

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Determination) DOCKET NO. 140111-EI
of Cost Effective Generation Alternative)
to Meet Need Prior to 2018 for Duke) Submitted for filing: August 5, 2014
Energy Florida, Inc.)
_____)

DUKE ENERGY FLORIDA, INC.'S NOTICE OF FILING

Duke Energy Florida, Inc. ("DEF" or the "Company") hereby gives notice of filing the Rebuttal Testimony of Ed Scott with Exhibits ES-4 and ES-5 in support of DEF's Petition for Determination of Cost Effective Generation Alternative to Meet Need Prior to 2018 for Duke Energy Florida, Inc. filed May 27, 2014 (Document No. 02534-14).

Respectfully submitted this 5th day of August, 2014.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY a true and correct copy of the foregoing has been furnished to counsel and parties of record as indicated below via electronic mail and overnight mail this 5th day of August, 2014.

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**In re: Petition for Determination
of Cost Effective Generation Alternative
to Meet Need Prior to 2018 for Duke
Energy Florida, Inc.**

DOCKET NO. 140111-EI
Submitted for filing:
August 5, 2014

**REBUTTAL TESTIMONY
OF ED SCOTT**

**ON BEHALF OF
DUKE ENERGY FLORIDA, INC.**

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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. 140111-EI

REBUTTAL TESTIMONY OF ED SCOTT

1 **I. INTRODUCTION AND QUALIFICATIONS.**

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

3 A. My name is Ed Scott and I am employed by Duke Energy Florida, Inc. (“DEF” or the
4 “Company”). My business address is 6565 38th Avenue North, St. Petersburg, Florida
5 33710.

6
7 **Q. Please tell us your position with the Company and describe your duties and
8 responsibilities in that position.**

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

1 of Transmission Service and Generator Interconnection Requests. I also represent DEF
2 on the FRCC Planning Committee, and Investor Owned Utilities on the NERC Planning
3 Committee.
4

5 **Q. Please summarize your educational background and employment experience.**

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

16 I earned bachelor and master of science degrees in electrical engineering from the
17 Florida Institute of Technology in 1998 and 1999. I also earned a master of science
18 degree in business administration from the University of Florida in 2007. I am a licensed
19 Professional Engineer in Florida and North Carolina.
20

21 **Q. Have you previously filed direct testimony in this Docket?**

22 A. Yes. I also filed direct testimony in Docket No. 140110-EI, in support of the Company's
23 Petition for Determination of Need for the Citrus County Combined Cycle Power Plant in

1 that Docket. In this Docket, I am responding to the direct testimony of intervener
2 Calpine Construction Finance Company, L. P. (“Calpine”) witness John Simpson who
3 filed identical direct testimony in this Docket and in Docket No. 140110-EI.
4

5 **Q. Why are you filing your rebuttal testimony in this Docket if this witness filed**
6 **identical testimony in both dockets?**

7 A. While Mr. Simpson filed identical direct testimony in both dockets, Mr. Simpson
8 expressly states that he is providing testimony in support of Calpine in this Docket.
9 (Simpson Direct Testimony (“Test.”), p. 1, lines 7-12). He further refers in his direct
10 testimony only to the Calpine proposal that Calpine submitted in response to the
11 Company’s generation capacity need prior to 2018. Mr. Simpson does not reference
12 Calpine’s bid proposal in response to the Company’s 2018 Request For Proposals
13 (“RFP”) for the Citrus County Combined Cycle Power Plant in his direct testimony. I
14 have accordingly filed my rebuttal testimony to his direct testimony in this Docket.
15

16 **II. PURPOSE AND SUMMARY OF TESTIMONY.**

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

18 A. I am testifying on behalf of DEF, in support of its Petition for the determination of the
19 cost effective generation alternative to meet DEF’s need prior to 2018, by rebutting the
20 direct testimony of Calpine witness Mr. Simpson regarding the transmission system
21 impacts related to the delivery of firm capacity and energy from the Calpine Osprey plant
22 to DEF’s Balancing Area Authority (“BAA”). The Calpine Osprey plant is, as Mr.
23 Simpson describes, located outside the DEF BAA and interconnected to the Tampa

1 Electric Company (“TEC”) transmission system. (Simpson Direct Test., p. 5, lines 12-
2 14). As a result, any capacity and energy delivered from the Calpine plant to DEF at this
3 time must be delivered across the TEC transmission system to the DEF transmission
4 system.

5
6 **Q. Are you sponsoring any exhibits to your rebuttal testimony?**

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

- 8 • Exhibit No. ____ (ES-4), the estimated cost for firm Point to Point (“PTP”) transmission
9 reservation service with TEC to deliver the entire Calpine Osprey plant capacity and
10 energy to the interface between the TEC and DEF system; and
11 • Exhibit No. ____ (ES-5), the estimated cost to wheel the 249MW of firm PTP
12 transmission service that Calpine currently has with TEC to deliver 249MW of firm
13 capacity and energy from the Calpine Osprey plant to the interface between the TEC and
14 DEF system.

15 These exhibits were prepared by the Company at my direction and under my control and
16 they are true and correct.

17
18 **Q. Please summarize your testimony.**

19 A. The Calpine Osprey plant is not in DEF’s BAA and it is not connected to DEF’s
20 transmission system. The Calpine plant is located in TEC’s BAA and it is connected to
21 TEC’s transmission system. Under Calpine’s proposal to DEF for a five-year power
22 purchase agreement (“PPA”) with an option to acquire the Calpine plant, contingent on
23 FERC approval of the Calpine PPA-acquisition proposal, Calpine cannot deliver the full

1 plant capacity that it purports to sell DEF under the PPA because Calpine does not have
2 partial path firm PTP transmission service with TEC for the full plant capacity. TEC
3 estimated that it would take four to five years and an estimated cost of \$169 million to
4 remedy existing transmission constraints and provide Calpine partial path firm PTP
5 transmission service for the full plant capacity. Calpine cannot obtain this service from
6 TEC in time to provide the full Calpine plant capacity to DEF to meet DEF's need for
7 generation capacity prior to 2018.

8 Calpine's PPA-acquisition proposal to DEF ignores this problem. Calpine still
9 purports to sell DEF its full plant capacity under the PPA-acquisition proposal to meet
10 DEF's need prior to 2018, despite the admitted transmission constraints that exist that
11 prevent Calpine delivering this full plant capacity to DEF. Mr. Simpson's proposed
12 "workarounds" these transmission constraints are not utility industry-accepted solutions
13 to the systemic transmission constraints that occur on DEF's and TEC's transmission
14 systems, and Calpine does not even include the costs imposed on DEF and TEC by these
15 "workarounds" in its PPA-acquisition proposal. Calpine also does not include the
16 "wheeling" charges for the partial path firm PTP transmission service it has with TEC for
17 the partial plant capacity in its proposal.

18 Calpine acknowledges that the real solution to its inability to deliver the full plant
19 capacity it wants to sell DEF under its PPA-acquisition proposal are transmission system
20 network upgrade projects to directly connect the Calpine plant to DEF's transmission
21 system. Calpine accepts and includes the estimated cost of \$150 million and the
22 estimated three years to complete these projects in its evaluation, and Calpine accepts that
23 DEF would not start these projects, if it even entered into the PPA-acquisition proposal,

1 until FERC approved it and DEF actually decided to exercise the purchase option and
2 acquired the Calpine plant, despite Mr. Simpson's contrary assertions. Mr. Simpson also
3 claims this cost estimate is too high, but he offers no better cost estimate in his direct
4 testimony, and he also fails to acknowledge the siting and permitting risks in addition to
5 the construction risk that add costs to such projects. DEF's estimate is based on industry
6 accepted transmission cost estimate practices and DEF's experience.

7
8 **III. DEF'S EVALUATION OF THE MOST COST EFFECTIVE GENERATION
ALTERNATIVE TO MEET DEF'S NEED PRIOR TO 2018.**

9 **Q. Did DEF evaluate the Calpine Osprey plant acquisition proposal in its evaluation of
10 the most cost effective generation alternative to meet DEF's need prior to 2018?**

11 A. Yes. As discussed in the direct and rebuttal testimony of Mr. Benjamin M.H. Borsch,
12 DEF solicited other utilities and non-utility generators for proposals to determine the
13 most cost effective generation resource to meet the Company's need prior to 2018. DEF
14 performed economic, qualitative, and, when necessary, FERC market screen analyses on
15 the proposals received, including the Calpine Osprey plant acquisition proposal, in its
16 evaluation to determine the most cost effective generation resource to meet the
17 Company's need prior to 2018.

18
19 **Q. Generally, what were the results of the evaluation?**

20 A. As a general matter, as described by Mr. Borsch in his direct and rebuttal testimony in
21 this Docket, I understand that DEF determined that the Company's self-build generation
22 projects, the Suwannee Simple Cycle Project and the Hines Chillers Power Uprate
23 Project, were the most cost effective generation capacity to meet DEF's need prior to

1 2018. DEF determined in its evaluation that the Calpine Osprey acquisition proposal was
2 not the most cost effective generation capacity resource alternative to meet DEF's need
3 prior to 2018.

4
5 **Q. Did DEF include firm transmission costs and transmission system impact costs in its**
6 **evaluation of the Calpine acquisition proposal?**

7 A. Yes. As I explained in my direct testimony in this Docket, DEF performed a
8 transmission screening study for all alternative supply-side generation proposals,
9 including the Calpine proposals. DEF further evaluated the cost impacts to the DEF
10 transmission system for the alternative supply-side generation proposals that passed the
11 Company's initial generation economic screening. This evaluation included the Calpine
12 plant acquisition proposal. The transmission analyses that DEF performed are described
13 in my direct testimony and in Exhibit No. ___ (ES-3) to my direct testimony. (Scott
14 Direct Test., pp. 9-10; Exhibit No. ___ (ES-3)).

15 Based on the results of these transmission studies, DEF determined that
16 transmission system network upgrades were required to incorporate the Calpine Osprey
17 plant into the DEF system. These transmission system network upgrades are described in
18 Exhibit No. ___ (ES-3) to my direct testimony. DEF estimated that the cost of these
19 transmission system network upgrades were \$150 million. (Scott Direct Test., p. 11,
20 lines 13-17; Exhibit No. ___ (ES-3)). DEF further estimated that the permitting and
21 construction of these transmission system network upgrades would take three years if the
22 formal notice to proceed with the upgrade projects occurred by the summer of 2014.
23 (Scott Direct Test., p. 10, lines 13-16).

1 **Q. Does Calpine disagree with DEF’s determination that transmission system network**
2 **upgrades are necessary to incorporate the Calpine plant into DEF’s system?**

3 A. No. Calpine witness Simpson agrees that the transmission system network upgrades that
4 DEF identified in Exhibit No. ___ (ES-3) to my direct testimony are necessary to
5 incorporate the Calpine plant into the DEF system. (Simpson Direct Test., p. 12, lines
6 11-18).

7
8 **Q. Does Calpine disagree with DEF’s estimated cost for the transmission system**
9 **network upgrades that are required to incorporate the Calpine plant into the DEF**
10 **system?**

11 A. No, not really, because Calpine witness Todd Thornton references the \$150 million cost
12 when he discusses the required direct transmission connection to incorporate the Calpine
13 plant into DEF’s system, and Calpine witness Paul Hibbard includes the \$150 million
14 estimated cost for the transmission direct connection network upgrades in his economic
15 evaluation of the Calpine plant acquisition proposal. (Thornton Direct Test., p. 14, line
16 12; Hibbard Direct Test., pp. 29-30). Mr. Simpson complains that the \$150 million is a
17 “typical planning estimate,” and that the actual costs are “generally” lower than the
18 planning estimate, but he provides no better cost estimate for these upgrade projects.
19 (Simpson Direct Test., p. 13, lines 5-18). Mr. Simpson’s opinion that the actual costs are
20 “generally” lower than the estimated costs for such transmission upgrade projects is
21 unsupported by any evidence and, in my experience, it is more likely that the actual costs
22 for transmission upgrade projects will exceed the estimated costs for those projects. One
23 reason for this is that constructing transmission lines involves siting and permitting risks,

1 such as potential challenges from a variety of third parties, e.g., landowners,
2 environmental groups, or other affected transmission authorities, that add costs to the
3 project. As a result, the best and only estimate of the cost of the transmission network
4 upgrades to incorporate the Calpine plant into the DEF system is \$150 million.
5

6 **Q. Does Calpine disagree with your estimate of the time required to complete these**
7 **transmission system network upgrade projects?**

8 A. No. Mr. Simpson agrees with my estimated time to complete these projects in my direct
9 testimony. (Simpson Direct Test., p. 14, lines 12-15). The question now is, when DEF
10 would start these projects to incorporate the Calpine plant into DEF's system.

11 I understand that Calpine has submitted a different plant acquisition proposal
12 from the straight-forward, immediate acquisition proposal that Calpine originally
13 submitted in response to DEF's request for proposals to meet its need prior to 2018, and
14 that I evaluated the transmission impacts in the evaluation discussed in my direct
15 testimony. (Thornton Direct Test., pp. 8-9; Simpson Direct Test., p. 5, lines 1-5). That
16 acquisition proposal is tied to a five-year PPA and the actual acquisition is an option in
17 the PPA that is contingent on approval of the PPA-acquisition proposal by FERC. (Id.,
18 Thornton Direct Test., p. 14, lines 16-23, p. 17, lines 1-3).

19 Mr. Simpson assumes in his direct testimony that DEF would complete the
20 construction of the transmission system network upgrade projects in time for them to be
21 in place before, or at the latest when, DEF can exercise the purchase option in 2020 under
22 the PPA-acquisition proposal. (Simpson Direct Test., p. 13, lines 20-22; p. 14, lines 1-
23 17). This is an unrealistic and unreasonable assumption by Mr. Simpson. DEF would

1 not incur any costs to construct transmission system network upgrades necessary to
2 incorporate the Calpine plant into DEF's system until after FERC approved of the plant
3 acquisition and after DEF actually decided to exercise the purchase option and acquire
4 the Calpine plant.

5 The more realistic and reasonable assumption is that DEF would not even begin
6 to incur costs for these transmission system upgrades until 2020, if that is in fact when
7 DEF would theoretically exercise the purchase option and acquire the Calpine plant under
8 the current Calpine PPA-acquisition proposal. Mr. Thornton admits as much when he
9 acknowledges that DEF "is unlikely to want to spend money to begin the process of
10 constructing the transmission until FERC approves the ultimate acquisition." (Thornton
11 Direct Test., p. 10, lines 7-10). On this point, Mr. Thornton is correct, no reasonable
12 utility --- DEF included --- would incur such costs until it had FERC approval and
13 actually acquired the plant.

14
15 **IV. CALPINE'S REVISED PPA-ACQUISITION OFFER DOES NOT PROVIDE DEF
THE FULL PLANT CAPACITY UNDER THE PPA AND PRESENTS
ADDITIONAL TRANSMISSION RISKS AND COSTS THAT ARE NOT
ACCOUNTED FOR BY CALPINE IN ITS PROPOSAL.**

16 **Q. What does Mr. Simpson represent the Calpine PPA-acquisition to be?**

17 A. Mr. Simpson describes the Calpine PPA-acquisition proposal to be an offer to provide
18 515 MegaWatts ("MW") of capacity and energy to DEF from 2015 to 2019, pursuant to
19 the terms of a PPA that I understand remains to be negotiated, with an option for DEF to
20 purchase the Calpine plant at the end of the PPA term at the first of January 2020.
21 (Simpson Direct Test., p. 5, lines 1-5). I understand from Mr. Borsch that the stated and
22 unstated terms of the Calpine PPA-acquisition proposal are more complicated than what

1 Mr. Simpson says. Mr. Borsch addresses these complications in his rebuttal testimony in
2 this Docket, therefore, the focus of my rebuttal testimony is on what Mr. Simpson has to
3 say about this PPA-acquisition proposal.
4

5 **Q. What are Mr. Simpson's claims about the Calpine PPA-acquisition proposal?**

6 A. Mr. Simpson claims that DEF will receive the full 515MW Calpine plant capacity and
7 energy under the PPA-acquisition before the purchase option is exercised in 2020 in
8 order for the Calpine plant to replace DEF's Suwannee Simple Cycle Project in the
9 summer of 2016 and DEF's Hines Chillers Power Uprate Project in the summer of 2017
10 to meet DEF's need for generation capacity prior to 2018. (Simpson Direct Test., p. 8,
11 lines 2-14). Calpine, however, does not have firm transmission rights to supply and
12 cannot actually supply the full 515MW of plant capacity and energy to DEF under the
13 PPA or the plant acquisition under the PPA purchase option until the transmission system
14 upgrades are completed. Calpine witness Hibbard concedes this point, even though Mr.
15 Simpson argues that the full Calpine plant capacity can be delivered to DEF during "most
16 hours of the year" (Simpson Direct Test., p. 11, lines 6-9), when Mr. Hibbard admits that
17 the "quantity of capacity that *can be* supplied on a firm basis prior to new transmission
18 infrastructure [is] 249MW" (Hibbard Direct Test., p. 13, lines 21-23) (emphasis in
19 original). The fact that Calpine may be able to transmit more than 249MW from the
20 plant to DEF across TEC's transmission system, only when transmission capacity is
21 available, is not firm transmission service for the full Calpine plant capacity that Calpine
22 purports to sell DEF under the PPA-acquisition proposal.
23

1 **Q. Can you explain why Calpine cannot deliver the full plant capacity across TEC's**
2 **system to DEF?**

3 A. Yes. There are physical transmission constraints that preclude Calpine from delivering
4 the full 515MW plant capacity and energy from the plant to DEF across TEC's
5 transmission service under a partial path firm PTP transmission service with TEC. Mr.
6 Simpson admits these transmission constraints exist and he identifies several of them in
7 his direct testimony. (Simpson Direct Test., p. 8, lines 16-22, p. 9, lines 1-10, 12-16).
8 Mr. Simpson simply suggests that there are "workarounds" for these transmission
9 constraints. Based on these "workarounds," Mr. Simpson assumes that Calpine can
10 supply DEF the full 515MW Calpine plant capacity that Calpine purports to sell DEF
11 under the PPA-acquisition proposal at all times before the transmission construction
12 upgrade projects connecting the Calpine plant to DEF's system are complete, although he
13 admits to what he calls "minor" transmission construction projects to resolve some
14 transmission constraints that he identifies and that "additional transmission service will
15 need to be purchased from TEC for the delivery of additional energy and capacity from"
16 the Calpine plant. (Simpson Direct Test., p. 8, lines 12-14).

17
18 **Q. Does Mr. Simpson identify the cost of these "minor" construction projects?**

19 A. No. Mr. Simpson admits that his own study shows two 69kV transmission line overloads
20 on TEC's system, one in the summer of 2016, and another in the summer of 2017, which
21 are caused by the delivery of firm capacity and energy from the Calpine plant to DEF
22 across the TEC system. (Simpson Direct Test., p. 8, lines 2-22; p. 9, lines 7-14). He
23 admits that these are transmission constraints that must be corrected or eliminated, and he

1 admits at least in the second case that what he calls “minor” construction is necessary to
2 correct or eliminate the 69kV transmission constraint. (Id.). He does not explain what
3 this construction project involves, or why he concludes it is “minor” construction, and he
4 provides no cost estimate for this construction. He at least admits there are costs for
5 these construction upgrades, but he simply suggests they will be rolled into the TEC
6 transmission rate. (Simpson Direct Test., p. 9, lines 12-15).

7
8 **Q. Does Mr. Simpson explain who will pay the TEC transmission rate that includes the**
9 **costs of the construction upgrades to resolve the transmission constraints caused by**
10 **Calpine?**

11 A. No. I understand, however, that Calpine has not included this cost in the PPA-acquisition
12 proposal to DEF. Calpine expects DEF to pay the TEC transmission rates to receive the
13 Calpine plant capacity and energy at the DEF transmission interface under the Calpine
14 PPA-acquisition proposal.

15
16 **Q. Does Mr. Simpson identify the cost for the additional transmission service that he**
17 **admits must be purchased from TEC?**

18 A. No, he did not. No Calpine witness in fact identifies and includes in their direct
19 testimony the cost of this additional transmission service that must be purchased from
20 TEC for Calpine to deliver the full plant capacity to DEF under Mr. Simpson’s proposed
21 “workarounds” the existing transmission constraints. I further understand that this cost is
22 not included by Calpine in its PPA-acquisition proposal.

23 The Calpine Osprey plant is a 515MW combined cycle generation plant and

1 Calpine proposes to sell DEF the full plant capacity under the PPA-acquisition proposal.
2 Calpine presently has a partial path firm PTP reservation with TEC for 249MW --- not
3 515MW --- of firm capacity and energy that gives Calpine the right to deliver 249MW
4 from the Calpine Osprey plant to the interface between the TEC and DEF system. The
5 difference between the full plant capacity that Calpine proposes to sell DEF under the
6 PPA-acquisition proposal and the actual partial pass PTP transmission service that
7 Calpine has with TEC is 266MW. The cost to deliver this additional 266MW from the
8 Calpine plant under firm partial PTP transmission service with TEC in order to actually
9 deliver to DEF the full plant capacity that Calpine purports to sell DEF under the PPA-
10 acquisition proposal is \$11.06 million a year for the total plant capacity. See Exhibit No.
11 ___ (ES-4) to my rebuttal testimony.

12
13 **Q. Is there a cost to deliver the 249MW from the Calpine plant to DEF even with the**
14 **partial path firm PTP reservation that Calpine has with TEC?**

15 A. Yes. The partial path firm PTP reservation that Calpine has with TEC for the Calpine
16 plant capacity and energy just gives Calpine the right to require TEC to deliver the
17 249MW from the Calpine plant to the interface between the TEC and the DEF
18 transmission system. TEC must still be paid “wheeling” charges to deliver the 249MW
19 across its transmission system to that interface.

20
21 **Q. Are the wheeling charges for the 249MW identified by Mr. Simpson or another**
22 **Calpine witness in direct testimony?**

23 A. No. No Calpine witness identifies the wheeling charges to deliver the 249MW from the

1 Calpine plant across the TEC transmission system to the interface with the DEF
2 transmission system. I understand that Calpine did not include this cost in its PPA-
3 acquisition proposal. The wheeling charges to deliver the 249MW from the Calpine plant
4 across the TEC transmission system to the interface with the DEF transmission system
5 during the term of the PPA in the PPA-acquisition proposal is \$5.35 million a year. See
6 Exhibit No. ___ (ES-5) to my rebuttal testimony.
7

8 **Q. What are Mr. Simpson’s proposed “workarounds” for the transmission constraints**
9 **that prevent Calpine from delivering the full Calpine plant capacity to DEF?**

10 A. Mr. Simpson says that he “believes” the outage and other constraints that he identifies
11 from his own study of the transmission system impacts to TEC’s transmission system, if
12 the full Calpine plant capacity was delivered across TEC’s system to the DEF interface in
13 the summer of 2016 and summer of 2017, can be alleviated by (1) operating procedures
14 performed either by TEC or DEF, depending on where the transmission constraint is
15 located, or (2) re-dispatch by either TEC or DEF of their existing generation resources,
16 again, depending on where the transmission constraint is located. (Simpson Direct Test.,
17 pp. 9-10). He claims that all utilities use operating procedures and re-dispatch their
18 existing generation resources to alleviate transmission constraints and that these are
19 “solutions” to the admitted transmission constraints to Calpine delivering the full
20 capacity of the Calpine plant to DEF in the summers of 2016 and 2017, which Calpine
21 proposes to do under its PPA-acquisition proposal. (Id.).
22
23

1 **Q. Do you agree with Mr. Simpson that his recommendations are “solutions” for**
2 **Calpine’s admitted inability to deliver to DEF the full Calpine plant capacity prior**
3 **to 2018 that Calpine purports to sell DEF under its PPA-acquisition proposal?**

4 A. No. First, only a full study performed by TEC and DEF in compliance with FRCC
5 requirements will determine if the transmission constraints that Mr. Simpson identifies
6 are the only transmission constraints that exist, and if they truly are “minor” as Mr.
7 Simpson suggests, if Calpine tries to transfer its full plant capacity to DEF across the
8 TEC system prior to 2018. Next, however, a transmission constraint is a constraint, no
9 matter how “minor” in nature, and even Mr. Simpson acknowledges it must be resolved.
10 Mr. Simpson’s “solutions,” however, are not utility industry standard methods of
11 resolving the problems facing Calpine in the summers of 2016 and 2017.

12 DEF and TEC, and all other Florida utilities, do have operating procedures to
13 resolve transmission constraints on a temporary, not routine or systematic basis like every
14 single peaking period in the summers of 2016 and 2017 under Calpine’s PPA-acquisition
15 proposal. These procedures exist to resolve unexpected or unique transmission
16 constraints during a limited time period, for example due to isolated extreme weather or
17 unique plant operating events. Operating procedures are not used by utilities to resolve
18 known transmission constraints that are expected from the systematic delivery of power
19 across the system --- which is exactly what Calpine will be doing if Calpine attempts to
20 deliver the full Calpine plant capacity under the PPA-acquisition proposal during every
21 time period in the summers of 2016 and 2017 that the plant capacity is needed on DEF’s
22 system. Simply put, operating procedures are not substitutes for actual physical projects
23 to resolve transmission constraints and it is not standard electric utility industry practice

1 to use operating procedures in this manner.

2 Mr. Simpson fails to mention too, just because an operating procedure exists, such
3 as switching as he describes it (Simpson Direct Test., p. 10, lines 11-13), that does not
4 mean the particular transmission constraint would be resolved by that operating
5 procedure. Mr. Simpson cannot and does not testify to the exact operating procedure that
6 will resolve the transmission constraints that he has identified if Calpine attempts to
7 deliver its full plant capacity across TEC's transmission system to DEF. Mr. Simpson
8 does not know that the operating procedure will actually work until the procedure is tried
9 by either DEF or TEC and it resolves the transmission constraint. No one knows for sure
10 that operating procedures will resolve the transmission constraints that he admits exist if
11 Calpine attempts to deliver its full plant capacity across TEC's transmission system to
12 DEF.

13
14 **Q. What about his proposed re-dispatching of generation resources by TEC and DEF,
15 is that a standard electric utility practice under these circumstances?**

16 A. No. Re-dispatching of existing generation resources is, again, one method to resolve a
17 temporary transmission constraint, such as one caused by unusual extreme weather or a
18 unique plant operating event, as I previously mentioned. Re-dispatching of existing
19 generation resources is not standard electric utility industry practice to resolve systemic
20 transmission constraints caused by a utility or IPP who plans on regularly delivering
21 power across a transmission system. It bears emphasis that DEF, and TEC too, employ
22 economic dispatch of their generation resources to meet customer load. Re-dispatch,
23 then, requires them to perform the uneconomic dispatch of their generation resources.

1 Calpine proposes that both TEC and DEF engage in the systemic uneconomic dispatch of
2 their generation resources to benefit Calpine by resolving transmission constraints caused
3 by Calpine. There is no requirement for DEF or TEC to engage in the uneconomic
4 dispatch of their generation resources for the benefit of Calpine, or any other party for
5 that matter, to resolve transmission constraints caused by Calpine or the other party. Mr.
6 Simpson does not even propose that Calpine will pay TEC or DEF for the uneconomic
7 dispatch of their generation resources for the benefit of Calpine. Presumably, Mr.
8 Simpson and Calpine expect TEC and DEF customers to pick up the tab for Calpine.
9

10 **Q. Why doesn't Calpine just arrange for partial path firm PTP transmission service**
11 **with TEC for the full Calpine plant capacity?**

12 A. Calpine did have a Partial Path Transmission System Impact Study Report performed by
13 TEC in early 2014 to determine what was required to obtain partial path firm PTP
14 transmission service for the full Calpine plant capacity so that Calpine could deliver the
15 full plant capacity and energy to DEF. TEC identified several transmission system
16 network upgrades on its transmission system to accommodate the additional 266MW of
17 firm transmission service to deliver the full Calpine plant capacity and energy across its
18 transmission system to the interface with the DEF transmission system. TEC estimated
19 the costs of these transmission system network upgrade projects to be \$169 million and
20 TEC estimated that it would take four to five years from a formal notice to proceed to
21 complete the projects. Based on the results of this Report, Calpine cannot physically
22 deliver its full plant capacity and energy to DEF on a partial path firm transmission
23 service basis in time to meet DEF's need for generation capacity prior to 2018. It appears

1 that the cost of the TEC transmission system network upgrades to deliver the full Calpine
2 plant capacity to DEF was cost prohibitive for Calpine too. This Report and the results of
3 this Report are described in detail in Exhibit No. ____ (ES-3) to my direct testimony in
4 this Docket.

5
6 **Q. Are there any other comments you want to make in response to Mr. Simpson's**
7 **direct testimony?**

8 A. Yes, there are some inaccurate statements in Mr. Simpson's direct testimony that I want
9 to address and correct.

10 First and foremost, Mr. Simpson criticizes the transmission evaluation performed
11 by DEF to evaluate the proposals to meet DEF's need for generation capacity prior to
12 2018. He complains that DEF grouped individual proposals with other proposals against
13 the Company's self-build generation projects and claims this evaluation method unfairly
14 burdened proposals with economic transmission with proposals with uneconomic
15 transmission. (Simpson Direct Test., p. 19, lines 13-22, p. 20, lines 1-6). He claims that
16 DEF should have evaluated the transmission requirements for each proposal individually
17 against the Company's self-build generation projects. (Simpson Direct Test., p. 20, lines
18 8-19).

19 DEF did individually evaluate the transmission system impacts for each proposal
20 against the Company's self-build generation projects in its evaluation of the most cost
21 effective generation alternative to meet the Company's need prior to 2018. This is
22 readily apparent in my description of this transmission evaluation in my direct testimony
23 and in Exhibits Nos. ____ (ES-3) and ____ (ES-4) that describe the individual transmission
24 system impacts of separate proposals to meet the Company's need prior to 2018. Mr.

1 Simpson either did not read my direct testimony and exhibits or he does not understand
2 our transmission system evaluation for the proposals in DEF's evaluation of the most cost
3 effective generation alternative to meet the Company's need prior to 2018.

4 Next, Mr. Simpson recognizes that if the Suwannee Simple Cycle Project is not
5 built at the Suwannee power plant site that there are transmission grid reliability issues in
6 this area that must be resolved. Since Mr. Simpson advocates the replacement of the
7 Suwannee Simple Cycle Project in 2016 with the Calpine plant acquisition, he proposes
8 either capacitors for static supply on the transmission system or conversion of the
9 existing steam units, which DEF plans to retire, to synchronous condenser operation at
10 the Suwannee power plant site to alleviate these transmission grid reliability issues.
11 (Simpson Direct Test., pp. 17-19).

12 Mr. Simpson fails to appreciate or understand, however, that DEF already has
13 undertaken transmission system network upgrades in the North Florida area to alleviate
14 the transmission grid reliability issues that he acknowledges exist in the area around the
15 Suwannee power plant site, especially if the Suwannee Simple Cycle Project was not
16 built. As Mr. Borsch explained in his direct testimony in this Docket, the addition of the
17 Suwannee Simple Cycle Project at the Suwannee power plant site in 2016, which allows
18 the Company to retire the existing 1950's vintage, steam generation units located at the
19 site at the same time, reduces the cost of these transmission system network upgrades
20 including the transmission costs to connect the Suwannee Simple Cycle Project to the
21 DEF system. (Borsch Direct Test., p. 10, lines 11-16). Mr. Simpson does not
22 acknowledge this benefit of adding the Suwannee Simple Cycle Project to DEF's
23 generation system to meet its need for generation capacity in the summer of 2016.

1 Finally, Mr. Simpson makes several inaccurate statements about the FRCC
2 Evaluation of Transmission Impact of the EPA’s Mercury and Air Toxics Standard
3 (“MATS”) Study and the Company’s Crystal River Unit 1 (“CR1”) and Crystal River
4 Unit 2 (“CR2”) MATS compliance plan. First, the FRCC MATS Study was not the
5 reason DEF was granted an extension for compliance with MATS until April 2016.
6 (Simpson Direct Test., p. 7, lines 14-15). DEF was granted this extension from the
7 Florida Department of Environmental Protection (“FDEP”) to give DEF time to
8 implement its MATS compliance plan for CR1 and CR2. Next, Mr. Simpson is wrong
9 that the Company’s MATS compliance plan for CR1 and CR2 allows the Company to
10 operate CR1 and CR2 through 2020. (Simpson Direct Test., p. 7, lines 19-22). DEF’s
11 MATS compliance plan for the continued operation of CR1 and CR2 is through 2018, not
12 2020. Mr. Borsch explains the impact of the MATS Study and DEF’s compliance plan
13 for CR1 and CR2 in detail at pages 7 through 9 of his direct testimony in this Docket.
14

15 **Q. Does this conclude your rebuttal testimony?**

16 **A. Yes.**
17

The estimated cost for firm Point to Point (“PTP”) transmission reservation service with TEC to deliver the entire Calpine Osprey plant capacity and energy to the interface between the TEC and DEF system was calculated using the following assumptions.

TEC OATT Tariff Rates

2014 Firm P-P Service	21.084 \$/kW – yr
<u>2014 Ancillary Service</u>	<u>0.389 \$/kW – yr</u>
Total Wheeling Charging Rate	21.473 \$/kW – yr

Assuming the above 2014 rates, the total estimated costs to deliver the entire (515) Calpine Osprey Plant capacity to DEF would be \$11.06 million - yr. This estimate assumes that the Calpine Osprey plant output would be available without restrictions year round. An annual escalation rate of 2.5% was used for future costs projections.

The estimated cost to wheel the 249 MW of firm PTP transmission service that Calpine currently has with TEC to deliver 249 MW of firm capacity and energy from the Calpine Osprey plant to the interface between the TEC and DEF system was calculated using the following assumptions

TEC OATT Tariff Rates

2014 Firm P-P Service	21.084 \$/kW – yr
<u>2014 Ancillary Service</u>	<u>0.389 \$/kW – yr</u>
Total Wheeling Charging Rate	21.473 \$/kW – yr

Assuming the above 2014 rates, the total estimated costs to deliver 249 MW of Calpine Osprey Plant capacity to DEF would be \$5.35 million - yr. This estimate assumes that the Calpine Osprey plant output of 249 MW would be available without restrictions year round. An annual escalation rate of 2.5% was used for future costs projections.