BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

PETITION FOR DETERMINATION OF NEED FOR CITRUS COUNTY COMBINED CYCLE POWER PLANT, BY DUKE ENERGY FLORIDA, INC. — DOCKET NO. 140110-EI

PETITION FOR DETERMINATION OF COST EFFECTIVE GENERATION ALTERNATIVE TO MEET NEED PRIOR TO 2018, BY DUKE ENERGY FLORIDA, INC. — DOCKET NO. 140111-EI

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VOLUME 2
Pages 67 through 261

PROCEEDINGS: HEARING

COMMISSIONERS PARTICIPATING: CHAIRMAN ART GRAHAM
COMMISSIONER RONALD A. BRISÉ
COMMISSIONER LISA POLAK EDGAR
COMMISSIONER EDUARDO E. BALBIS
COMMISSIONER JULIE I. BROWN

DATE: Tuesday, August 26, 2014

TIME: Commenced at 2:00 p.m.
Concluded at 4:50 p.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: DEBRA R. KRICK
Court Reporter

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APPEARANCES: (As heretofore noted.)

I N D E X

WITNESSES

INDEX TO EXHIBITS

NO.	RECEIVED
2-6	151
7-14	152
15-16	162
17-20	185
29-34	260

P R O C E E D I N G S

(Transcript follows in sequence from Volume 1.)

CHAIRMAN GRAHAM: All right. So unless I am mistaken, we are on opening statements.

I will give you guys a list, this is probably what we are going to do as we go through all the witnesses as we ask questions. I will start with OPC, and then I will start with this end and work my -- actually, I will start with this end and work my way across just so you guys know you are next sort of thing.

So since we are there, we will start with OPC.

MR. REHWINKLE: Thank you, Mr. Chairman.

Commissioners, the Public Counsel finds itself intervened in a need determination proceeding for the first time in memory, and perhaps the first time ever, because of the unprecedented circumstances associated with the loss of the CR3 nuclear plant and cancellation of the LNP project.

As a signatory to a complex and comprehensive global settlement that delivered over $2.3 billion in value to Duke's customers, the OPC and others agree to a process that gives Duke an opportunity to demonstrate to the Commission that Duke has both

the need for generation resources and has identified the lowest cost reliable prudent generation resource solution to the dilemma that Duke's action have created.

The customer representatives did not agree that Duke should build or acquire units, or that there was a presumption in Duke's favor to build or buy solely as a result of us agreeing to the 2013 settlement.

Paragraph 16 of the revised and restated stipulation and settlement agreement generally provides the basis for this proceeding, together with the Commission's need determination rule and the provisions of Chapter 403. The public Counsel urges the Commission to be mindful of the circumstances that gave rise to the need that Duke presents to you, even though the Commission is charged in every need determination proceeding with not allowing costs in excess of those that are necessary for the provision of reliable electric service.

And we ask that the Commission be especially vigilant and hold Duke to its burden of proof in light of the fact that customers are paying, or will soon be paying, for the abandonment of three

nuclear generation projects while also facing the prospect of paying for the generation needed to replace the power that would have been produced by that abandoned generation.

As a basic proposition, the Public Counsel submits that the Commission should find that the lowest cost prudent reliable solution should be selected in the event that the Commission determines that Duke has met its burden to demonstrate to you that a need exists, if, indeed, one does, for any of the units proposed for building or buying.

The Public Counsel believes that from the customer's perspective there are two core issues that remain for resolution in these two dockets; however, their issue related to docket 140111 that concerned the Public Counsel, i.e., consideration of sunk costs, has effectively been deferred, and we will address those issues whenever Duke brings that portion of the docket that you have allowed to be withdrawn today back before the Commission.

With respect to the big GBRA docket, or 140110, we concur in the position that you will hear from White Springs. For the record, though, we object to a denial of Duke, on due process

grounds, to the lack of opportunity to fully understand the tentative settlement that Duke and Calpine have apparently reached. And we further object on the same grounds for not having the opportunity to fully understand the impact of that deal and the Osprey Combined Cycle Unit on the reserve margin and the putative need for the proposed Citrus County units.

We continue to have concerns with the load forecast that Duke proposes to use to demonstrate to you its 2018 and beyond need in this docket. Duke has projected an increase in peak demand that is approximately 1,000 megawatts greater than the recent historical trend of peak demands would otherwise indicate.

Coupled with what we perceive as a possible softness or uncertainty in the wholesale market demand that Duke has projected and the unknown impact of the Osprey unit, the Public Counsel submits that the Commission should, but only after providing a minimum due process by giving the parties additional time to conduct formal discovery, even on an expedited basis, we think you should proceed cautiously in considering and potentially approving a 2018 need of all of the

1,640 megawatts that Duke proposes to meet its forecasted need.

In the end, Duke has the burden of showing to you it has a need and that its chosen method of meeting that need is the most prudent, reliable and cost-effective method. The Public Counsel does not believe that this burden has yet been met.

Thank you, Commissioners.

CHAIRMAN GRAHAM: Thank you, Mr. Rehwinkle.

Excuse me, Calpine.

MR. WRIGHT: We will waive our opening.

CHAIRMAN GRAHAM: Okay. Shady Hill.

MS. SHELLEY: Shady Hill also waives its opening.

CHAIRMAN GRAHAM: Okay. PCS.

MR. BREW: Thank you, Mr. Chairman. Good afternoon. I will try not to be too repetitive from this morning.

There are two basic issues. One is what is the capacity need going forward and what resources best meet those needs. And as Mr. Rehwinkle mentioned, and also NRG witness Pollock, the costs of the resource acquisitions, whatever they are, are going to be added on top of the bill that ratepayers are going to see following from the

revised and restated agreement, particularly in 2017, and so it's particularly important to be mindful of potential rate impacts. And as a very large customer that is constantly challenged to remain competitively -- economically competitive due to the global competitive concerns, that is a very serious concern. On the other hand, as an interruptible customer, we generally support Duke's efforts to maintain a reasonable capacity reserve margin.

Here, however, we are struck by what seem to be some implausible leaps in Duke's near term load forecast that are necessary to justify all of the claimed resources. And based on this morning's discussions, we also have the complication of we are not sure exactly which resources we are talking about in terms of the capacity need. If, in fact, Duke elects to purchase a combined cycle unit, that will change the resources in its mix, and resources are not completely fungible. They may not need 1,600 megawatts of combined cycle resources in 2018. We don't have information on that yet.

And so first is we are concerned that Duke has not demonstrated that its load forecast is reasonable, and that both recent trends and recent

information don't back up what they claimed in their forecast.

Next, for any of you that may have attended the NARUC summer meetings, certainly a large topic of conversation is what are said changes in terms of distributed energy resources and other new developments that could seriously impact how the utilities do load forecasts in the near future.

So from our perspective, those circumstances all argue for a cautious approach by the Commission to not overcommit capacity on the backs of ratepayers that already bear among the highest rates in the state.

Overall, PCS does not object, per se, to Duke's plans for Hines Chillers, which seem economic and which the utility really can do as great deal of flexibility and when it chooses to do it; but we feel that the record is, at best, incomplete with respect to the need for the Citrus units, and that the available evidence shows that Duke is trying to build too much capacity too soon relative what are reasonable expectations.

Thank you.

CHAIRMAN GRAHAM: Thank you. NRG.

MS. RULE: Thank you. NRG is actually a

customer of Duke and, like every customer, is interested in the lowest possible rates and from a utility that has, right now, highest rates and looking at possibly raising them higher to pay for the acquisitions, and also the building that they are looking for in these dockets.

As a customer, we echo and adopt each and every concern voiced by Mr. Rehwinkle, particularly with regard to the due process implications of pulling apart the bits and pieces of their request at this late date.

I would like to address specifically the Suwannee docket. We do not understand at this point, because we haven't had enough time, we don't understand the implications of pulling the Suwannee project out and leaving the Hines project in. We think we need more time to look at that. If I understand Mr. Burnett's argument this morning, he said that case was put forth in Mr. Borsch's rebuttal testimony. If Mr. Borsch's rebuttal testimony has now become Duke's primary case, I think that's a due process problem. We have had no opportunity to respond to that.

So we maintain our objection. We will continue to participate, but as a customer, and as

a competitor, we believe the process that Duke has chosen in this case is objectionable.

Thank you.

CHAIRMAN GRAHAM: Thank you. FIPUG.

MR. MOYLE: Thank you, Mr. Chairman. It's been a busy morning already, and we haven't sworn the first witness, but FIPUG has historically used analogies to describe its position, and we have focused on some car analogies, and I am going to do that again this morning for a couple of reasons. One, the subject matter that we are talking about can get pretty dense pretty quickly. And I think car analogies are more understandable for a lot of the people who are affected by these decisions.

We used the car analogy on the uprate for Crystal River 3 and said, look, we are not sure if the engine block on this car is broken or not. Before you go spend a bunch of money on new tires, let's figure out whether the engine block is broken or not. New money was spent on the tire tires. The tires are never going to go anywhere, and that was hundreds of millions of dollars that the ratepayers suffered in current expenses that they are not getting anything for.

We recently used the car analogy with respect

to a $54 million item in the nuclear docket and said it was analogous to a kid asking the dad for 1,000 bucks for a car, and then the kid never bought the car and wanted to keep the money.

And sticking with the car theme today, what I think you all are being asked to consider is Duke would like to have a new car. They would like to have a fancy, expensive new car, $1.5 billion represented by the Citrus County Combined Cycle, but FIPUG would argue, hey, there is already a family car that is out there, that's paid for, and that can continue to operate, and that's Crystal River Units 1 and 2. Those are coal fired units that you will hear Mr. Borsch say, yeah, we do have the permits from DEP to run these through 2020. And witnesses from Calpine, and others who I think you will be able to hear, said, there is value to deferral.

And like a family who's making a decision should there be a new car with a large capital investment, or should we try to run the you car that we have for a couple more years and get the mileage out of it. It's paid for. We think that's the better proposition and that you all should defer Citrus County in 2018.

And what happened this morning -- I will explore it during some cross-examination -- but we think that that bolsters that argument for a couple of reasons. One, I think you will hear people say, yeah, if we do this Calpine deal, we have to build a transmission line, but that will come on-line in 2018. And that's, I think, 500 megawatts. So how does that factor? We would say we think that argues to defer the 1.5 billion Crystal River Combined Cycle Unit.

We also think there is value in deferral, because it gives you flexibility. You know, the world changes. Think of where we were, you know, 2018 -- what is it, four years from now if my math is right? If you go back and say, well, where were we four years ago in hindsight? Well, I think we were -- we had a company called Progress Energy Florida, and I think they were all in on nuclear, you know, Levy, Crystal River update, and look how the world has changed there. There is no longer a Progress Energy Florida. It's Duke Energy. There is no nuclear projects really to speak of, and so the world changes.

Mr. Bruce said the NARUC Commission had a lot of discussion about distributive generation. That

may happen. You know, I think something like two-thirds of the country are being served by regional transmission organizations, ISOs. You all have looked at that. If that happens, you don't have the utilities planning for themselves, they look at the state as a whole. And a state as a whole is long in power.

My point is simply that things change, and you all respectfully should try to retain some flexibility and not get locked into a spend right now of 1.5 billion that we don't think is needed in 2018 that can be deferred. Can it be deferred one year? Two years?

Mr. Borsch is going to say, well, this will cost ratepayers more money in the first year. In his deposition I said, well, how about in the second year and the third year and the fourth year? He said, well, I really hadn't studied that.

So anyway, I think the point that we are making is, you do not have to move forward at this time on the 2018 Crystal River. And we suggested in our statement that we filed with you, our prehearing statement, that we think you could grant the need determination as filed but impose some conditions on it, that the construction of the

plants be deferred and that Duke provide some additional updated information on things like their load growth and, you know, some of these deals.

This issue that you have in front of you now with this new deal, it raises a lot of questions. And I think that you all would be wise to give yourself a little room to defer the Citrus River plant, you know, two years, three years, I think there is some discretion in that, and that would be a wise decision.

I don't think Duke -- they will say, well, you got to vote up or down on this. But if you grant their need determination with some conditions, I think they might be hard pressed to challenge you and say, well, no, we are not going to -- we are not going to accept that.

I think that you probably could do a conditional grant, which is something we suggested; or we suggested that you deny, but give them the ability to some back in with some additional information.

There is a lot of questions. I think the questions that there is a lot more questions given what's happened this morning. And I know that in my case in arguing for a deferral, I intend to ask

a lot of questions about how this would work. And, again, I will show you the permit -- the most recent draft permit from DEP that says, yeah, you can run this through 2020, and money has been spent on it. And like the family car that you have continued to maintain, you shouldn't discontinue it and go buy a new car sooner rather than later. You should go ahead and get all the mileage out of it.

And final point on that is we got a lot of rates getting kind of laid on ratepayers quickly. You got all the nuclear stuff from Levy, the other Crystal River 3 stuff. Even if it could save ratepayers a little money, there is something about spending all your money in one year. If it's valuable to put it out a couple of years, you can say I can manage from that better from a cash flow perspective. I think that's another reason why you should strongly consider the deferral argument that we are putting forward and ask you to seriously consider when you are hearing the evidence in this case.

So thank you for the chance to share those thoughts with you, Mr. Chairman and other Commissioners.

CHAIRMAN GRAHAM: Thank you, sir.

SACE.

MR. CAVROS: Thank you, Mr. Chairman, Commissioners. I am going to take this dialogue in a slightly different direction.

Commissioners, one of the legal thresholds that Duke has to meet in this proceeding is to prove that it's utilized all reasonably available conservation measures to mitigate the need of 16 -- well, 1,640 megawatts of new generation in 2018. This legal requirement also protects customers, because it ensures that future demand will be met with investments in lower cost, lower risk resources before the company is permitted to commit to a longer term, higher cost, higher risk power plant project.

To be clear, SACE supports the timely retirement of Crystal River Unit 1 and 2. That said, Duke Florida -- Duke Energy Florida has not met its burden to proof that it has utilized all reasonably available conservation measures. That means that customers could be paying for generation they don't need, and it could be mess more cost effectively with lower cost measures like energy efficiency. And that conclusion is based on the following facts.

Prior to filing its conservation goals in 2014, the company never came to the Commission on its own accord for approval of new and innovative programs to help meet the projected demand for 2018. Now, when it did propose conservation goals earlier this year, the goals, number one, were significantly lower and had lower demand energy saving goals than what the company was currently achieving. And number two, the goals were not based on avoiding the proposed 1,640 megawatts of new generation in 2018.

And as you know, Commissioners, in your cost-effectiveness tests that are used for energy efficiency potential, mitigating capacity is a benefit for energy efficiency measures. So all things being equal, the higher avoided capacity values for efficiency measures, the more cost effective they are, and that savings potential can be counted towards achievable potential and rolled into the company's conservation goals.

The company argued that its proposed conservation goals won't mitigate the need for the 2018 plants. And that may be the case, since the company intentionally designed their modeling to reach that predetermined outcome.

The demand in energy savings potential upon which the company's proposed conservation goals are based was constrained to not allow conservation measures to mitigate the need for the 2018 plant.

And, Commissioners, unfortunately, Florida's resource planning process is easily manipulated by the state's big power companies to produce favorable results for resources, such as power plants that maximize shareholder profit. Conservation goals are set everybody five years at this point, and then need determination requests are filed in between the goals setting dockets. And this disjointed planning process often allows a company to file a petition for a plant that has never gone head to head with energy efficiency in the company's resource plan.

Case in point, the proposed generation addition in this docket for 2018 was not considered as an avoidable unit in the company's proposed 2015 to 2024 conservation goals currently pending before this commission. The company argues, by virtue of simply filing an RFP in October last year that that unit can't be considered now as an avoidable unit through conservation.

This highlights, Commissioners, the fact that

we need a more honest and open resource planning process in Florida, one that's coordinated and open and allows a meaningful stakeholder participation and that places all resources on a level playing field. The current process is dismissive of lower cost, lower risk resources, and it's is a disservice to customers.

And lastly Commissioners, I think it's important to note that there is a distinct financial disincentive for investor owned utilities to pursue meaningful levels of efficiency. Conservation measures such as energy efficiency can defer or eliminate the very assets upon which company shareholders earn a rate of return. And that's why big power companies will move mountains to get large power plant projects approved by this commission but provide countless excuses on why they can't help customers reduce energy use and save money on their bills.

Thank you.

CHAIRMAN GRAHAM: Thank you, Mr. Cavros.

All right. That's everybody's opening statement. I guess we are moving on to calling witnesses. Just a reminder to everybody that there is no friendly cross. I don't think we are going

to have any today, but just a reminder so --

MR. LAWSON: Commissioner, I believe some of the parties have been discussing possibly withdrawing some of their witnesses, and I just wanted to give them a chance to see if that is the case real quick.

CHAIRMAN GRAHAM: Okay.

MS. TRIPLETT: Yes, Mr. Chairman. I will start, and then my colleagues can confirm what I say, and hopefully I get it right.

So given the Commission's ruling on the motion this morning, I believe that NRG is offering to withdraw the testimony in the 111 docket of their witnesses Dauer and Morris. Calpine would withdraw all of their 111 witnesses. And then Duke Energy would withdraw Mr. Patton's rebuttal in the 111 and Julie Solomon's direct and rebuttal also in the 111.

And then of course, the parties would have the opportunity in the future proceeding to consider the severed portion of the Calpine offer Suwannee, when we come back that new company could be filed. It could be this. It could be different.

CHAIRMAN GRAHAM: Let me make sure I caught all of that. You are going to scratch Solomon?

MS. TRIPLETT: Yes, sir, direct and rebuttal.

CHAIRMAN GRAHAM: Dauer and Morris?

MS. TRIPLETT: Yes.

CHAIRMAN GRAHAM: And Solomon rebuttal?

MS. TRIPLETT: Right. And Calpine, I think for the 111, it's Thornton, Hunger and Hibbard and Simpson.

CHAIRMAN GRAHAM: So we're going to --

MR. WRIGHT: Mr. Chairman.

CHAIRMAN GRAHAM: Yes.

MR. WRIGHT: With the understanding articulated by Ms. Triplett, i.e., that we may refile testimony -- file new testimony based on the facts on the ground at the time. When the Osprey project comes back, hopefully, for approval, or Suwannee comes back, or some other future proceeding relative here, but that we have the right to participate and file new testimony, as any other party will, I think, we will withdraw our testimony of all of our witnesses from the 111 docket and also from the 110 docket.

CHAIRMAN GRAHAM: Okay. That's the question -- that's what I didn't understand, because I noticed that Thornton, Hibbard and Simpson were also in the 110 docket.

MR. WRIGHT: Yes, sir.

CHAIRMAN GRAHAM: And so say you all?

MS. RULE: I believe -- I wanted to clarify, and Mr. Patton's rebuttal was also going to be withdrawn, correct?

MS. TRIPLETT: That's right, but not -- he has direct testimony in the 110 docket, and that would remain.

MS. RULE: Correct.

MR. MOYLE: Can I be heard on this?

CHAIRMAN GRAHAM: Hold on just a second.

Mr. Patton on the reb -- Mr. Patton's rebuttal is going to be pulled?

MS. TRIPLETT: That's right, in the 111 docket.

CHAIRMAN GRAHAM: Okay. Mr. Moyle.

MR. MOYLE: So earlier today when we were talking about this process, I thought I understood there to be a comment about more being better than less, and that we were going to put a bunch of this in the record. And now I think that's 180 degrees from where the conversation was a few hours ago, and I thought it was, oh, we want this commission to have a full record upon which to make a very complex, you know, hundreds of millions,

billion-dollar decision, and now it looks like there is a lot of stuff coming out.

And I know from FIPUG's perspective, I wasn't sure whether the gentleman from Massachusetts, the former commissioner who filed testimony that said there was, he believed, value in doing Calpine's deal and then deferring, which is now what's happening. You know, we want to try to understand is this a good deal for ratepayers or not a good deal for ratepayers. I want to ask that gentleman some questions about, okay, now that this Calpine deal is in place, what do you understand of it? And is it a good daily for ratepayers? And is your testimony about deferral still stand or not?

So we -- you know, we would object to his testimony going away and --

CHAIRMAN GRAHAM: Who's that?

MR. MOYLE: Mr. Hibbard, Paul Hibbard.

CHAIRMAN GRAHAM: So you want to cross-examine Paul Hibbard?

MR. MOYLE: Yes.

CHAIRMAN GRAHAM: Anybody else have any objections?

MR. WRIGHT: We do, Mr. Chairman.

CHAIRMAN GRAHAM: Okay. Hold on a second.

Yes, ma'am.

MS. RULE: I just wanted to point out that NRG's agreement with Duke to withdraw its witnesses Dauer and Morris was not contingent upon any agreement that Calpine made to withdraw its testimony, it is not a group deal.

CHAIRMAN GRAHAM: Okay.

MS. RULE: So we agreed with Duke to withdraw our reciprocal witnesses. Calpine's agreement is entirely independent. We do not have an agreement with them. We do not object to FIPUG wanting to keep them in the case.

CHAIRMAN GRAHAM: Mr. Wright, I will be right there with you.

MR. WRIGHT: Yes, sir.

CHAIRMAN GRAHAM: Any other objections to any of the other witnesses that were listed to be pulled?

MR. MOYLE: Can we just have one minute --

CHAIRMAN GRAHAM: Sure.

MR. MOYLE: -- to.

CHAIRMAN GRAHAM: I will hear from Mr. Wright.

Mr. Wright.

MR. WRIGHT: Mr. Chairman, I would submit to you that we have an absolute right to withdraw our

witness' testimony, and so we will, now verbally or by a notice, before they would otherwise take the stand, in writing.

CHAIRMAN GRAHAM: Maryann.

MR. MOYLE: Can I just be heard on that?

CHAIRMAN GRAHAM: Hold on. Hold on. You stirred this pot.

MS. HELTON: I heard Mr. Wright say that he believes he has an absolute right to withdraw his witness' testimony, and I do agree with that, but he made a statement after that which I did not understand. I mean, I just could not hear it.

MR. WRIGHT: Mr. Chairman, I was simply saying that I would do so now verbally, or if it were the Commission's desire, we will file a formal notice of withdrawal later on. We just haven't prepared that writing yet. That's all I said.

MS. HELTON: I believe that, you know, each -- when you identify the witnesses that will be present at a hearing, that you still have the ability to not bring that witness to the hearing, to not put that witness on the stand, and you deal with the consequences of that. But I believe that Mr. Wright, if he doesn't want to put his witnesses on the stand, that I am not sure that you can

compel Mr. Wright's witnesses to go to the stand.

CHAIRMAN GRAHAM: Okay. Mr. Moyle.

MR. MOYLE: So given the practice at the Commission, I tend to agree with Maryann's statement with this caveat; the practice before the Commission has changed as of this morning, when we said, okay, we got a new deal, and the conversation was, we are going to allow exploration of issues related to that new deal is more akin to a live trial, where people are calling witnesses, I think, and putting them on and there is, you know, exchange and it's not -- you know, we are not wed to the prefiled testimony and it's going to ask him questions.

I think, respectfully, if I was at the Division of Administrative Hearings and the other side had a witness in the room and I said -- I have identified other witnesses as potentially having the ability to call them, I think I would just call them and say, I want to call Mr. Hibbard in my case as an adverse witness. I want to call him. I want to put him on the stand. I want to ask him some questions. I think that might be permitted. So that's what I am trying to do.

I mean, given the change in circumstances, the

rapid change that took place on the fly, you know, I want to ask him some questions about this deal, and is it still good for ratepayers. I mean, it shouldn't be -- you know, if the deal is, hey, this is good for ratepayers, they ought to be able to take the stand and tell us why they think it is.

CHAIRMAN GRAHAM: Commissioner Balbis.

COMMISSIONER BALBIS: Thank you, Mr. Chairman. And I am kind of confused as well. When we were having the discussion this morning, I specifically asked staff on three components of this docket, or these two dockets, concerning the removal of the Suwannee Simple Cycle Project, and that was what issues would be changed? And staff identified just striking out the Suwannee project. And then the next question was, what about the testimony? And I was assured that the testimony would be entered into the record. And then finally, I asked about the witnesses, and I was assured that the witnesses would be available.

So I am not sure about, you know, the rights of each party to withdraw their witness as a separate matter, but the withdrawal of the Suwannee Project from this docket was contingent upon, at least in my case, on those three factors. And now

we come back from the break and there is a list of witnesses that are requested to be recused or removed. So I am confused about what happened during the break.

CHAIRMAN GRAHAM: Was that a question to staff?

COMMISSIONER BALBIS: It was a question to Duke. Was there a misunderstanding as to what the discussion was up here as far as witnesses being available, or did something change during the break?

MS. TRIPLETT: It is my understanding that there were some witnesses that addressed both projects, and so to the extent they addressed both projects, it was cleaner to put all of the evidence in and let the parties talk just about the Hines specifically in the 111 docket, talk about the Hines Project to the extent that there are witnesses who address both.

But the witnesses that we are discussing here that NRG approached us about only addressed Suwannee issues. And so because there is no issue now in the prehearing order as to whether Suwannee is cost-effective, we -- that issue is going to be the subject of a future proceeding. That's why we

were proposing to withdraw those witnesses that only addressed the Suwannee Project.

COMMISSIONER BALBIS: Okay. But the problem we have is that the issues, starting with issue nine, include both Suwannee and the Hines Chiller Project and going down the list. And the witnesses, although, you know, you state they only address the Suwannee Project, in essence, because you are dealing with a need determination, it's kind of all intertwined.

So, again, I thought we were getting as much information in the record as possible and then making decisions at that point and -- so I thought it was pretty clear that we were going to have the witnesses.

Now, personally, I know the witnesses that deal with just the FERC issues, I know those may be moot, and I would be comfortable with that. But I may need a few minutes to go through the proposed witnesses and see if I would be comfortable with that.

CHAIRMAN GRAHAM: Okay. You want five minutes?

COMMISSIONER BALBIS: If I could have Duke and the parties to again state which witnesses they

would like to be excused, that would be helpful.

CHAIRMAN GRAHAM: I can go through that list. Starting from -- do you have the witness list in front of you?

COMMISSIONER BALBIS: Yes.

CHAIRMAN GRAHAM: Okay. Solomon, Thornton, Hibbard, Simpson and Hunger, Dauer and Morris all on direct testimony. Patton and Solomon on rebuttal.

MR. MOYLE: And all this -- this is all being withdrawn, that's right? We are not stipulating to them, to be clear.

CHAIRMAN GRAHAM: That's correct. And the one that Mr. Moyle had objection to was Hibbard. We got 20 till, let's take a five-minute break until a quarter of 3:00.

(Brief recess.)

CHAIRMAN GRAHAM: Okay. Commissioner Balbis, you have the floor.

COMMISSIONER BALBIS: Thank you, Mr. Chairman.

In speaking with our legal staff, they have convinced me that apparently there is no way to prevent the party from withdrawing their witness. So with that in mind, I have to go back to my original position when we dealt with the motion to

remove the Suwannee Project, and my concerns were that Duke had identified a need and provided, in their petition, a way to meet that need with three projects, and the motion requested to remove one of those projects which was an integral part. And I was afraid that if we do that, that we are not going to have complete information to render a decision in both the 110 and 111 dockets.

So that was my reason to support that motion, because the information was going to come in, the witnesses were going to be available and we would have that complete picture.

So I am not sure from a procedural standpoint what would be the best thing do, but if there is a way that I can make a motion to reconsider that decision since the facts have changed, I would like to proceed in that direction.

CHAIRMAN GRAHAM: A question for you before you make that motion. Which witnesses are it that you want to question? Because the only Duke -- the only Duke witness that was pulled was Solomon, except for Patton on rebuttal.

COMMISSIONER BALBIS: Correct. But with the Calpine and NRG witnesses, with exception to Hibbard being removed, then there is essentially no

other witnesses presenting any position other than Duke's.

So when we are looking at a petition to fulfill a need in determining whether these projects are required or they are the most cost-effective projects, I believe that we will only have one side of that story, if you will.

So that is my concern, because we are dealing with a contested need. There is -- some of these witnesses have provided evidence that perhaps that much of a demand is not going to be needed to be met. And that there is also evidence from several witnesses on different cost-effective methods to meet that need, whether it's NRG or Calpine.

So that's my concern, is that with eliminating these witnesses without having the information on what the withdrawal of Suwannee from the mix would do. If they had an agreement with Calpine and we could insert the 510 megawatts and look at it that way as a complete picture, I would be comfortable with it, but we do not have that. We have, you know, some vague discussions that they may come up with an agreement.

CHAIRMAN GRAHAM: If I can get you to hold off for just one second before you make that motion to

see what resolution they came to with FIPUG, and then we will come back to that motion, if that's okay, Commissioner Balbis.

MR. WRIGHT: Mr. Chairman, the agreement that FIPUG's counsel and we came to is that we would offer Mr. Hibbard to testify in docket 140110; which is, as I understand it, what he wanted to examine him about.

CHAIRMAN GRAHAM: Mr. Moyle, is that your --

MR. MOYLE: That's big Crystal River docket, and I think that's right. Mr. Hibbard's testimony, which I understand is the same in both dockets, if it comes in and I get a chance to converse with him, I am good.

CHAIRMAN GRAHAM: Okay. That solves your problem?

MR. MOYLE: Right.

CHAIRMAN GRAHAM: Okay. Commissioner Balbis, if you want to --

MS. RULE: Mr. Chairman, if I may. I certainly don't want to interrupt and don't disagree with the commissioner. I just want to point outing NRG's witness Dauer only addressed the gas supply issue with regard to peaking plants. It did not address the base-load need and the FERC

witness; likewise, our other witness is still in the case.

CHAIRMAN GRAHAM: Commissioner Balbis.

COMMISSIONER BALBIS: Yes.

CHAIRMAN GRAHAM: If you wanted to make a motion, the floor is yours.

COMMISSIONER BALBIS: Thank you, Mr. Chairman.

Again, not to repeat myself, but I agreed and supported that motion because it was my understanding the witnesses would be available and the evidence would be entered into the record. It's not as if we are faced with a proposal to stipulate the witnesses' testimony, I would be much more comfortable with that, but it's going to be removed. And I would not have supported that motion initially, and I even clarified with the maker of the motion that that was not the case, and she clarified that it was the order and not about the witnesses themselves. So with that, I move that we reconsider our ruling on that motion.

CHAIRMAN GRAHAM: I got a motion. Do I have a second?

Commissioner Balbis, that motion dies for lack of a second.

COMMISSIONER BALBIS: Okay. Thank you.

CHAIRMAN GRAHAM: Okay. So back to Duke, Calpine's and NRG's request, we are removing Solomon, Thornton, Hibbard -- I am sorry, not Hibbard -- Solomon, Thornton, Simpson, Hunger, Dauer and Morris all on direct, and Patton and Solomon on rebuttal; is that correct?

MR. WRIGHT: Mr. Chairman, that is correct, with the clarification that we are withdrawing Mr. Hibbard's testimony in what we are calling the little GBRA, or the Suwannee docket, 111. We are going to admit Mr. Hibbard's testimony in the Citrus County docket, 140110.

CHAIRMAN GRAHAM: Do you know which issues those cover? Is that --

MR. WRIGHT: Yes, sir.

CHAIRMAN GRAHAM: -- 10 through 14? 10 through 15?

MR. WRIGHT: No, sir. The Citrus -- oh --

CHAIRMAN GRAHAM: So it's two through seven.

MR. WRIGHT: Hang on. I am sorry. I thought the -- hang on. Yep. It's -- he will remain addressing two, three, five, six and seven.

CHAIRMAN GRAHAM: Okay. All right. So I hear no objections out there from the intervenors on removing those witnesses, correct?

All right. So staff, that doesn't require a motion from us. That's just to acknowledge that we have done that.

MR. LAWSON: I believe all you need to do is just acknowledge that, for the purposes of organization, that they have been withdrawn. And I would also just suggest we remind everyone that, as previously discussed Mr. Borsch, I believe, will be going date certain tomorrow morning. And then from there, we can simply proceed with the remaining witnesses, which I believe would be starting off with Mr. Landseidel.

CHAIRMAN GRAHAM: All right. Well, we are now to swearing in witnesses. So for those of you that are left that are here, if I can get you to stand and raise your right hand.

(Whereupon, witness present were duly sworn.)

CHAIRMAN GRAHAM: Thank you.

Duke, call your first witness.

MS. GAMBA: Thank you, Chairman, Duke calls Mark Landseidel.

Whereupon,

MARK LANDSEIDEL

was called as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing

but the truth, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. GAMBA:

Q Good afternoon, Mr. Landseidel.

A Good afternoon.

Q Are you ready to proceed?

A I am ready.

Q Thank you. Will you please introduce yourself to the Commission and provide your business address?

A My name is Mark Landseidel, and my business address is 400 South Tryon Street in Charlotte, North Carolina.

Q Have you already been sworn in as a witness?

A Yes.

Q Who do you work for and what is your position?

A I work for Duke Energy Corporation, where I am the Director of Project Development and Initiation.

Q Have you filed direct testimony and exhibits in docket numbers 140110 and 140111?

A Yes.

Q Do you have your prefiled direct testimony with you today?

A I do.

Q Do you have any changes to make to your prefiled direct testimony?

A No, I do not.

Q If I asked you the same questions in your direct testimony, would you give the same answers?

A Yes.

MS. GAMBA: We request that the prefiled direct testimony filed in docket numbers 140110 and 140111 of Mark Landseidel, dated May 27th, 2014, be entered into the record as though read.

CHAIRMAN GRAHAM: We will enter that prefiled direct testimony into the record as though read.

IN RE: PETITION FOR DETERMINATION OF NEED

BY DUKE ENERGY FLORIDA, INC.

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF MARK E. LANDSEIDEL

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Mark E. Landseidel and I am employed by Duke Energy Corporation. My business address is 400 South Tryon Street, Charlotte, North Carolina.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am the Director of Project Development and Initiation in the Duke Energy Corporation Project Management and Construction ("PMC") Department. In this role, I am responsible for the initiation and development of major non-nuclear generation projects for Duke Energy Florida, Inc. ("DEF" or the "Company"). As Director of Project Development, I have responsibility and management oversight for the Citrus County Combined Cycle Power Plant Project for the Company.

Q. Please summarize your educational background and employment experience.

A. I graduated from Colorado State University in May 1982 with a Bachelor of Science in Engineering. I completed the General Manager Program at Harvard Business School in November 2001. I am a certified Project Management Professional. I

joined Duke Energy Corporation in July 1982 and I have worked in a number of departments including plant operations, plant maintenance, business development, and project management and construction in my 32 year career with Duke Energy Corporation. I have been responsible for project development, project management and construction of a number of major projects since August 1996, including responsibility for the initiation, development, and construction for combustion turbine and combined cycle generation plants, including the Buck and Dan River 2X1 combined cycle projects in North Carolina, which completed in 2011 and 2012 respectively. I assumed my current position with Duke Energy Corporation in July 2012.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of the Company in support of its Petition for Determination of Need for the Citrus County Combined Cycle Power Plant. I will describe and explain the site and unit characteristics for the Citrus County Combined Cycle Power Plant, including the size, equipment, equipment configuration, fuel type, fuel supply mode, and other aspects of the project. I will also explain the estimated costs and projected in-service date for the Citrus County Combined Cycle Power Plant project.

Q. Are you sponsoring any sections of DEF's Need Study?

A. Yes. I am sponsoring the projected costs and projected performance for the Citrus County Combined Cycle Power Plant project in the Need Study.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ____ (MEL-1), a preliminary aerial site plan of the Citrus County Combined Cycle Power Plant site in Citrus County, Florida;
- Exhibit No. ____ (MEL-2), the preliminary general arrangement of the Citrus County Combined Cycle Power Plant at the Citrus County site;
- Exhibit No.___(MEL-3), a copy of the Sargent & Lundy Consulting LLC ("S&L") Citrus County Combined Cycle Station Risk Analysis for Single Fuel Operation;
- Exhibit No. ___ (MEL-4), a table of the major cost items for the Citrus County Combined Cycle Power Plant project; and
- Exhibit No. ___ (MEL-5), the projected schedule and key milestones for completion of the Citrus County Combined Cycle Power Plant project.

Each of these exhibits was prepared under my direction and control, and each is true and accurate.

Q. Please summarize your testimony.

The Citrus County Combined Cycle Power Plant is a highly efficient, state-of-the-art natural gas-fired combined cycle generation plant that when built and placed in commercial operation will provide DEF's customers with reliable, flexible, reasonably priced power generation for more than thirty years. The Citrus County Combined Cycle Power Plant will be located on a site next to the Company's existing Crystal River Energy Center ("CREC") that takes advantage of adjacent CREC and transmission infrastructure for the benefit of DEF customers. The Company has a

detailed schedule and plan for the construction of the Citrus County Combined Cycle Power Plant and plans to bring the Plant on-line on schedule and on budget to meet customer needs in 2018.

III. DESCRIPTION OF THE CITRUS COUNTY SITE.

Q. Please describe the location of the Citrus County Combined Cycle Power Plant project.

A. The Citrus County Combined Cycle Power Plant will be located on a 400 acre parcel in Citrus County, Florida, adjacent to the Company's existing CREC. A preliminary aerial site plan showing the location of the Citrus County Combined Cycle Power Plant is attached as Exhibit No. ___ (MEL-1) to my direct testimony. The Citrus County Combined Cycle Power Plant site is approximately 8 miles from Crystal River, Florida and is approximately 100 miles north of St. Petersburg, Florida. U.S. Road 19/98 (Suncoast Boulevard) runs north and south approximately two miles from the eastern boundary of the Citrus County Combined Cycle Power Plant site.

Q. Where on the site are the power plant blocks located?

A. Exhibit No. ___ (MEL-2) to my direct testimony provides the preliminary general arrangement of the Citrus County Combined Cycle Power Plant project on the Citrus County site. It shows the location of the four combustion turbines ("CTGs"), four heat recovery steam generators ("HRSGs"), two steam turbines ("STGs"), and six generator step-up transformers ("GSUs") that make up the power blocks. In addition, the location of the plant balance of plant equipment including cooling towers, pumps,

tanks, power distribution centers, water treatment building, and administration building are also shown on Exhibit No. ___ (MEL-2).

Q. Are there benefits to DEF and its customers associated with the location of the Citrus County Combined Cycle Power Plant?

A. Yes. The location of the Citrus County Combined Cycle Power Plant near the CREC allows the Company to use existing infrastructure at the CREC to support the Citrus County Combined Cycle Power Plant. For example, locating this power plant adjacent to the CREC allows the Company to use the existing CREC intake canal for sea water makeup for the Citrus County Combined Cycle Power Plant cooling towers and the existing CREC water wells for process makeup water. The Company also will use existing roads into the CREC for access to the Citrus County Combined Cycle Power Plant for construction of the plant and operation of the facility. In addition, one power block will be connected to the CREC 500kV transmission system, effectively replacing the generation from the retired Crystal River ("CR") Unit 3 nuclear unit, and the other power block will be connected to the CREC 230kV transmission system, effectively replacing the CR Unit 1 and CR Unit 2 generation when those coal-fired plants are retired. DEF's ability to use existing infrastructure facilities at the CREC for the Citrus County Combined Cycle Power Plant project avoids the cost of building separate, similar facilities for the project thus providing cost-savings from the synergistic use of Company resources for DEF and its customers.

IV. DESCRIPTION OF THE CITRUS COUNTY COMBINED CYCLE POWER PLANT.

Q. Please describe the Citrus County Combined Cycle Power Plant.

A. The Citrus County Combined Cycle Power Plant will be an advanced class gas turbine, 4 by 2 configuration, 1,640 MegaWatt ("MW") plant built in stages of 820MW each, with the first stage in commercial operation in May 2018 and the second stage in commercial operation in December 2018. As I indicated above, the 4 by 2 configuration will include four CTGs, four HRSGs, two STGS, and six GSUs. The plant will have moderate duct firing capability, which means 50 to 100 MWs of duct fired output of each 820MW block will be available as cost effective peaking capacity. The Citrus County Combined Cycle Power Plant is a natural gas fired, high efficiency plant that involves the generation of electricity in two stages, first by firing the CTGs, and second by using the hot gas from the CTGs to produce steam through the HRSGs which is fed into the STGs to generate additional electricity. This combined-cycle capability makes the most of the input fuel, by burning it and using the waste heat from that process, to generate electricity and, therefore, is a very efficient plant design to produce electrical energy. The combined cycle generation technology is one of the most efficient base load power production technologies available today.

Q. What are the advantages from building a combined cycle power plant?

A. In addition to the high fuel efficiency of the combined cycle technology, the combined cycle power technology is also an operationally flexible power technology. The

combined cycle power plant can easily and quickly adjust its power output up or down. This flexibility allows the Company to manage its system better, with the combined cycle power plant matching system operating characteristics, thus allowing the combined cycle plant to generate power to match the system load. These operating characteristics allow the Citrus County Combined Cycle Power Plant to operate in base load and load following service on DEF's system depending on system needs.

In addition, the Citrus County Combined Cycle Power Plant will have a low environmental impact under all standard operating conditions. Combined cycle power plants operating on natural gas are one of the cleanest sources of fossil fuel power generation. Natural gas is a low sulfur, low nitrogen oxide, low particulate emission plant. In addition to low Nitrogen Oxide ("NOx") combustor technology in the CTGs the NOx emissions will be controlled by a Selective Catalytic Reduction ("SCR") system located in the HRSGs that will reduce NOx emissions even further. The Citrus County Combined Cycle power plant will burn a relatively clean fuel, natural gas, and consequently have a low environmental impact.

Q. What is the fuel source for the Citrus County Combined Cycle Power Plant?

A. Natural gas will be the single fuel source for the Citrus County Combined Cycle Power Plant. The natural gas will be supplied by the Sabal Trail pipeline through a gas lateral to the plant. As explained in the testimony of Jeff Patton, DEF has contracted with Sabal Trail for 300,000 MMBtu/day of firm gas transportation capacity on the Sabal Trail pipeline to support the Citrus County Combined Cycle Power Plant's natural gas needs. Sabal Trail is a new Greenfield interstate natural gas

pipeline project that originates in Alabama, extends through Georgia, and ends in Central Florida. The Florida Public Service Commission ("FPSC" or the "Commission") approved Florida Power & Light Company's ("FPL") petition for prudence determination regarding a new state pipeline system, including FPL's selection of Sabal Trail for the Northern Pipeline Project, in Commission Order No.PSC-13-0505-PAA-EI.

Other gas pipelines into Florida will be available as additional resources in the event of a supply disruption on the Sabal Trail pipeline. Sabal Trail and DEF plan an additional receipt-only interconnect between Sabal Trail and Florida Gas Transmission Company, LLC ("FGT") in Citrus County, Florida. The interconnections with FGT in Suwannee County, Florida and Citrus County, Florida would be within the primary transportation paths on DEF's current portfolio of firm gas transportation contracts on FGT. In the event of a pipeline disruption or curtailment on Sabal Trail, these interconnects would allow DEF the ability to utilize its FGT contracts or market supply to deliver gas supply into Sabal Trail's mainline in Suwannee County, Florida or into the Citrus County Line in Citrus County, Florida, which is interconnected with the Citrus County Combined Cycle Power Plant. These alternative gas transportation options provide additional, back-up gas transportation and gas supply reliability at the Citrus County Combined Cycle Plant for the Company and its customers. This back up gas pipeline reliability is also explained in the direct testimony of Jeff Patton in this proceeding.

Q. Does DEF plan to have dual fuel capability at the Citrus County Combined Cycle Plant?

A. No. The Citrus County Combined Cycle Plant is not designed to burn fuel oil and therefore the plant will not have dual fuel capability. Dual fuel capability adds additional engineering, design, and construction cost to the plant, including the cost for dual fuel CTGS, fuel oil unloading facilities, fuel storage tanks, water tanks and associated pumps and pipes. In addition, dual fuel capability adds additional environmental costs associated with permitting, and operations costs related to receiving, storing, and burning fuel oil at the site. The Company weighed these costs and risks against the availability of additional fuel supply reliability as a result of the gas pipeline interconnections to the site that I previously discussed and concluded that dual fuel capability was not required.

Q. Did the Company consider gas supply transportation reliability before deciding against dual fuel capability at the Citrus County Combined Cycle Power Plant?

A. Yes. The Company commissioned an independent engineering risk analysis for single fuel operation based on natural gas at the Citrus County Combined Cycle Power Plant. This risk analysis was prepared by Sargent & Lundy ("S&L"). Based on this report, and DEF's own analysis of fuel supply reliability at the Citrus County Combined Cycle Power Plant with and without dual fuel capability, DEF decided that reliance on natural gas as a single fuel source at the Citrus County Combined Cycle Power Plant provided adequate fuel transportation reliability compared to the cost and risk associated with adding dual fuel capabilities at the Plant.

Q. Who is S&L?

A. S&L is a capable and well-recognized engineering firm in the electric utility industry with substantial experience in siting, designing, and engineering work for natural-gas fired, combined cycle generation plants, including the provision of gas transportation facilities for such plants.

Q. What did S&L analyze in its report on the risk of relying on natural gas as a single fuel source for the Citrus County Combined Cycle Power Plant?

A. S&L performed a detailed risk analysis to determine if the frequency and extent of potential gas supply disruptions in the southeastern states affecting the Florida Reliability Coordinating Council ("FRCC") region where the Citrus County Combined Cycle Plant will be located justified back-up fuel capability with low sulfur diesel fuel oil. This analysis considered the risks and costs of using only natural gas as a single source of fuel at the Citrus County Combined Cycle Plant. S&L concluded that the probability of gas curtailments or interruptions was very low, based on historical interruptions and the increasing reliability of the gas transportation system, including the addition of Sabal Trail in Florida. S&L further concluded that the addition of dual fuel capability at the Citrus County Combined Cycle Plant provided a negligible incremental increase in system reliability. S&L determined that natural gas transportation supply interruption risk at the Citrus County Combined Cycle Plant could be mitigated by existing dual fuel capabilities at other natural-gas fired, combined cycle plants on DEF's system and the potential ability to mitigate gas transportation supply interruptions with pipeline redundancies such as pipe looping

and interconnections with other pipelines. A copy of the S&L report is included as Exhibit No. ___ (MEL-3) to my direct testimony.

Q. Was the S&L analysis used by DEF in deciding on a single, natural gas fuel source for the Citrus County Combined Cycle Plant?

A. Yes, as I indicated above, DEF relied on this S&L analysis in deciding that dual fuel capability at the Citrus County Combined Cycle Power Plant was not necessary given the gas pipeline transportation reliability redundancy in DEF's plan for the Plant and the costs and risks associated with adding dual fuel capability at the Plant. S&L had confirmed that the risk and extent of gas supply curtailments or interruptions in the FRCC area were very low and even that minimal risk was mitigated by the additional gas transportation reliability provided by adding Sabal Trail as the third main gas pipeline in Florida. Additionally, DEF's gas transportation plan for the Citrus County Combined Cycle Power Plant includes interconnections with other gas pipelines that S&L noted were redundancies that further mitigated the risk of gas supply disruptions and curtailments. As a result, DEF concluded that the additional cost of adding dual fuel capability at the site, and the environmental permitting and mitigation issues associated with burning fuel oil as a backup fuel, were simply unnecessary and not justified by the low risk of gas supply transportation disruption to the Citrus County Combined Cycle Power Plant under the Company's gas supply transportation plan for the Plant.

Q. Will the Citrus County Combined Cycle Power Plant be the only such Plant without dual fuel capability?

A. No. S&L analyzed this issue in its report and concluded that of the forty natural gas-fired, combined cycle generation plants with generating capacity of 200MW or more in the FRCC area, seventeen (17) have no backup fuel capability. These seventeen plants without dual fuel capability rely on natural gas as a single fuel source for generation. These plants account for forty-three (43) percent of the total generating plants. See the S&L report attached as Exhibit No. ___ (MEL-3) to my direct testimony. In addition, most of DEF's other combined cycle power plants have dual fuel capability, thereby providing this resource reliability on DEF's system.

Q. How does the Company plan to construct the Citrus County Combined Cycle power plant?

A. DEF will purchase the major equipment, the CTGs, HRSGs, STGs, and GSUs, directly from the manufacturer based on competitive requests for proposals ("RFPs") with qualified, industry-leading equipment manufacturers. DEF will build the plant through a competitive RFP to qualified constructors for the primary engineering, procurement, and construction ("EpC") contract. The major equipment and EpC contracts will be fixed price contracts with appropriate contract provisions to appropriately share and minimize DEF's procurement and construction risk. DEF has experience with this contracting approach, having successfully executed several combined cycle gas turbine projects with it including Buck, H.F. Lee, Dan River, and Sutton.

Q. What will it cost to build the Citrus County Combined Cycle power plant?

A. The total project cost, including the allowance for funds used during construction ("AFUDC") and transmission interconnection costs, is $1,514 million (nominal). A breakdown of the major cost items for the Citrus County Combined Cycle Power Plant project is included as Exhibit No. ___ (MEL-4) to my direct testimony. As can be seen on Exhibit No.__(MEL-4), EpC and major equipment procurement represents approximately 83% of the project cost (not including AFUDC). As discussed above, firm/fixed price bids for the major equipment and the EpC have been received from RFPs to qualified bidders. As a result, we are confident the costs to build the Citrus County Combined Cycle Power Plant are competitive and will provide generation to our customers at a reasonable cost.

Q. What will it cost to operate the Citrus County Combined Cycle Power Plant?

A. The estimated incremental annual fixed operation and maintenance ("O&M") cost for the Citrus County Combined Cycle Power Plant is approximately $11.3 million, based on the estimate for 2019. As is standard, the largest fixed costs are wages and wage-related overheads for the permanent plant staff and expenses for unplanned equipment maintenance. The Citrus County Combined Cycle Power Plant will employ at least 40 permanent staff to operate the plant in Citrus County.

Variable O&M costs vary as a function of unit generation and as such they are expected to be higher the more the plant operates. These costs include consumables (nondurable goods), chemicals, lubricants, water, and major maintenance costs ,such as planned equipment inspections and overhauls. The estimated variable O&M is

approximately $24.8 million based on the estimate for 2019. These variable O&M cost estimates are based on a 70 percent capacity factor. The Citrus County Combined Cycle Power Plant is expected to operate in a capacity factor range of around 50 percent to almost 90 percent over its expected 35-year life. The Citrus County Combined Cycle Power Plant will have an expected equivalent forced outage rate of only approximately 2 percent. When the Citrus County Combined Cycle Power Plant achieves commercial operation it will be one of the most efficient generation units on DEF's system with an expected summer full load heat rate of approximately 6,701 BTU/kW-hr higher heating value ("HHV").

Q. What is the in-service date for the Citrus County Combined Cycle power plant?

A. The Citrus County Combined Cycle Power Plant will achieve commercial operation in 2018, with 820MW in commercial operation by May 2018, and the remaining 820MW power block in operation by December 2018.

Q. Will the Company meet that in-service date?

A. Yes. The proposed schedule for permitting and constructing the Citrus County Combined Cycle Power Plant and key milestones is included in Exhibit No. ___ (MEL-5) to my direct testimony. Under this schedule major contracts would be issued in October/November 2014, construction would begin in January of 2016, and the project would be completed by December of 2018. In my opinion, this is a reasonable schedule.

Q. Does this conclude your direct testimony?

A. Yes it does.

IN RE: PETITION FOR DETERMINATION OF COST EFFECTIVE GENERATION ALTERNATIVE TO MEET NEED PRIOR TO 2018 FOR DUKE ENERGY FLORIDA, INC.

BY DUKE ENERGY FLORIDA, INC.

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF MARK E. LANDSEIDEL

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Mark E. Landseidel and I am employed by Duke Energy Corporation. My business address is 400 South Tryon Street, Charlotte, North Carolina.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am the Director of Project Development and Initiation in the Duke Energy Corporation Project Management and Construction ("PMC") Department. In this role, I am responsible for the initiation and development of major non-nuclear generation projects for Duke Energy Florida, Inc. ("DEF" or the "Company"). As Director of Project Development, I have responsibility and management oversight for the Suwannee Simple Cycle combustion turbine project and the Hines Chillers Power Uprate project to existing DEF units for the Company.

Q. Please summarize your educational background and employment experience.

A. I graduated from Colorado State University in May 1982 with a Bachelor of Science in Engineering. I completed the General Manager Program at Harvard Business School in November 2001. I am a certified Project Management Professional. I joined Duke Energy Corporation in July 1982 and I have worked in a number of departments including plant operations, plant maintenance, business development, and project management and construction in my 32 year career with Duke Energy Corporation. I have been responsible for project development, project management and construction of a number of major projects since August 1996, including responsibility for the initiation, development, and construction for combustion turbine and combined cycle generation plants, including the W.S. Lee 2 unit Combustion Turbine project in 2006, Buck 2X1 Combined Cycle project in 2011, and the Dan River 2X1 Combined Cycle project in 2012. The Buck and Dan River projects also included combustion turbine generator air inlet chilling. I assumed my current position with Duke Energy Corporation in July 2012.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of the Company in support of its Petition for Determination of Cost Effective Alternative to Meet Need prior to 2018 for Duke Energy Florida, Inc. I will describe and explain the site and unit characteristics for both the Suwannee Simple Cycle combustion turbine project and Hines Chillers Power Uprate project to existing DEF units, including their size, equipment, equipment configuration, fuel

type, supply modes, and other aspects of the projects. I will also explain the estimated costs and projected in-service dates for the Suwannee Simple Cycle project and Hines Chillers Power Uprate project.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ___ (MEL-1), a map showing the location of the Suwannee power plant site in Suwannee County, Florida;
- Exhibit No. ___ (MEL-2), the preliminary layout of the Suwannee Simple Cycle project at the Suwannee power plant site;
- Exhibit No. ___ (MEL-3), an itemization of the major cost items for the Suwannee Simple Cycle project;
- Exhibit No. ___ (MEL-4), the projected schedule for completion of the Suwannee Simple Cycle project;
- Exhibit No. ____ (MEL-5), a map showing the location of the Hines Chillers Power Uprate project in Polk County, Florida;
- Exhibit No. ___ (MEL-6), the preliminary layout of the Hines Chillers Power Uprate project equipment and facilities located at the Hines Energy Complex ("HEC") in Polk County, Florida;
- Exhibit No. ___ (MEL-7), an itemization of the major cost items for the Hines Chillers Power Uprate project; and
- Exhibit No. ___ (MEL-8), the projected schedule for completion of the Hines Chillers Power Uprate project.

Each of these exhibits was prepared under my direction and control, and each is true and accurate.

Q. Please summarize your testimony.

A. The Suwannee Simple Cycle and the Hines Chiller Power Uprate projects are the most cost effective options to fulfill DEF's remaining capacity and energy needs prior to 2018. The Suwannee Simple Cycle project leverages use of existing land, gas, and transmission infrastructure at the Suwannee power plant site and will have low air emissions using proven technology. In addition, the F class combustion turbine technology is well suited to peaking capacity needs with both fast start capability and high reliability. The Hines Chillers Power Uprate project for existing DEF units meets the Company's need for reliable peaking capacity through an increase in the efficiency of the existing natural-gas fired, combined cycle power plants located at the HEC, providing customers the savings associated with achieving reliable summer peaking capacity at combined cycle generation efficiency without having to build additional peaking capacity at another site on DEF's system. The Company is positioned to build these projects on schedule and on budget.

III. THE SUWANNEE SIMPLE CYCLE PROJECT.

Q. What is the Suwannee Simple Cycle Project?

A. The Suwannee Simple Cycle project is a state-of-the-art combustion turbine generation project. Two dual fuel F class combustion turbine generators will be purchased and installed together with two generator step-up transformers to generate

an estimated 320 MegaWatts ("MW") of electrical power for DEF's customers. The Suwannee Simple Cycle project will also include fuel oil and demineralized water storage tanks, and related balance of plant facilities.

Q. Where will the Suwannee Simple Cycle project be located?

A. The Suwannee Simple Cycle project will be located at the Company's existing Suwannee power plant site. The Suwannee site has existing combustion turbines fired by gas and oil and existing steam units with supporting pipeline and transmission infrastructure. The Suwannee power plant site is located near Live Oak in Suwannee County, Florida. The location of the Suwannee power plant site is shown in Exhibit No. ___ (MEL-1) to my direct testimony.

Q. Are there advantages to building this combustion turbine project at the Suwannee site?

A. Yes. The Suwannee Simple Cycle project will leverage use of existing land, gas, and transmission infrastructure at the site, minimizing the need to purchase or build this infrastructure for the project. Thus, the only land that must be purchased is an additional 24 acres located adjacent to the site for an additional buffer area. Additionally, the project will use existing transmission infrastructure at the site as much as possible. One of the F class combustion turbines will be connected to the existing 115kV transmission switchyard and the other F class combustion turbine will be connected to the existing 230kV transmission switchyard. The only anticipated transmission costs are for these connections, bus lines, and associated interconnection

support equipment and installation. Natural gas will be supplied to the two F class combustion turbines by the Florida Gas Transmission ("FGT") pipeline and a local gas lateral to the existing site metering and regulating station on site. The existing steam plant will be retired, thus modernizing the fleet and reducing the site environmental impacts. The preliminary layout for the Suwannee Simple Cycle project at the Suwannee power plant site is shown in Exhibit No. ___ (MEL-2) to my direct testimony.

Q. How does the Company plan to construct the Suwannee Simple Cycle project?

A. DEF plans to purchase the major equipment, including the F class combustion turbines and generator step-up transformers, directly from the equipment manufacturers pursuant to requests for proposals ("RFPs") to experienced manufacturers. DEF also will award an engineering, procurement, and construction ("EPC") contract to experienced EPC contractors pursuant to a RFP. Duke Energy has experience with this contracting approach, having successfully executed several simple and combined cycle gas turbine projects with it including the W.S. Lee Combustion Turbines (2006), Hines Combined Cycle Power Blocks 3&4 (2005, 2007), Bartow Combined Cycle (2009), H.F. Lee Combustion Turbine 5 (2009), Buck Combined Cycle (2011), H.F. Lee Combined Cycle (2012), Dan River Combined Cycle (2012), and the Sutton Combined Cycle (2013). DEF plans to employ lessons learned and best practices from these prior Duke Energy successful gas turbine projects on the Suwannee Simple Cycle project.

Q. What will it cost to build the Suwannee Simple Cycle project?

A. DEF estimates that it will cost approximately $197 million, including the Allowance for Funds Used During Construction ("AFUDC"), to build the Suwannee Simple Cycle project. This estimate includes the cost to purchase the combustion turbine generators and step-up transformers, along with other equipment for the project; the engineering, procurement, and construction contract costs to build the project; owner costs; and the transmission switchyard and bus line work to connect the project to the grid. A breakdown of the major cost items for the Suwannee Simple Cycle project is included in Exhibit No. ___ (MEL-3) to my direct testimony.

Q. What will it cost to operate the Suwannee Simple Cycle project?

A. The estimated incremental annual fixed operation and maintenance ("O&M") cost for the Suwannee Simple Cycle project is $1.4 million. The predominate costs in the fixed O&M for the project are labor and labor-related operating costs for the employees required for plant operation. Other costs included in the fixed O&M estimate are O&M support and indirect costs.

There are also variable O&M costs to operate the Suwannee Simple Cycle plant. The estimated variable O&M cost for the Suwannee Simple Cycle project is $700,000. These variable O&M costs include maintenance costs, such as planned equipment inspections and overhauls, water, chemicals, lubricants, and consumables.

Q. When the Suwannee Simple Cycle project is built, what will be its operational characteristics?

A. The Suwannee Simple Cycle project will provide DEF with approximately 320MW peaking generation capacity from utility industry proven F class combustion turbines. It will have an average summer full load heat rate of approximately 10,395 British Thermal Units ("BTUs") per kilowatt-hour ("kWh") Higher Heating Value ("HHV"). The Suwannee Simple Cycle is expected to operate at a capacity factor range consistent with its peaking generation capacity role on DEF's system. The plant will have low air emissions using proven dry, low NOx combustors with water injection when operating on oil. In addition, the F class combustion turbine technology is well suited to peaking capacity needs with both fast start capability and high reliability. Peaking capacity units are cost effective and necessary for customer reliability in times of peak demand or system upsets.

Q. What is the schedule for construction of the Suwannee Simple Cycle project?

A. The Suwannee Simple Cycle project is scheduled for commercial operation in June 2016. A copy of the current major milestone schedule for permitting and construction of the Suwannee Simple Cycle project is included in Exhibit No. ___ (MEL-4) to my direct testimony.

Q. Will the Company place the Suwannee Simple Cycle project in service by that date?

A. Yes. In my opinion, the schedule for completion of the Suwannee Simple Cycle

project is reasonable and it can be met by the Company.

IV. THE HINES CHILLERS POWER UPRATE PROJECT.

Q. What is the Hines Chillers Power Uprate project?

A. The Hines Chillers Power Uprate project involves the installation of a chiller system on all four existing natural-gas fired, combined-cycle power blocks, Hines Units 1-4, located at the Hines Energy Complex ("HEC") in Polk County, Florida. See Exhibit No. ___ (MEL-5). Hines Units 1-4 are four 2x1 F class combined cycle power blocks with a total installed capacity of approximately 1,900MW. When complete the Hines Chillers Power Uprate project will increase the summer capacity of those units by approximately 220 MW.

Q. Can you explain what the Hines Chillers Power Uprate project involves?

A. Yes. The Hines Chillers Power Uprate project consists of installation of chiller modules for the existing HEC power block units, a large chilled water storage tank, an auxiliary power system, pumps and chilled water supply and return piping, and gas turbine air inlet chiller coils. The power uprate project will also involve modifications of the existing air inlet ducts on the HEC power block units. The installation of the chiller system on the existing HEC power block units is designed to cool the gas turbine inlet air. Cooling the gas turbine inlet air significantly increases the combined cycle plant summer capacity of each HEC power block while maintaining combined cycle fuel efficiency. The result of this uprate is an increase of approximately 220 MW in the output of the HEC power plant summer capacity.

The Company will further need to obtain modifications to its existing air permit for the HEC. The HEC air permit will need to be modified to permit estimated higher annual emissions. The air permit modification application will be filed with the Florida Department of Environmental Protection ("FDEP") and is expected to be issued by December 2014, to support construction and the expected commercial operation of the project.

Q. Where will the Hines Chillers Power Uprate project equipment and facilities be located at the HEC?

A. The preliminary layout of the Hines Chillers Power Uprate project equipment and facilities is included in Exhibit No. ___ (MEL-6) to my direct testimony.

Q. What are the advantages of the Hines Chillers Power Uprate project for DEF's customers?

A. The Hines Chillers Power Uprate project meets the Company's need for reliable capacity by the summer of 2017 through an increase in the efficiency of the existing natural-gas fired, combined cycle power plants located at the HEC. Existing generation and site infrastructure will support this power uprate. As a result, DEF is able to achieve an increase of approximately 220 MW in its summer capacity by uprating an existing site and power blocks, saving customers the increased costs and time of building new generation at another existing site or a Greenfield site to achieve the same reliable summer capacity. The project will further provide additional summer peaking capacity with combined cycle capacity and thus enhanced fuel

efficiency, saving customers fuel costs. The Hines Chillers Power Uprate project further achieves this significant increase in the Company's summer capacity with a minimal increase in the fixed and variable O&M costs at HEC and a much lower fixed and variable O&M cost for the same amount of capacity for a new power plant at an existing or Greenfield site.

Q. How does the Company plan to construct the Hines Chillers Power Uprate project?

A. DEF plans to purchase the major equipment and issue an EPC contract for the project. The equipment and EPC contracts for the project will be competitively bid to experienced and qualified bidders who have performed similar work. In addition, DEF has engaged an owner's engineer to assist with scope and specification development for the uprate project who was the "engineer of record" on the Hines Power Block 3 and 4 projects. Air inlet chilling is common in the industry, and there have been a number of air inlet chilling uprates to F class combustion turbines similar to the F class turbines in the Hines Power Block units. Lessons learned from this industry experience with similar air inlet chilling projects will be incorporated into the Hines Chillers Power Uprate project.

Q. What will it cost to build the Hines Chillers Power Uprate project?

A. The estimated cost of the project, based on the preliminary engineering work of Kiewit Power and budgetary pricing and performance data from qualified chiller package suppliers, is $160 million. A breakdown of the major cost items for the

project is included in Exhibit No. ___ (MEL-7) to my direct testimony. This is a reasonable estimate for the scope of work and schedule for the Hines Chillers Power Uprate project.

Q. What will it cost to operate the Hines Chillers Power Uprate once completed?

A. As I explained above, there will be only a minimal increase in the fixed and variable O&M costs at the HEC associated with the Hines Chillers Power Uprate.

Q. When will the Hines Chillers Power Uprate project be placed in service?

A. The Hines Chillers Power Uprate project is expected to be placed in service by June 2017. Construction and tie-in of the 4 power blocks will be done sequentially with common equipment and power block 3 and 4 in the first half of 2016 and power block 2 and 1 in late 2016 and early 2017 respectively. At that time, the estimated 220 MW increase in summer capacity due to the installation of the inlet chiller system on all four Hines Power Block units will be available to provide customers reliable energy production. Construction is expected to begin in July 2015, with commercial operation by June of 2017. A copy of the current major milestone schedule for permitting and construction of the project is included in Exhibit No. ___ (MEL-8) to my direct testimony.

V. CONCLUSION.

Q. Will the Company build the Suwannee Simple Cycle and the Hines Chillers Power Uprate projects on time and on budget?

A. Yes, in my opinion, the Company will build these projects on time and on budget and they will provide reliable, cost-effective capacity prior to 2018 consistent with DEF's capacity and energy needs.

Q. Does this conclude your testimony?

A. Yes it does.

BY MS. GAMBA:

Q Mr. Landseidel do you have a summary of your prefiled direct testimony?

A Yes.

Q Will you please provide that for the Commission?

A I will.

Good day, Commissioners. I am the Director of Project Development and Initiation in Duke Energy Corporation's Project Management and Construction Department for Duke Energy Florida, or DEF. I am testifying on behalf of DEF in support of its proposed Citrus County Combined Cycle Power Plant and the Hines Plant Uprate projects.

Regarding DEF's Citrus County Combined Cycle Power Plant, this plant is a highly efficient, state-of-the-art natural gas-fired combined cycle generation plant that, when built and placed in commercial operation in 2018, will provide DEF's customers with reliable, flexible, reasonably priced power generation for more than 30 years.

The Hines Chiller Power Uprate project involves the installation of a chiller system on all four existing natural gas-fired combined cycle power blocks Hines Units 1 through 4 located at the Hines

Energy Complex in Polk County, Florida.

The Hines Chiller Power Uprate project meets the company's need for reliable capacity by the summer of 2017 through an increase in the efficiency of the existing natural gas-fired combined cycle power plants located at the Hines Energy Complex.

I am responsible for project management for the Citrus County combined cycle project and the Hines uprate project, and I available to answer questions you may have.

This concludes the summary of my direct testimony. Thank you.

MS. GAMBA: Mr. Chairman, we would tender Mr. Landseidel for cross.

CHAIRMAN GRAHAM: Thank you.

Okay, OPC.

MR. REHWINKLE: Yes, Mr. Chairman, I have just maybe one question.

CROSS EXAMINATION

BY MR. REHWINKLE:

Q Mr. Landseidel, my name is Charles Rehwinkle with the Office of Public Counsel.

A Good day.

Q Do you have any information about the impact of the recently announced Calpine-Duke deal we respect

its impact on the need for the Citrus County unit?

A I do not. That would be best answered by Mr. Borsch.

Q Your testimony does not address that at all?

A Correct.

Q Thank you.

MR. REHWINKLE: No further questions.

CHAIRMAN GRAHAM: Okay. Shady Hill.

MS. SHELLEY: I have no questions.

CHAIRMAN GRAHAM: PCS.

MR. BREW: No questions.

CHAIRMAN GRAHAM: NRG.

CROSS EXAMINATION

BY MS. RULE:

Q Marsha Rule, just a few brief questions.

Your testimony, I believe, is, when complete, the Hines Chillers Power Uprate project will increase summer capacity of the units by approximately 220 megawatts?

A That is correct. Yes.

Q What's the effect on the winter capacity?

A It would have no effect on the winter capacity.

Q Okay. So --

A Other than -- I am sorry, if I could follow

up. Even in winter, there are warmer summer days, so when temperatures are above 50 degrees, it would increase the capacity in that plant in that case as well.

Q How much?

A It depends on -- so from the -- for summer, if it's a 95-degree day, it would increase the output by 220 megawatts. If it's a 75-degree day, say in winter, it would increase the output somewhat less than that, and I don't have the specifics for each case.

Q Okay. So on the hottest days in the summer, you get the 220 megawatts rated capacity?

A Correct.

Q And on a cold day in the winter, you get zero capacity?

A When the temperature is less than 50 degrees, would get no additional capacity from the chiller uprate.

Q And that will cost the ratepayers $160 million?

A That is our estimate.

Q And that is -- well, you can't divide that by 220 because you are not getting that all the time. Let's say you are getting that half the time, how much is that per kilowatt?

A It's about 700 -- a little over $700 a kilowatt.

Q Thank you.

MS. RULE: No further questions.

CHAIRMAN GRAHAM: Mr. Wright, I apologize. I didn't mean to skip over you.

MR. WRIGHT: That's fine, Mr. Chairman. We have no questions Mr. Landseidel. Thanks.

CHAIRMAN GRAHAM: Mr. Moyle.

MR. MOYLE: Just a few.

CROSS EXAMINATION

BY MR. MOYLE:

Q Good afternoon, sir.

A Good afternoon.

Q When you were preparing your testimony, did you consider what impacts might result if the company decided to defer the construction of the Citrus County Combined Cycle Unit?

A I did not. We developed the project based on the 1,640 megawatt need for 2018.

Q Okay. But if the project was deferred, you could continue to move forward with it and build it, correct?

A Not this project. If we shifted the project year out -- outward, it would be a different project

with a different date, in-service date. We planned it around the 2018 in-service.

Q Would there be anything different from it other than the service date? As you sit here today, do you know?

A I expect the cost would be different.

Q And it's hard to look into the future on gas prices and all kinds of things, so what would the future look like with respect to the costs?

A I would be hesitant to speculate. Right now, market conditions are favorable for purchase of equipment and engineering construction services. If we were to shift out the project, it's hard for me to foresee what could happen. It could change pretty quickly in this industry.

Q Sure. And you would agree that that change could be up or down, correct?

A I would say it's more likely to be up than down.

Q Right, but in your history, I mean, the stock market goes up, the stock market goes down, this is a market as well, correct? You have seen it go up, you have seen it go down, historically.

A It does go up and down. I don't know that I have ever seen it this favorable as it is today.

Q Okay. But we are not talking about today. We are talking about 2018 presently, correct?

A But for this project to be in service in 2018, we have to procure the major equipment and the construction services in the immediate future.

Q Who is your vendor for your combustion turbine equipment in this project? Do you know?

A We haven't disclosed it publicly.

Q Can I ask if it's that vendor that you may be having a disagreement with in another context?

A I am not sure what you are referring to.

MS. GAMBA: I would just -- if we are implicating confidential information, I would caution the witness to -- please not to verbalize that. But if it isn't confidential, certainly you may answer.

BY MR. MOYLE:

Q Is it Westinghouse?

MS. GAMBA: I would object. The witness testified that he believed it was confidential information so I would say -- I would object and request that he not have to respond to that question.

THE WITNESS: I would like to say something in that light, because as you may know, we did file

our site certification application, and in that information, it does identify who we selected for the gas turbines.

BY MR. MOYLE:

Q Did you keep it confidential in your site certification filing?

A We did not.

Q Okay. So at least in that context, if I asked DEP for it, I could find out who it was; right?

A That's correct.

CHAIRMAN GRAHAM: So it's not confidential. You can answer the question.

MS. GAMBA: I would withdraw.

THE WITNESS: We selected Mitsubishi for the gas turbine supply.

BY MR. MOYLE:

Q Are they affiliated with Westinghouse?

A They are not.

Q Okay.

A That I know of.

Q You would agree that deferral -- you know, that over time, in your -- I don't want you to speculate, but that, in your experience, that as time goes on, the type of technology, the gas-fired combined cycle units, that they get more efficient as time goes

on as a general proposition, correct?

A Generally that's true.

Q Right. And so at least with respect to that aspect, if the Commission said, you know, I think you guys don't need to go in '18, you can go in '20, that has the potential to result in additional efficiencies for customers given technology improvements that may occur, correct?

A I would be speculating. I don't know what advances there will be in the gas turbines that would be available for us in 2020.

Q Right, and I am not asking you to identify what the improvement efficiencies might be. I am just asking you factually. I think you have conceded that over time, as technology improves, the efficiencies get better and better. And I am just asking you, given that historical fact that we have established, if you deferred it two or three years, there is a possibility, not that it will happen, but there is a possibility that the energy efficiencies could continue to occur and benefit Duke and the ratepayers, correct?

A It's a possibility. I agree with that.

Q And just to follow up on that last line. So Westinghouse isn't involved in any way in this deal, is that right?

A That's correct, not Westinghouse.

Q Okay, or there affiliated companies?

A To this point, I would say no. Yes.

MR. MOYLE: Okay. One further line, Mr. Chairman.

CHAIRMAN GRAHAM: Sure.

BY MR. MOYLE:

Q I noticed in your testimony that you all are not proposing dual fuel capability, correct?

A That's correct.

Q Okay. And it's my impression that the Commission, over the years, has encouraged dual fuel in the event that there is an outage or hurricane or something, you can switch over and, you know, burn oil if you need to for a period of time. Is that your understanding of a historical view?

A I am not aware of the historical view, I will have to say.

Q Do a lot of your units -- are a lot of your units currently dual -- have dual fuel firing capability, your combined cycle units?

A Our combined cycle fleet in Florida is largely dual fuel, existing fleet, yes.

Q And it's dual fueled with what? Oil? Oil backup?

A Yes, diesel fuel.

Q Okay. And you are not proposing that this be dual fueled, correct?

A That's correct.

Q And why is that?

A We considered the issue. And in my testimony, there is a study that we commissioned by Sargent & Lundy, an architectural engineering firm, that looked at the possibility of gas interruptions that have occurred in the U.S. in the southeast. The events have been very, very infrequent, few and far in between; and based on that, we didn't believe that the cost of installing dual fuel capability in the plant is justified.

Q When was that study prepared?

A In 2013.

Q And was it prepared just for you, or was it prepared for others that may have been considering new gas into Florida?

A It was prepared just for Duke Energy.

Q And then a final question on that. Do you know what the cost of having dual fuel capability? Did you cost that out for the proposed unit?

A In their study and my testimony, there is a number. It's in the tens of millions. I don't recall specifically what the number is.

Q Okay.

A But it's not insignificant.

Q Not insignificant?

A Correct.

Q Okay.

MR. MOYLE: Thank you, Mr. Chairman.

CHAIRMAN GRAHAM: Mr. Cavros.

MR. CAVROS: We have no questions, Chairman.

CHAIRMAN GRAHAM: Okay. Staff.

MR. LAWSON: We have no questions at this time it. Thank you.

CHAIRMAN GRAHAM: Commissioners. Commissioner Balbis.

COMMISSIONER BALBIS: Thank you, Mr. Chairman. And thank you for your testimony.

I just have a few quick questions following up on Mr. Moyle's questions on dual fuel capabilities. And in the Sargent & Lundy report, they indicated -- they talked about the history of some gas curtailment that happened, I think in 1998, and they indicated that Florida was able to avoid blackouts because utilities were able to switch from gas to oil. And that was one -- that was the reason stated in their report. And I want you -- can you explain a little further as to why you are

deciding not to move forward with dual fuel capabilities, at least maybe then on just one of the power blocks?

THE WITNESS: Sure. In the study, Sargent & Lundy also looked at the existing fleet of combined cycle plants in the state of Florida. There are 40 combined cycle plants that are 200 megawatts or larger. And of that, 17 have -- do not have dual fuel, 23 do have dual fuel. On a megawatt basis 48 percent of the existing plants do not have dual fuel.

COMMISSIONER BALBIS: Okay.

THE WITNESS: And if you look at the Duke fleet, upon completion of the Citrus combined cycle, our generation combined cycle would be approximately 5,000 megawatts. We would still be at around between 60 and 65 percent of dual fuel.

So if you look overall the fleet in Florida, Duke Energy's fleet would have more dual capability than the rest of the fleet in Florida has.

COMMISSIONER BALBIS: And also in your testimony, I think you summarized the additional cost was 25.7 million. Is that about right for the dual fuel? Does that sound --

THE WITNESS: I just said I didn't recall a

number, but that sounds about right.

COMMISSIONER BALBIS: Okay. So out of the $1.5 billion project, 25.7 million extra for dual fuel, is that --

THE WITNESS: For the capital costs, but there is additional costs in operating the plant, testing the plant, recycling the oil. We can't leave it standing around. So there are additional costs that would be incurred if we were to install dual fuel.

COMMISSIONER BALBIS: Okay. And then changing gears a little bit. Could you explain the makeup of the Citrus County project? So you indicated in your testimony there is two power blocks of 80020 megawatts each.

THE WITNESS: Yes. It's a single plant, 1,640 megawatts divided in two combined cycle power blocks, each of them 820 megawatts. Some are output. One is to be connected to the 230 kV transmission system, the other to the 500 kV transmission system.

The 640 megawatts meets the need requirement we have in 2018. And connecting half of the plant to each, the 230 and the 500, provides some transmission reliability benefits as well.

COMMISSIONER BALBIS: So each power block is going to connect to both the 500 and the 230?

THE WITNESS: One power block will be connected to -- each power block has three generators, two gas turbines, one steam turbine. All three generators in the first power block connected to the 230 kV system, all three generators in the second power block connected to the 500 kV system.

COMMISSIONER BALBIS: Okay. It's -- I know some large combined cycle plants construct them in different stages or different units. I mean, West County Energy Center comes to mind, is where they built the first one, the second and then the third one. Have you contemplated building just one 820-megawatt block?

THE WITNESS: We did not. Our -- the need was for 1,600 megawatts, so we designed the plant for that -- to meet that need, as well as to bifurcate the load on 230, 500 kV to, again, to improve the Trigonometries mission reliability.

COMMISSIONER BALBIS: These other plants that you reference, I believe the North Carolina combined cycle plants, were they built in phases or stages, or the entire plant built at once?

THE WITNESS: The entire plant was built.

COMMISSIONER BALBIS: So you didn't contemplate building in an 820-megawatt blocks just to meet the entire need. Would it be possible just to build 820 megawatts?

THE WITNESS: It's possible, but it's a different project. Our project was designed as a 1,600 megawatt plant, a single plant with two power blocks.

COMMISSIONER BALBIS: Okay. Thank you. That's all I had.

CHAIRMAN GRAHAM: Fellow Commissioners? Redirect?

MS. GAMBA: No. Thank you.

CHAIRMAN GRAHAM: Okay. What exhibits do we have to put in?

MS. GAMBA: Yes. Mr. Landseidel's exhibits are ML1 through ML5 for the 10 docket 140110, marked as comprehensive Exhibits 2 through 6. We would move those into the record at this time.

CHAIRMAN GRAHAM: We will enter Exhibit 2, 3, 4, 5 and 6 into the record at this time.

(Whereupon, Exhibit Nos. 2-6 were received into evidence.)

MS. GAMBA: In addition, Mr. Landseidel's

Exhibits ML1 through ML8 in docket 140111, marked as comprehensive Exhibits 8 -- sorry, 7 through 14 on the comprehensive exhibit list, we would move those into the record as well.

CHAIRMAN GRAHAM: We will also move in Exhibits 7, 8, 9, 10, 12, 13 and 14 into the record.

(Whereupon, Exhibit Nos. 7-14 were received into evidence.)

CHAIRMAN GRAHAM: We didn't have any other exhibits going into the record, so I think that is it. And we have already moved his prefiled direct testimony into the record.

MR. GRAHAM: Correct. And, Mr. Chairman, Mr. Landseidel does not have any rebuttal testimony, we would request that he be excused from the proceeding at this time.

CHAIRMAN GRAHAM: He can be excused.

Thank you very much for being here, sir.

THE WITNESS: Thank you, Mr. Chairman, Commissioners.

(Witness excused.)

CHAIRMAN GRAHAM: Okay. Duke, your next witness.

MS. GAMBA: Certainly. Duke Energy's next

witness was Amy Dierolf, and she was one of the witnesses in the 140110 docket that was stipulated, and so we would move her May 27th, 2014, direct testimony in docket 140110 into the record as though read.

CHAIRMAN GRAHAM: We will move her direct testimony into the record as though read.

IN RE: PETITION FOR DETERMINATION OF NEED

BY DUKE ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF AMY DIEROLF

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Amy Dierolf and I am employed by Duke Energy Corporation. My business address is 299 First Avenue North, St. Petersburg, Florida 33733.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am a Lead Environmental Specialist for Duke Energy Corporation. In this role, I am responsible for siting, licensing and permitting of new projects for Duke Energy Florida, Inc. ("DEF" or the "Company"). As a part of my responsibilities, I have project management oversight over the preparation and submittal of the Site Certification Application ("SCA") for the Citrus County Combined Cycle power plant. The SCA is required for all new power plants in Florida meeting the criteria of the Power Plant Siting Act ("PPSA"), Sections 403.501-518, Florida Statutes, and Chapter 62-17 Florida Administrative Code ("F.A.C."). The PPSA serves as the single license required in the State of Florida for the construction of new power plants. It consolidates the review of all agencies and local governments under one approval. It

does not include federal permits delegated to the state, but these applications are submitted at the same time as the SCA application.

Q. Please summarize your educational background and employment experience.

A. I have a Bachelor of Science degree from Baldwin Wallace College (now University), a Master's of Science in Environmental Science and a Master's of Public Administration from Indiana University. I have been employed with Duke Energy (then Florida Power Corporation and Progress Energy) since 1991. During my time at Duke Energy, I have been responsible for conducting environmental training and audits, and the siting, licensing and permitting of new transmission lines, substations and power plants.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of the Company in support of its Petition for Determination of Need for the Citrus County Combined Cycle power plant. I will generally describe the site and explain the environmental benefits of the site and the Citrus County Combined Cycle power plant the Company plans to build and operate at the site. I will also generally describe the environmental approval process for the Citrus County Combined Cycle Power Plant project.

Q. Are you sponsoring any sections of DEF's Need Study?

A. Yes. I am sponsoring the environmental considerations and conditions section of the Need Study.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ____ (AD-1), a list of the permits or licenses DEF will obtain for the Citrus County Combined Cycle power plant; and
- Exhibit No. ____ (AD-2), a copy of the estimated schedule for submittal and approval of the SCA for the Citrus County Combined Cycle power plant.

Each of these exhibits was prepared under my direction and control, and each is true and accurate.

Q. Please summarize your testimony.

A. The site chosen for the proposed combined cycle power plant in Citrus County is beneficial from an environmental perspective because it is adjacent to existing DEF power plants and, as such, the project will be able to leverage existing facilities and minimize further impacts to land and water on the site. The Citrus County Combined Cycle Power Plant is a highly efficient natural gas-fired generation plant that will provide clean generation for DEF and its customers. Additionally, I am confident that DEF's schedule for receipt of the necessary permits and licenses for the Citrus County Combined Cycle Power Plant project is reasonable, there are no impediments to

receipt of the necessary permits and licenses, and that such approvals will be timely received.

III. DESCRIPTION OF THE SITE, POWER PLANT, AND ENVIRONMENTAL IMPACTS.

Q. Please describe the Citrus County Combined Cycle Power Plant site.

A. The Citrus County Combined Cycle Power Plant site is a 400-acre site adjacent to the Crystal River Energy Center ("CREC"). Power Line Road is on the southern border of the site and an unnamed mining road runs north and south approximately 30 feet from the eastern border of the site. The 400-acre site was previously permitted and intended to be used as mining operation. No mining has occurred on the 400 acre property, but the parcel was permitted by the Florida Department of Environmental Protection ("FDEP") and the U.S. Army Corps of Engineers ("Corps") as a limerock mine. Although no mining has occurred on the site, the eastern portions of the site has been used as silviculture multiple times – which is the practice of controlling the establishment, growth, composition, health, and quality of woodlands. There are no existing structures on the 400-acre site and it is undeveloped land.

Q. Please generally describe the Citrus County Combined Cycle Power Plant.

A. The Citrus County Combined Cycle Power Plant will be combined cycle power blocks built in stages of 820 MegaWatts ("MW") each over the course of 2018 for a total of 1,640MWs. The plant will be fueled by natural gas with a lateral gas pipeline to the site from the new Sabal Trail gas pipeline in the state. The plant will be cooled by

cooling towers that draw their makeup water from the existing CR3 intake structure at the CREC. The plant will be connected to DEF's transmission system at a transmission switchyard located at the site. The current plan is to have a switchyard at the site and tie into the existing transmission line right-of-way immediately south of the site.

Q. What are the environmental considerations in choosing to build a combined cycle power plant?

A. DEF places a strong emphasis on environmental quality when choosing a resource option, including taking into consideration compliance with current Clean Air Act and other environmental provisions, the ability to be flexible in response to emergent environmental rules, high efficiency (low heat rate), and low air emissions. The Citrus County Combined Cycle Power Plant meets these considerations. The combined cycle technology with natural gas is a cleaner, fossil-fuel generating source enhanced by an efficient technology with a low heat rate. Efficient plants use less fuel per unit of electric energy delivered and therefore create a smaller environmental impact per unit of delivered energy. With regard to air emissions, natural gas is a low sulfur, low nitrogen oxide, low particulate emission plant. In addition to low nitrogen oxide combustor technology in the CTGs, the nitrogen oxide emissions will be controlled by a Selective Catalytic Reduction ("SCR") system located in the HRSGs that will reduce nitrogen oxide emissions even further. Air emissions from the Citrus County Combined Cycle Power Plant will be minimal because plants operating on natural gas are one of the cleanest sources of fossil generation.

Q. What are the environmental impacts of building the Citrus County Combined Cycle Power Plant on this site?

A. The construction of the project will impact approximately 10 acres of wetlands on the site. However, these impacts are to wetlands that would have been impacted by the future mining of the property as well. DEF will, to the extent practicable, seek to avoid or minimize all wetland impacts. Those impacts that cannot be avoided will be mitigated. Due to the location and disturbed nature of the site based on prior activities on the site the project is not expected to impact any endangered species. The eagle's nest on the western portion of the site that was previously identified during a preliminary assessment of threatened and endangered species will be protected during construction of the plant.

Q. What are the environmental impacts and benefits from building the Citrus County Combined Cycle Power Plant at this site?

A. By using this site the Citrus County Combined Cycle Power Plant is using a site which had already been identified and permitted for mining rather than taking over additional raw land. Moreover, by using this site the Company is able to leverage existing facilities and minimize further impacts to land and water on the site. For example, by building the Citrus Combined Cycle Power Plant at this site DEF is able to locate the new power plant so it aligns with DEF's existing power plant facilities, thus reducing land use impacts to the surrounding area. Additionally, the new power plant will be able to use the existing water intake structure from the retired CR3 facility and install a new discharge into the existing discharge canal, consequently avoiding the need to

construct a new intake or discharge canal. The new power plant will use existing water allocations for the CR1, 2, and 3 units and will not ask for any additional groundwater for construction and operation. The new power plant will also leverage existing facilities by using the existing rights-of-way for the transmission lines and water pipelines and thus not impacting new property for rights-of-way.

Q. What environmental permits are necessary for the construction and operation of the Citrus County Combined Cycle Power Plant?

A. Exhibit No. ___ (AD-1) to my direct testimony lists the necessary permits for the construction and operation of the Citrus County Combined Cycle Power Plant that will be obtained through the SCA approval process pursuant to the Florida PPSA.

Q. Does the Company have a schedule to obtain the necessary permits to construct and operate the Citrus County Combined Cycle Power Plant?

A. Yes. Exhibit No. ___ (AD-2) to my direct testimony contains the estimated schedule to obtain the necessary permits to construct and operate the Citrus County Combined Cycle Power Plant.

IV. CONCLUSION.

Q. Will the Company be able to obtain all necessary permits to build and operate the Citrus County Combined Cycle Power Plant?

A. Yes. In my opinion, the Company will successfully obtain all necessary permits to build and operate the Citrus County Combined Cycle Power Plant through the SCA

approval process.

Q. Are you aware of any reason why the SCA would not be approved for the Citrus County Combined Cycle Power Plant?

A. No I am not. A phase 1 environmental assessment was conducted on the property and no recognized environmental condition exist that would preclude the development of the Citrus County Combined Cycle Power Plant. A preliminary assessment was also completed on the wetlands and threatened and endangered species and nothing was identified that would affect construction.

Q. Does this conclude your direct testimony?

A. Yes it does.

MS. GAMBA: We would also request that Ms. Dierolf's exhibits labeled 81 and 82, identified as comprehensive Exhibits 15 and 16 on the comprehensive exhibit list, be moved into the record at this time.

CHAIRMAN GRAHAM: We will also move number 15 and 16 into the record.

MS. GAMBA: Thank you.

(Whereupon, Exhibit Nos. 15 & 16 were received into evidence.)

MR. WALLS: Duke Energy Florida calls Jeff Patton.

Whereupon,

JEFFREY PATTON

was called as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WALLS:

Q Mr. Patton, will you please introduce yourself to the Commission and provide your address?

A Yes, my name is Jeffrey Patton, and my address is 526 South Church Street, Charlotte, North Carolina.

Q And you have already been sworn in as a witness, right?

A Yes.

Q Who do you work for and what is your position with the company?

A I work for Duke Energy, and I am a Senior Originator in the Field Procurement Section of Fuels and System Optimization.

Q And have you filed direct testimony and exhibits in docket number 140110?

A Yes.

Q And do you have that prefiled direct testimony with you today?

A Yes, I do.

Q Do you have any changes to make to your prefiled direct testimony?

A No.

Q If I asked you the same questions in your prefiled direct testimony today, would you give the same answers that are in your prefiled direct testimony?

A Yes.

MR. WALLS: We request that the prefiled direct testimony of Mr. Patton be entered into the record as if it was read here today.

CHAIRMAN GRAHAM: We will enter Mr. Patton's prefiled direct testimony into the record as though read.

IN RE: PETITION FOR DETERMINATION OF NEED

BY DUKE ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF JEFFREY PATTON

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Jeffrey Patton and I am employed by Duke Energy Progress, Inc., an affiliate company of Duke Energy Florida, Inc. ("DEF or the Company"). My business address is 526 South Church Street, Charlotte, North Carolina 28202.

Q. Please tell us your position with Duke Energy Progress and describe your duties and responsibilities in that position.

A. I am a Senior Originator in the Fuel Procurement Section of the Fuels & Systems Optimization Department for Duke Energy's regulated generation fleet. In this role, I am responsible for the procurement of natural gas supply, transportation and storage services for DEF, Duke Energy Progress, Duke Energy Carolinas, Duke Energy Indiana, and Duke Energy Kentucky electrical power generation facilities. As a result, my responsibilities include developing natural gas planning strategies and negotiating long-term agreements with various pipelines and suppliers.

Q. Please summarize your educational background and employment experience.

A. I hold a Bachelor of Science in Mechanical Engineering from Mississippi State University and a Master of Business Administration from Auburn University. Prior to the merger between Progress Energy and Duke Energy, I served as a Senior Business Financial Analyst at Progress Energy from 2005 to mid-2008, responsible for wholesale electric revenue forecasting and budgeting supporting Progress Energy's regulated commercial operations. In mid-2008 I moved to my current role. Prior to my tenure at Progress Energy, I was employed by Consolidated Edison from 2004 to 2005 as a Senior Rate Analyst responsible for developing gas tariff filings and preparing analyses that formed the basis for Consolidated Edison's natural gas rates and services. Before joining Consolidated Edison I was employed by Southern Company from 1998 to 2003 in various roles in Generation Planning and Development, as well as Energy Marketing, supporting the planning, development and wholesale marketing of Southern Company's natural gas-fired generation portfolio.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of DEF in support of its Petition for Determination of Need for the Citrus County Combined Cycle Power Plant. I will describe the gas supply and transportation plan to support the Citrus County Combined Cycle Power Plant. I will also describe and explain the Company's fuel reliability plans to enhance the fuel supply diversity and reliability of the fuel transportation to the plant.

Q. Are you sponsoring any sections of Duke Energy Florida's Need Study?

A. Yes. I am sponsoring the "Fuel Supply and Transportation" Section of the Need Study.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ___ (JP-1), a map of the natural gas supply pipelines serving the State of Florida including the Sabal Trail Transmission LLC ("Sabal Trail") pipeline project;
- Exhibit No. ____ (JP-2), a map of the gas pipeline interconnection between Sabal Trail and the Citrus County Combined Cycle Plant and the interconnections between Sabal Trail and the FGT pipeline in Suwannee County and Citrus County, Florida ;
- Exhibit No. ___ (JP-3), a map of the gas supply access at Transco Station 85 provided by Sabal Trail; and
- Exhibit No. ___ (JP-4), a chart illustrating a forecast of United States dry natural gas production from the 2014 Annual Energy Outlook published by the Energy Information Administration ("EIA").

Each of these exhibits was prepared under my direction and control, and each is true and accurate.

Q. Please summarize your testimony.

The Company has contracted for an adequate, and reliable, firm natural gas transportation to the Citrus County Combined Cycle Power Plant that provides access to growing,

secure and competitively priced onshore natural gas supply. DEF contracted with Sabal Trail for firm gas transportation capacity for the Plant. Sabal Trail is a new Greenfield interstate natural gas pipeline project. Sabal Trail provides DEF and the State of Florida direct access to upstream pipelines that have access to abundant onshore natural gas supplies, including abundant natural gas shale resources. For this reason, Sabal Trail provides DEF and the State of Florida natural gas supply security, supplier diversity, market liquidity, and flexibility that mitigates the curtailment risk of traditional offshore gas supply during storms. Sabal Trail, therefore, will not only meet the needs of the Citrus County Combined Cycle Plant, it will meet the needs of potential, future additional natural gas-fired generation projects in Florida. DEF will also have interconnections between Sabal Trail and Florida Gas Transmission Company, LLC ("FGT") and an interconnection with Gulfstream Natural Gas Transmission Company, LLC ("Gulfstream"). These alternative gas transportation options provide DEF additional, back-up gas transportation and gas supply reliability at the Citrus County Combined Cycle Plant.

III. CITRUS COUNTY COMBINED CYCLE FUEL SUPPLY.

Q. Please describe the type and amount of fuel DEF expects to use for the Citrus County Combined Cycle Plant.

A. The Citrus County Combined Cycle Plant consists of state-of-the-art combined cycle units that will operate on natural gas. At peak operation, the Citrus County Combined Cycle Plant will require approximately 300,000 million British thermal units ("MMBtu") of natural gas a day. Fuel transportation arrangements to support the natural gas needs of

the Citrus County Combined Cycle Plant have been made to ensure a reliable supply of natural gas is available for the Plant.

Q. What are the natural gas transportation arrangements for the Citrus County Combined Cycle Plant?

A. DEF has contracted with Sabal Trail for 300,000 MMBtu/day of firm gas transportation capacity beginning on October 1, 2017 on the Sabal Trail pipeline to support the Citrus County Combined Cycle Plant's natural gas needs. Sabal Trail is a new Greenfield interstate natural gas pipeline project that originates in Alabama, extends through Georgia, and ends in Central Florida. The Florida Public Service Commission ("FPSC" or the "Commission") approved Florida Power & Light Company's ("FPL") petition for prudence determination regarding a new state pipeline system, including FPL's selection of Sabal Trail for the Northern Pipeline Project, in Commission Order No.PSC-13-0505-PAA-EI.

Sabal Trail is a joint venture between affiliates of Spectra Energy Corporation and NextEra Energy, Inc. The Sabal Trail Project ("Project") will create a new pipeline system with a planned capacity to transport 1,100,000 dekatherms per day ("Dth/d") of natural gas into Central Florida. Sabal Trail will have an initial capacity of 800,000 Dth/d with an in-service date beginning May 1, 2017. As part of the Project, Sabal Trail will acquire by lease the mainline capacity to be created by Transcontinental Gas Pipe Line Company, LLC ("Transco"). Transco will expand the existing Transco system from Transco's Station 85 located in Choctaw County, Alabama to a location in Tallapoosa County, Alabama ("Transco Hillabee Project"). Sabal Trail will construct approximately

460 miles of greenfield mainline facilities from the interconnection with Transco in Tallapoosa County, Alabama to a point in Osceola County, Florida south of Orlando at the Central Florida Hub. At or near the Central Florida Hub, Sabal Trail will interconnect with Gulfstream Natural Gas System, L.L.C. ("Gulfstream") and Florida Gas Transmission Company, LLC ("FGT"). A map showing the routes of the Sabal Trail, FGT and Gulfstream natural gas pipelines is included as Exhibit No. ___ (JP-1) to my direct testimony.

Q. How will DEF connect the Citrus County Combined Cycle Plant to Sabal Trail?

A. Sabal Trail will construct a gas pipeline lateral (the "Citrus County Line") and a metering and regulation ("M&R") station at the plant site in order to connect Sabal Trail to the Citrus County Combined Cycle Plant. The Citrus County Line will be a new 24-inch diameter gas pipeline extending approximately 22 miles from the Sabal Trail mainline in Marion County, Florida across Citrus County, Florida to the M&R station at the Citrus County Combined Cycle Plant.

Q. When is Sabal Trail projected to be completed to deliver natural gas to the Citrus County Combined Cycle Plant?

A. The contractual target in-service date for Sabal Trail is October 1, 2017 to support the start-up and commissioning of the Citrus County Combined Cycle Power Plant before the planned commencement of operation of the first 820MW power block in May 2018 and the second 820MW power block in December 2018. In addition, Sabal Trail has committed to FPL to an in-service date of May 1, 2017 that is five months prior to DEF's

October 1, 2017 in-service date. Given these commitments, DEF expects the Sabal Trail pipeline to be in commercial service prior to commercial operation of the Citrus County Combined Cycle Plant.

Q. Why did DEF contract with Sabal Trail for the gas transportation to the Citrus County Combined Cycle Plant?

A. DEF determined that Sabal Trail was the best gas transportation solution for the Citrus County Combined Cycle Plant because Sabal Trail provides new gas infrastructure that enhances reliability, diversifies DEF's gas transportation portfolio, and directly accesses onshore natural gas supply receipt point locations at Transco Station 85 to provide access to abundant, onshore unconventional natural gas resources.

DEF's existing natural gas-fired generation plants are served by FGT and/or Gulfstream. Sabal Trail is a large new pipeline that expands into central Florida and has planned interconnection points with FGT and Gulfstream near Orlando, Florida, creating a Central Florida Hub, and with FGT in Suwannee and Citrus Counties. These interconnects will provide DEF operational flexibility opportunities with DEF's existing transportation on FGT and Gulfstream.

FGT and Gulfstream currently serve the vast majority of natural gas transportation needs in the State of Florida. DEF's capacity from long term firm transportation agreements that support DEF's existing gas plants is nearly equally divided between Gulfstream and FGT. Sabal Trail allows DEF to diversify its transportation service by utilizing three large, separate pipelines as DEF's gas generation grows with the addition of the Citrus County Combined Cycle Power Plant. Gas transportation service

on Sabal Trail increases competition among gas transportation providers, diversifies DEF's gas transportation providers, and reduces DEF's dependence on the existing gas transportation systems. The estimated percentages of DEF's firm transportation service with DEF's arrangement with Sabal Trail are Gulfstream (36%), FGT (34%) and Sabal Trail (30%). This diversification represents a significant improvement to the current mix of transportation providers across DEF's gas-fired generation fleet.

In addition, the new greenfield natural gas infrastructure provided by Sabal Trail ensures DEF and other utilities in the State of Florida direct, secure access to an abundant onshore natural gas supply. The Sabal Trail gas infrastructure available to DEF and the State adds gas transportation and supply diversity not only to support the reliable operations of the Citrus County Combined Cycle Plant but also to reliably meet the natural gas needs of potential future natural gas-fired generation in the State.

With respect to the firm transportation agreement supporting the Citrus County Combined Cycle Plant, the available onshore receipt point locations at Transco Station 85 and near Transco Station 85 provide significant supply access, superior market liquidity, and are in close proximity to other large pipelines, including the Midcontinent Express Pipeline ("MEP") and Gulf South, which have interconnections near Transco Station 85. Gulf South and MEP combine for a receipt capacity of approximately 3.3 Bcf/day from the Mid-continent onshore gas production areas and can deliver natural gas in close proximity to Transco Station 85. These pipelines provide access to the Barnett Shale, Fayetteville Shale, Haynesville Shale, Woodford Shale, and Perryville Hub. Sabal Trail provides direct upstream onshore contractual receipt points at Transco Station 85, Gulf South, MEP and the Transco Zone 4 Pool. Additionally, the Transco mainline capacity

within Transco Zone 4 in close proximity to Station 85 is approximately 5.3 Bcf/day. The natural gas supply receipt points provided by Sabal Trail are shown in the map included as Exhibit No. ___ (JP-3) to my direct testimony.

These onshore natural gas supply receipt points available to Sabal Trail provide DEF and the State of Florida direct access to upstream pipelines that have access to abundant onshore natural gas supplies. As a result, Sabal Trail provides DEF and the State of Florida natural gas supply security, supplier diversity, market liquidity, and flexibility that mitigates the risk of curtailment of traditional Gulf of Mexico and Mobile Bay offshore gas supply during storms, and meets the needs of the Citrus County Combined Cycle Plant and potential, additional natural gas-fired generation projects in the future.

Q. Is natural gas transportation supply available to the Citrus County Combined Cycle Plant from other pipelines in the state if it is needed?

A. Yes. Sabal Trail will have bi-directional interconnections between Sabal Trail and FGT in Suwannee County, Florida and Orange County, Florida, and a bi-directional interconnection with Gulfstream in Osceola County, Florida. Additionally, Sabal Trail and DEF plan an additional receipt-only interconnect between Sabal Trail and FGT in Citrus County, Florida. These interconnections are shown in the map included as Exhibit No. ___(JP-2) to my direct testimony. The interconnections with FGT in Suwannee County, Florida and Citrus County, Florida would be within the primary transportation paths on DEF's current portfolio of firm gas transportation contracts on FGT. In the event of a pipeline disruption or curtailment on Sabal Trail, these interconnects would

allow DEF the ability to utilize its FGT contracts or market supply to deliver gas supply into Sabal Trail's mainline in Suwannee County, Florida or into the Citrus County Line in Citrus County, Florida, which is interconnected with the Citrus County Combined Cycle Plant. These alternative gas transportation options provide additional, back-up gas transportation and gas supply reliability at the Citrus County Combined Cycle Plant for the Company and its customers.

Q. Does DEF's gas transportation plan support a single, natural gas fuel source for the Citrus County Combined Cycle Power Plant?

A. Yes. DEF's gas transportation plan for the Citrus County Combined Cycle Plant enhances the fuel diversity and reliability to the Plant. As I explained above, having transportation service on Sabal Trail provides DEF with new gas infrastructure which enhances reliability, diversifies DEF's gas transportation portfolio, and directly accesses recommended onshore receipt point locations at Transco Station 85. Given the additional gas transportation reliability provided by Sabal Trail as the third main gas pipeline in Florida, the interconnections between Sabal Trail and the other pipelines in the state, and direct access to secure, growing shale gas supply from Transco Station 85, DEF's gas transportation plan supports a single, natural gas fuel source for the Citrus County Combined Cycle Plant. As discussed above, the interconnections between Sabal Trail and FGT provide additional, back-up gas transportation and gas supply reliability in the event of a pipeline disruption or curtailment on Sabal Trail. Furthermore, as Mr. Landseidel explains in his testimony, the Company determined that the risk and extent of gas supply curtailments or interruptions in the Florida Reliability Coordinating Council

("FRCC") area were very low, and even that minimal risk was mitigated by the additional gas transportation reliability provided by adding Sabal Trail as the third main gas pipeline in Florida. Sabal Trail will increase reliability, diversity, and firm capacity throughout Florida by introducing a new supply source and interconnecting with FGT and Gulfstream. These redundancies further mitigate the risk of gas supply disruptions and curtailments for the Citrus County Combined Cycle Plant.

Q. Will DEF be able to obtain sufficient natural gas supplies for the Citrus County Combined Cycle Plant at a reasonable cost?

A. Yes. As I explained above and as shown in Exhibit No. ___ (JP-3), Sabal Trail provides direct upstream onshore contractual receipt points at Transco Station 85, Gulf South, MEP, and the Transco Zone 4 Pool. Gulf South and MEP combine for a receipt capacity of approximately 3.3 Bcf/day from the Mid-continent onshore production areas and can deliver natural gas to the proximity of Transco Station 85. These pipelines provide access to gas supplies from the Barnett Shale, Fayetteville Shale, Haynesville Shale, and Woodford Shale. In addition, Sabal Trail provides access to receipt points in the Transco Zone 4 Pool through the lease with Transco, which includes additional pipelines that access growing onshore supply from the Marcellus Shale and Utica Shale.

A review of the EIA 2014 Annual Energy Outlook shows that United States natural gas production is projected to increase by 56% from 2012 to 2040, with production of natural gas from shale approximately doubling within that time frame. Additionally, the EIA projects shale gas to be the largest source of United States natural gas production at over 50% by 2040. A graph of United States dry natural gas production

from the 2014 Annual Energy Outlook published by EIA is included as Exhibit No. ___ (JP-4) to my direct testimony. Given the growing onshore supply, access, and supplier diversity provided by Sabal Trail, DEF anticipates being able to obtain sufficient natural gas supplies for the Citrus County Combined Cycle Plant at a reasonable cost.

Q. How will DEF contract for its gas supply for the Citrus County Combined Cycle Plant?

A. The Company has a long-term gas supply procurement process that outlines the process by which DEF procures competitively priced natural gas to meet its longer-term projected fuel needs at its owned and tolled gas generation facilities in Florida. The process will typically begin for the next calendar period for which natural gas supplies are projected to be needed to meet DEF's annual, seasonal, monthly, and/or daily needs. Through this process DEF will contract for a portion of its forecasted gas supply needs at market based indexed pricing for terms typically ranging from one to three years.

Q. Does this conclude your direct testimony?

A. Yes.

BY MR. WALLS:

Q And, Mr. Patton, do you have a summary of your prefiled direct testimony?

A I do.

Q Can you please provide that to the Commission?

A Yes.

Good day, Commissioners. I am a Senior Originator in the Fuel Procurement Section of the Fuels and Systems Operation Department for Duke Energy's regulated fleet. I am testifying on behalf Duke Energy Florida in support of its Citrus County Combined Cycle Power Plant.

The Citrus County Combined Cycle Plant consists of state-of-the-art combined cycle units that will operate on natural gas. DEF contracted with Sabal Trail for firm gas transportation capacity to support the Citrus County Combined Cycle Plant's natural gas needs.

Sabal Trail provides new gas infrastructure that enhances reliability, diversifies DEF's gas transportation portfolio and provides direct access to upstream pipelines that have access to abundant onshore natural gas supplies, including abundant and growing natural gas shale resources.

Sabal Trail will construct the gas pipeline

lateral, the Citrus County line, and a metering and regulation station at the plant site in order to connect Sabal Trail to the Citrus County Combined Cycle Plant. As a result, Sabal Trail provides DEF and the state of Florida new gas infrastructure that enhances natural gas supply security, supplier diversity, market liquidity and flexibility that mitigates the curtailment risk of traditional offshore gas supply during storms.

This concludes the summary of my direct testimony, and I am happy to answer any questions that you may have.

Thank you.

MR. WALLS: We tender Mr. Patton for cross-examination.

CHAIRMAN GRAHAM: Thank you.

Mr. Patton, welcome.

THE WITNESS: Thank you.

CHAIRMAN GRAHAM: OPC.

MR. REHWINKLE: Yes, Mr. Chairman. Thank you.

CROSS EXAMINATION

BY MR. REHWINKLE:

Q Good afternoon, Mr. Patton. Charles Rehwinkle with the Office of Public Counsel.

A Good afternoon.

Q I think I just have one question for you. Can

you tell me whether the tentative Calpine deal that was announced today has any impact on the need for the Citrus County unit or the fuel procurement related to the proposed Citrus County unit?

A No, I cannot.

Q You cannot?

A No, I cannot.

Q Is that because you don't know enough about it or --

A Yeah, that's what I understand would be covered separately, and I can't answer questions around that.

Q Thank you.

MR. REHWINKLE: That's all the questions I have.

CHAIRMAN GRAHAM: Calpine.

MR. WRIGHT: No questions, Mr. Chairman. Thank you.

CHAIRMAN GRAHAM: Shady Hill.

MS. SHELLEY: No questions. Thank you.

CHAIRMAN GRAHAM: PCS.

MR. BREW: No questions. Thank you.

CHAIRMAN GRAHAM: NRG.

MS. RULE: No questions.

CHAIRMAN GRAHAM: FIPUG.

MR. MOYLE: I have a few.

CROSS EXAMINATION

BY MR. MOYLE:

Q Good afternoon, sir.

A Good afternoon.

Q If I read your testimony, you are looking to start receiving gas in May 2018; is that right? Or is it October 1, 2017? I am looking at page seven, lines 19 through 23, if it helps you.

Maybe I can come at it this way. When do you absolutely need to have gas at the plant -- at the proposed plant, from your perspective?

A Sure. In order to answer that question -- so the target in-service date is October 1, 2017, for Sabal Trail to be ready to provide the lead time for commissioning and testing of the combined cycle plant prior to the first part in-service date in May of 2018.

Q And you interact regularly with the representative of Sabal Trail?

A Yes. That's correct.

Q Okay. Any indication that that project may encounter any delays?

A There is no indication at this time. Everything they have communicated is that they are on schedule.

Q Okay. But you would agree that, as these projects move forward, there is a possibility of delay, correct?

A Yes. There is any possible delay scenario within -- regarding any natural gas pipeline expansion.

Q Okay. And what's a gas reservation charge?

A A gas reservation charge is your fixed demand fee. It's your fixed cost to be able to secure space in that pipeline, to be able to utilize that space and deliver natural gas whenever you need it.

Q And is that availability, is that determined on market pricing? How do you figure out what you pay for a gas reservation charge?

A That gas reservation charge is, in this case, a negotiated rate. So it was determined through the negotiations with Sabal Trail and it's a fixed rate.

Q How long does it go for? For the life of the project? You got a reservation charge that's constant through the life of the project?

A The reservation charge is for the term of the contract, which is 25 years.

Q Was there any contingency depending on when the power plant started operation with respect to the amount of the gas reservation charge, or was it the same throughout that timeframe?

A Could you repeat the question? I am not sure if I understand it.

Q Sure. So right now you are planning on starting up in 2018. If the Commission said, you know, we think you ought to defer it for a year, based on your answer to the question about the reservation charge being constant, I would assume that if the Commission said defer it for a year, that that gas reservation charge would stay the same; is that fair?

A Well, within -- as I understand, if the -- within the confines of our contract, you know, Sabal Trail is contracted to stand ready in October of 2017. So in the event, you know, that the project is delayed, the Citrus County Combined Cycle Plant project is delayed, you know, we would have to either renegotiate the contract or essentially just pay those fixed fees per the contract beginning October 1 of '17.

Q And what would those fixed fees be? The reservation charge?

A That's correct.

Q But you didn't agree to a reservation charge without needing the gas, right?

A The reservation charge is for -- to be able to reserve the space in the pipeline. It's not the cost of the gas supply that actually fuels the plant.

Q No, I understand. But let's say if the Commission says, you know what, we need another year, you aren't on the hook -- or the ratepayers aren't on the hook for that reservation charge if there is no gas flowing through it, is there?

A Yes. Yes. We would be responsible for those gas reservation charges regardless of whether or not any gas is flowing.

Q You have to pay a reduced amount, or is it the full freight?

A It's the full freight.

Q Did you give any information to any other witnesses in this case for anything?

MR. WALLS: I would object. That's vague.

BY MR. MOYLE:

Q Have you communicated with Mr. Borsch about any of his testimony or anything he has in this case?

A I mean, I am familiar with Mr. Borsch's testimony. I am not sure of the question that you are asking.

Q Did you give him a gas reservation number?

A The gas reservation charge was submitted as a part of the self-build response that went into the evaluation that Mr. Borsch performed.

Q Do you have -- you said you had to 0you might

have to go back and renegotiate with FP&L. Do you know how subscribed their pipeline is presently?

A Well, we would have to go back and renegotiate with Sabal Trail.

Q I'm sorry, Sabal Trail.

A And from my understanding, their project initially is a 800,000-a-day project, which 300,000 we have contracted for, and initially, 400,000 is contracted with Florida Power & Light.

Q So there would be 100,000 as far as you know available?

A Initially, but I am not aware of any other agreements that Sabal Trail may have in place with other potential customers.

Q Okay. And a final question. Did you negotiate the contract?

A Yes. I was involved in the negotiations of the contract.

Q Does it have a Most Favored Nation provision in it, where y'all get the --

A Yes. Yes, it does have a Most favored Nations.

Q For both commodity and transportation?

A The contract is only for the firm transportation. It's not a commodity contract.

Q Okay.

MR. MOYLE: Thank you. That's all I have.

CHAIRMAN GRAHAM: SACE.

MR. CAVROS: Chairman, we have no questions.

CHAIRMAN GRAHAM: Staff.

MR. LAWSON: We have no questions.

CHAIRMAN GRAHAM: Commissioners. Commissioner Brown.

COMMISSIONER BROWN: Just one question. Did you produce that firm transportation agreement as part of your testimony? I don't see it attached to the exhibits.

THE WITNESS: No, it was not part of my testimony. I believe that it was submitted through interrogatory, I imagine.

COMMISSIONER BROWN: So it's in the docket file?

THE WITNESS: I believe so.

COMMISSIONER BROWN: Thank you?

CHAIRMAN GRAHAM: Any further commissioner questions?

Redirect?

MR. WALLS: No redirect.

CHAIRMAN GRAHAM: Okay. Exhibits.

MR. WALLS: We will move Mr. Patton's prefiled

direct testimony and hearing exhibits JP-1 through JP-4, marked as numbers 17 through number 20.

CHAIRMAN GRAHAM: We will enter Exhibit Nos. 17, 18, 19 and 20 into the record.

(Whereupon, Exhibit Nos. 17-20 were received into evidence.)

CHAIRMAN GRAHAM: There was no other exhibits for this witness, so let's move on.

MR. WALLS: I am sorry. Can Mr. Patton be excused? His rebuttal testimony has now been withdrawn.

CHAIRMAN GRAHAM: Yes. Mr. Patton, thank you very much. Travel safely.

THE WITNESS: Thank you, Commissioners.

(Witness excused.)

CHAIRMAN GRAHAM: Okay. Duke, you have the next witness.

MS. GAMBA: Yes. The next witness is Kevin Delehanty. He has testimony in both dockets, and he was stipulated as well.

At this time, we would move that the May 27th, 2014, of Kevin Delehanty in docket 140111 and 140110 be moved in the record as though read.

CHAIRMAN GRAHAM: We will move his prefiled direct testimony into the record as though read.

IN RE: PETITION FOR DETERMINATION OF NEED

BY DUKE ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF KEVIN DELEHANTY

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Kevin Delehanty and I am employed by Duke Energy Business Services LLC, the service company affiliate of Duke Energy Florida, Inc. ("DEF" or the "Company"). My business address is 550 South Tryon Street, Charlotte, North Carolina 28202.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am the Director of Market Fundamentals. In this role, I am responsible for preparation of the Fundamental Forecast, which is the Duke Energy Corporation ("Duke Energy") long-term fossil fuels commodity price forecast for all the subsidiary electric utilities, including DEF. As a result, I am responsible for providing the long term commodity price component of the fuels forecast to DEF for its Integrated Resource Planning ("IRP") process.

Q. Please summarize your educational background and employment experience.

A. I received an Associate's degree in Industrial Electronics from Spartanburg Technical College in May, 1982. In May 1990, I received a Bachelor of Science degree in Electrical Engineering from the University of South Carolina – Columbia. I have also been a licensed Professional Engineer in the State of South Carolina since 1994.

I joined Duke Power Company in June, 1982 as an Engineering Associate in the Distribution Engineering Group. From 1982 – 1987, I was a Power Quality Engineer in the Electrical System Design Group. I joined the System Planning Group in 1990 where I was responsible for production cost modeling, project evaluation, and financial analysis. Over the next ten years I served in a variety of roles leading cross functional teams in planning and asset strategy. In 2000, I joined the Bulk Power Marketing Group as a Senior Structured Planning Engineer responsible for valuation and risk analysis of large structured power deals. In 2005, I joined the Corporate Strategy Group as Manager of Commodity Price Fundamentals responsible for supervision of the commodity price forecasting process using external consultants for modeling and data. Following the merger with Cinergy in 2006, I was named Director of Market Fundamentals and Competitive Analytics responsible for the development of the long term fuel price outlooks used in all long term planning studies.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of DEF in support of its Petition for Determination of Need for the Citrus County Combined Cycle Power Plant. I will describe the process for developing the Fundamental Forecast and explain why the Fundamental Forecast is a reasonable long-term fuels price forecast for the Company to use in its IRP process.

Q. Are you sponsoring any sections of Duke Energy Florida's Need Study?

A. Yes. I am sponsoring the "Fuel Price Forecasts" in DEF's Need Study for the Citrus County Combined Cycle Power Plant project.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ___ (KD-1), a chart of the Company's base, high, and low natural gas price forecast;
- Exhibit No. ____ (KD-2), a chart of the Company's base natural gas price forecast and other industry natural gas price forecasts;
- Exhibit No. ___ (KD-3), United States Energy Information Administration ("EIA") Map of major North American shale basins; and
- Exhibit No. ___ (KD-4), United States Potential Gas Committee chart of Total Potential Resources.

The Company generated exhibits identified above were prepared under my direction and control, and each is true and accurate. The other exhibits were prepared by government agencies charged with collecting, collating, and publishing information of the type included in the identified exhibits, they are reliable industry resources for this information, and this information is typically used by the Company as resource material in the preparation of the Fundamental Forecast.

Q. Please summarize your testimony.

A. The Fundamental Forecast is Duke Energy's long-term fuels forecast. It is a fundamentals-based forecast reflecting Duke Energy's long-term outlook for resource planning purposes and other long-term investment decisions. The Fundamental Forecast is based on an extensive review and a rigorous analysis of available and relevant information that affects fuel commodity prices. It reflects industry expertise and Duke Energy's expertise and professional judgment of future fuel costs. It is further in line with other contemporary, industry fuels forecasts. The Fundamental Forecast, therefore, reasonably represents future fuel commodity prices.

Natural gas is the fuel planned for the Citrus County Combined Cycle Power Plant. It is a readily available fuel source, given current and projected levels of long-term supply of natural gas. The increase in the available gas supply and production from conventional and, in particular, unconventional tight gas and shale rock formations in the United States due to improvements in drilling and

well stimulation technologies is expected to continue to favorably impact fuel prices. Natural gas is available in sufficiently abundant supply that natural gas is a relatively economic fuel choice for power generation well into the future.

III. DEF'S FUELS PRICE FORECAST.

Q. Does DEF have a fuels forecast?

A. Yes. DEF has both a short-term fuels forecast and a long-term forecast. The short-term fuels forecast is based on observed market prices and is used mainly for operational purposes. The long-term forecast is a fundamentals-based forecast and it reflects Duke Energy's long-term outlook for resource planning purposes and other long-term investment decisions for Duke Energy and all of its electric utilities, including DEF. All of the long-term fundamental commodity prices are developed within the context of a comprehensive, internally consistent modeling process. The short term fuel forecast is based on available futures market prices, spot market prices, and short-term contract prices for the fuels used by the electric utilities. The short term natural gas fuels price forecast, for example, is based on the New York Mercantile Exchange ("NYMEX") futures contract prices for United States natural gas. The NYMEX natural gas futures market is an electric utility industry standard index of future market prices for United States natural gas. The Company transitions from its reliance on the short term fuels forecast to the Duke Energy Fundamental Forecast, or long term fuels forecast, for the long term investment decisions, such as building and operating new power plants, in its IRP process.

Q. Why does Duke Energy prepare a Fundamental Forecast?

A. The Fundamental Forecast is an integral part of Duke Energy's long term planning processes, in particular, its resource planning. Relevant short- and long-term fuel commodity prices and their differentials over time are important economic factors in determining the types and timing of new generation additions to DEF's system. Fuel commodity prices are also relevant to the determination of the most efficient method of operating existing and proposed generation plants on DEF's system in compliance with system operational and environmental requirements. Duke Energy utilizes published market prices for the portion of the forecast curve where the relevant fuels are actively traded, as well as other market intelligence like competitive bids received in the fuel procurement process, and then relies on market fundamentals to fill out the balance of the forecast. Futures market prices are illiquid after the first few years and often do not reflect the impacts of proposed environmental rulemaking, retirements of existing generation, or changes in technology. A Fundamental Forecast is a forward-looking evaluation of the marginal cost of supply at the expected level of demand. Iterative modeling simulations are performed using detailed supply and demand curves for each commodity until the energy markets come into balance, producing an internally consistent set of future market prices. The modeling process utilizes a combination of historical industry data coupled with assumptions which help define the future market environment. The fundamental forecasting process provides a detailed narrative of where the future energy supplies and corresponding demand will come from and it will help identify the key variables.

Although some of these input assumptions may prove to be incorrect in the future, the process itself still yields important information as to their cause and effect. The real strength of the fundamental forecasting process lies in the fact that it is a methodical, analytical process, repeated at regular intervals, and it is continuously refined. The Fundamental Forecasting process, which allows Duke Energy to evaluate the impact of the changing energy landscape on future commodity fuel prices, is essential to DEF's IRP process.

Q. How does Duke Energy prepare its Fundamental Forecast?

A. Duke Energy starts its Fundamental Forecast with the assistance of an expert energy consultancy in the field of fuels forecasting in the industry. Duke Energy's current industry consultant is Energy Ventures Analysis, Inc. ("EVA"). EVA was selected from five industry energy consultant responses to a request for proposal ("RFP") in July 2012. EVA was selected based on, among other factors, its experience, modeling processes and tools, market and regulatory expertise. EVA was selected by an internal team of experts from different Duke Energy departments, including Fuel Procurement, Load & Fundamental Forecasting; Strategic Engineering and Environmental Policy; and Integrated Resource Planning. EVA is an industry expert in fuel price forecast modeling and analysis.

Duke Energy relies on EVA to employ its industry leading modeling processes and databases to develop a long-term energy commodity price forecast that EVA provides Duke Energy. Duke Energy subject matter experts review the EVA assumptions and data inputs in the long-term energy commodity price

forecast for consistency with Duke Energy's own internal planning assumptions and data inputs. Duke Energy works in a collaborative manner with EVA to discuss the input assumptions, model results, and corresponding conclusions in the EVA reference case. Following this review, Duke develops a list of input assumption changes to be considered for the next iteration of the Duke reference case and then works with EVA to facilitate the changes within the constraints of the modeling process. This process continues until both Duke Energy and EVA are satisfied that the data inputs and assumptions in the long-term commodity price forecast are credible and that the results of modeling the assumptions in the forecast are valid. Further, validation of the modeling assumptions and results is obtained from reviews by various internal planning groups until Duke Energy is comfortable with the credibility of the long-term energy commodity price forecast.

Duke Energy has employed this process since 2005 and has worked with leading energy consultants like Wood Mackenzie, CERA, ICF, Global Energy/Ventyx, and EVA. The Fundamental Forecast is released each spring with an updated forecast typically in the fall of the year, if required by material changes in the underlying assumptions in the Fundamental Forecast. The preparation of the Fundamental Forecast, however, is a continual process in the sense that Duke Energy routinely monitors and updates, when necessary, the assumptions underlying the Fundamental Forecast based on changes in the market and evolving conditions in the national and regional economies where the electric utilities are located, political and regulatory conditions, environmental conditions

and other factors that have or may have an impact on the Fundamental Forecast.

Q. What types of changes are made by Duke Energy to the EVA Fundamental Forecast assumptions?

A. Duke Energy typically makes changes only to assumptions regarding data inputs in technical areas where Duke Energy possesses specialized expertise or to assumptions regarding future policy directives where Duke Energy believes it has more complete or relevant information. For example, in the 2013 Fundamental Forecast, Duke Energy adjusted state level electric sales growth rates and raised the penetration level assumptions of certain renewable resources in select states where Duke Energy electric utilities operate. Duke Energy also modified coal plant retirement assumptions for existing coal plants, capital and operation and maintenance ("O&M") cost assumptions for new generation resources with which Duke Energy has construction and operation experience, and assumed remedies for future 316(b) water regulations, all based on its internal information and expertise. These assumptions changes are typically few in number; the overwhelming majority of the assumptions in the Fundamental Forecast were developed by EVA and retained by Duke Energy.

Q. Are there any other adjustments by Duke Energy to the EVA forecast in the Fundamental Forecast?

A. Yes. The EVA forecast did not include a national climate or carbon policy assumption in the EVA Fall 2012 base forecast, which was the starting point for

the development of the 2013 Duke Energy outlook, i.e. the Fundamental Forecast. EVA did follow up with a carbon scenario case of their own as part of their Fall 2013 Outlook. Duke Energy has included a price on carbon within its base fundamentals outlook since 2006 as a way of capturing the potential impact of uncertain future policy for regulating CO_2 emissions, and although current legislative efforts to enact a policy that places a national price on carbon remain highly uncertain, it is still a possibility. In the absence of legislation the United State Environmental Protection Agency ("EPA") is moving ahead with regulating CO_2 emissions from existing fossil fuel-fired power plants, and we expect a proposal from the EPA in June 2014. Therefore, Duke Energy believes it is prudent to model a price on carbon as a way of capturing the risk of potential, but uncertain future legislation and pending EPA regulation of CO_2, and the impact of carbon policy at the national level within the context of its fundamental fuel price outlook. The carbon price Duke Energy currently uses in its fundamentals forecast is a direct input to the process and has been set at a level we believe to be a reasonable trajectory to represent the risk of federal climate change legislation or regulation given the current uncertainty surrounding such policy. The carbon price trajectory used is also in our view reflective of the pricing that policy makers might consider acceptable if or when they act.

Because of the high degree of uncertainty surrounding the outcome of climate change policy, however, DEF, in its IRP process, runs scenarios off the Duke Energy fundamental forecast carbon price trajectory that include a no carbon cost forecast to produce a more robust analysis.

Q. How is the Fundamental Forecast used in the IRP process?

A. After the Fundamental Forecast is reviewed and validated as a credible long-term commodity price forecast, it is provided to Duke Energy's fuels procurement group where it is combined with other market data to develop the final fuel price inputs to the resource planning models. For the natural gas commodity component, the fuels procurement group utilizes futures market quotes from the NYMEX to price the first three years, followed by a two year transition period of blended prices to the long term fundamentals for the balance of the forecast. After establishing the commodity price curve, the procurement group develops plant specific fuel price inputs by factoring in existing contracts, as well as fixed and variable transportation costs. Exhibit No. ___ (KD-1) to my direct testimony is a chart of the fundamental natural gas forecast. Forecast scenarios based on the Fundamental Forecast are also developed. These include low and high natural gas forecast scenarios around the base natural gas price forecast in the Fundamental Forecast. See Exhibit No. ___ (KD-1).

Q. How were the low and high natural gas forecast scenarios developed in the Fundamental Forecast?

A. The low and high natural gas forecasts in the Fundamental Forecast are developed by comparing the Duke Energy base natural gas price forecast in the Fundamental Forecast to contemporary, well-recognized industry natural gas price forecasts and applying statistically relevant standard deviations to the data. This methodology produces the shaded areas around the Duke Energy Fundamental

Natural Gas Forecast shown in Exhibit No. __ (KD-1) and results in the calculation of the low and high natural gas price forecasts around the Fundamental Natural Gas Forecast. Based on these calculations, the low natural gas forecast is 18 percent lower and the high natural gas forecast is 14 percent higher than the Duke Energy Fundamental Natural Gas Forecast, as shown in Exhibit No. ___ (KD-1). Duke Energy's methodology reasonably anchors its low and high natural gas price scenarios to contemporary industry natural gas price forecasts and ensures that the range of potential natural gas prices in the Duke Energy Fundamental Natural Gas Forecast is not out of line with industry forecasts.

Q. In your opinion, is the Fundamental Forecast a reasonable view of future fuel commodity prices?

A. Yes. The Fundamental Forecast is based on an extensive review and a rigorous analysis of available and relevant information that affects fuel commodity prices. Duke Energy relies on industry expertise and its own expertise to develop this information in the Fundamental Forecast and it incorporates the best available data regarding these assumptions into the Forecast. The Fundamental Forecast reflects industry expertise and Duke Energy's best professional judgment of future costs at the time the Fundamental Forecast is prepared.

Duke Energy also vets this Forecast against other forecasts available in the industry, and Duke Energy-specific information regarding supply and demand, marginal costs, plant operational characteristics, and observable data regarding

commodity prices. As shown in Exhibit No. ___ (KD-2), and as I explained above with respect to the development of the low and high natural gas price scenarios, the Company's natural gas forecast is in line with other contemporary natural gas forecasts (both public and proprietary) prepared by leading industry consultants. As a result, the Fundamental Forecast reasonably represents future fuel commodity prices.

Q. Do you have an opinion regarding the use of natural gas as a fuel source for the Citrus County Combined Cycle Power Plant?

A. Yes. Natural gas is and will be a competitively-priced fuel source for the Citrus County Combined Cycle Power Plant. Natural gas is an attractive economic fuel source for the generation of electricity for DEF's customers compared to the total cost of generation for other types of generation technologies. Natural gas is also an attractive fuel source because, compared to oil and coal, it is a cleaner burning fuel and does not have the same level of environmental costs and related impacts associated with generation plants using those alternative fuels. This results in a favorable impact on the relative capital cost of constructing generating facilities capable of complying with current and ever increasing environmental regulations. As a result, natural gas is the economic fuel of choice for electric generation for customers at this time.

Q. Why does the Company consider natural gas to be an economic long-term fuel source for electrical energy production?

A. In the last decade advances in natural gas production technology have provided natural gas producers access to unconventional gas supplies that previously were not economic production resources. These unconventional gas supplies are in tight gas sandstone structures and shale rock formations deep below the ground where natural gas in an abundant quantity is trapped within the rock. Improvements in drilling and well stimulation technologies now provide an economic method to drill and hydraulically fracture the rock and capture the large quantities of natural gas trapped in these impermeable rock formations. This advanced drilling technology is colloquially referred to as "fracking," because the shale rock formations that trap the natural gas are fractured by high pressure water injected into the rock formations during the well completion process. Vast shale rock formations or "shale plays" extend across the United States and Canada. Exhibit No. ___ (KD-3) to my direct testimony is a map of the North American shale plays. This map from the EIA shows the current and prospective shale plays in addition to the natural gas basins. As the map makes clear, there are abundant shale plays in North America, providing a long-term source of supply of natural gas for natural gas users in the United States.

The ultimate size of the United States natural gas resource base has been estimated at 2,384 trillion cubic feet, as shown in Exhibit No. ___ (KD-4), according to the latest report from the United States Potential Gas Committee 2013 Report from the United States Potential Gas Committee at the Colorado

School of Mines. This estimate represents a 25% increase from their previous report in 2011 and at the current rate of United States consumption of approximately twenty five trillion cubic feet per year, the United States has ample domestic reserves.

As a result of the new drilling and completion technologies there has been a tremendous increase in United States unconventional gas production over the last five years. In the last five years the marketed production of United States natural gas has increased by 21% according to the EIA. But an even more impressive statistic is the percentage of natural gas production from shale resources which has increased from about 11% of the national total in 2008 to over 35% by the end of 2012.

Shale resources are increasingly displacing conventional sources of gas in the Gulf of Mexico and elsewhere, and that has further implications on the reliability of supply. By moving on shore, producers are reducing the time it takes to bring new wells on line and those wells are less prone to disruption from hurricanes. The United States gas market is still subject to market volatility, in part due to the nature of the business where supply and demand must balance in real time and storage is finite and limited to certain regions by geology. However, short term price volatility arising from operational imbalances are not a significant threat to the value proposition of a natural gas combined cycle unit, the way long term fuel availability and price uncertainty is. The dramatic increase in the size of the gas resource base coupled with the speed at which it can be put in production has significantly improved the long term availability of natural gas and

immensely improved the value proposition of natural gas as a fuel source for electric generation.

The United States power market will also benefit greatly from the distributed nature of the shale reserves being located much closer to major demand centers like the Northeast. The development of the Marcellus and Utica shale basins has freed up pipeline capacity across the Southeastern United States, which has lowered basis differentials, i.e., the variation in price based on constraints at the gas hub delivery location, and will also benefit future gas consumers in Florida in reduced transportation costs. This increase in the available gas supply and production of natural gas is expected to continue to favorably impact fuel prices with natural gas price projections being relatively economic to other fuels for energy production well into the future.

Q. If low-cost natural gas is abundant will that increase the generation of energy from natural gas in the United States?

A. Yes. Natural gas is the predominant fuel source for new electric power generation in the United States, and natural gas-fired generation has displaced a significant portion of the existing coal-fired generation fleet, because of the relatively low cost of natural gas and the increasing cost of coal-fired generation due to the compliance with increasing environmental regulations. There is also projected to be a sizable increase in industrial demand for gas as well as a significant increase in both pipeline and LNG exports due to the increased size of the resource base and the economic cost of production. This increase in demand is factored into our

Fundamental Forecast and, even with the projected increase in demand for natural gas, natural gas is still available in sufficiently abundant supply to render natural gas a relatively economic fuel choice for power generation over the long term.

Q. Does this conclude your testimony?

A. Yes.

IN RE: PETITION FOR DETERMINATION OF COST EFFECTIVE GENERATION ALTERNATIVE TO MEET NEED PRIOR TO 2018 FOR DUKE ENERGY FLORIDA, INC.

BY DUKE ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF KEVIN DELEHANTY

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Kevin Delehanty and I am employed by Duke Energy Business Services LLC, the service company affiliate of Duke Energy Florida, Inc. ("DEF" or the "Company"). My business address is 550 South Tryon Street, Charlotte, North Carolina 28202.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am the Director of Market Fundamentals. In this role, I am responsible for preparation of the Fundamental Forecast, which is the Duke Energy Corporation ("Duke Energy") long-term fossil fuels commodity price forecast for all the subsidiary electric utilities, including DEF. As a result, I am responsible for providing the long term commodity price component of the fuels forecast to DEF for its Integrated Resource Planning ("IRP") process.

Q. Please summarize your educational background and employment experience.

A. I received an Associate's degree in Industrial Electronics from Spartanburg Technical College in May, 1982. In May 1990, I received a Bachelor of Science degree in Electrical Engineering from the University of South Carolina – Columbia. I have also been a licensed Professional Engineer in the State of South Carolina since 1994.

I joined Duke Power Company in June, 1982 as an Engineering Associate in the Distribution Engineering Group. From 1982 – 1987, I was a Power Quality Engineer in the Electrical System Design Group. I joined the System Planning Group in 1990 where I was responsible for production cost modeling, project evaluation, and financial analysis. Over the next ten years I served in a variety of roles leading cross functional teams in planning and asset strategy. In 2000, I joined the Bulk Power Marketing Group as a Senior Structured Planning Engineer responsible for valuation and risk analysis of large structured power deals. In 2005, I joined the Corporate Strategy Group as Manager of Commodity Price Fundamentals responsible for supervision of the commodity price forecasting process using external consultants for modeling and data. Following the merger with Cinergy in 2006, I was named Director of Market Fundamentals and Competitive Analytics responsible for the development of the long term fuel price outlooks used in all long term planning studies.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of DEF in support of its Petition for Determination of Cost Effective Alternative to Meet Need Prior to 2018 for Duke Energy Florida, Inc. for the Suwannee Simple Cycle project and the Hines Chillers Power Uprate project. I will describe the process for developing the Fundamental Forecast and explain why the Fundamental Forecast is a reasonable long-term fuels price forecast for the Company to use in its IRP process.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ___ (KD-1), a chart of the Company's base, high, and low natural gas price forecast;
- Exhibit No. ____ (KD-2), a chart of the Company's base natural gas price forecast and other industry natural gas price forecasts;
- Exhibit No. ___ (KD-3), United States Energy Information Administration ("EIA") Map of major North American shale basins; and
- Exhibit No. ___ (KD-4), United States Potential Gas Committee chart of Total Potential Resources.

The Company generated exhibits identified above were prepared under my direction and control, and each is true and accurate. The other exhibits were prepared by government agencies charged with collecting, collating, and publishing information of the type included in the identified exhibits, they are

reliable industry resources for this information, and this information is typically used by the Company as resource material in the preparation of the Fundamental Forecast.

Q. Please summarize your testimony.

A. The Fundamental Forecast is Duke Energy's long-term fuels forecast. It is a fundamentals-based forecast reflecting Duke Energy's long-term outlook for resource planning purposes and other long-term investment decisions. The Fundamental Forecast is based on an extensive review and a rigorous analysis of available and relevant information that affects fuel commodity prices. It reflects industry expertise and Duke Energy's expertise and professional judgment of future fuel costs. It is further in line with other contemporary, industry fuels forecasts. The Fundamental Forecast, therefore, reasonably represents future fuel commodity prices.

Natural gas is the fuel planned for the Suwannee Simple Cycle project and the fuel currently serving the Hines combined cycle power plant units where the Hines Chillers Power Uprate project will be installed. It is a readily available fuel source, given current and projected levels of long-term supply of natural gas. The increase in the available gas supply and production from conventional and, in particular, unconventional tight gas and shale rock formations in the United States due to improvements in drilling and well stimulation technologies is expected to continue to favorably impact fuel prices. Natural gas is available in sufficiently

abundant supply that natural gas is a relatively economic fuel choice for power generation well into the future.

III. DEF'S FUELS PRICE FORECAST.

Q. Does DEF have a fuels forecast?

A. Yes. DEF has both a short-term fuels forecast and a long-term forecast. The short-term fuels forecast is based on observed market prices and is used mainly for operational purposes. The long-term forecast is a fundamentals-based forecast and it reflects Duke Energy's long-term outlook for resource planning purposes and other long-term investment decisions for Duke Energy and all of its electric utilities, including DEF. All of the long-term fundamental commodity prices are developed within the context of a comprehensive, internally consistent modeling process. The short term fuel forecast is based on available futures market prices, spot market prices, and short-term contract prices for the fuels used by the electric utilities. The short term natural gas fuels price forecast, for example, is based on the New York Mercantile Exchange ("NYMEX") futures contract prices for United States natural gas. The NYMEX natural gas futures market is an electric utility industry standard index of future market prices for United States natural gas. The Company transitions from its reliance on the short term fuels forecast to the Duke Energy Fundamental Forecast, or long term fuels forecast, for the long term investment decisions, such as building and operating new power plants, in its IRP process.

Q. Why does Duke Energy prepare a Fundamental Forecast?

A. The Fundamental Forecast is an integral part of Duke Energy's long term planning processes, in particular, its resource planning. Relevant short- and long-term fuel commodity prices and their differentials over time are important economic factors in determining the types and timing of new generation additions to DEF's system. Fuel commodity prices are also relevant to the determination of the most efficient method of operating existing and proposed generation plants on DEF's system in compliance with system operational and environmental requirements. Duke Energy utilizes published market prices for the portion of the forecast curve where the relevant fuels are actively traded, as well as other market intelligence like competitive bids received in the fuel procurement process, and then relies on market fundamentals to fill out the balance of the forecast. Futures market prices are illiquid after the first few years and often do not reflect the impacts of proposed environmental rulemaking, retirements of existing generation, or changes in technology. A Fundamental Forecast is a forward-looking evaluation of the marginal cost of supply at the expected level of demand. Iterative modeling simulations are performed using detailed supply and demand curves for each commodity until the energy markets come into balance, producing an internally consistent set of future market prices. The modeling process utilizes a combination of historical industry data coupled with assumptions which help define the future market environment. The fundamental forecasting process provides a detailed narrative of where the future energy supplies and corresponding demand will come from and it will help identify the key variables.

Although some of these input assumptions may prove to be incorrect in the future, the process itself still yields important information as to their cause and effect. The real strength of the fundamental forecasting process lies in the fact that it is a methodical, analytical process, repeated at regular intervals, and it is continuously refined. The Fundamental Forecasting process, which allows Duke Energy to evaluate the impact of the changing energy landscape on future commodity fuel prices, is essential to DEF's IRP process.

Q. How does Duke Energy prepare its Fundamental Forecast?

A. Duke Energy starts its Fundamental Forecast with the assistance of an expert energy consultancy in the field of fuels forecasting in the industry. Duke Energy's current industry consultant is Energy Ventures Analysis, Inc. ("EVA"). EVA was selected from five industry energy consultant responses to a request for proposal ("RFP") in July 2012. EVA was selected based on, among other factors, its experience, modeling processes and tools, market and regulatory expertise. EVA was selected by an internal team of experts from different Duke Energy departments, including Fuel Procurement, Load & Fundamental Forecasting; Strategic Engineering and Environmental Policy; and Integrated Resource Planning. EVA is an industry expert in fuel price forecast modeling and analysis.

Duke Energy relies on EVA to employ its industry leading modeling processes and databases to develop a long-term energy commodity price forecast that EVA provides Duke Energy. Duke Energy subject matter experts review the EVA assumptions and data inputs in the long-term energy commodity price

forecast for consistency with Duke Energy's own internal planning assumptions and data inputs. Duke Energy works in a collaborative manner with EVA to discuss the input assumptions, model results, and corresponding conclusions in the EVA reference case. Following this review, Duke develops a list of input assumption changes to be considered for the next iteration of the Duke reference case and then works with EVA to facilitate the changes within the constraints of the modeling process. This process continues until both Duke Energy and EVA are satisfied that the data inputs and assumptions in the long-term commodity price forecast are credible and that the results of modeling the assumptions in the forecast are valid. Further, validation of the modeling assumptions and results is obtained from reviews by various internal planning groups until Duke Energy is comfortable with the credibility of the long-term energy commodity price forecast.

Duke Energy has employed this process since 2005 and has worked with leading energy consultants like Wood Mackenzie, CERA, ICF, Global Energy/Ventyx, and EVA. The Fundamental Forecast is released each spring with an updated forecast typically in the fall of the year, if required by material changes in the underlying assumptions in the Fundamental Forecast. The preparation of the Fundamental Forecast, however, is a continual process in the sense that Duke Energy routinely monitors and updates, when necessary, the assumptions underlying the Fundamental Forecast based on changes in the market and evolving conditions in the national and regional economies where the electric utilities are located, political and regulatory conditions, environmental conditions

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Q. Are there any other adjustments by Duke Energy to the EVA forecast in the Fundamental Forecast?

A. Yes. The EVA forecast did not include a national climate or carbon policy assumption in the EVA Fall 2012 base forecast, which was the starting point for

the development of the 2013 Duke Energy outlook, i.e. the Fundamental Forecast. EVA did follow up with a carbon scenario case of their own as part of their Fall 2013 Outlook. Duke Energy has included a price on carbon within its base fundamentals outlook since 2006 as a way of capturing the potential impact of uncertain future policy for regulating CO_2 emissions, and although current legislative efforts to enact a policy that places a national price on carbon remain highly uncertain, it is still a possibility. In the absence of legislation the United State Environmental Protection Agency ("EPA") is moving ahead with regulating CO_2 emissions from existing fossil fuel-fired power plants, and we expect a proposal from the EPA in June 2014. Therefore, Duke Energy believes it is prudent to model a price on carbon as a way of capturing the risk of potential, but uncertain future legislation and pending EPA regulation of CO_2, and the impact of carbon policy at the national level within the context of its fundamental fuel price outlook. The carbon price Duke Energy currently uses in its fundamentals forecast is a direct input to the process and has been set at a level we believe to be a reasonable trajectory to represent the risk of federal climate change legislation or regulation given the current uncertainty surrounding such policy. The carbon price trajectory used is also in our view reflective of the pricing that policy makers might consider acceptable if or when they act.

Because of the high degree of uncertainty surrounding the outcome of climate change policy, however, DEF, in its IRP process, runs scenarios off the Duke Energy fundamental forecast carbon price trajectory that include a no carbon cost forecast to produce a more robust analysis.

Q. How is the Fundamental Forecast used in the IRP process?

A. After the Fundamental Forecast is reviewed and validated as a credible long-term commodity price forecast, it is provided to Duke Energy's fuels procurement group where it is combined with other market data to develop the final fuel price inputs to the resource planning models. For the natural gas commodity component, the fuels procurement group utilizes futures market quotes from the NYMEX to price the first three years, followed by a two year transition period of blended prices to the long term fundamentals for the balance of the forecast. After establishing the commodity price curve, the procurement group develops plant specific fuel price inputs by factoring in existing contracts, as well as fixed and variable transportation costs. Exhibit No. ___ (KD-1) to my direct testimony is a chart of the fundamental natural gas forecast. Forecast scenarios based on the Fundamental Forecast are also developed. These include low and high natural gas forecast scenarios around the base natural gas price forecast in the Fundamental Forecast. See Exhibit No. ___ (KD-1).

Q. How were the low and high natural gas forecast scenarios developed in the Fundamental Forecast?

A. The low and high natural gas forecasts in the Fundamental Forecast are developed by comparing the Duke Energy base natural gas price forecast in the Fundamental Forecast to contemporary, well-recognized industry natural gas price forecasts and applying statistically relevant standard deviations to the data. This methodology produces the shaded areas around the Duke Energy Fundamental

Natural Gas Forecast shown in Exhibit No. __ (KD-1) and results in the calculation of the low and high natural gas price forecasts around the Fundamental Natural Gas Forecast. Based on these calculations, the low natural gas forecast is 18 percent lower and the high natural gas forecast is 14 percent higher than the Duke Energy Fundamental Natural Gas Forecast, as shown in Exhibit No. ___ (KD-1). Duke Energy's methodology reasonably anchors its low and high natural gas price scenarios to contemporary industry natural gas price forecasts and ensures that the range of potential natural gas prices in the Duke Energy Fundamental Natural Gas Forecast is not out of line with industry forecasts.

Q. In your opinion, is the Fundamental Forecast a reasonable view of future fuel commodity prices?

A. Yes. The Fundamental Forecast is based on an extensive review and a rigorous analysis of available and relevant information that affects fuel commodity prices. Duke Energy relies on industry expertise and its own expertise to develop this information in the Fundamental Forecast and it incorporates the best available data regarding these assumptions into the Forecast. The Fundamental Forecast reflects industry expertise and Duke Energy's best professional judgment of future costs at the time the Fundamental Forecast is prepared.

Duke Energy also vets this Forecast against other forecasts available in the industry, and Duke Energy-specific information regarding supply and demand, marginal costs, plant operational characteristics, and observable data regarding

commodity prices. As shown in Exhibit No. ___ (KD-2), and as I explained above with respect to the development of the low and high natural gas price scenarios, the Company's natural gas forecast is in line with other contemporary natural gas forecasts (both public and proprietary) prepared by leading industry consultants. As a result, the Fundamental Forecast reasonably represents future fuel commodity prices.

Q. Do you have an opinion regarding the use of natural gas as a fuel source for the Suwannee Simple Cycle power plant?

A. Yes. Natural gas is and will be a competitively-priced fuel source for the Suwannee Simple Cycle Power Plant. It is also the existing fuel for the Hines combined cycle power plant units where the Hines Chillers Power Uprate Project will be installed. Natural gas is an attractive economic fuel source for the generation of electricity for DEF's customers compared to the total cost of generation for other types of generation technologies. Natural gas is also an attractive fuel source because, compared to oil and coal, it is a cleaner burning fuel and does not have the same level of environmental costs and related impacts associated with generation plants using those alternative fuels. This results in a favorable impact on the relative capital cost of constructing generating facilities capable of complying with current and ever increasing environmental regulations. As a result, natural gas is the economic fuel of choice for electric generation for customers at this time.

Q. Why does the Company consider natural gas to be an economic long-term fuel source for electrical energy production?

A. In the last decade, advances in natural gas production technology have provided natural gas producers access to unconventional gas supplies that previously were not economic production resources. These unconventional gas supplies are in tight gas sandstone structures and shale rock formations deep below the ground where natural gas in an abundant quantity is trapped within the rock. Improvements in drilling and well stimulation technologies now provide an economic method to drill and hydraulically fracture the rock and capture the large quantities of natural gas trapped in these impermeable rock formations. This advanced drilling technology is colloquially referred to as "fracking," because the shale rock formations that trap the natural gas are fractured by high pressure water injected into the rock formations during the well completion process. Vast shale rock formations or "shale plays" extend across the United States and Canada. Exhibit No. ___ (KD-3) to my direct testimony is a map of the North American shale plays. This map from the EIA shows the current and prospective shale plays in addition to the natural gas basins. As the map makes clear, there are abundant shale plays in North America, providing a long-term source of supply of natural gas for natural gas users in the United States.

The ultimate size of the United States natural gas resource base has been estimated at 2,384 trillion cubic feet, as shown in Exhibit No. ___ (KD-4), according to the latest report from the United States Potential Gas Committee 2013 Report from the United States Potential Gas Committee at the Colorado

School of Mines. This estimate represents a 25% increase from their previous report in 2011 and at the current rate of United States consumption of approximately twenty five trillion cubic feet per year, the United States has ample domestic reserves.

As a result of the new drilling and completion technologies there has been a tremendous increase in United States unconventional gas production over the last five years. In the last five years the marketed production of United States natural gas has increased by 21% according to the EIA. But an even more impressive statistic is the percentage of natural gas production from shale resources which has increased from about 11% of the national total in 2008 to over 35% by the end of 2012.

Shale resources are increasingly displacing conventional sources of gas in the Gulf of Mexico and elsewhere, and that has further implications on the reliability of supply. By moving on shore, producers are reducing the time it takes to bring new wells on line and those wells are less prone to disruption from hurricanes. The United States gas market is still subject to market volatility, in part due to the nature of the business where supply and demand must balance in real time and storage is finite and limited to certain regions by geology. However, short term price volatility arising from operational imbalances are not a significant threat to the value proposition of a natural gas combined cycle unit, the way long term fuel availability and price uncertainty is. The dramatic increase in the size of the gas resource base coupled with the speed at which it can be put in production has significantly improved the long term availability of natural gas and

immensely improved the value proposition of natural gas as a fuel source for electric generation.

The United States power market will also benefit greatly from the distributed nature of the shale reserves being located much closer to major demand centers like the Northeast. The development of the Marcellus and Utica shale basins has freed up pipeline capacity across the Southeastern United States, which has lowered basis differentials, i.e., the variation in price based on constraints at the gas hub delivery location, and will also benefit future gas consumers in Florida in reduced transportation costs. This increase in the available gas supply and production of natural gas is expected to continue to favorably impact fuel prices with natural gas price projections being relatively economic to other fuels for energy production well into the future.

Q. If low-cost natural gas is abundant will that increase the generation of energy from natural gas in the United States?

A. Yes. Natural gas is the predominant fuel source for new electric power generation in the United States, and natural gas-fired generation has displaced a significant portion of the existing coal-fired generation fleet, because of the relatively low cost of natural gas and the increasing cost of coal-fired generation due to the compliance with increasing environmental regulations. There is also projected to be a sizable increase in industrial demand for gas as well as a significant increase in both pipeline and LNG exports due to the increased size of the resource base and the economic cost of production. This increase in demand is factored into our

Fundamental Forecast and, even with the projected increase in demand for natural gas, natural gas is still available in sufficiently abundant supply to render natural gas a relatively economic fuel choice for power generation over the long term.

Q. Does this conclude your testimony?

A. Yes.

MS. GAMBA: And Mr. Delehanty had Exhibits KD1 through KD4 in docket 140110, and KD1 through KD4 in docket 140111. And those are listed as comprehensive Exhibits 21 through 28, and we would move those into the record as well.

CHAIRMAN GRAHAM: We will move Exhibit 21, two, three, four, five, six, seven and eight into the record.

(Whereupon, Exhibit Nos. 21-28 were received into evidence.)

MS. GAMBA: Thank you.

MS. TRIPLETT: Duke Energy would call its next witness. Ed Scott.

Whereupon,

ED SCOTT

was called as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. TRIPLETT:

Q Good afternoon. You have already been sworn in as a witness, right?

A That's correct.

Q Okay. Would you please introduce yourself to the Commission and provide your address?

A Good afternoon, Mr. Chairman, Commissioners. My name is Ed Scott. My business address is 6565 38th Avenue North, St. Pete, 33710.

Q Who do you work for, and what is your position?

A I work for Duke Energy Florida, and I am the Director of Transmission Planning for Duke Energy Florida.

Q And have you filed direct testimony and exhibits in docket numbers 140110 and 140111?

A That's correct.

Q And do you have those prefiled direct testimonies with you today?

A I do.

Q Do you have any changes to make though those testimonies?

A Not that I am aware of at the moment.

Q And if I asked you the same questions in your prefiled direct testimonies today, would you give the same answers that are in your prefiled testimony that have been filed with the Commission?

A Yes.

MS. TRIPLETT: Mr. Chairman, we request that the prefiled direct testimonies for Ed Scott in dockets 140110 and 140111 be entered into the

record as though read.

CHAIRMAN GRAHAM: We will enter Mr. Scott's direct testimony into the record as though read.

MS. TRIPLETT: Thank you.

IN RE: PETITION FOR DETERMINATION OF NEED

BY DUKE ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF ED SCOTT

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Ed Scott and I am employed by Duke Energy Florida, Inc. ("DEF" or the "Company"). My business address is 6565 38th Avenue North, St. Petersburg, Florida 33710.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am the Director --- Transmission Planning Florida. In this role, I am responsible for all transmission planning for DEF. I am responsible for ensuring that long-range transmission plans, studies, and assessments are performed in accordance with all applicable Federal Energy Regulatory Commission ("FERC"), North American Electric Reliability Corporation ("NERC"), Florida Reliability Coordinating Council ("FRCC"), and DEF planning standards and requirements. Areas of additional focus include development of Generation and Transmission Integrated Siting Strategies and evaluation of Transmission Service and Generator Interconnection Requests. I also represent DEF on the FRCC Planning Committee, and Investor Owned Utilities on the NERC Planning Committee.

Q. Please summarize your educational background and employment experience.

A. I have been with the Company (and its predecessor companies Progress Energy Florida and Florida Power Corp.) since 2001 in positions of increasing responsibility. In my previous role as Manager of System Operations at the Florida Energy Control Center, I oversaw the real time, electric system operations of the Florida utility, including generation dispatch, transmission reliability, and transmission service transactions. I have held prior leadership roles as Manager of Bulk Transmission Planning, and Supervisor System Operations for the Company. I also held several Company engineering positions with increasing responsibility in Operations Network Reliability, Operations Planning, and Operations Training. Prior to joining the Company, I was a staff engineer with the FRCC.

I earned bachelor and master of science degrees in electrical engineering from the Florida Institute of Technology in 1998 and 1999. I also earned a master of science degree in business administration from the University of Florida in 2007. I am a licensed Professional Engineer in Florida and North Carolina.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of DEF in support of its Petition for Determination of Need for the Citrus County Combined Cycle Power Plant. I will provide an overview of the transmission requirements and costs for the Citrus County Combined Cycle Power Plant that the Company proposes to build to meet its need in 2018 in the most cost-effective manner for its customers. I will also address the transmission system impacts associated

with the various alternative supply-side generation alternatives that the Company evaluated as part of its Request for Proposals for Long-term Power Supply Resources with an In-Service Year of 2018 ("2018 RFP"), to determine that the Company's next planned generating unit ("NPGU"), its Citrus County Combined Cycle Power Plant, is the most cost-effective resource option to meet the Company's need commencing in 2018.

Q. Are you sponsoring any sections of Duke Energy Florida's Need Study?

A. Yes. I am sponsoring the section describing the Company's transmission and distribution facilities and the section describing the transmission requirements associated with the Citrus County Combined Cycle Power Plant and the alternative supply-side proposals received in response to the 2018 RFP, respectively, in the Company's Need Study.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ___ (ES-1), a copy of the FRCC Evaluation of Transmission Impact of the Environmental Protection Agency's ("EPA") Mercury and Air Toxics Standard ("MATS") --- Transmission Impact Study for Shutdown of Crystal River Units 1 & 2 with retirement of Crystal River Unit 3 ("MATS Study");
- Exhibit No. ____ (ES-2), the confidential transmission groups evaluated in the Company's transmission screening studies of the 2018 RFP proposals in accordance with the 2018 RFP; and

- Exhibit No. ___ (ES-3), the confidential description of the transmission system upgrades, modifications, or additions and their costs for the transmission groups evaluated in the Company's transmission screening studies of the 2018 RFP proposals in accordance with the 2018 RFP .

Each of these exhibits was prepared under my direction and control, and each is true and accurate.

Q. Please summarize your testimony.

A. The Citrus County Combined Cycle Power Plant will be installed in Citrus County adjacent to the Crystal River Energy Complex ("CREC"). With the Company's current and planned generation power plant retirements at the CREC, the existing transmission infrastructure for the CREC will support the Citrus County Combined Cycle Power Plant. The only transmission work that is necessary for the Citrus County Combined Cycle Power Plant is the switchyard and transmission bus line work to actually connect that plant with DEF's existing transmission facilities that are already connected to DEF's transmission system and the electric power grid in Florida.

The Company evaluated the impact of the 2018 RFP bidder proposals to the DEF transmission system to determine the necessary modifications, if any, to incorporate the proposed generation into the DEF transmission system. The Company explained in the 2018 RFP that the preferred location for new generation was in the vicinity of Citrus County because of the current and planned generation plant retirements at the CREC. None of the 2018 RFP bidders proposed generation in the vicinity of Citrus County to take advantage of the existing Company transmission facility capacity in that area. As a

result, all of the 2018 RFP bidder proposals would have a substantial impact on DEF's transmission system, requiring extensive transmission modifications at substantial costs.

III. TRANSMISSION ANALYSIS FOR CITRUS COUNTY COMBINED CYCLE POWER PLANT.

Q. Was a transmission analysis performed for the Company's Citrus County Combined Cycle Power Plant?

A. Yes, but it was a more limited analysis because the FRCC performed a transmission impact analysis called the MATS Study in mid-2013 that supported the location of new generation in Citrus County from a transmission perspective. The FRCC's MATS Study demonstrated that Citrus County was a beneficial location for new generation for both DEF's transmission system and the state-wide electric grid. The Company, of course already knew that Citrus County was a beneficial new generation plant location and the FRCC transmission impact analyses in the MATS Study confirmed it. As a result, limited additional transmission analysis was necessary, indeed the Company only performed the transmission analysis necessary to confirm that there were only transmission interconnection costs associated with the Citrus County Combined Cycle Power Plant.

Q. How did the Company know that Citrus County was a beneficial new generation location prior to the FRCC transmission impact study?

A. DEF is, of course, familiar with its own transmission system. There are substantial Company transmission substation facilities, lines, and other structures and facilities in

Citrus County and the surrounding area to transmit the generation at the CREC from the CREC across DEF's system to DEF's customers. At the beginning of 2013, there was over 3,000 MegaWatts ("MW") of summer generation capacity from the Company's nuclear and coal-fired generation plants located at the CREC. All of this generation was supported by DEF transmission facilities, structures, and lines in the vicinity of the CREC.

In February 2013, the Company decided to retire Crystal River Unit 3 ("CR3"), its nuclear power plant, located at the CREC. CR3 alone accounted for over 800 MW of the CREC's summer generation capacity. In addition, enhanced emissions regulations by the EPA challenged the Company's ability to cost-effectively operate all of its coal-fired generation located at the CREC. The Company's oldest coal-fired generation plants, its Crystal River Unit 1 ("CR1") and Unit 2 ("CR2") plants, cannot comply with the EPA MATS regulations in their current configuration and as they are currently operated. As a result, the Company faced potential, additional generation plant retirements at the CREC in the immediate future. The existing and potential retirements of substantial CREC generation capacity freed up some of the existing transmission capacity that was built to support the CREC generation capacity. This existing transmission capacity was available to support new generation in Citrus County or the surrounding area.

Q. Why did the FRCC perform the transmission analyses in the MATS Study?

A. FRCC is the regional entity with delegated authority from NERC to propose and enforce electric grid reliability standards within the FRCC region. NERC is the certified Electric Reliability Organization ("ERO") established by Congress in the Energy Policy Act of

2005 to create and enforce reliability standards for the bulk power system in North America. The FRCC enforces the NERC reliability standards in the FRCC region, which is essentially the State of Florida, and ensures that the bulk power system in peninsular Florida is reliable, adequate, and secure.

The FRCC performed the MATS Study as part of its responsibility to ensure that the Florida bulk power system is reliable and adequate. The FRCC MATS Study analyzed the impact to DEF's transmission system and the state-wide electric power grid as a result of the retirement of CR3 and the potential shutdown of DEF's Crystal River Units 1 and 2 coal-fired generation plants to comply with MATS. The FRCC MATS Study purposes were, among others, to (1) determine whether an available, one-year extension of the EPA's MATS compliance deadline was needed to ensure grid reliability; and (2) evaluate the potential reliability benefits of a new combined cycle power plant constructed in the vicinity of the existing CREC site.

The FRCC found that the available, one-year extension of the MATS compliance deadline was needed to alleviate significant transmission reliability issues. Based on the FRCC's transmission analyses in the MATS Study, the FRCC determined that transmission reliability problems commenced in the 2015 timeframe if the MATS compliance deadline extension was not granted. The FRCC also determined in the MATS Study that transmission reliability issues created by the CR1, CR2, and CR3 retirements at the CREC were resolved by the addition of a combined cycle power plant by the summer of 2018 in the vicinity of the CREC site. A copy of the FRCC MATS study is included as Exhibit No. ___ (ES-1) to my direct testimony.

Q. Why are there transmission reliability issues if a power plant is not installed in the vicinity of the CREC site after the retirements of the Company's nuclear power plant and oldest coal-fired generation plants?

A. If additional generation is not installed in the vicinity of Citrus County to replace the CR1, CR2, and CR3 power plants when they are retired, then, DEF must replace it with new or existing generation elsewhere on its system. This additional generation elsewhere on DEF's system reduces the flow of electric power north-to-south to the Tampa Bay high-load area and from west-to-east to the high-load areas around Orlando. In addition, the Florida grid has been planned with the assumption that those three major base load generation units – CR1, CR2, and CR3 – are available. This assumption has allowed DEF and other Florida utilities to optimize their future transmission expansion plans. Similar to the power shifts on DEF's system, there are power shifts on neighboring utility systems caused by the CR1, CR2, and CR3 retirements that were not previously accounted for in their transmission expansion plans. These shifts in the power flows overload transmission lines and equipment under most operational conditions, over-stressing or exceeding available mitigation measures and tools. The result will be potential brown-outs or black-outs along these corridors. Exhibit No. ___ (ES-1) to my direct testimony explains this in more detail.

The results of the FRCC MATS Study are intuitively correct. If substantial transmission facilities were built to handle the flow of power from several large generation resources that are removed and not replaced, then, those transmission facilities become stranded and other transmission facilities on the system that were not built to carry this additional power must now handle the additional power flows that result from

replacing the removed generation with that of new or existing generation elsewhere on the system. Intuitively, the way to redress this situation is to add replacement generation in the same area where the generation resources were removed to take advantage of the existing transmission facilities and equipment initially built to handle the removed generation resources.

Q. Where is the Citrus County Combined Cycle Power Plant located?

A. The proposed Citrus County Combined Cycle Power Plant is located adjacent to the CREC site in Citrus County, Florida.

Q. Are there any transmission requirements associated with the Citrus County Combined Cycle Power Plant?

A. The only transmission work that is necessary for the Citrus County Combined Cycle Power Plant is the switchyard and transmission bus line work to actually connect that plant with the existing DEF transmission facilities that are already connected to DEF's transmission system and the electric power grid in Florida. One 820 MW block of the 1,640 MW Citrus County Combined Cycle Power Plant will be connected to the existing 500 kV transmission system located at the CREC effectively replacing the generation from the retired CR3 unit. The other 820 MW block will be connected to the existing CREC 230 kV transmission system effectively replacing the CR1 and CR2 generation when it is retired.

Q. What are the transmission costs for the Citrus County Combined Cycle Power Plant?

A. The estimated transmission interconnection costs for the Citrus County Combined Cycle Power Plant are $44 million, excluding the Allowance for Funds Used During Construction ("AFUDC"). These transmission interconnection costs are included in the total Citrus County Combined Cycle Power Plant project cost.

IV. TRANSMISSION ANALYSIS FOR 2018 RFP PROPOSALS.

Q. Were transmission requirements a part of the 2018 RFP?

A. Yes. DEF required all proposed resources in response to the 2018 RFP to procure firm transmission service to serve all their proposed generation loads. They were required to provide for transmission interconnection with DEF's transmission system and, if they were located outside DEF's service territory, transmission interconnection service with other Florida utility transmission providers. In sum, all potential bidders were responsible for the transmission of their proposed generation at their cost from their existing or proposed facilities to the DEF system. These transmission requirements were made clear to the potential bidders in the Company's 2018 RFP. A copy of the Company's 2018 RFP is included as an exhibit to Mr. Borsch's testimony in this proceeding.

Q. Were transmission analyses performed for the 2018 RFP proposals?

A. Yes. Consistent with the 2018 RFP, transmission analyses were performed for all RFP proposals, including the Company's next planned generating unit, the Citrus County

Combined Cycle Power Plant.

Q. Who performed the transmission analyses for the 2018 RFP proposals?

A. The transmission analyses were performed by my department. Actual transmission modeling work for the transmission analyses was performed by Power Grid Engineering LLC ("Power Grid"), an independent engineering company, under my direct supervision. Power Grid is a recognized electric utility engineering company with substantial expertise in modeling transmission systems and performing the standard electric utility transmission system analyses for any proposed generation additions to a transmission system. Power Grid used industry-leading transmission planning engineering tools similar to our own transmission planning engineering tools to perform these analyses and I reviewed and validated their models and model results.

Q. What transmission analyses were performed for the 2018 RFP proposals?

A. DEF initially performed a transmission screening study for all proposals to the 2018 RFP. For the 2018 RFP proposals within DEF's system, a power flow analysis was performed. For the 2018 RFP proposals that were not interconnected with DEF's transmission system, preliminary transfer analyses were performed. Both sets of transmission screening studies assessed the impacts to the DEF transmission system by providing a list of required transmission facility additions or modifications and an estimate of the cost of the transmission facility additions or modifications. These transmission screening studies were industry-standard studies consistent with DEF's internal standards and both FRCC and NERC reliability standards. For example, the latest available FRCC peak load flow

case, including the latest available information, was used as the baseline to determine what transmission system network upgrade facilities or modifications were needed. The cost estimates were also based on industry-standard transmission facility estimation standards consistent with DEF's experience with such transmission facilities. DEF employed the same industry-standard transmission facility cost estimation standards to the 2018 RFP proposals that DEF uses for all of its planned or projected transmission facility additions or upgrades on its own transmission system. All potential solutions were then subsequently introduced into the appropriate case and tested in order to verify the completeness of the solution. These transmission screening studies are explained in more detail in the Company's 2018 RFP that is included as an exhibit to Mr. Borsch's testimony in this proceeding.

Q. Were the 2018 RFP proposals evaluated separately in the Company's transmission system screening studies?

A. No. All of the 2018 RFP proposals, except the Company's self-build next planned generating unit proposal, were evaluated in transmission groups. The Company's self-build next planned generating unit was the only 2018 RFP proposal that satisfied the Company's 1,640 MW generation reliability need. None of the other 2018 RFP proposals met the Company's generation reliability need in 2018. In fact, the total generation capacity was only 1,328 MW for all 2018 RFP proposals other than the Company's self-build next planned generation unit. Grouped together, all 2018 RFP proposals, other than the Company's self-build next planned generation unit proposal, combined did not meet the Company's generation reliability need in 2018.

Q. Why were the other 2018 RFP proposals grouped together for the transmission system screening analyses?

A. DEF contemplated that there was the potential to receive one or more 2018 RFP individual proposals in response to the Company's RFP that may not meet the Company's 2018 generation reliability need. Rather than eliminate such proposals at the outset, DEF provided the opportunity to group 2018 RFP proposals to meet the Company's 2018 reliability need in its 2018 RFP in order to assess if any group of 2018 RFP proposals might be a more cost-effective generation option for the Company and its customers. As a result, DEF proposed to group single or multiple 2018 RFP proposals together for the transmission screening studies to determine their overall impact on the Company's transmission system and the Bulk Electric System ("BES"). This approach was explained to potential bidders to the 2018 RFP in the Company's 2018 RFP included as an exhibit to Mr. Borsch's testimony in this proceeding. DEF did not expect that all 2018 RFP proposals other than the self-build next planned generating unit proposal together would not meet DEF's generation reliability need in 2018. DEF, however, still evaluated these 2018 RFP proposals in transmission groups with generic DEF generation units to meet the Company's 2018 generation reliability need to determine if any of them were cost-effective for DEF and its customers.

Q. What were the transmission groups that DEF evaluated in its transmission screening studies?

A. The transmission groups DEF evaluated in its transmission screening studies are identified in confidential Exhibit No. ___ (ES-2) to my direct testimony. Exhibit No. ___

(ES-2) identifies the bidder, summer and winter bidder generation capacity, and the transmission groups of the bidders together with generic combustion turbine or combined cycle generating units to meet the Company's generation reliability needs in 2018. Beneficial sites from a transmission perspective were assumed for the Company's generic units in the transmission groups studied even though those sites were not necessarily available to the Company since, by definition, the units were generic and the Company had not planned their development.

Q. Where were the beneficial sites for generic units for purposes of the transmission screening studies?

A. They were located in Citrus County or at the Company's existing Central Florida Substation. The Central Florida Substation is located approximately 50 miles east of the CREC and is a major transmission hub for the CREC generation. These locations are beneficial to the Company from a transmission perspective because they allow the Company to use the substantial, existing transmission facility resources in those areas that were built for the CREC generation. These generic locations for additional generation on DEF's system are consistent with the location of additional generation in the FRCC MATS Study to alleviate transmission reliability issues associated with the generation retirements at the CREC.

Q. Were potential bidders told about the beneficial locations for additional generation on DEF's system in the 2018 RFP?

A. Yes. DEF explained in the 2018 RFP that Citrus County was the preferred location for

new generation on DEF's system specifically because of the need to replace generation in the Citrus County area that was being retired. DEF further explained that this location provided transmission reliability benefits to DEF and to the adjacent utility transmission systems. Potential bidders were told that areas near Citrus County were expected to have similar transmission reliability benefits and that the further away from Citrus County the generation was located the more significant DEF expected the required transmission system facility upgrades to be. Potential bidders were specifically told that they should take advantage of the available transmission capacity in this area with the generation retirements. See Section V in the Company's 2018 RFP is included as an exhibit to Mr. Borsch's testimony in this proceeding.

Q. Did any bidder take advantage of the information DEF provided in the 2018 RFP regarding the beneficial location for generation in the bidder's proposal in response to the 2018 RFP?

A. No. All but one of the bidders in response to the 2018 RFP proposed generation from existing facilities that were not located in or near Citrus County. The one bidder who proposed to build a new generation plant did not propose to build that plant in or near Citrus County.

Q. Were there any 2018 RFP proposals that did not require additions or modifications to DEF's transmission facilities?

A. Only one, the Company's self-build generation proposal, the Citrus County Combined Cycle Power Plant next planned generating unit. All of the other 2018 RFP proposals,

when grouped together to meet DEF's generation reliability need, required transmission facility upgrades or modifications to add the proposed generation to DEF's system.

Q. What were the required transmission facility additions and modifications associated with the Company's review of the 2018 RFP proposals in the transmission groups studied in the transmission screening studies?

A. Confidential Exhibit No. ___ (ES-3) to my direct testimony contains a description of the transmission system facility upgrades, modifications, or additions for each of the 2018 RFP proposal transmission groups analyzed in the Company's transmission screening studies. All of these groups (other than the self-build next planned generating unit proposal) required significant transmission system upgrades, modifications, or additions as described in confidential Exhibit No. ___ (ES-3). The costs for these transmission system upgrades, modifications, and additions were developed using the same industry-standard transmission cost estimates the Company uses for its own transmission planning and transmission projects. Those costs ranged from a low of approximately $130 million to a high of approximately $202 million for the transmission groups in the transmission screening studies. These costs are also included in Exhibit No. ___ (ES-3) to my direct testimony.

Q. Was any further transmission analysis work done for the Company's evaluation of the 2018 RFP proposals?

A. No. There was no need for any further transmission analyses. The transmission screening studies were sufficient for the 2018 RFP evaluation team in resource planning

to identify the most cost-effective alternative for DEF and its customers.

V. CONCLUSION.

Q. In your opinion, are the results of the transmission screening studies you performed for the Company's evaluation of the 2018 RFP proposals reasonable and accurate?

A. Yes. In my professional opinion, and based on my experience and evaluation of the impact to DEF's transmission system and the BES of adding the bidders' proposed generation projects or the Company's self-build NPGU to DEF's system, the results of the Company's transmission screening studies are reasonable and accurate.

Q. Does this conclude your direct testimony?

A. Yes, it does.

IN RE: PETITION FOR DETERMINATION OF COST EFFECTIVE GENERATION ALTERNATIVE TO MEET NEED PRIOR TO 2018 FOR DUKE ENERGY FLORIDA, INC.

BY DUKE ENERGY FLORIDA, INC.

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF ED SCOTT

I. INTRODUCTION AND QUALIFICATIONS.

Q. Please state your name, employer, and business address.

A. My name is Ed Scott and I am employed by Duke Energy Florida, Inc. ("DEF" or the "Company"). My business address is 6565 38th Avenue, North, St. Petersburg, Florida 33710.

Q. Please tell us your position with Duke Energy and describe your duties and responsibilities in that position.

A. I am the Director --- Transmission Planning Florida. In this role, I am responsible for all transmission planning for DEF. I am responsible for ensuring that long-range transmission plans, studies, and assessments are performed in accordance with all applicable Federal Energy Regulatory Commission ("FERC"), North American Electric Reliability Corporation ("NERC"), Florida Reliability Coordinating Council ("FRCC"), and DEF planning standards and requirements. Areas of additional focus include development of Generation and Transmission Integrated Siting Strategies and evaluation

of Transmission Service and Generator Interconnection Requests. I also represent DEF on the FRCC Planning Committee and the NERC Planning Committee.

Q. Please summarize your educational background and employment experience.

A. I have been with the Company (and its predecessor companies Progress Energy Florida and Florida Power Corp.) since 2001 in positions of increasing responsibility. In my previous role as Manager of System Operations at the Florida Energy Control Center, I oversaw the real time, electric system operations of the Florida utility, including generation dispatch, transmission reliability, and transmission service transactions. I have held prior leadership roles as Manager of Bulk Transmission Planning, and Supervisor System Operations for the Company. I also held several Company engineering positions with increasing responsibility in Operations Network Reliability, Operations Planning, and Operations Training. Prior to joining the Company, I was a staff engineer with the FRCC.

I earned bachelor and master of science degrees in electrical engineering from the Florida Institute of Technology in 1998 and 1999. I also earned a master of science degree in business administration from the University of Florida in 2007. I am a licensed Professional Engineer in Florida and North Carolina.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of the Company in support of its Petition for Determination of Cost Effective Alternative to Meet Need Prior to 2018 for Duke Energy Florida. I will

provide an overview of the transmission system impacts and costs for the generation options that the Company proposes to build to meet its need prior to 2018 in the most cost-effective manner for its customers. I will also address the transmission system impacts associated with supply-side generation alternatives that the Company evaluated to determine that the Company's self-build generation options are the most cost-effective resource options to meet the Company's need prior to 2018.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

- Exhibit No. ___ (ES-1), a map and graphic illustration of the transmission interconnections for the Suwannee Simple Cycle Project at the Suwannee power plant site;
- Exhibit No. ___ (ES-2), a depiction of the existing Hines Energy Complex ("HEC") combined cycle power plant blocks and the existing transmission interconnections; and
- Exhibit No. ___ (ES-3), a confidential description of the potential generation facility acquisitions evaluated for transmission cost impacts to the DEF transmission system, including the physical location of the facilities and a description of the necessary transmission network upgrades to reliably integrate the facilities onto the electric grid that result from the DEF transmission analyses.

Each of these exhibits was prepared under my direction and control, and each is true and accurate.

Q. Please summarize your testimony.

A. There is minimal transmission investment required to incorporate on DEF's system the Company's self-build generation options to meet its need prior to 2018. The Suwannee Simple Cycle Project and the Hines Chillers Power Uprate project are both located at existing DEF power plant sites. The location of these projects at the existing Suwannee and HEC power plant sites allows the Company to obtain substantial, additional summer generation capacity with relatively little additional transmission investment. As a result, there are transmission cost-savings benefits to customers resulting from the addition of these generation projects at existing Company power plant sites compared to Greenfield sites incorporated into the total cost of the projects.

The Company evaluated alternative power purchase agreement ("PPA") and generation facility acquisition options to meet its need prior to 2018. The impact of all of these alternative generation proposals on DEF's transmission system was evaluated. Two potential generation facility acquisitions were evaluated further to determine the transmission system network upgrades required to incorporate the generation facilities into the DEF system. The transmission system network upgrade costs to incorporate one of the potential generation facilities into DEF's system were substantial. The transmission costs associated with the potential generation facility acquisitions were included in the Company's economic evaluation of the most cost-effective option for the Company to meet its reliability need prior to 2018.

III. TRANSMISSION ANALYSIS OF COMPANY SELF-BUILD GENERATION OPTIONS.

Q. What are the Company's self-build generation options to meet its need before 2018?

A. The Company's self-build generation options are the Suwannee Simple Cycle Project in the summer of 2016 and the Hines Chillers Power Uprate Project in the summer of 2017. The Suwannee Simple Cycle Project involves the construction of two F class combustion turbines and related equipment and facilities at the Company's existing Suwannee power plant site in Suwannee County, Florida. The Suwannee Simple Cycle Project will total 320 MegaWatts ("MW") and it will be placed in commercial operation by June 2016. The Hines Chillers Power Uprate Project involves the installation of a chiller system designed to cool the gas turbine inlet air to all four existing natural-gas fired, combined cycle generation power blocks at the Company's HEC in Polk County, Florida. The Hines Chillers Power Uprate Project is projected to increase the summer HEC site capacity by 220 MW and this project will be in commercial operation by the summer of 2017. These projects are described in more detail in the direct testimony of Mr. Landseidel in this proceeding.

Q. What transmission analyses were performed for the Company's self-build generation options?

A. DEF performed transmission planning analyses in accordance with all applicable Federal Energy Regulatory Commission ("FERC"), NERC, FRCC, and DEF planning standards and requirements, for the proposed self-build generation option in Suwannee County, Florida. In addition, the same planning standards and requirements were applied to the

transmission analysis performed for the Hines Chillers Power Uprate Project. These transmission analyses include, as necessary, thermal load flow, stability, and short-circuit analyses to identify any need for additional transmission network upgrades to reliably integrate the proposed additional generation to the grid. For the proposed self-build generation option in Suwannee County, Florida, DEF performed an Interconnection Study to determine the impact of interconnecting the queued generation to the transmission system. These studies involved transmission contingency, short circuit, and stability analyses. For the proposed Hines Chillers Power Uprate Project a transmission evaluation was also performed which compared the original Hines Unit interconnection transmission infrastructure to any potential needs due to the proposed power uprate.

Q. What were the results of these transmission analyses?

A. The Suwannee Simple Cycle Project is located at the Company's existing Suwannee plant site located in Suwannee County, Florida. The two combustion turbines and two generator step-up transformers will be connected to the existing transmission switchyard at the site. One combustion turbine generator will be connected to the 115 kV transmission switchyard and the other combustion turbine generator will be connected to the 230 kV switchyard. Exhibit No. ___ (ES-1) is a map and graphic illustration of the transmission interconnections for the Suwannee Simple Cycle Project at the Suwannee power plant site. Our transmission analysis indicates transmission network upgrades estimated at $15.7 million are needed to reliably integrate the proposed additional generation to the grid.

The Company plans to retire the existing Suwannee steam units located at the

Suwannee power plant site when the Suwannee Simple Cycle Project is complete and the new combustion turbines achieve commercial operation. The existing steam units that will be retired are also depicted on the map in Exhibit No. ___ (ES-1) to my direct testimony. As a result, the combined net impact to the DEF system and electric grid of these retirements and the addition of the Suwannee Simple Cycle combustion turbines require minimal additional transmission network upgrades of the DEF transmission system to accommodate the generation for the Suwannee Simple Cycle combustion turbines.

The increase in summer capacity at the HEC site as a result of the Hines Chillers Power Uprate Project will not require additional transmission network upgrades on the DEF system. Likewise, because the HEC combined cycle power block units are already connected to the DEF transmission system, there are no generator interconnection costs associated with the Hines Chillers Power Uprate Project. The existing HEC combined cycle power plant block units and the existing transmission interconnections are shown in Exhibit No. ___ (ES-2) to my direct testimony.

Q. Do the customers benefit from the location of these self-generation projects at existing DEF generation sites?

A. Yes, from a transmission perspective, there are cost-saving benefits to customers resulting from the addition of these Company generation projects at existing sites. As I have explained above, the location of these projects at the existing Suwannee and HEC power plant sites, respectively, allows the Company to obtain substantial, additional summer capacity generation with relatively little additional transmission investment. The

existing transmission infrastructure at both sites supports the addition of the increased summer generation capacity from these projects.

Q. In your opinion, are the results of your analysis of the transmission costs for the Company's self-build generation plan projects reasonable?

A. Yes. In my professional opinion, and based on my experience and evaluation of the impact of adding these self-build generation plan projects to the Company's system, these results are accurate and reasonable.

IV. TRANSMISSION ANALYSIS OF THE SUPPLY-SIDE GENERATION ALTERNATIVES.

Q. Did the Company evaluate any alternative supply-side generation proposals to the Company's self-build generation options to meet the Company's generation needs before 2018?

A. Yes. The Company evaluated power purchase agreements ("PPAs") with existing generators or utilities and the potential acquisition of existing generators within Florida as alternatives to the Company's Suwannee Simple Cycle and Hines Chillers Power Uprate projects.

Q. Were transmission studies performed for these alternative supply-side generation proposals?

A. Yes. DEF performed a transmission screening study for all alternative supply-side generation proposals. The proposed PPAs and generation facility acquisitions were

evaluated to explore existing and alternative transmission solutions to reliably integrate the resources into the grid. In addition, potential impacts to third party systems were identified that were consistent with the results of previously performed transmission studies.

Q. What potential generation acquisitions were evaluated?

A. Two of the five proposed generation facility acquisitions passed the initial generation economic screening and they were evaluated further for their cost impacts to the DEF transmission system. These two proposed acquisitions are confidential and, accordingly, they are identified in confidential Exhibit No. ___ (ES-3) to my direct testimony. Exhibit No. ___ (ES-3) also identifies the physical location of these potential generation facility acquisitions and contains a description of the necessary transmission network upgrades to reliably integrate those resources onto the grid. For one potential acquisition, an alternative interconnection solution was studied to provide an alternative solution that potentially resolved all previously identified third party transmission impacts, and was reasonable to be placed in service by summer 2017.

Q. What transmission analyses were performed for these two alternative supply-side generation acquisition proposals?

A. The transmission screening studies were industry-standard studies consistent with DEF's internal standards and both FRCC and NERC reliability standards. The latest available FRCC peak load flow case, including the latest available information, was used as the baseline to determine what transmission system network upgrade facilities or

modifications were needed. The cost estimates were also based on industry-standard transmission facility estimation standards consistent with DEF's experience with such transmission facilities. DEF employed the same industry-standard transmission facility cost estimation standards to the alternative supply-side generation proposals that DEF uses for all of its planned or projected transmission facility additions or upgrades on its own transmission system. The results of these transmission screening studies indicated either no adverse transmission impacts, or third party impacts. As a result, alternative interconnection options, alternative DEF transmission network upgrades, and reasonable third party network upgrades were assumed as potential solutions. All potential solutions were then subsequently introduced into the appropriate case and tested in order to verify the completeness of the solution.

Q. What were the results of these transmission analyses?

A. Transmission system network upgrades were required to incorporate one potential generation facility acquisition into the DEF system. These transmission system network upgrades are described more fully in Exhibit No. ___ (ES-3) to my direct testimony. The cost of these transmission system network upgrades were estimated at $150 million. DEF further estimated that permitting and construction for the transmission system network upgrades could be completed in time to meet the Company's need for additional generation prior to 2018.

The location of the other, potential generation facility acquisition that was evaluated resulted in minimal transmission system network upgrade costs, primarily on third party transmission systems. Approximately $15 million was estimated for these third party transmission system network upgrades to incorporate this potential generation

facility into DEF's system.

Q. Were the results of these transmission analyses incorporated into the Company's evaluation of the alternative supply-side generation proposals?

A. Yes. The transmission costs associated with the potential generation facility acquisitions, as well as the potential PPAs, were included in the economic evaluation of the most cost-effective option for the Company to meet its reliability need prior to 2018. The results of this economic evaluation are explained in detail in the Mr. Borsch's testimony in this proceeding.

Q. Does this conclude your testimony?

A. Yes, it does.

BY MS. TRIPLETT:

Q Mr. Scott, do you have a summary of your testimony?

A I do.

Q Could you please provide it?

A Good day, Commissioners. I am the Director of Transmission Planning for Duke Energy Florida. I am testifying on behalf of Duke Energy Florida in support of its proposed Citrus County Combined Cycle Power Plant and Hines Uprate Projects.

Regarding the Citrus County Combined Cycle, my testimony explains that the existing transmission infrastructure for Crystal River Energy Complex will support the Citrus County Combined Cycle Power Plant. The only transmission work that is necessary for the Citrus County Combined Cycle is a switchyard and transmission bus line work to actually connect the plant with DEF's existing transmission facilities that are already connected DEF's transmission system and electrical power grid in Florida.

In addition, I support the company's transmission screening studies for the 2018 RFP evaluation. These studies are reasonable and accurate for identification of the most cost-effective alternative for DEF and its customers.

Regarding the Hines Uprate Projects, it is located at an existing DEF power plant site, which allows the company to obtain additional summer generation capacity with no transmission investment.

This concludes the summary of my direct testimony. I am available to answer questions related -- I am available to answer transmission related questions you may have.

Thank you.

MS. TRIPLETT: We would tender Mr. Scott for cross-examination.

CHAIRMAN GRAHAM: Mr. Scott, welcome.

THE WITNESS: Thank you.

CHAIRMAN GRAHAM: And Mr. Rehwinkle.

MR. REHWINKLE: Thank you, Mr. Chairman.

CROSS EXAMINATION

BY MR. REHWINKLE:

Q Good afternoon, Mr. Scott.

A Good afternoon.

Q Charles Rehwinkle, with the Office of Public Counsel.

I listened to the direct, and I heard your counsel ask you if you had any changes to your direct testimony, and you said, I believe none at this time. Do you recall that?

A Yes.

Q Can you tell me whether the Calpine deal that was announced this morning to the parties and the Commission has any impact on your testimony?

A I do not believe it -- I do not believe it does, no.

Q So it's your testimony that there would be nothing that would be changed in your direct testimony as a result of the Calpine deal?

A That's correct.

Q Is that based on knowledge of what's involved in the Calpine deal from a transmission standpoint?

A Knowledge? I am not sure if I understand your question.

Q Do you know what the Calpine deal is?

A My understanding is the Calpine deal, as it relates to transmission, is similar to what I have filed in my testimony.

Q Does that mean you know what the Calpine deal is?

A I am not familiar with the complete structure of the deal. No, sir.

Q So if that's the case, how can you say that it doesn't have any impact on your testimony?

A I do not -- I do not believe that the Calpine

deal that was struck today has any bearing on my testimony, because my understanding is, as it relates to transmission, the deal involves the transmission that I have submitted in my -- in my exhibits of the docket.

Q Okay. Does your testimony -- is your testimony based on the timing of a Calpine deal? Is there any impact in your testimony with respect to transmission that is dependent upon the timing of when a Calpine-Osprey unit acquisition would occur?

A The transmission needed for Calpine, you know, the construction and the in-service of that, you know, probably would relate to when the actual acquisition of the Calpine-Osprey unit would happen.

Q Okay. If that was the case, would there be any impact on the transmission needs that relate to the propo -- Citrus County unit in 2018?

A No.

Q Okay.

MR. REHWINKLE: Thank you, Mr. Chairman. Those are all the questions I have.

CHAIRMAN GRAHAM: Okay. Calpine.

MR. WRIGHT: No questions, Mr. Chairman. Thank you.

CHAIRMAN GRAHAM: Shady Hill.

MS. SHELLEY: No thank you -- no questions.

Thank you.

CHAIRMAN GRAHAM: PCS.

MR. BREW: No questions. Thank you.

CHAIRMAN GRAHAM: NRG.

MS. RULE: No questions.

CHAIRMAN GRAHAM: Mr. Moyle.

MR. MOYLE: Thank you, Mr. Chairman.

CROSS EXAMINATION

BY MR. MOYLE:

Q So just to follow up on a couple of questions OPC asked you. You looked at Calpine's proposal, where they said, hey, we will sell you this plant and then you got to do a transmission line upgrade to Calpine, correct?

A No. I don't -- I am not sure if I -- could you repeat the question?

Q Sure. With respect to Calpine's proposal to your company, do you know if there is any transmission issues related to that proposal?

MS. TRIPLETT: Mr. Chairman, if I could just ask for clarification. Is Mr. Moyle referring to the most recent proposal or an earlier proposal?

BY MR. MOYLE:

Q Well, given that I don't know much about the most recent, I would probably say the earlier.

A I am not aware of the specifics of the most recent proposal. So you are asking about the earlier proposal?

Q Right.

A What I looked at regards to the proposal for Calpine was to directly connect to the unit to the DEF system.

Q And what does that mean?

A Right now, the Calpine-Osprey unit is not connected to the DEF balancing areas.

Q So what do you have do to fix that?

A One alternative that we looked at was to directly -- you know, to get the power out of that plant, was to directly connect the plant to the DEF balancing area. And what we came up with is filed in my testimony, which was two new lines that could directly connect that plant to the DEF BA.

Q It cost 150 million, give or take, for that connection?

A The planning estimate for the lines is 150 million.

Q And when would this take place? When would, all of a sudden, the Calpine plant be connected, as you just have testified to?

A I am not sure when it would actually take

place. I mean, there is a process for interconnecting the generator to the DEF system, and we will have to follow that process, that it's clearly laid out in our DEF Open Access Transmission Tariff.

Q So it could be maybe 2017, maybe '18, maybe '19? Just not sure?

A Well, I guess it depends on, you know, what the needed in-service date of the connection would be.

Q Well, how -- what would be the quickest you think you could get it in place?

A To go through the process and to get the lines constructed --

Q Yes, sir.

A -- and in place? Three to four years.

Q From today?

A From today.

Q So August 2017 at the earliest, three years?

A That would be at the absolute earliest. That's correct, sir.

Q Okay. And in your review of your testimony, did you look at whether, if this Calpine connection was done and you were able to do it in 2017, whether it would defer the -- it could defer the need for your Citrus County Combined Cycle Unit? Was that anything you looked at or considered as part of your testimony?

A As part of our transmission planning, we didn't look at how it deferred the need for new generation, no.

Q But the possibility of Calpine, do you know how big their unit is? How many megawatts?

A Approximately.

Q What? How much?

A Like 500, 520, 30 megawatts.

Q If I understand your testimony, if you got to you know, push, push, push, that -- those megawatts could potentially be there in August of 2017, correct?

A That's correct.

Q Okay. One other just question. When -- assuming that the Citrus County Combined Cycle gets the approval to go forward, either in 2018 or at a later point in time, it will be essentially located at the same location as other power plants that you have, correct?

A That's correct.

Q Okay. And what will remain on site operating would be Crystal River 4 and 5, the coal-fired units, is that correct?

A That's correct.

Q Are there any other units that would be operating on site if you assume Crystal River comes

on-line?

A Not that I am aware of. No. It is believed that the new combined cycle, as well as existing CR4 and 5 coal units.

Q Right. And what's the megawatts on 4 and 5, total?

A Total amount of megawatts is around 1,500.

Q Same with 1 and 2?

A No. 1 and 2 is less, less megawatt output combined.

Q Would that be the biggest location of generation that Duke has in its system, if the combined cycle -- if the Citrus County Combined Cycle is approved?

A Historically, you know, that site, the Crystal River Energy Complex, has historically been the largest site for generation for Duke Energy Florida. The new combined cycle power block, it will be, I think, close to the largest site, yes, in the Duke Energy Florida system.

Q And as part of your transmission planning, do you take that into consideration, the aggregation of large blocks of power at one site? I mean, is that a reliability issue or a security issue as you plan your system?

A Absolutely. We considered, you know, the units that are considered base-load, and have them economically dispatched in all of our planning analysis.

MR. MOYLE: Okay. Thank you, Mr. Chairman.

CHAIRMAN GRAHAM: Thank you. SACE.

MR. CAVROS: No questions, Mr. Chairman. Thank you.

CHAIRMAN GRAHAM: Staff.

mr. alw: No questions.

CHAIRMAN GRAHAM: Commissioners.

Redirect.

MS. TRIPLETT: No redirect, sir.

CHAIRMAN GRAHAM: Okay. Exhibits.

MS. TRIPLETT: Yes. We would move Mr. Scott's prefiled direct testimony exhibits ES1 through ES3 in the 110 docket, and the ES1 to ES3 in the 111 docket. And those have been marked as 29 through 34 on the comprehensive exhibit list.

CHAIRMAN GRAHAM: We will enter Exhibit 29, 30, 31, 32, 33 and 34 into the record.

(Whereupon, Exhibit Nos. 29-34 were received into evidence.)

CHAIRMAN GRAHAM: Thank you, Mr. Scott.

THE WITNESS: Thank you.

(Witness steps down.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, DEBRA R. KRICK, Professional Court Reporter, certify that the foregoing proceedings were taken before me at the time and place therein designated; that my shorthand notes were thereafter translated under my supervision; and the foregoing pages, numbered 71 through 260 , are a true and correct record of the aforesaid 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 2nd day of September, 2014.

_____
DEBRA R. KRICK
NOTARY PUBLIC
COMMISSION #EE212307
EXPIRES JULY 13, 2016