some other load in the area. And the dashed line is really -- it represents six distribution circuits that feed the airport. The lines to the left on this diagram show the transmission lines that are brought into that substation. The bold line is the line that in our original plan we were going to rebuild with non-wood structures. These are older lines. And as we looked at that design, while there are multiple transmission feeds to that substation, we did have some concern that we were feeding the airport --

continuing to feed the airport with this design out of the same substation and that gave us some concern.

So the next slide is actually the improved design. What we have done is we have added three distribution, underground distribution feeds from a second substation. We have left the ones in from the west, but, in addition -- and this was an existing substation, but we have added -- we are adding a second transformer at the new substation, or at the second substation, and in addition are building a new line into that substation.

What this does for us is you can see pretty plainly on the diagram is it provides us duplicate service to the airport so we can feed the entire airport from either direction. A much improved design, and we are in the process of finishing that now. We have done the distribution work and are in the process of doing the substation transmission work before the end of this year.

Attachment standards and procedures, part of our hardening. We have a very good relationship with our joint use attachers. We have a good process for having them make us aware of requests to attach to our poles. We have improved the relationship with those folks, I believe, over the last three years. And I know

that overlashing has been an issue after 2004 and 2005. We had 1,000 instances of overlashing requests being made to the company, and so we believe the communication is good between the joint users and Tampa Electric Company, and we continue the good relationship there.

As we have requests for attachments to our poles, we have an electronic means of communication back and forth for the permitting process as well as the communication if they want to attach additional facilities on a pole. Now, in some cases, depending on the structures, they can attach without any changes. In some cases there is make ready that needs to be done. Poles need to be changed out or strengthened, and that's all part of our process. And, again, that works very well for us, and we are pleased with that.

Joint use attachment audits. I mentioned before there is a commitment for once every eight years. Our last one was in 2008. There is something on the horizon that gives a little bit of caution and concern at Tampa Electric Company in terms of joint use. The FCC broadband plan you may be familiar with has a potential with the rulemaking to allow what is called boxing and bracketing, which is essentially putting more joint use attachments in the same space on either side of the pole or out on cross-arms. And we have some

concern with that for a number of reasons, one of which is storm restoration. We are talking about hardening today. Storm restoration is you add facilities on both sides of the structure; it makes replacing that structure when they go down much more difficult. We have some real concerns and we will be happy to share more of our concerns with the staff at a later date. But, again, our relationship with our joint users is very good and we continue to work with them on attachments.

This next chart -- the next two charts, actually, show the 2007 and 2009 plan and the difference between that plan and the 2010 plan. The first one shows the things that -- the one-time projects that we have completed, or the status of those projects from the first plan. The 12 interstate crossings I mentioned. Conversion of 4 kV system we did in the last three years. We converted the last of Tampa Electric's 4 kV distribution system to 13 kV. Our system, our distribution system is 13 kV, and that allows us to have backup supplies and backup material, so we no longer have any 4 kV distribution on our system.

St. Joseph's Hospital. Source hardening I mentioned. That's complete. Two of the three phases of the Port of Tampa are complete. The third one will be

complete by the end of this year.

This is one thing I didn't mention. We talked about the joint research with PURC. Now we are doing some stuff on our own, as well. We have installed 26 breakaway service connectors as a test. The service connector -- our service line is the line from the pole, the transformer to the individual residence, and sometimes after a hurricane you will have a limb or something that will fall on that service connector that will pull away the mast from the house. And what happens is even though we may be ready to put power back to the house, because of damage to that facility the customer can't receive power, and that is ultimately what we are trying to do. And so we have tested, we have put in 26 of these breakaway connectors as a test that will essentially -- there is a force fitting that give way and pull the wire away from itself rather than pull the mast away from the house. And we are testing those to see how they work under normal summer storm conditions as well as if we have a hurricane to see if we have those in place if that avoids that breakage of that mast or that damage to the home.

And the last item on here, the improved plan for the Tampa International Airport, again, will be completed this year. And then the host of things that

we are going to continue on. I have talked about the Grade B construction for our distribution. Extreme wind for transmission, both for maintenance as well as new construction. The same for the above extreme wind case for the 230 kV; our non-wood construction for transmission and special maintenance programs; our vegetation management as well as our attachment standards and procedures.

Overall, you all had asked what we see in terms of improvements with this hardening effort, and we believe that with the commitment we have made on the transmission system, we have a strong transmission system. It performed very well in the hurricanes of 2004 and 2005; and, again, we are going to continue our efforts there. We have hardened sources to some critical facilities, and while those haven't been tested it really will take some wind to see if those really do hold up better or if the wind-borne debris really is the governing issue with the distribution.

And our system in terms of tree trimming, and that is one that we do see some everyday improvement to. You know, before and after the trim of a circuit, we see significant difference in the reliability of that circuit. So while we are spending significant dollars on our tree trimming and a significant investment there,

it's not just the benefit that we see with a hurricane. We also see some day-to-day benefit for our customers.

In summary, we are going to continue with the ten-point plan initiatives as I have outlined. We are going to implement the 2010 plan, assuming approval from the Commission, and we believe that will result in improved system performance not only after a storm, but during normal operations. So we ask that you consider the plan for approval.

With that, I'll be happy to answer any questions.

MS. L'AMOREAUX: I just have one question for you. In the updated plan, TECO states that the company will conduct audits on all pole attachments on an eight-year cycle. In addition, the company states that it reserves the right to complete this audit on an annual basis. Under what circumstances would TECO choose to do an audit on an annual basis?

MR. SZELISTOWSKI: I don't expect for us to do something on an annual basis. It's a pretty big effort, and generally the attachments that go up on an annual basis, if we are being communicated with well, there is really not a reason to do it on an annual basis. You do an audit to find things that have been put up that you -- because you are inspecting the same system,

obviously. So if you are doing things -- you're doing that to find things that have been put up without your knowledge.

And so to do that every year is probably too much. If we have instances where we have seen a lot of attachments going up that we weren't informed about, then we might move it up. But, again, at this point we feel that every four or five years is adequate.

MS. L'AMOREAUX: Thank you.

MR. SZELISTOWSKI: Sure.

MS. L'AMOREAUX: Next we have Gulf Power Company, Ed Battaglia.

MR. BATTAGLIA: Good morning. My name is Ed Battaglia, and I'm the Technical Services Manager for Gulf Power, and I'll be presenting Gulf's storm hardening plan. And we have brought a few added folks as far as technical support to help with any questions that staff may have. And, also, please excuse me if I have to clear my throat a little bit every once in awhile; I'm trying to get over a little bit of a cold.

Gulf Power's updated storm hardening plan reflects Gulf's commitment to continuous improvement by building on its experiences, by learning from data collected each year of the plan's implementation, and by research that addresses the potential benefits of

initiatives. Gulf recognizes the need to address the concerns expressed by both its customers and the Florida Public Service Commission to find ways to storm harden its system which could lead to less frequent outages and improved continuity of service during major storm-related events. At the same time, Gulf is obligated to balance storm hardening with the need to maintain reasonable costs and still achieve the expected results.

In these first two slides, I will brief discuss the ten on-going initiatives. Gulf's vegetation management plan consists of a three-year main feeder trim cycle, a six-year lateral trim cycle, and a program for removing hazard trees outside the normally trimmed zone. In addition, Gulf performs an annual pre-storm season inspection and corrective action program on the remaining two-thirds of mainline feeders.

In respect to joint use attachment audits, Gulf Power has in its current joint use contract agreements to conduct a field audit of the joint use poles every five years. The last audit was in 2006 with the next one scheduled for 2011. A pole strength load assessment pilot program was initiated by Gulf in 2007 based on the 2006 joint use field audit survey.

Inspection cycle of transmission structures

and storm hardening activities for transmission structures. Gulf Power's transmission inspection plans meet or exceed the approved six-year inspection cycle. Gulf completed the replacement of 774 wood crossarms and storm guyed 700 structures at an annual estimated cost of $600,000 as part of the company's approved storm hardening plan.

Geographic information systems, or GIS. Gulf Power's transmission and distribution data essential for its asset management programs and forensic data analysis have been mapped into its GIS application as part of the company's approved storm hardening plan.

Post-storm data collection and forensic activities. Gulf worked with industry vendors, such as OSMOSE, Incorporated, and KEMA, Incorporated, to develop and establish a post-storm forensic process for the company. It has been successfully tested and refresher training completed.

Outage data differentiating between overhead and underground systems. Gulf Power developed a process and made needed programming changes to its trouble call management system to establish a means to collect this added data. We continue to collect this outage data as events occur.

Coordination with local governments. Gulf

Power representatives are assigned to county Emergency Operations Centers, EOCs, in northwest Florida. They assist city and county agencies and officials during emergencies that warrant activation of the county EOCs. Gulf Power will provide on-going communications, pre-storm communications, and post-storm communications through our corporate communications department.

Collaborative research. Gulf Power participated in collaborative efforts to conduct research and development on the effects of major hurricanes on the electrical systems throughout the state of Florida.

Disaster preparedness and recovery plans. Gulf Power uses the plans described in its storm recovery plan to respond to any natural disaster that may occur within its service area. As part of its annual operations, Gulf conducts yearly storm drills and continues to refine its planning and preparations for the possibility of a natural disaster within Gulf Power's service area. All of these ten initiatives are on target.

In the next few slides I compare Gulf's approved plan versus the updated plan. Whenever you see any kind of red font, that indicates that initiative was changed. Gulf's current vegetation management plan

consists of a three-year main feeder trim cycle, a six-year lateral trim cycle, and a program for removing hazard trees outside the normally trimmed zone.

Analysis of data shows that 65 percent of Gulf's related mainline outages are now being caused by the failure of large overhanging limbs. Based on this analysis of data, Gulf proposes placing greater emphasis on overhanging limb removal on mainline feeders in conjunction with a continued danger tree removal during its annual mainline inspection. Gulf will continue with its three-year cycle on mainline feeders.

Gulf found that establishing a trim back distance, which will provide six years of clearance to be extremely difficult. Also, danger tree removal in residential areas served by laterals has proven to be very challenging. Customer acceptance of these practices has not been positive. In response to this data, Gulf proposes to shorten the trim cycle length on lateral lines to four years and reduce emphasis on lateral danger tree removal.

Joint use attachment audits. Gulf Power has in its current joint use contract agreements to conduct a field audit of the joint use poles every five years. And, again, the last audit was in 2006 with the next one scheduled for 2011. Gulf Power recommended and received

approval from the Commission for a random sampling for pole strength load assessment on five percent or approximately 500 joint use poles. Gulf initiated this strength load assessment pilot program in 2007. Again, based on the analysis of data, the low failure rates, and the fact that all new construction and maintenance work are constructed to Grade B construction, which Gulf is transitioning to, Gulf proposes to discontinue the random pole strength pilot project activity for the updated storm hardening plan. This continuation of the pole strength pilot project will save approximately 100,000 over the 2010/2012 time frame.

There are no proposed changes with the next three initiatives, inspection cycle of transmission structures, storm hardening activities for transmission structures, and with our GIS system.

With these next five initiatives, again, Gulf is not proposing any changes as far as data collection, outage data differentiating between overhead and underground, our coordination with local governments, collaborative research, and the disaster preparedness and recovery plans.

Gulf plans to continue its pole inspection program on an eight-year cycle utilizing the same inspection matrix approved by the Commission in 2007

with one minor exception. As a result of the findings during the past three years, Gulf plans to discontinue the one percent sample of nonexcavated CCA poles that are less than 15 years old. Gulf performed full excavation and treatment on 954 CCA poles that initially passed the visual inspection. None of the excavated poles were rejected, and only minor decay was noted on some of these poles. This sample clearly indicated that Gulf's inspection matrix is effective in assuring that no defective poles remain in service.

Since this program adds costs without providing additional benefits, Gulf proposes to discontinue the one percent sample program for the updated storm hardening plan. This will result in an estimated annual savings of approximately $7,500. Gulf will continue all other elements of the current wood pole inspection program, which has been so successful over the past three years.

Compliance with National Electric Safety Code, NESC. Gulf Power's transmission system, substations, and distribution system are designed to meet the National Electric Safety Code. In respect to distribution, exceeds the NESC with Gulf's transition to Grade B construction on all new construction, major projects, and maintenance work. There are no proposed

changes in this initiative.

Extreme wind loading standards. Gulf's approved storm-hardening plan exceeded the National Electric Safety Code by transitioning to Grade B construction on distribution construction. Gulf Power plans to continue this transition to Grade B construction standards on all new construction, major projects, and maintenance work.

As part of its approved storm hardening plan, Gulf also constructed extreme wind loading pilot projects for distribution facilities serving critical infrastructures such as hospitals, fuel depos, sewage treatment plants, and major roadway crossings. Gulf proposes to change its approach by expanding its Grade B initiative to target critical pole lines with multiple feeders on them and convert them to Grade B construction.

In addition, the existing wood poles will be replaced with concrete poles from the substations to strategic operational points on the feeders. This initiative is taking design concepts which we know work well in the transmission and substation areas and carries them to the distribution side. Gulf has budgeted approximately $2.3 million for this initiative over the three-year period covered by the plan.

There are no changes to the next two initiatives, mitigation of damage to underground facilities and supporting T&D facilities due to flooding and storm surges, and the placement of new and replacement distribution facilities to facilitate access.

Other key elements. Gulf proposes no changes to the feeder patrols and infrared patrols which are completed annually prior to June 1st. In respect to wind monitors, Gulf completed the installation of 19 wind monitors as outlined in the approved storm hardening plan and will maintain those wind stations as part of the updated storm hardening plan. The wind speed data gathered from these monitors, along with the forensic data gathered after a major storm event, will help determine the effectiveness of the storm hardening initiatives, such as the Grade B construction and the pilot programs where we constructed facilities to the extreme wind loading standards.

Additional proposed storm hardening initiatives, conversion of 4 kV distribution. Gulf proposes to convert its remaining three 4 kV distribution feeders to its standard 12.47 kV distribution voltage. These conversions will reduce potential outages and facilitate improved restoration times by converting to Gulf's standard specifications

and materials which will be more readily available after a major storm. In addition, the added clearance requirements and increased insulation levels for 12.47 kV will reduce potential outage causes.

Also, any needed pole replacements as a result of the conversion would be built to the stronger Grade B conversion, which would help to accelerate Gulf's transition to Grade B construction. Gulf plans to convert one feeder per year at an approximately average cost of $300,000.

Distribution automation. Gulf proposes to install reclosers or automated switches at approximately the midway point on distribution feeders. Additional switches would be deployed on long or critical feeders to further segment the feeder for outage restoration. These devices which protect downstream from temporary faults will be controlled remotely by Gulf's distribution control center personnel and/or placed in an automated restoration scheme. Gulf's estimated cost per year to implement this is $2 million.

Strategic installation of automated fault circuit indicators, or FCIs. These are devices designed to provide a visual indication of an outage if it occurred beyond their location. They will help to expedite the location of outage causes and the isolation

of the problem so that service can be restored to some customers while the problem is being corrected. Initially, Gulf proposed to install FCIs at 20 locations on its system. The estimated annual cost is approximately $20,000.

Development of a distribution supervisory control and data acquisition system, or DSCADA system. In order to reduce storm restoration times, Gulf proposes to develop and to begin implementation of the systems and application that would permit the monitoring and remote control of the distribution automation devices that I mentioned earlier. The estimated annual cost of this activity is $217,000.

This chart shows Gulf's estimated cost for the updated storm hardening plan versus the estimated cost for the approved plan and actual cost of the approved plan. As you can see, Gulf is proposing to increase its commitment to storm hardening its system. Gulf's updated plan makes adjustments based on lessons learned from the approved plan and expands the number of initiatives which we feel will improve the reliability of its system and increase its storm resistance.

This map illustrates Gulf's service areas, and I know it is a little difficult to see as far as on the screen there, and it indicates locations of projects

completed in the approved plan. And we also went ahead and plotted projects proposed in the updated plan. Gulf's initiatives and projects are dispersed across its system so that in the event of a major storm there will be opportunities to test how well the various storm hardening options perform.

In respect to struggles or challenges to achieving the ten initiatives, the uncertainty related to material and labor is one. With most utilities focusing on the same issues, the availability of the needed materials and skilled labor is a concern. And, of course, in the event of a major storm, it could reduce the availability of needed resources creating work delays in implementing the plan.

Another struggle is with city ordinances, existing ones, and possibly expanded city ordinances. They impact the possible effectiveness of some of the initiatives and impact work schedules. An example of this would be, say, the trimming and removal of trees. Power restoration and hardening is improving overall on Gulf's system. For Gulf, the initiatives such as extreme wind loading and Grade B construction, those are pilot projects in the sense that based on Gulf's experience and knowledge over many years of storm restoration activities, that what we have seen that it

predominately is not the pure wind, it's the debris carried on the wind that causes the outage problems. So for Gulf in an analysis of actual storm data collected over time, it is essential to try to determine their benefits. And, of course, and I'll say fortunately Gulf has not experienced any major storms to test these initiatives. And this may address the question that you were putting out there as far as for all utilities.

In respect to Gulf's vegetation management plan, Gulf is seeing reduced customer interruptions and reduced customer minutes of interruption due to tree outages when you focus on that one particular initiative. So, again, we feel that is an improvement. And as we stated, we are looking to try to make more gains by reducing our lateral trim cycle from six to four years.

T&D inspections. The initiatives involving T&D inspections, which that includes the patrols as far as digital patrols, the infrared patrols that I mentioned earlier as far as other key elements where we do those before the start of storm season. The six-year transmission inspection and eight-year distribution wood pole inspection, all of those contribute to possible outages by being proactive in the maintenance of Gulf's T&D systems, so we feel those are real positives.

And that concludes my presentation. Are there any questions?

MS. L'AMOREAUX: I have a couple of questions. A couple of them you have already answered, so that is kind of good. In the updated plan, and as you spoke in your presentation, you have specific changes to your trim cycle. What experience has Gulf encountered that has led to these changes?

MR. BATTAGLIA: Predominately as far as our experience there for changing from the six to four year lateral is the dramatic increase in what we're having to do in spot tickets to trim those areas, which is indicating clearly to us that the current cycle is not adequate. So the number of those tickets that have dramatically risen has driven us to say we need to do something else there. And then also the amount of clearance, as I mentioned earlier, as far that is needed on a six-year versus a four-year cycle, and the other element was the removal of danger trees on laterals. As far as the amount of customer resistance to those type of activities, we basically said to improve our plan we needed to shorten that cycle.

MS. L'AMOREAUX: And can you briefly discuss how Gulf's new storm hardening initiatives are beneficial and cost-effective?

MR. BATTAGLIA: Well, predominately overall, as I mentioned earlier on that last slide, you know, to determine the actual benefits of the initiatives such at Grade B construction, the extreme wind loading projects, those types of initiatives that are our high cost as far as needing forensic analysis of that after a major storm to try to determine if there are benefits there. But there are elements of the plan, such as the inspections that I mentioned, such as vegetation management, and with the added elements of the plan that we're proposing such as the 4 kV conversion, the distribution automation, the SCADA system that we feel will achieve as far as what our expectations for storm hardening, expediting restoration of service, but at the same time add what we feel is a better cost/benefit ratio for our customers.

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

MR. BATTAGLIA: Thank you.

MS. L'AMOREAUX: Next up is Florida Public Utilities Company, Mr. Puentes.

MR. PUENTES: Good morning, staff. My name is Jorge Puentes. I'm the Northeast Division Electric Operations Manager. I would also like to acknowledge the presence of Mark Cutshaw, who is our Northeast

General Manager, as well as Buddy Shelley, who is the Northwest General Manager.

We appreciate the opportunity to come and participate in the workshop, but before I give you the status update on our storm hardening plan and give you the highlights, the differences between what was approved and what has been updated, I would just like to give you a brief overview of our company.

We are a very small investor-owned utility. As of October of 2009, we are a wholly-owned subsidiary of Chesapeake Utilities. Our electric customer base is only 28,000 customers and our territory is small. We have about 15 in the northeast division, which is a coastal territory, and 13,000 of them are in northwest Florida, which is more of a rural territory.

Now, as I pass on to provide you the status update on our storm hardening initiatives, I'd like to start with the vegetation management. I'd like to also note that during the 2008 rate case there was a change to our original 2007 plan in this area where we agreed to implement the three-year cycle of tree trimming for feeders and the six-year cycle for laterals. Initially, we were planning to do this with seven crews and at the end we agreed to do it with five crews. We continue to be on target with this initiative. Since 2008 and up to

2009, we have removed about 530 danger trees, and also we have trimmed in both divisions a total of 119 miles of feeders and about 100, almost 200 miles of laterals. And up to this year we have trimmed about 34 miles of feeders and seven miles of laterals. That's up to the end of May.

In terms of the joint use pole attachment audit, since 2008 and 2009, we have identified our contractor, working with our contractor we have identified about 53 poles having third-party attachments that had some loading issues. And what we plan to do with those is do further analysis by using software. We have Pole-Foreman, and after we obtain the results we will then work with our current agreements and try to let them know what attachments will have to be moved and we will make those facilities more strengthened.

In terms of the other initiative, number three, of transmission inspections, we are doing this on a six-year basis. We have performed in 2008 and 2009 visual inspections, but the plan is to begin climbing inspections from this year on.

In terms of the GIS information system, in 2008 we were able to install that in the northwest division, and in 2009 we had that implemented in the northeast division. The northwest division has a little

bit more improvement because they have SCADA capabilities, and we're looking to see if we can implement SCADA in the northeast division. But it's a very useful tool that we use also for outage management, and we're using it to report now our yearly performance indicators using that software now.

In this other initiative about the transmission storm hardening, I also would like to make a note that during the 2000 rate case there was a change from our original 2007 plan where we were proposing to replace about 190 wood poles on our 69 kV system, and we were planning to do this over a 15-year period. At the end, in 2008, we agreed to change that to a -- to change 25 of those poles on a ten-year cycle, more or less going and changing about 2.5 poles per year. We have accelerated this by changing several poles. For example, in 2009 we completed a project along our coastal area where we replaced 14 69 kV wood poles with spun concrete. This year we also changed another additional three wood poles with concrete, spun concrete poles in another project. We did these two projects using the extreme wind loading criteria, which we are applying to the northeast division to be 130 miles per hour, and for the northwest division we are implementing 120 miles per hour.

We also applied this criteria to the distribution facilities that are critical to our customers. For example, the hospitals, the highways along major -- feeders along major highways, and also feeders to sewer plants and other facilities.

In terms of the post-storm data collection forensics, we have established a procedure, and we plan to use a contractor. However, we haven't had as much -- as other companies have reported, we haven't had experience with hurricanes since the 2005 period, but once we have some information on this we will report it to the Commission.

Going on with our storm hardening initiatives, by using our outage management system we are able to also comply by providing the overhead and underground system information. We're providing that on a yearly basis.

We also like to coordinate very closely with our EOCs. We attend all their meetings. We also provide safety training to them. We have a program where we go and explain to them the hazards of wires down and what they should do in cases like that when their crews, their tree-removing crews, or construction crews are close to them. We also participate in any of their events.

We work closely with them on vegetation, and we have a good understanding of what they also need from us, because we also are going to provide some personnel like never before in terms of when hurricanes happen they will be over there located, and they will be able to inform them of what's going on with our utility in terms of outages.

In terms of the collaborative research, we are active in that area. We attend their workshops, and we support their initiatives and research. We have been active in the tree trimming, underground, and wind loading areas.

In terms of the disaster preparedness and recovery, we have developed plans. We update these annually, and we review them with our employees, and we have training with them so that everyone knows what they are supposed to do in case we have an emergency. We ensure that material for storms is available and it is reviewed. We review our trucks, our radio communication equipment, and we ensure the readiness of all personnel.

As we contrast the approved plan versus the updated plan, there is one major change that we are proposing for your approval. This has to do in terms of the wood pole inspections. Currently we are doing detail -- we are doing detailed inspections about

one-eighth of them on an eight-year cycle. We have used OSMOSE as our contractor, and since then we have inspected about 5,815 poles.

And during this period of inspections between 2008 and 2009, we were able to uncover some evidence that allowed us to make this proposal, and this has to do with detailed inspections for CCA, less detailed inspections for CCA poles. What we found is that out of nearly half, about 2,625 CCA poles that were inspected, none of them had failures. And the ages of those poles inspected were between one year and 28 years, and that is outlined in our plan.

And we are saying that based on these new facts we would like to propose to do a less detailed inspection for CCA poles under 16 years of age. And in an effort to be consistent with what other IOUs are doing, we would like to augment the inspections by one percent of CCA poles not requiring a detailed inspection.

To summarize what our plan has been accomplishing as we continue to implement this plan, at this point we have not found any issues in achieving these ten initiatives. In terms of the budgeting or the costs, we continue to monitor those costs, and at this point those costs that are monitoring have been

estimated and they were included in that 2008 rate case proceeding. And in terms of some of your questions that if we believe that this plan hardens the infrastructure, we believe it does. Certainly we believe that we will see benefits. Again, I can say that we haven't had any storms hitting our -- major storms hitting our territory, but we believe that it does create a stronger system.

That concludes my presentation, and I'd like to ask you if you have any questions.

MS. L'AMOREAUX: I just have one question.

MR. PUENTES: Yes.

MS. L'AMOREAUX: Can you explain why there is a shortage of tree trimming crews in your area?

MR. PUENTES: A shortage of tree trimming crews meaning --

MS. L'AMOREAUX: In your amended updated plan you said that current tree trimming crews, there was a shortage of them, and if and when they become available you will work to trim trees.

MR. PUENTES: I think that was mainly in the first plan -- and correct me, Mark, if I'm not -- in the first plan we wrote that, but I think in the updated plan, or after the 2008 rate case, we came to an agreement that we would do this three-year cycle on

feeders and six-year cycle on laterals with five tree-trimming crews, and since then we haven't had that shortage.

MS. L'AMOREAUX: I'll check into that.

MR. PUENTES: Sure.

MS. L'AMOREAUX: Do you have any questions, Dave? Lisa?

All right. Well, if there's no more questions --

MR. PUENTES: Thank you.

MS. L'AMOREAUX: Oh, thank you.

MR. PUENTES: Thank you very much.

MS. L'AMOREAUX: I would first like to thank everybody here today, especially the presenters for giving very informative presentations. Staff is still reviewing the updated storm hardening plans, and after which we will be sending maybe one or more rounds of discovery. Our target is to bring a recommendation to agenda probably around August, no later than September.

In addition, if the parties want to submit any post-workshop comments, we ask that you submit those by June 28th, 2010. And with that, this workshop is adjourned. Thank you.

(The workshop concluded at 11:29 a.m.)

STATE OF FLORIDA)

: CERTIFICATE OF REPORTER

COUNTY OF LEON)

I, JANE FAUROT, RPR, Chief, Hearing Reporter Services Section, FPSC Division of Commission Clerk, 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 24th day of June, 2010.

JANE FAUROT, RPR
Official FPSC Hearings Reporter
(850) 413-6732

FPSC Storm Hardening Workshop

June 10, 2010

Parties/Staff Handout
on 6/10/10

10 Storm Preparedness Initiatives

- **Initiative No. 1 – Vegetation Management**
  - Feeders on 3-year average cycle
  - Laterals on schedule to achieve 6-year average cycle by 2013
  - Tree removals/"Right Tree Right Place"
- **Initiative No. 2 – Joint Use**
  - 5-year cycle for joint use/attachment surveys
  - Pole strength / loading inspections
- **Initiative No. 3 – Transmission Inspections**
  - 6-year cycle for lines, substations and structures
- **Initiative No. 4 – Transmission Hardening**
  - Replacing wood structures
  - Replacing ceramic post insulators (concrete poles)
- **Initiative No. 5 – Distribution GIS**
  - Joint use, hardening, pole inspection & streetlight data added

FPL

10 Storm Preparedness Initiatives

- **Initiative No. 6 – Post-Storm Forensics**
  - Teams, data collection process and database established
- **Initiative No. 7 – OH vs. UG Storm Performance Data**
  - Using laterals to evaluate OH vs. UG performance
- **Initiative No. 8 – Increased Government Coordination**
  - EOCs staffed / critical infrastructure identified
  - Community Outreach Teams
  - Enhanced e-mail process & governmental update website
- **Initiative No. 9 – Collaborative Research**
  - Continued efforts with PURC
- **Initiative No. 10 – Natural Disaster Prep/Recovery Plan**
  - Reviewed/updated annually
- **CONTINUING WITH PREVIOUSLY APPROVED PLANS, ALL INITIATIVES IN COMPLIANCE AND ON TARGET**

FPL

FPL's 2010-2012 Hardening Plan

- **Continuation of Previously-approved Plan**

  - **3-prong approach:**

    (1) Apply EWL to existing CIF

    (2) Apply Incremental Hardening to "Community Projects"

    (3) Apply Design Guidelines utilizing EWL for all new overhead facilities, major planned work, relocation projects as well as daily work activities

  - **Apply EWL / Incremental Hardening Over 3 Wind Regions:**
    - 105 mph / 105 mph (north)
    - 130 mph / 115 mph (central)
    - 145 mph / 125 mph (south)

FPL.

FPL's 2010-2012 Hardening Plan

- **2007–2009 Hardening Results:**
  - Hardened to EWL: 227 feeders (over 500 miles) serving 266 CIF customers; 103 highway crossings; and 192 "01 switches"
  - Applied Incremental Hardening to 68 feeders (approx. 180 miles) serving community needs
  - Applied EWL to all new construction, major planned work, relocations and daily work
  - Total costs for 2007-2009 (EWL/Incremental Hardening) - $162M

FPL.

FPL's 2010-2012 Hardening Plan

- **Hardening Plans for 2010-2012:**
  - 2010
    - Apply EWL to 39 feeders serving 52 CIF customers, 16 highway crossings and 20 01 switches
    - Apply Incremental Hardening to 5 feeders serving community needs
    - Apply design guidelines to all new construction
  - 2011 and 2012
    - Harden 40-55 feeders annually
  - Total 2010-2012 costs (EWL/Incremental Hardening) - $135M-165M

FPL

FPL's 2010-2012 Hardening Plan

- **Attaching Entities**
  - Provided filing to all 93 attaching entities in March 2010 – 8 entities contacted FPL – no issues
  - Complying with "Process to Engage 3rd Party Attachers" (provides hardening plan details for the upcoming year)
  - Hold meetings prior to design & construction of all hardening projects

FPL

FPL's 2010-2012 Hardening Plan

- **Benefits of Hardening**
  - In the absence of significant new data, continue to rely on:
    (1) 2004-2005 storms experience
    (2) KEMA report
    (3) performance of transmission poles (built to EWL) vs. distribution poles during Hurricane Wilma
    (4) Davies Consulting analysis - FPL's poles (Grade B) performed better than other electric companies (Grade C)
  - Reduction in number/duration of outages, storm/non-storm
  - Reduction in restoration costs, storm/non-storm
  - Restoration Costs Savings per mile of hardened feeder - estimated to be approximately 45%-70% of the cost to harden that mile of feeder
  - FPL's plan is cost-effective - focuses on CIF / Community Projects

FPL.

Progress Energy Florida

Florida Public Service Commission
Storm Hardening Workshop

Thursday , June 10, 2010

Progress Energy

Outline

- Hardening Strategy
- Ten Point Plan
- 2010-2012 Storm Hardening Plan
- Reliability Focus
- Questions & Answers

Progress Energy

Hardening Strategy

Progress Energy

Parties/Staff Handout

on 6/10/10

Ten Point Plan

- Vegetation Management
- Joint Use Survey
- GIS upgrade
- Forensic Analysis
- Coordination With Local Governments
- OH/UG Reliability
- Collaborative Research
- Hurricane Preparedness
- Transmission Inspections
- Hardening of Transmission structures

Progress Energy

Storm Hardening Plan - Similarities

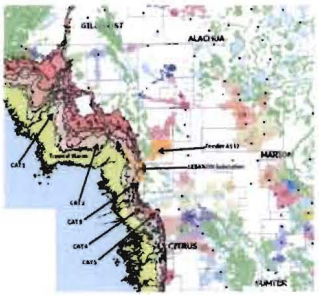
- Transmission Hardening philosophy
- Systematic and analytical approach
- Prioritization model



Progress Energy

Storm Hardening Plan - Variations

- Improved and enhanced prioritization model
- Geo Media
- Hardening alternatives



Progress Energy

Restoration and Hardening

- Transmission hardening
- Continuous focus on restoration
- Reliability Engagement Model
- Targeted Hardening
  - 48 Projects completed since 2007
  - 61 proposed for next 3 years

Progress Energy

Questions & Answers

Progress Energy

Progress Energy Florida

Florida Public Service Commission
Storm Hardening Workshop

Thursday , June 10, 2010

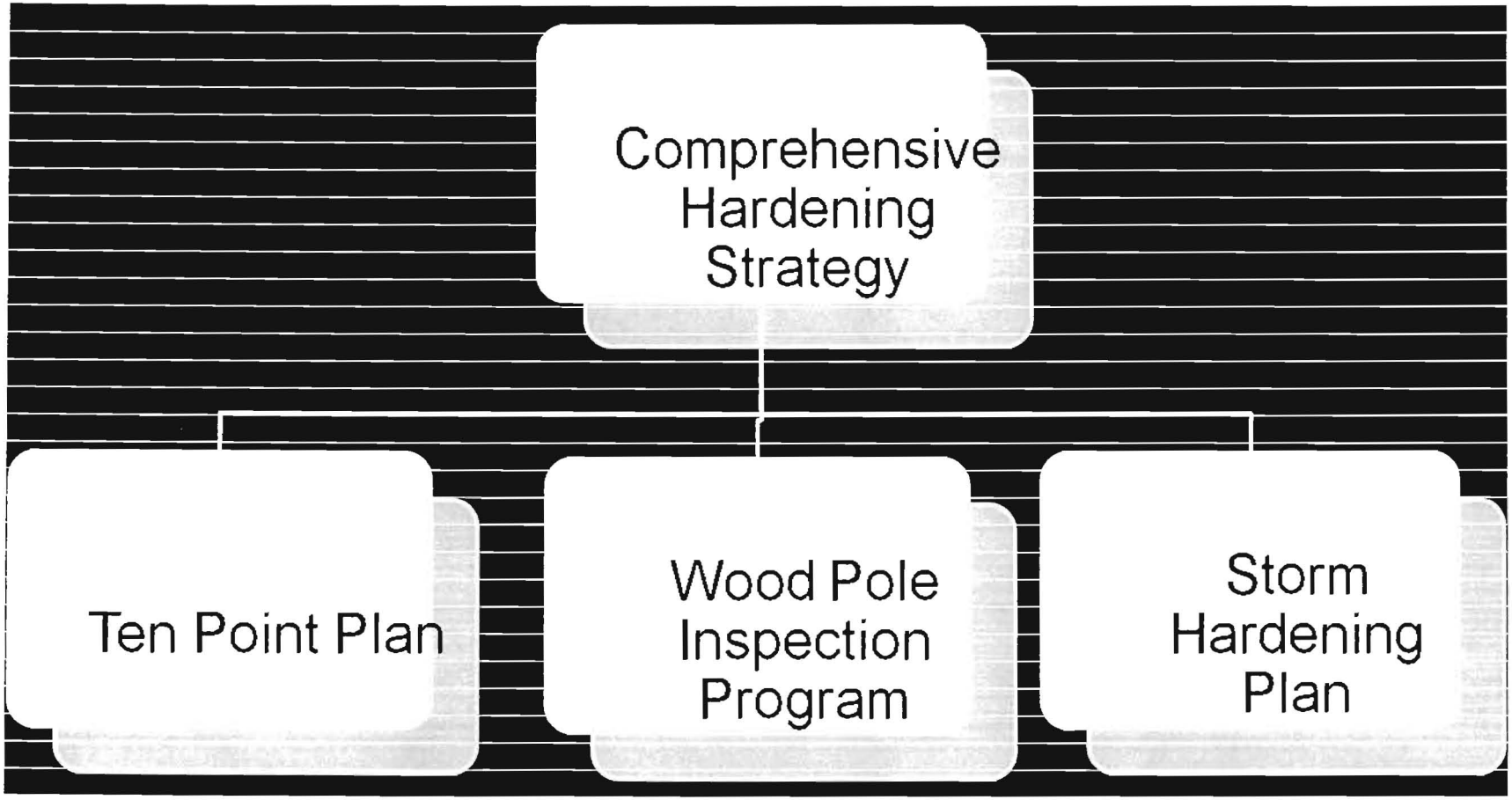
Progress Energy

Outline

- Hardening Strategy
- Ten Point Plan
- 2010-2012 Storm Hardening Plan
- Reliability Focus
- Questions & Answers

Progress Energy

Hardening Strategy



Progress Energy

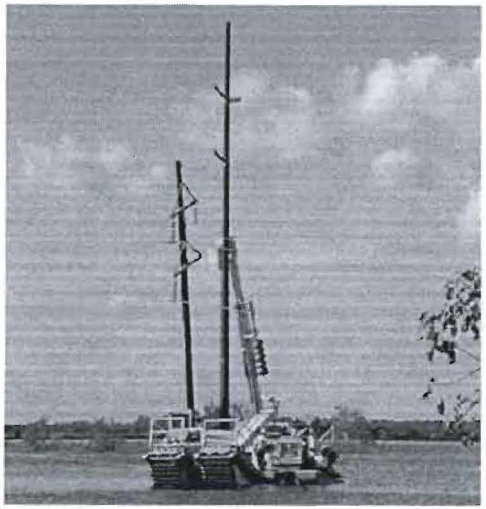
Ten Point Plan

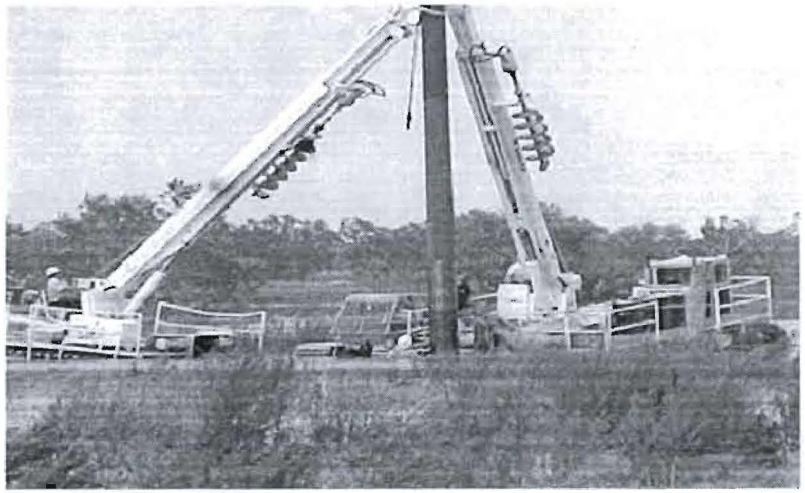
- Vegetation Management
- Joint Use Survey
- GIS upgrade
- Forensic Analysis
- Coordination With Local Governments
- OH/UG Reliability
- Collaborative Research
- Hurricane Preparedness
- Transmission Inspections
- Hardening of Transmission structures

Progress Energy

Storm Hardening Plan - Similarities

- Transmission Hardening philosophy
- Systematic and analytical approach
- Prioritization model

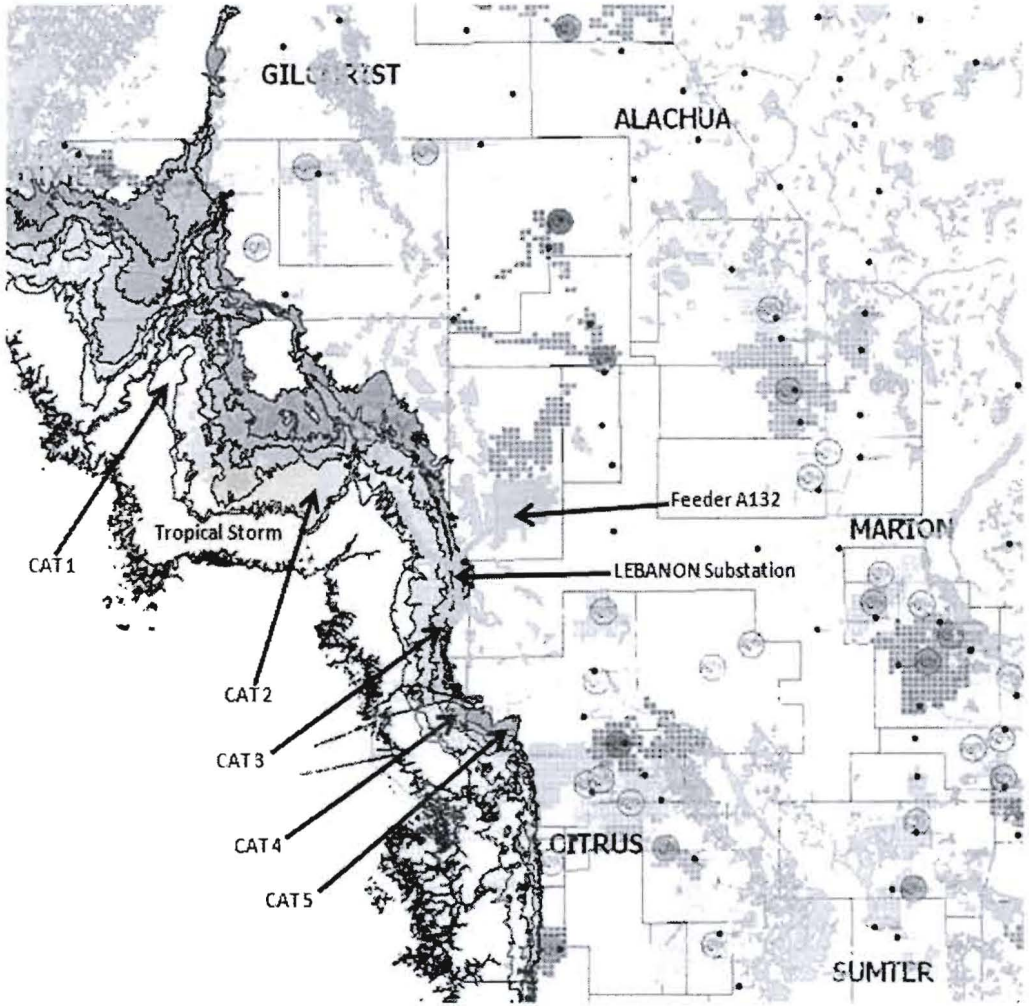




Progress Energy

Storm Hardening Plan - Variations

- Improved and enhanced prioritization model
- Geo Media
- Hardening alternatives



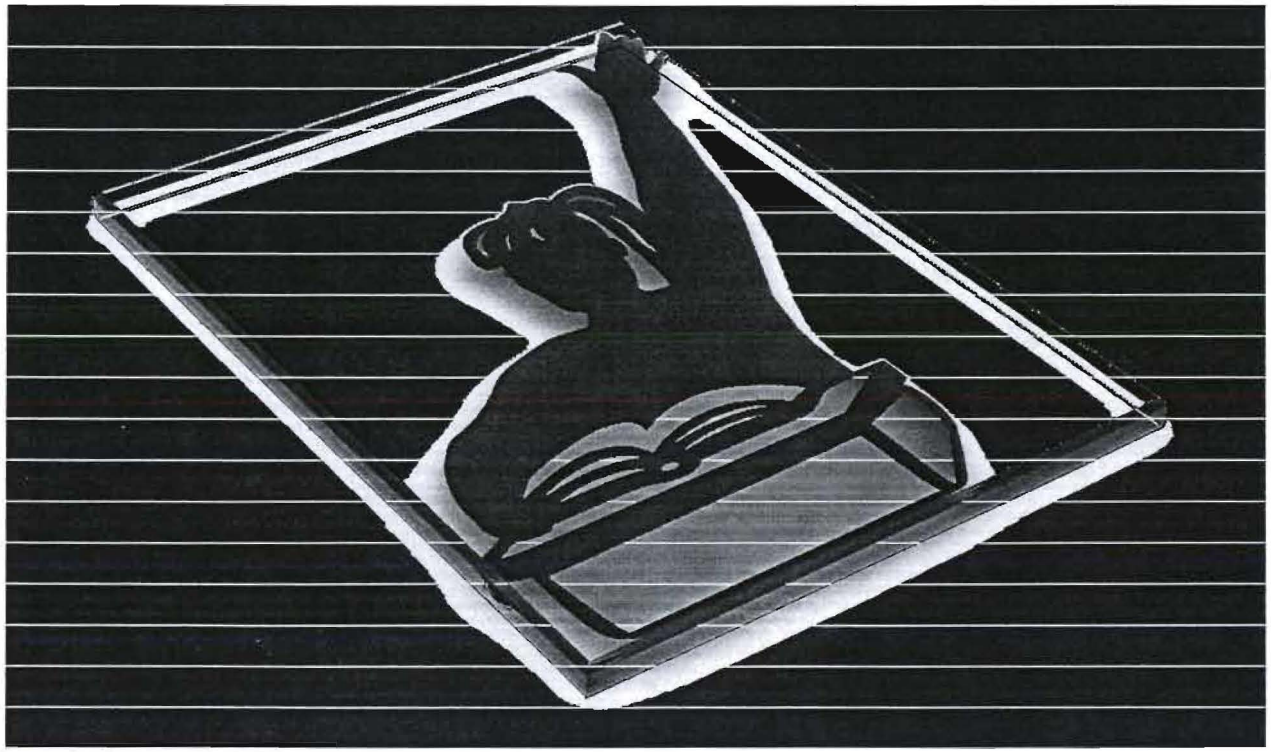
Progress Energy

Restoration and Hardening

- Transmission hardening
- Continuous focus on restoration
- Reliability Engagement Model
- Targeted Hardening
  - 48 Projects completed since 2007
  - 61 proposed for next 3 years

Progress Energy

Questions & Answers



Progress Energy

Tampa Electric Storm Hardening Update

T.J. Szelistowski, P.E.

Director, Energy Delivery

June 10, 2010

TECO TAMPA ELECTRIC

Storm Hardening Update

- Ten Point Storm Initiatives
- Three-Year Storm Hardening Plan
  - 2007-2009 and 2010-2012
  - Improvements to Overall System

Ten Point Plan Initiatives

- Vegetation Management
  - Three-Year Vegetation Management Plan
  - Feeder and Laterals

Vegetation Management

- Transition to Three-Year Plan
  - 2010: One-Third of System
- Reactive Trimming
- Over 225 Tree Trimmers
- Work with Local Governments

Ten Point Plan Initiatives

- Joint Use Pole Attachment Audit
  - Completed in 2008
  - Minimum of Every Eight Years
  - Comprehensive Loading Analysis

Ten Point Plan Initiatives

- Transmission Inspections
  - One, Six and Eight Year Cycles
- Transmission Hardening
  - New Construction and Maintenance

Ten Point Plan Initiatives

- GIS
- Post-Storm Data Collection
- Outage Data for Overhead and Underground

Ten Point Plan Initiatives

- Increased Coordination with Local Governments
- Collaborative Research
- Disaster Preparedness Plan

Ten Point Storm Initiatives Summary

- On Track in All Areas
- Improvements to Overall System

Storm Hardening Update

- Three-Year Storm Hardening Plan
  - 2007-2009 Plan
  - 2010-2012 Plan

Three-Year Storm Hardening Plans

- Construction Standards
- Deployment Strategy
- Attachment Standards and Procedures

Construction Standards

- Distribution Design
  - NESC Grade B Construction
  - Underground: Stainless Steel

Construction Standards

- Transmission Design
  - Non-Wood Construction
  - Extreme Wind for All Transmission
  - Even Stronger for all 230 kV
    - 133 mph design

Deployment Strategy

- Vegetation Management
- Inspection and Maintenance
- OH – UG Conversion of Crossings

Deployment Strategy

- Extreme Wind Pilot Hardening Projects
  - Saint Joseph's Hospital
  - Port of Tampa
- Tampa International Airport

St. Joseph's Hospital

- Level Two Trauma Center
- Rebuilt Feed – Now Extreme Wind
  - Six Transmission Poles
  - Thirty-Seven Distribution Poles
- Completed in 2008

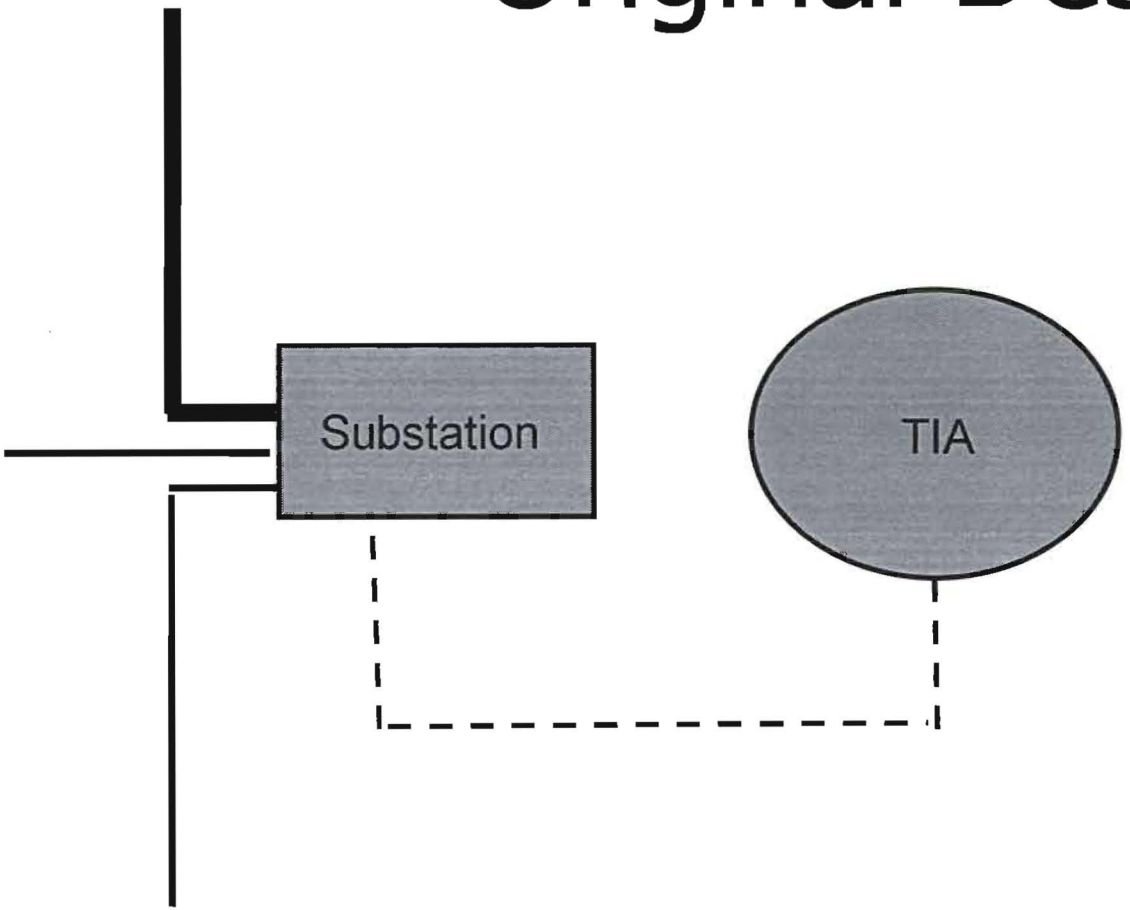
Port of Tampa Hardening

- Three Phases
  - Phase I: Rebuilt One Mile Trans and 48 Dist Poles (2008)
  - Phase II: Replaced 41 Trans Poles and 30 Dist Poles (2009)
  - Phase III: Replace 17 Trans Poles (2010)

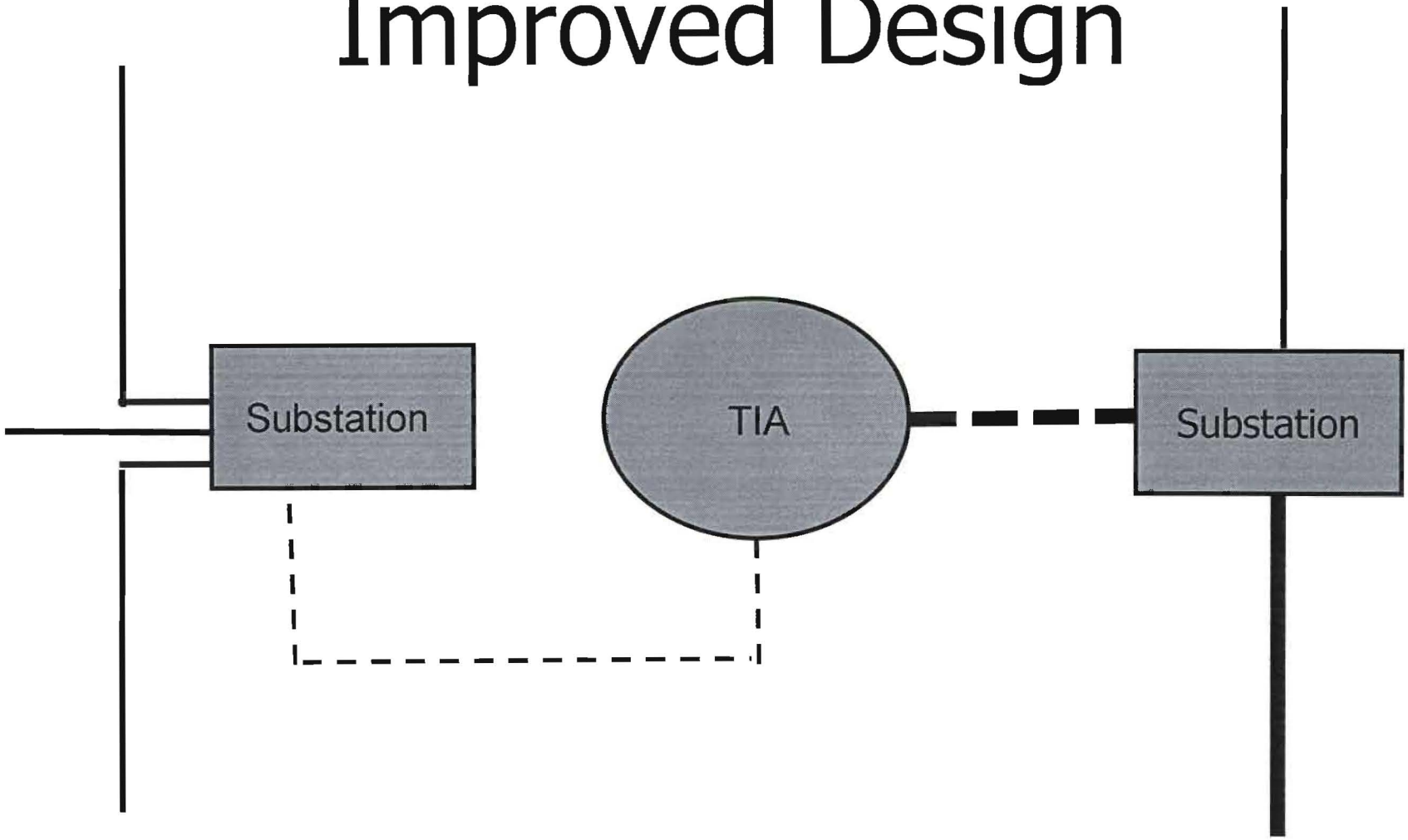
Deployment Strategy

- Tampa International Airport
  - Original plan was to harden source to airport
  - Improved plan provides 2nd hardened source

Tampa International Airport
Original Design



Tampa International Airport
Improved Design



Attachment Standards and Procedures

- Access to Poles
- Make Ready
- Joint Use Attachment Audits

Plan Comparison

2007-2009 Plan Item	2010 – 2012 Update
Twelve Interstate Crossings Converted to UG	Complete
Conversion of 4 kV System	Complete
St. Joseph Hospital Source Hardening	Complete
Port of Tampa Phase I Hardening	Complete
Port of Tampa Phase II Hardening	Complete
Port of Tampa Phase III Hardening	To be Completed in 2010
Breakaway Service Connector Test Installation	Complete
Tampa International Airport	Improved Plan – to be completed in 2010

Plan Comparison

2007-2009 Plan Item	2010 – 2012 Update
Grade B Construction Standard	Continue
Extreme Wind for Transmission	Continue
Extreme Wind + for 230 kV	Continue
Non-Wood Construction for Transmission	Continue
Inspection and Maintenance	Continue
Vegetation Management	Continue
Attachment Standards/Procedures	Continue

Improvements to Overall System

- Strong Transmission System
- Hardened Sources to Critical Facilities
- Trimmed System – ready for storms

Summary

- Continue Ten Point Plan Initiatives
- Implement 2010 Hardening Plan
- Results: Improved System Performance – Storms and Normal Operations

Questions?

PRIDE IN THE SYSTEM

Gulf Power Company
June 10, 2010
Storm Hardening Workshop

Parties Staff Handout
on 6/10/10

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

The Ten Initiatives Overview

PRIDE IN THE SYSTEM

- Vegetation Management Plan
  - Three-year trim cycle on main line feeders
  - Six-year trim cycle on laterals
  - Danger Tree Removal
- Joint-Use Attachment Audits
- Inspection Cycle of Transmission Structures
- Storm Hardening Activities for Transmission Structures
- Geographic Information Systems

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

The Ten Initiatives Overview

PRIDE IN THE SYSTEM

- Post-Storm data Collection and Forensic activities
- Outage Data Differentiating Between Overhead and Underground Systems
- Coordination with Local Governments
- Collaborative Research
- Disaster Preparedness and Recovery Plans

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

Approved Plan vs. Updated plan

PRIDE IN THE SYSTEM

- Vegetation Management Plan
  - Three-year trim cycle on main line feeders
  - Six-year trim cycle on laterals - Changing to Four-year cycle
  - Danger tree Removal – Reduce emphasis in residential areas
- Joint-Use Attachment Audits – Discontinue third party strength analysis
- Inspection Cycle of Transmission Structures
- Storm Hardening Activities for Transmission Structures
- Geographic Information Systems

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

Approved Plan vs. Updated plan

PRIDE IN THE SYSTEM

- Post-Storm data Collection and Forensic activities
- Outage Data Differentiating Between Overhead and Underground Systems
- Coordination with Local Governments
- Collaborative Research
- Disaster Preparedness and Recovery Plans

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

Approved Plan vs. Updated plan

PRIDE IN THE SYSTEM

- Eight-year Wood Pole Inspection process
  - 1% Sample of Non-excavated CCA poles program – Discontinue
- Compliance with National Electric Safety Code (NESC)
- Extreme Wind Loading Standards
- Mitigation of Damage to Underground Facilities and supporting T&D facilities due to flooding and storm surges
- Placement of new and replacement distribution facilities to facilitate access

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

Approved Plan vs. Updated plan

- Other Key Elements
  - Feeder patrols
  - Infrared patrols
  - Wind Monitors
  - Additional Proposed Storm Hardening Initiatives
    - Conversion of 4kV Distribution Feeders
    - Distribution Automation
    - Strategic Installation of automated Fault Circuit Indicators
    - Development of a Distribution Supervisory Control and Data Acquisition System (DSCADA)

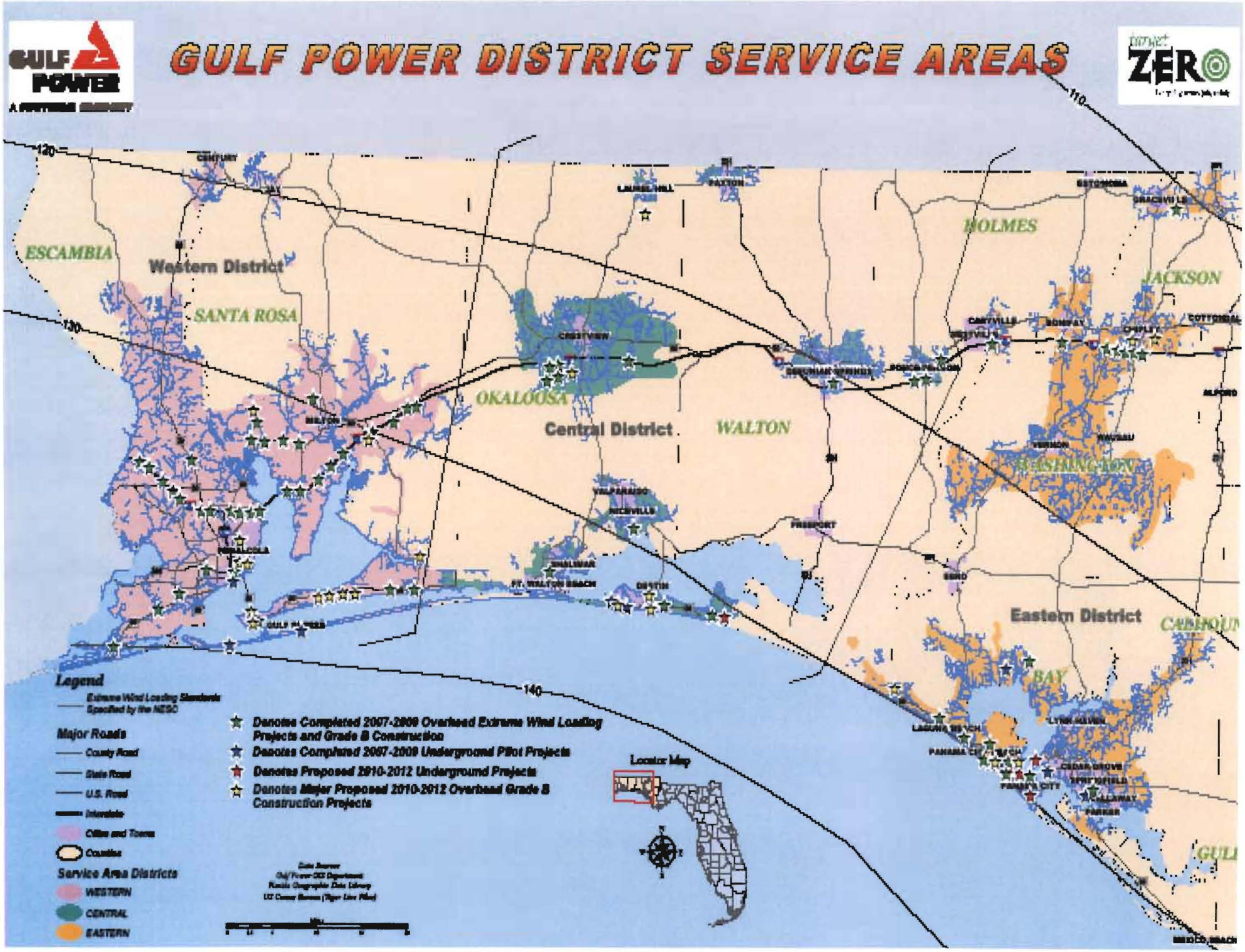
Approved Plan Costs vs. Updated Plan Costs

PRIDE IN THE SYSTEM

Approved Plan	2007	2008	2009	Total Cost	Cost per Customer per Year
Estimated Costs	$19,218,504	$20,106,312	$20,345,837	$59,670,653	$46
Actual Costs	$26,633,997	$26,334,845	$35,814,695	$88,783,537	$71
Updated Plan	**2010**	**2011**	**2012**	**Total Cost**	**Cost per Customer per Year**
Estimated Costs	$35,814,695	$35,455,157	$36,332,586	$107,602,438	$84

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY


GULF POWER
A SOUTHERN COMPANY
GULF POWER DISTRICT SERVICE AREAS
ESCAMBIA
Western District
SANTA ROSA
OKALOOSA
Central District
WALTON
HOLMES
JACKSON
WASHINGTON
BAY
Eastern District
CALHOUN
Legend
Extreme Wind Loading Standards Specified by the NESC
Major Roads
County Road
State Road
U.S. Road
Interstate
Cities and Towns
Counties
Service Area Districts
WESTERN
CENTRAL
EASTERN
Denotes Completed 2007-2009 Overhead Extreme Wind Loading Projects and Grade B Construction
Denotes Completed 2007-2009 Underground Pilot Projects
Denotes Proposed 2010-2012 Underground Projects
Denotes Major Proposed 2010-2012 Overhead Grade B Construction Projects
Locator Map

Struggles Towards Achieving the Ten Initiatives

PRIDE IN THE SYSTEM

- Uncertainty related to material and labor
- City ordinances

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

How Restoration and Hardening is Improving Overall System

PRIDE IN THE SYSTEM

- Analysis of actual storm data collected over time is needed to determine benefits
- Vegetation Management Plan
  - Reduced tree-related outages
- T & D Inspections

target ZERO
Every day, every job, safely.

GULF POWER
A SOUTHERN COMPANY

QUESTIONS?

2010 Storm Hardening Workshop

Florida Public Utilities Company

Jorge Puentes
Electric Operations Manager – Northeast Division
June 10, 2010

Parties/Staff Handout
on 6/10/10

FLORIDA PUBLIC UTILITIES

Florida Public Utilities Company Description

- Small Investor Owned Electric Utility
- Approximately 28,000 Customers
- Small Service Territory
  - Northeast Florida Division - Amelia Island and Fernandina Beach
  - Northwest Florida Division – Parts of Jackson, Calhoun and Liberty Counties

FLORIDA PUBLIC UTILITIES

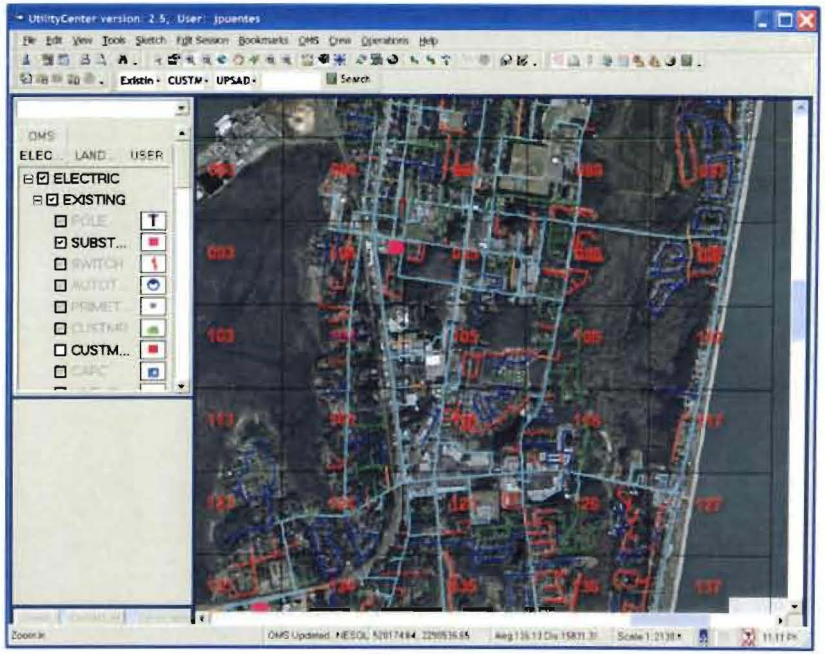
Status - Storm Hardening Initiatives

- Vegetation Management – Ongoing implementation of the 3/6 year cycle.
- Joint-use Pole Attachment Audit – Current agreements to be used. Pole loading issues identified.
- Transmission Inspections (6 year cycle) - Visual Inspections Completed in 2008 an 2009. Climbing Inspections in accordance with Storm Plan to begin during 2010.

FLORIDA PUBLIC UTILITIES

Status - Storm Hardening Initiatives

- GIS and Outage Management - Northeast Florida Division
- GIS, Outage Management, and SCADA -Northwest Florida Division



FLORIDA PUBLIC UTILITIES

Status - Storm Hardening Initiatives

- Transmission Storm Hardening - Several projects completed.

- Post Storm Data Collection & Forensics - Procedure established and plan to use a contractor.

FLORIDA PUBLIC UTILITIES

Status - Storm Hardening Initiatives

- Outage Data for OH and UG Systems – Collection and reporting has been implemented.
- Coordination with Local Governments – Proactive participation with local EOC's.
- Collaborative Research – Active involvement with PURC.

FLORIDA PUBLIC UTILITIES

Status - Storm Hardening Initiatives

- Disaster Preparedness and Recovery – Plans were developed and implemented.

FLORIDA PUBLIC
UTILITIES

Plans' Contrast - Approved vs. Updated

- Wood Pole Inspections:
  - Currently doing detailed inspections of all poles (1/8 per year) since 2008.
  - During 2008 and 2009 Inspections - Evidence to support a less detailed inspection of CCA poles was obtained:
    - No failures of 2,625 CCA poles inspected.
    - Age range was from 1 to 28 years old.

FLORIDA PUBLIC UTILITIES

Plans' Contrast - Approved vs. Updated

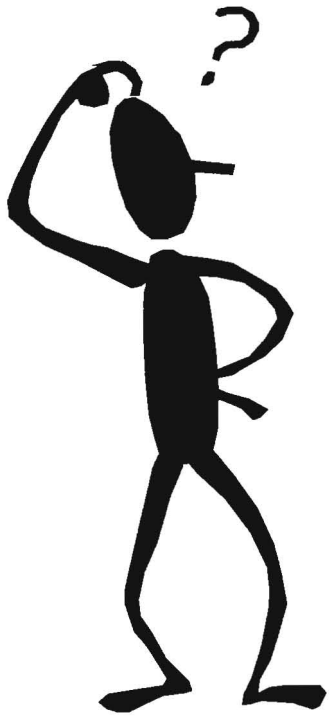
- Wood Pole Inspections (continued…):
  - Based on new facts:
    - FPUC proposes to perform a less detailed inspection for CCA poles under 16 years of age and…
    - Augment detailed inspections by 1% of CCA poles not requiring a detailed inspection.
  - Consistent with other IOUs.

FLORIDA PUBLIC UTILITIES

Summary

- Currently, as FPUC diligently continues to implement its Storm Hardening Plan:
  - Has not found any issues in achieving the 10 initiatives.
  - Continues to monitor cost impacts - Estimated cost of initiatives were included in 2008 rate proceeding.
  - Believes that implementation of this plan will improve the strength of the overall system.

FLORIDA PUBLIC UTILITIES



QUESTIONS ??

FLORIDA PUBLIC UTILITIES