

DOCUMENT NO. 02528-2018
FPSC - COMMISSION CLERK

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

DOCKET NO. 20170266-EC
PETITION TO DETERMINE NEED FOR SEMINOLE COMBINED
CYCLE FACILITY, BY SEMINOLE ELECTRIC COOPERATIVE,
INC.

_____/ DOCKET NO. 20170267-EC
JOINT PETITION FOR DETERMINATION OF NEED FOR SHADY
HILLS COMBINED CYCLE FACILITY IN PASCO COUNTY, BY
SEMINOLE ELECTRIC COOPERATIVE, INC. AND SHADY HILLS
ENERGY CENTER, LLC.

_____/

VOLUME 2
PAGES 199 through 300

PROCEEDINGS: HEARING

COMMISSIONERS
PARTICIPATING: CHAIRMAN ART GRAHAM
COMMISSIONER DONALD J. POLMANN
COMMISSIONER GARY F. CLARK

DATE: Wednesday, March 21, 2018

TIME: Commenced: 2:00 p.m.
Concluded: 3:00 p.m.

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

REPORTED BY: DEBRA R. KRICK
Court Reporter

APPEARANCES: (As heretofore noted.)

PREMIER REPORTING
114 W. 5TH AVENUE
TALLAHASSEE, FLORIDA
(850) 894-0828

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I N D E X

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EXHIBITS

| NUMBER: | ID | ADMITTED |
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| 11 As identified on the comprehensive exhibit list | | 245 |
| 12 As identified on the comprehensive exhibit list | | 245 |
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1 P R O C E E D I N G S

2 (Transcript follows in sequence from
3 Volume 1.)

4 CHAIRMAN GRAHAM: Okay. Let's call this
5 meeting back to order.

6 Mr. Perko, the floor is yours.

7 MR. PERKO: Thank you, Mr. Chairman.

8 Seminole calls Mr. David Wagner.

9 Whereupon,

10 DAVID WAGNER

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

14 CHAIRMAN GRAHAM: Mr. Wagner, welcome.

15 MR. PERKO: May I proceed?

16 CHAIRMAN GRAHAM: Yes.

17 EXAMINATION

18 BY MR. PERKO:

19 Q Would you please state your name for the
20 record?

21 A David Wagner.

22 Q Mr. Wagner, have you been sworn today?

23 A Yes.

24 Q Who's your current employer, and what is your
25 business address?

1 A Seminole Electric Cooperative, 16313 North
2 Dale Mabry Highway in Tampa, Florida.

3 Q **Mr. Wagner, did you cause to be filed on**
4 **December 21st, 2017, direct testimony consisting of**
5 **eight pages in Docket Number 200 -- 20170266-EC?**

6 A Yes.

7 Q **And did you also cause to be filed on**
8 **December 21st, 2017, direct testimony consisting of**
9 **eight pages in Docket Number 20170267-EC?**

10 A Yes.

11 Q **Do you have any changes or corrections to**
12 **either of those direct testimonies?**

13 A I do not.

14 Q **Now, did you also attach to your testimony**
15 **Exhibits DW-1 and DW-2?**

16 A Yes.

17 Q **Do you have any changes to those exhibits?**

18 A No.

19 Q **Did you also -- are you also sponsoring**
20 **sections 4.17, 4.27 and section 6.43 of the need study**
21 **that is identified as Exhibit No. MPW-2?**

22 A Yes.

23 Q **Do you have any changes to those sections of**
24 **the need study?**

25 A No.

1 Q Mr. Wagner, if you were to ask you the same
2 questions in your direct filed -- prefiled direct
3 testimony in the two dockets, would your questions --
4 would your answers be the same?

5 A Yes, they would.

6 MR. PERKO: At this time, Mr. Chairman, we
7 would ask that Mr. Wagner's direct prefiled
8 testimony in the two dockets be inserted as if
9 read.

10 CHAIRMAN GRAHAM: You know, it's funny, my
11 first time being chairman, I used tongue tagger.
12 Your tongue always gets twisted saying prefiled
13 direct testimony. We will enter Mr. Wagner's into
14 the record.

15 MR. PERKO: Thank you.

16 (Whereupon, prefiled direct testimony was
17 inserted.)

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1 BEFORE THE PUBLIC SERVICE COMMISSION
2 SEMINOLE ELECTRIC COOPERATIVE, INC.
3 DIRECT TESTIMONY OF DAVID WAGNER
4 DOCKET NO. _____-EC
5 DECEMBER 21, 2017
6

7 **Q. Please state your name and address.**

8 A. My name is David Wagner. My business address is 16313 North Dale Mabry
9 Highway, Tampa, Florida 33618.
10

11 **Q. By whom are you employed and in what capacity?**

12 A. I am employed by Seminole Electric Cooperative, Inc. (“Seminole”) as
13 Portfolio Director.
14

15 **Q. What are your responsibilities in your current position?**

16 A. My primary responsibility is to ensure reliable, cost-effective natural gas
17 delivery to Seminole’s owned and purchased electric generating units. This
18 includes oversight of natural gas supply procurement and scheduling activities
19 along with the development of natural gas planning strategies and the
20 negotiation of long-term gas transportation, supply and storage agreements.
21

22 **Q. Please describe your professional experience and education background.**

23 A. I graduated from the University of Florida with a Bachelor of Science degree
24 in Food and Resource Economics in 2000 and a Master of Agri-business
25 degree in 2001. I joined Westar Energy, Inc. in 2002 as an analyst for the

1 energy marketing and fuel procurement business unit. In 2004, I joined Florida
2 Municipal Power Agency as a risk analyst to support the company's mitigation
3 of price and supply risk in the natural gas market. In 2006, I moved into a gas
4 trading role at Florida Gas Utility ("FGU") where my responsibilities included
5 physical gas procurement, short-term optimization of FGU's gas transportation
6 and storage assets, and supply and price risk mitigation. In 2010, I became the
7 Supervisor of Gas Supply at Seminole, where I have held positions of
8 increasing responsibility.

9

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

11 A. The purpose of my testimony is to present the fuel price forecast used in
12 Seminole's Need Study, as well as the natural gas supply and transportation
13 plans for SCCF. I also will discuss how the SCCF project impacts the
14 diversity of Seminole's fuel supply.

15

16 **Q. Are you sponsoring any exhibits in the case?**

17 A. I am sponsoring the following exhibits, which were prepared by me or under
18 my supervision and are attached to my pre-filed testimony:

- 19 • Exhibit No. ____ (DW-1) - Professional resume of David Wagner; and
- 20 • Exhibit No. ____ (DW-2) - Seminole Fuel Price Forecast.

21 I also am sponsoring Sections 4.1.7, 4.2.7, and 6.4.3 of the Need Study
22 (Composite Exhibit No. __ (MPW-1)), all of which were prepared by me or
23 under my supervision.

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FUEL PRICE FORECAST

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Q. Did you develop the fuel price forecast used in the Need Study?

A. Yes.

Q. For what fuels did you develop forecasts?

A. I supported the development of the price forecasts for natural gas, coal and No
2 oil.

Q. What methodology did you use in developing the fuel price forecast?

A. Seminole’s fuel price forecasts are derived from a combination of published
market indices, independent price forecasts, and escalators where necessary to
extend the price forecast beyond the horizon of available values. For its fuel
forecasts, Seminole uses the NYMEX futures forward market prices, price
forecasts provided by the Energy Information Administration (“EIA”), Energy
Research Company LLC, and L.E. Peabody & Associates, Inc., projections of
fuel transportation and other variable costs related to fuel delivery, and
forecasted escalation factors. These sources of forward energy prices are
commonly accepted in the utility industry.

Q. Please describe the specific steps used in preparing the fuel forecast.

A. For projecting future natural gas prices, Seminole uses the following
methodology: (i) for the initial years of Seminole’s forecast, the methodology
uses the NYMEX forward curve for Henry Hub natural gas; (ii) for years
beyond the availability of forward NYMEX prices, the methodology escalates

1 the gas price annually at a rate equal to the rate of escalation of projected gas
2 prices in the EIA's Annual Energy Outlook ("AEO") for their reference case for
3 the same years; and (iii) for any years beyond the availability of projected gas
4 prices in the EIA's AEO, the methodology escalates the gas price at a constant rate
5 equal to the annualized rate of escalation of the EIA's AEO reference case
6 escalation for the final five years of projected prices. Seminole also includes a
7 'basis' adder to account for the projected difference in gas pricing between the
8 Henry Hub geographic location and the Florida Gas Zone 3 geographic area.

9
10 For coal, the price forecast is based on commodity coal prices provided by Energy
11 Research Company LLC. Seminole updates its coal transportation cost estimates
12 based upon the annual forecast provided by L.E. Peabody & Associates, Inc.

13
14 For No. 2 oil, the price forecast is based on distillate fuel oil price projections
15 provided by the EIA, plus a small adder for delivery. These methodologies are
16 consistent with the fuel forecasting approach used in Seminole's 2017-2026 Ten
17 Year Site Plan.

18

19 **Q. Did you develop any alternative fuel forecasts for sensitivity analyses?**

20 A. Yes, for natural gas Seminole uses a statistical based approach, similar to that
21 used by the EIA, to formulate high and low forward price curves, relative to
22 the base forward price curve.

23

24 **Q. Have you prepared an exhibit showing the results of your fuel forecasts?**

25 A. Yes. Exhibit DW-2 presents the results of Seminole's fuel forecast, including
26 the alternative forecasts for natural gas. During the course of the past year,

1 Seminole updated its fuel forecasts for natural gas and coal as a part of the
2 updated economic analyses discussed in the pre-filed testimony of Julia
3 Diazgranados. Exhibit DW-2 contains both the updated and prior fuel prices.
4

5 **NATURAL GAS SUPPLY & TRANSPORTATION**
6

7 **Q. What are the fuel requirements for SCCF?**

8 A. The SCCF will burn natural gas as its fuel. At peak operation, including duct-
9 firing, the SCCF will require approximately 173,000 million British thermal
10 units (“MMBtu”) of natural gas per day.
11

12 **Q. What steps has Seminole taken to determine that natural gas will be
13 available for the SCCF?**

14 A. Seminole is finalizing negotiations with multiple entities for natural gas
15 transportation service and/or natural gas supply for delivery to Putnam County,
16 Florida and ultimately to the SCCF via the gas pipeline lateral discussed
17 below. Seminole anticipates that these arrangements will provide for up to
18 187,000 MMBtus per day of gas transportation service having delivery rights
19 to the lateral serving the SCCF, a portion of which will have delivery rights to
20 other generating resources in Seminole’s portfolio. Part of this transportation
21 service will come from existing capacity that will be re-purposed for the
22 SCCF, some will be existing capacity that will require additional facilities on
23 the Florida Gas Transmission (“FGT”) system to provide the incremental
24 delivery rights specifically to Putnam County, Florida, and some will be new

1 transportation service into Florida enabled by additional facilities on existing
2 pipeline(s).

3

4 **Q. What purchase arrangements will be used to procure the necessary gas?**

5 A. The natural gas supply for the SCCF will be purchased as a part of Seminole's
6 procurement of its gas portfolio needs. Seminole's process for gas
7 procurement diversifies the timing and duration of such gas purchases. For
8 example, when planning for the upcoming calendar year Seminole will
9 purchase a portion of its gas supply on an annual and/or seasonal basis,
10 purchase incremental supply on a month-ahead basis, and then procure any
11 remaining supply needs on a daily basis. Such supply is typically purchased at
12 market based index prices. In addition, Seminole may contract for gas supply
13 on a longer-term basis with a duration of up to five years or longer based on its
14 projected needs and available supply.

15

16 **Q. Has Seminole evaluated whether there is sufficient natural gas pipeline
17 capacity to transport natural gas to the SCCF?**

18 A. With the additional gas transportation arrangements discussed above, we are
19 confident that sufficient natural gas pipeline capacity will exist to serve the
20 SCCF. Further, the capacity on the gas pipeline lateral from FGT to the SCCF
21 will be adequate.

22

23 **Q. How will natural gas be transported to the SCCF?**

24 A. Natural gas supply will be transported from the FGT mainline to the SCCF via
25 a gas pipeline lateral that will be constructed, owned and operated by a third-

1 party. Seminole will contract for firm transportation service on the pipeline
2 lateral from FGT to the SCCF. This third-party will be an authorized natural
3 gas transmission company in Florida as defined in section 368.103(4), Florida
4 Statutes.

5

6 **Q. In your opinion, will there be an adequate and reliable supply of natural
7 gas for the SCCF?**

8 A. Yes, Seminole is finalizing its contracts for adequate gas transportation
9 capacity that will provide a firm transportation path from geographic locations
10 that are expected to have adequate natural gas supply available over the
11 horizon of the Need Study. More specifically, it is anticipated that reliable gas
12 supply from various production basins will continue to be transported to the
13 areas at which Seminole will have transportation rights to purchase gas supply.

14

15 **FUEL DIVERSITY**

16

17 **Q. How will SCCF affect the diversity of Seminole's fuel supply?**

18 A. Seminole seeks to maintain a diversified portfolio of owned and purchased
19 generating assets with a variety of fuel types, supply sources and delivery
20 options. Such a portfolio functions as a tool to manage fuel price stability and
21 reliability. The SCCF will be solely fueled by natural gas but is serving to
22 replace expiring purchased power generating resources that were also
23 predominately natural gas fired as their primary fuel source. Seminole's
24 decision to maintain the operation of one SGS coal-fired generating unit will
25 continue to provide diversification in Seminole's fuel portfolio. In addition,

1 Seminole is implementing a natural gas transportation plan that contracts with
2 four different counterparties for a variety of solutions to enhance the
3 diversification and reliability of our delivered gas supply. For these reasons,
4 the addition of the SCCF is not expected to significantly impact fuel diversity
5 or supply reliability.

6

7 **Q. Does this conclude your testimony?**

8 A. Yes.

9

10

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2 SEMINOLE ELECTRIC COOPERATIVE, INC.
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1 energy marketing and fuel procurement business unit. In 2004, I joined Florida
2 Municipal Power Agency as a risk analyst to support the company's mitigation
3 of price and supply risk in the natural gas market. In 2006, I moved into a gas
4 trading role at Florida Gas Utility ("FGU") where my responsibilities included
5 physical gas procurement, short-term optimization of FGU's gas transportation
6 and storage assets, and supply and price risk mitigation. In 2010, I became the
7 Supervisor of Gas Supply at Seminole Electric Cooperative, Inc. where I have
8 held positions of increasing responsibility.

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

11 A. The purpose of my testimony is to present the fuel price forecast used in
12 Seminole's Need Study, as well as the natural gas supply and transportation
13 plans for the SHCCF. I also will discuss how the SHCCF project impacts the
14 diversity of Seminole's fuel supply.

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16 **Q. Are you sponsoring any exhibits in the case?**

17 A. I am sponsoring the following exhibits, which were prepared by me or under
18 my supervision and are attached to my pre-filed testimony:

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- 20 • Exhibit No. ____ (DW-2) - Seminole Fuel Price Forecast.

21 I also am sponsoring Sections 4.1.7, 4.2.7, and 6.4.3 of the Need Study
22 (Exhibit No. __ (MPW-2)), all of which were prepared by my or under my
23 supervision.

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FUEL PRICE FORECAST

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Q. For what fuels did you develop forecasts?

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Q. What methodology did you use in developing the fuel price forecast?

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1 the gas price annually at a rate equal to the rate of escalation of projected gas
2 prices in the EIA's Annual Energy Outlook ("AEO") for their reference case for
3 the same years; and (iii) for any years beyond the availability of projected gas
4 prices in the EIA's AEO, the methodology escalates the gas price at a constant rate
5 equal to the annualized rate of escalation of the EIA's AEO reference case
6 escalation for the final five years of projected prices. Seminole also includes a
7 'basis' adder to account for the projected difference in gas pricing between the
8 Henry Hub geographic location and the Florida Gas Zone 3 geographic area.

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11 Research Company LLC. Seminole updates its coal transportation cost estimates
12 based on the annual forecast provided by L.E. Peabody & Associates, Inc.

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14 For No. 2 oil, the price forecast is based on distillate fuel oil price projections
15 provided by the EIA, plus a small adder for delivery. These methodologies are
16 consistent with the fuel forecasting approach used in Seminole's 2017-2026 Ten
17 Year Site Plan.

18

19 **Q. Did you develop any alternative fuel forecasts for sensitivity analyses?**

20 A. Yes, for natural gas Seminole uses a statistical based approach, similar to that
21 used by the EIA, to formulate high and low forward price curves, relative to
22 the base forward price curve.

23

24 **Q. Have you prepared an exhibit showing the results of your fuel forecasts?**

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26 the alternative forecasts for natural gas. During the course of the past year,

1 Seminole updated its fuel forecasts for natural gas and coal as a part of the
2 updated economic analyses discussed in the pre-filed testimony of Julia
3 Diazgranados. Exhibit DW-2 contains both the updated and prior fuel prices.
4

5 **NATURAL GAS SUPPLY & TRANSPORTATION**

6
7 **Q. What are the fuel requirements for SHCCF?**

8 A. The SHCCF will burn natural gas as its fuel. At peak operation, including duct-
9 firing, the SHCCF will require approximately 89,000 million British thermal
10 units (“MMBtu”) of natural gas per day.
11

12 **Q. What steps has Seminole taken to determine that natural gas will be
13 available for the SHCCF?**

14 A. Seminole is finalizing negotiations with multiple entities for natural gas
15 transportation service and/or natural gas supply for delivery to various
16 Seminole owned and purchased resources, including the SHCCF. Seminole
17 anticipates that these arrangements, combined with Seminole’s existing gas
18 transportation capacity, will provide for more than 300,000 MMBtus per day
19 of gas transportation service having delivery rights to Florida’s market area to
20 support Seminole’s portfolio of gas-fired generating resources, up to 130,000
21 MMBtus per day of which will have delivery rights to the SHCCF. Part of this
22 transportation service will come from existing Seminole capacity that will be
23 re-purposed for the SHCCF, some will be existing capacity on the Florida Gas
24 Transmission (“FGT”) system, and some will be new transportation service
25 into Florida enabled by additional facilities on existing pipeline(s).

1

2 **Q. What purchase arrangements will be used to procure the necessary gas?**

3 A. The natural gas supply for the SHCCF will be purchased as a part of
4 Seminole's procurement of its gas portfolio needs. Seminole's gas
5 procurement process diversifies the timing and duration of such gas purchases.
6 For example, when planning for the upcoming calendar year Seminole will
7 purchase a portion of its gas supply on an annual and/or seasonal basis,
8 purchase incremental supply on a month-ahead basis, and then procure any
9 remaining supply needs on a daily basis. Such supply is typically purchased at
10 market based index prices. In addition, Seminole may contract for gas supply
11 on a longer-term basis with a duration of up to five years or longer based on its
12 projected needs and available supply.

13

14 **Q. Has Seminole evaluated whether there is sufficient natural gas pipeline
15 capacity to transport natural gas to the SHCCF?**

16 A. With the additional gas transportation arrangements discussed above, we are
17 confident that sufficient natural gas pipeline capacity will exist to serve the
18 SHCCF.

19

20 **Q. How will natural gas be transported to the SHCCF?**

21 A. Natural gas supply will be transported to the SHCCF via the existing FGT
22 pipeline system. A new interconnection with FGT will be constructed to fuel
23 the SHCCF.

24

1 **Q. In your opinion, will there be an adequate and reliable supply of natural**
2 **gas for the SHCCF?**

3 A. Yes, Seminole is finalizing contracts for adequate gas transportation capacity
4 that will provide firm transportation paths from geographic locations that are
5 expected to have adequate natural gas supply available over the horizon of the
6 Need Study. More specifically, it is anticipated that gas supply from various
7 production basins will continue to be transported to the areas at which
8 Seminole will have transportation rights to purchase gas supply.

9

10 **FUEL DIVERSITY**

11

12 **Q. How will SHCCF affect the diversity of Seminole's fuel supply?**

13 A. Seminole seeks to maintain a diversified portfolio of owned and purchased
14 generating assets with a variety of fuel types, supply sources and delivery
15 options. Such a portfolio functions as a tool to manage fuel price stability and
16 reliability. The SHCCF will be solely fueled by natural gas but is serving to
17 replace expiring purchased power generating resources that were also
18 predominately natural gas fired as their primary fuel source. Seminole's
19 decision to maintain the operation of one SGS coal-fired generating unit will
20 continue to provide diversification in Seminole's fuel portfolio. In addition,
21 Seminole is implementing a natural gas transportation plan that contracts with
22 four different counterparties for a variety of solutions to enhance the
23 diversification of our delivered gas supply. For these reasons, the addition of
24 the SHCCF is not expected to significantly impact fuel diversity or supply
25 reliability.

1

2 **Q. Does this conclude your testimony?**

3 **A. Yes.**

4

1 BY MR. PERKO:

2 Q Mr. Wagner, have you prepared a summary of
3 your testimony?

4 A I have.

5 Q Would you please provide it to the
6 Commissioners at this time?

7 A Sure.

8 Good afternoon, Mr. Chairman, Commissioners.
9 My name is David Wagner. I am a Portfolio Director at
10 Seminole Electric in its Fuels Department.

11 I hold a Bachelor of Science Degree in Food
12 and Resource Economics, and a Master of Agribusiness
13 Degree, both from the University of Florida. I have
14 more than 16 years of experience in the power and gas
15 industries, with a focus on natural gas supply
16 procurement, transportation and price risk management.

17 The purpose of my testimony today is to
18 explain the natural gas delivery and transportation plan
19 for the proposed Seminole and Shady Hills combined cycle
20 facilities, and to present the fossil fuel price
21 forecast used by Seminole in its economic evaluation of
22 the projects.

23 Both the Seminole and Shady Hills combined
24 cycle facilities will burn natural gas as their fuel
25 source. Natural gas will be supplied to the Seminole

1 Combined Cycle Facility by a proposed natural gas
2 pipeline that will be constructed, owned and operated by
3 a third party, and that will interconnect Seminole's
4 power plant site with the mainlines of Florida Gas
5 Transmission in Putnam County Florida. This pipeline
6 will be approximately 21 miles in length, and will be
7 sized to provide adequate gas volume and pressure for
8 the Seminole Combined Cycle Facility.

9 The developer of the Shady Hills Combined
10 Cycle Facility will cause a new interconnection to be
11 constructed that will receive natural gas from the
12 existing FGT lateral that currently serves the Shady
13 Hills site.

14 To ensure reliable deliveries of natural gas
15 from FGT to both the Seminole and Shady Hills combined
16 cycle facilities, Seminole is contracting with four
17 different counterparties for incremental firm gas
18 transportation capacity to supplement its existing
19 portfolio of transportation rights. This diversified
20 gas transportation plan will enhance Seminole's fuel
21 reliability.

22 Seminole's fossil fuel price forecasts reflect
23 the projected supply, demand and price for No. 2 Fuel
24 Oil, coal and natural gas, and incorporate variable
25 costs to transport these fuels to Seminole's portfolio

1 owned and purchased generating resources, including the
2 Seminole and Shady Hills combined cycle facilities.

3 Seminole relies on industry respected sources
4 to develop its fuel price forecasts, including futures
5 markets transactional information, the Energy
6 Information Administration's price projections and
7 methodologies, and leading industry consultants. As
8 such, Seminole's fossil fuel forecasts are reasonable
9 for the evaluation of the Seminole and Shady Hills
10 combined cycle facilities.

11 **Q Does that conclude your summary, Mr. Wagner?**

12 **A** It does.

13 MR. PERKO: At this time, we proffer the
14 witness for cross-examination.

15 CHAIRMAN GRAHAM: Thank you.

16 Mr. Wright.

17 MR. WRIGHT: Thank you, Mr. Chairman.

18 EXAMINATION

19 BY MR. WRIGHT:

20 **Q Excuse me, just a little something in my**
21 **throat.**

22 **Good afternoon, Mr. Wagner.**

23 **A** Hi.

24 **Q As you know, I am Schef Wright, and I**
25 **represent the intervenors. I have a few questions for**

1 **you today.**

2 **At page two, line 20, did you have any changes**
3 **to make to your testimony?**

4 A No.

5 Q **Okay. At page two, line 21 of your**
6 **testimonies, you identify section 4.1.7 as the section**
7 **of a section of the need study that you are sponsoring,**
8 **correct?**

9 A Yes.

10 Q **Okay. Do you happen to have a copy of the**
11 **need study with you?**

12 A Unfortunately I do not.

13 MR. PERKO: I apologize, Your Honor -- Mr.
14 Chairman --

15 MR. WRIGHT: Mr. Chairman, I am going to try
16 to make this simple -- well, I will just hand him
17 one.

18 CHAIRMAN GRAHAM: We'll see if you can't get
19 it done simply.

20 BY MR. WRIGHT:

21 Q **Section 4.1.7 addresses stormwater management,**
22 **doesn't it?**

23 A Yes, you are -- you are correct.

24 Q **That's a typo?**

25 A Yes.

1 Q And your testimony should refer to section
2 4.1.8, is that correct?

3 A According to this document in front of me,
4 yes. This document -- yes, you are correct.

5 Q Well, that's your company's need study, isn't
6 it?

7 A Yes, I believe so.

8 Q All right. Regarding the SCCF, on page six of
9 your direct testimony in the SCCF docket, you testify
10 that natural gas supply will be transported from the FGT
11 mainline to the SCCF via a gas pipeline lateral?

12 CHAIRMAN GRAHAM: Mr. Wright, can I get you to
13 pull that mic down a little bit?

14 MR. WRIGHT: Certainly, Mr. Chairman. Sorry.

15 CHAIRMAN GRAHAM: I could hear you. I just
16 wanted to make sure our court reporter could hear
17 you.

18 MR. WRIGHT: Thank you.

19 BY MR. WRIGHT:

20 Q Page six, lines 24 through 25 of your direct
21 testimony in the docket 0266, the SCCF docket, you
22 testify that natural gas supply will be transported from
23 the FGT mainline to the SCCF via a gas pipeline lateral
24 that will be constructed, owned and operated by a third
25 party, correct?

1 A Correct.

2 Q Will that new gas pipeline lateral be the only
3 physical connection between the SCCF and any main
4 transmission pipeline?

5 A Yes -- initially, yes.

6 Q With respect to the SCCF, is it correct that
7 it will be fueled solely by natural gas?

8 A That's correct.

9 Q So to the best of your knowledge, the SCCF is
10 not designed to have dual fuel capability, correct?

11 A Correct.

12 Q Do you know how much it would cost to retrofit
13 the SCCF for dual fuel capability?

14 A I do not.

15 MR. WRIGHT: Mr. Chairman, I want to show the
16 witness an interrogatory response prepared
17 apparently by -- by Mr. Kezell. It's already in
18 the record as, I want to say Staff's Exhibit 90.
19 Yes, it's Staff's Exhibit 90. It's Seminole's
20 response to Staff's Interrogatory No. 52.

21 MR. WRIGHT: Sorry, it's Staff Exhibit 79.

22 CHAIRMAN GRAHAM: Mr. Perko.

23 MR. WRIGHT: Can I --

24 CHAIRMAN GRAHAM: Hold up.

25 Mr. Perko.

1 MR. PERKO: We've got you.

2 CHAIRMAN GRAHAM: You are okay?

3 MR. PERKO: I believe so.

4 CHAIRMAN GRAHAM: Okay.

5 MR. PERKO: Staff Exhibit 79?

6 CHAIRMAN GRAHAM: Mr. Wright.

7 MR. WRIGHT: Yes, it's the response to Staff's
8 Interrogatory No. 52, which I understand to be --

9 CHAIRMAN GRAHAM: I just want to make sure
10 it's attorney has it in front of him before --

11 MR. WRIGHT: Yeah, and I am just trying to --

12 CHAIRMAN GRAHAM: Okay, that's fine.

13 MR. WRIGHT: -- make sure we are clear as to
14 what's what.

15 CHAIRMAN GRAHAM: Sure.

16 MR. PERKO: I apologize, Mr. Chairman. We're
17 ready.

18 CHAIRMAN GRAHAM: Trust me, you are fine. You
19 are good?

20 MR. PERKO: Yes, sir.

21 CHAIRMAN GRAHAM: Sure, Mr. Wright.

22 MR. WRIGHT: May I just hand this to him?

23 CHAIRMAN GRAHAM: Yes, you can.

24 THE WITNESS: Thank you.

25 BY MR. WRIGHT:

1 Q Have you seen this document before,
2 Mr. Wagner?

3 A Maybe generally, but certainly not
4 specifically studied it.

5 Q Okay. This appears to show that the cost of
6 retrofitting the SCCF to dual fuel capability is about
7 37-and-a-half million dollars, correct?

8 A It looks like it, yes.

9 Q Thank you.

10 A Is the SCCF -- sorry, the SH -- Shady Hills --
11 to be fueled solely by natural gas?

12 A Yes.

13 Q It's not designed to have backup fuel, is it?

14 A That's my understanding, correct.

15 Q Thank you.

16 A Do you know why not?

17 A Generally, yeah, there is costs associated
18 with the initial capital and infrastructure required to
19 be installed, ongoing costs to operate and maintain
20 that. Certainly, ongoing costs to install the on-site
21 oil tanks, and maintain those and the fuel inventory in
22 those. But those are just a portion, probably, of the
23 decision-making process ultimately to -- whether or not
24 to install that capital equipment.

25 Q I would like to talk to you about fuel

1 diversity for a few minutes.

2 In your testimony in the SCCF docket, actually
3 and in the SHCCF docket, on page -- well, in the SCCF
4 docket, on page seven, you talk about fuel diversity,
5 and also on page seven in your testimony in the Shady
6 Hills docket, you testify about fuel diversity; correct?

7 A That's correct.

8 Q Can we agree that your testimony concerning
9 fuel diversity is identical in the two dockets, except
10 for the references to the SCCF and the SHCCF
11 respectively in the two testimonies?

12 A No, they are not identical. Are you referring
13 to just simply that question?

14 Q Yes. Oh, yes, just -- just the question and
15 answer about fuel diversity?

16 A Yes, I think that's an accurate statement that
17 they are identical.

18 Q Thank you.

19 You go on to state that the SCCF and Shady
20 Hills are serving to replace expiring purchase power
21 generating resources that were also predominantly
22 natural gas-fired as their primary fuel source, correct?

23 A That's correct.

24 Q Okay. Did any of the expiring purchase power
25 resources have backup fuel capabilities?

1 A Yes, some of them did.

2 **Q Can you tell us which one or ones?**

3 A I am directly familiar with the Oleander
4 generating units, approximately 580 megawatts at three
5 different units have backup fuel that they are expiring.
6 Part of the replacement portfolio also has backup fuel.

7 **Q And which -- which resource in the replacement**
8 **portfolio has backup fuel?**

9 A Directly the Shady Hills combined -- the CTs
10 at that site have backup fuel. So approximately --
11 there is about a 200-megawatt net difference between
12 what's expiring and what's being replaced with dual fuel
13 capability.

14 **Q Okay. The Oleander capacity is greater than**
15 **the Shady Hills CTs --**

16 A That's correct.

17 **Q -- is that accurate? Okay.**

18 I am looking at your Ten Year Site Plan that
19 **has a list of purchase power -- your 2017 Ten Year Site**
20 **Plan, it has a list of purchase power resources. A**
21 **number of those are system resources. How do you**
22 **account for gas, oil and other fuel percentages with the**
23 **system purchases, if at all?**

24 A Account for them for what purpose?

25 **Q For purposes of understanding the fuel**

1 diversity of what's supplied to Seminole and its member
2 co-ops?

3 A From a economic or reliability standpoint?

4 Q I am really trying to ask from a physical
5 standpoint as to what -- what, if anything, you do with
6 the fuels that are used, say, to provide the power under
7 the DEF system contract?

8 A Yeah, physically, those arrangements are --
9 they are tied to system -- the firmness is tied to the
10 equivalent of native load for those entities, is my
11 understanding, and so fuel is not specifically
12 addressed, to my knowledge, in detail in those
13 agreements as far as a reliability or physical delivery
14 component.

15 Q Do you prepare the fuel tables that appear in
16 the company's ten year site plans?

17 A I am not sure I understand what fuel tables
18 you are referring to.

19 Q Schedule 5, Schedule 6.1 --

20 A No, sir.

21 Q -- and Schedule 6.2?

22 A I do not.

23 Q If you know, who does?

24 A Witness Diazgranados does.

25 Q Okay. So can -- can you tell us anything

1 specific about the impact of shutting down one of the
2 coal units on the percent of Seminole's power supply
3 that will be supplied from coal-fired generation?

4 A Yeah. I mean, currently Seminole receives
5 about half 50 -- low 50 percent range of its energy
6 projected to be generated by the coal units. So that
7 would decrease to somewhere in the 20 percent range upon
8 implementation of the recommended portfolio.

9 Q So if I wanted to ask more detailed questions
10 about the percentages of the fuel mix, I should ask
11 Ms. Diazgranados?

12 A I guess it would be dependent on what the
13 questions are, but I -- she and I do work very closely
14 together. I feed her inputs and information that she
15 runs through the dispatch modeling projection models,
16 which then ultimately produce the results that get
17 included those tables.

18 MR. WRIGHT: I am going to be as quick as I
19 can, and I don't have that much more for
20 Mr. Wagner. I would like to hand him a copy of the
21 company's 2017 --

22 CHAIRMAN GRAHAM: Sure.

23 MR. WRIGHT: -- Ten Year Site Plan, which is
24 already identified for official recognition per the
25 staff.

1 CHAIRMAN GRAHAM: Okay.

2 MR. WRIGHT: Thank you.

3 BY MR. WRIGHT:

4 Q Mr. Wagner, I just handed you a copy of the
5 company's, Seminole's 2017 Ten Year Site Plan turned
6 open to Schedule 6.2, which is titled Energy Sources in
7 Percent. Are you with me?

8 A Yes, sir.

9 Q Thank you.

10 I am looking at the column headed 2023. We
11 can back up and confirm what you told us a minute ago,
12 that this year, it looks like about 50 percent of the
13 company's generation is projected to come from coal,
14 correct?

15 A That's correct.

16 Q In 2023, it appears to be 35-and-a-half
17 percent, correct?

18 A Correct.

19 Q Is that -- is that reduction caused by the
20 then projected in-service of units identified as
21 Seminole combined cycle units in '21 and '22?

22 A The -- what we refer to as generic units, yes.
23 Not the resources proposed here.

24 Q Correct.

25 A Yes, I believe that would be the case, yes.

1 Q I apologize.

2 The resources that are actually identified in
3 the back of this --

4 A Yes.

5 Q -- Ten Year Site Plan? Okay.

6 So if we were to look at 2023, that's, as
7 proposed now by the company, that that would be the
8 first full year that one of the Seminole coal units
9 would be taken off-line, correct?

10 A That's correct.

11 Q Would it be correct, in your opinion, that
12 that 35-and-a-half percent value would roughly be cut in
13 half?

14 A Not necessarily, no. Based on what I believe
15 are the current estimates in models, and
16 Ms. Diazgranados may be able to speak more to this in
17 detail, but it estimated to be closer to 19 or
18 20 percent. So it's not directly attributable to go in
19 half.

20 Q Okay.

21 A But it's certainly not too far off from that.

22 Q And if we look down the table to the total
23 natural gas number in the 2017 plans, it's about
24 61 percent. And so if the coal percentage dropped from
25 35 to, say, 19, the natural gas percentage value would

1 **increase to about 77, is that pretty close to accurate?**

2 A I apologize, which year were you referring to?
3 '23?

4 **Q Still referring to 2023. Yes, sir.**

5 A Yes, that would make sense, yeah. It's
6 intuitive. Although, we are adding solar as part of
7 this portfolio, so some of that will also offset the
8 direct correlation between a decrease in coal and an
9 increase in gas.

10 **Q Since you mentioned solar, I note in the**
11 **renewables row in the current Ten Year Site Plan that**
12 **you are looking at, the renewables seem to be phasing**
13 **down from now through 2026, as projected a year ago,**
14 **correct?**

15 A That's correct.

16 **Q Do you know why that is?**

17 A Primarily due to expirations of some of those
18 purchase power arrangements.

19 **Q And when you say some of those purchase power**
20 **arrangements, are you talking about like the landfill**
21 **gas and waste energy contracts?**

22 A Those would be within that group, yes.

23 **Q Thank you.**

24 **You testified that Seminole is implementing a**
25 **natural gas transportation plan that contracts with four**

1 different counterparties for a variety of solutions to
2 enhance the diversification and reliability of our
3 diversified -- sorry -- delivered gas supply, correct?

4 A That's correct.

5 Q Isn't it true that the different gas
6 transportation options will not enhance fuel diversity?

7 A You are -- there is many different types of
8 diversity that we could probably get into a prolonged
9 discussion, so I am not sure which --

10 Q Is it going to change the percent fueled by
11 natural gas?

12 A No.

13 Q Okay. Are you working on the company's 2018
14 Ten Year Site Plan?

15 A I am a participant on that team, yes.

16 Q Do you participate in that team with respect
17 to the projected fuel mix of the company?

18 A The projected fuel mix is just an output from
19 the process. So I guess, yes, some of the information
20 that I contribute ultimately does drive that.

21 Q Do you know whether your 2018 Ten Year Site
22 Plan is going to reflect the projected fuel mix
23 associated with the company's proposed Clean Power Plan?

24 A Yes.

25 MR. PERKO: Mr. Chairman, I hate to do this,

1 but this is sounding an awful lot like a deposition
2 rather than cross-examination.

3 CHAIRMAN GRAHAM: Mr. Wright.

4 MR. WRIGHT: I'm trying to understand exactly
5 what the fuel mix is going to be. And next
6 thing -- I think he answered my question by saying
7 yes. And I am going to ask that we be allowed to
8 take official recognition of Seminole's 2018 Ten
9 Year Site Plan, which is due before briefs are due
10 in this case, so that we can cite to whatever comes
11 out of it in our brief.

12 CHAIRMAN GRAHAM: You want to take official
13 recognition of which year site plan?

14 MR. WRIGHT: Seminole's 2018 Ten Year Site
15 Plan. It doesn't appear that they have told you,
16 or us, what the real impacts on fuel diversity are
17 going to be. I believe that Mr. Wagner just told
18 us that the Ten Year Site Plan that will be filed
19 in about 10, 11 days, will include that
20 information. I think that's relevant to your
21 decision here.

22 MR. PERKO: He just testified about the
23 effects on fuel diversity, Your Honor. And I have
24 never heard of anyone taking official recognition
25 of a document that does not exist.

1 CHAIRMAN GRAHAM: You took the words right out
2 of my mouth.

3 Mr. Wright.

4 MR. WRIGHT: I was trying to get you and us
5 the best available information, Mr. Chairman. I
6 will pursue this with Ms. Diazgranados, and we will
7 see if we can't get something more definitive.

8 CHAIRMAN GRAHAM: Okay. Well, let's move on
9 then.

10 MR. WRIGHT: Yes, sir.

11 That's all I have. Thank you very much,
12 Mr. Wagner.

13 THE WITNESS: Okay.

14 CHAIRMAN GRAHAM: Staff.

15 MS. DZIECHCIARZ: Staff has no questions for
16 this witness.

17 CHAIRMAN GRAHAM: Commissioners.

18 Commissioner Polmann.

19 COMMISSIONER POLMANN: Good afternoon, sir.

20 I understand you are the -- Seminole's
21 portfolio director. Is that pertaining
22 specifically to natural gas?

23 THE WITNESS: That is my particular area of
24 expertise. Yes, sir.

25 COMMISSIONER POLMANN: Thank you.

1 I would like to refer to your direct
2 testimony. Do you have that available to you, sir?

3 THE WITNESS: Yes, sir.

4 COMMISSIONER POLMANN: Thank you.

5 You identified, in response to Mr. Wright,
6 that your testimony is essentially similar for both
7 the Seminole and Shady Hills material. And there's
8 already been reference made to the fuel diversity
9 section. This appears on page seven -- or it
10 begins on page seven in both of the dockets.

11 And the question that's posed there is how
12 will the -- well, let me read it. How will SCCF
13 affect the diversity of Seminole's fuel supply, and
14 then in the other case, the corresponding facility
15 for Shady Hills?

16 And in the final sentence in your answer -- I
17 am looking at page eight for the Seminole facility.
18 I will read to you page eight in the Seminole case.
19 Lines three and four, it says: "For these reasons
20 the addition of the SCCF is not expected to
21 significantly impact fuel diversity or supply
22 reliability." Do you have that available?

23 THE WITNESS: Yes, sir.

24 COMMISSIONER POLMANN: So the question being,
25 how will it affect the diversity? And if I

1 understand your reply there, in conclusion, not
2 expected to significantly impact fuel diversity.
3 So do I take that to mean it will not? Is that
4 your -- your statement?

5 THE WITNESS: It will certainly impact the
6 type diversity, the reduction in coal and the
7 corresponding increase in gas. You know, I think
8 the comment there is to the significance of the
9 impact.

10 COMMISSIONER POLMANN: I am reading language
11 that says: "The addition of SCCF is not expected
12 to significantly impact fuel diversity." You
13 stated a moment ago in response to Mr. Wright, and
14 if I heard you correctly, you said there are many
15 different types of fuel diversity, and we could get
16 into a long discussion. Do you recall --

17 THE WITNESS: Yes, sir.

18 COMMISSIONER POLMANN: -- that statement?

19 What did you mean by "there are many different
20 types of fuel diversity?"

21 THE WITNESS: The most common one referred to
22 being the type of fuel. I think that's what mostly
23 gets used, what gets incorporated into the schedule
24 6.2, I think it was, that Mr. Wright referred to.

25 Other types of diversification include how

1 much, you know, how much fuel are you actually
2 consuming in mitigating your risk to fuel
3 associated with the actual consumption and need.

4 I will point out that this plan actually
5 reduces, on a BTU basis, reduces Seminole's overall
6 exposure to fuel because of the increased
7 efficiency. It also adds significant
8 diversification with regard to our gas
9 transportation portfolio. It adds diversification
10 there to enhance supply reliability.

11 So those are some of the other elements that I
12 kind of allude to when a divers -- a fuel
13 diversification comes up, I believe it goes beyond
14 just the type of fuel.

15 COMMISSIONER POLMANN: I am looking back in
16 your direct testimony on page seven for Seminole,
17 and I read the question in a very straightforward
18 manner. It says: "How will SCCF affect the
19 diversity of the fuel supply?" And I take that to
20 be the fuel itself, either, in this case, gas, or
21 oil, or coal as a fuel source.

22 THE WITNESS: Yes, sir.

23 COMMISSIONER POLMANN: And it seems, in the
24 portfolio that you are proposing, that you are
25 reducing the use of coal by eliminating one

1 facility out of two and increasing the use of
2 gas --

3 THE WITNESS: Yes, sir.

4 COMMISSIONER POLMANN: -- is that correct?

5 THE WITNESS: That's correct.

6 COMMISSIONER POLMANN: So, nonetheless, you --
7 you state that there is not expected to be a
8 significant impact on fuel diversity. Now, do you
9 come to that statement as a conclusion only by
10 weighing in factors beyond fuel type?

11 THE WITNESS: Only partially specifically
12 dealing with fuel type itself. As I answered Mr.
13 Wright's questions, our -- the percentage of our
14 portfolio that's generated -- our energy generated
15 by coal specifically is expected to decline by
16 about 15 percent. And so while, you know, that in
17 and of itself may not be, you know, rise to the
18 level of significance depending on, you know, when
19 is that energy being produced, over what periods of
20 time.

21 So that can be an element specifically
22 addressing, to your point, if this is discussing
23 fuel type only, that 16 or 15 percent reduction in
24 our energy coming from coal points to that specific
25 evaluation.

1 COMMISSIONER POLMANN: In that same -- in
2 response to that same question on that same page,
3 seven, you identify -- or you state: Seminole
4 seeks to maintain a diversified portfolio of owned
5 and purchased generating assets with a variety of
6 fuel types, fuel sources and delivery options.

7 The next sentence says: "Such a portfolio
8 functions as a tool to manage fuel price stability
9 and reliability."

10 Does that sentence, in and of itself, with
11 reference to fuel price stability and reliability
12 identify a primary focus in this docket being price
13 stability and reliability?

14 THE WITNESS: I think those are usually two of
15 the -- the two primary risks that are being
16 addressed any time a fuel diversification
17 discussion arises. You know, what is the economic
18 impact and what is the reliability impact, you
19 know, via either price volatility or, you know,
20 unavailability of the physical fuel?

21 So, yes, I think those are the two key
22 elements and risk factors behind a diversification
23 discussion.

24 COMMISSIONER POLMANN: Thank you.

25 That's all I have, Mr. Chairman.

1 CHAIRMAN GRAHAM: Redirect.

2 MR. PERKO: Thank you, Mr. Chairman. Very
3 briefly.

4 FURTHER EXAMINATION

5 BY MR. PERKO:

6 Q Mr. Wagner, Mr. Wright asked you a number of
7 questions about the dual -- the single fuel capability
8 of the SCCF and the Shady Hills facility. Have you
9 analyzed the overall effect of the selected portfolio on
10 the dual fuel capability of Seminole as a whole?

11 A Yes.

12 Q And what were the results of that analysis?

13 A Ultimately, because of the addition of the
14 Shady Hills CTs, and the loss of the Oleander units, the
15 net effect is relatively minimal. A loss of about
16 200 megawatts in dual fuel capability, which really only
17 amounts to about five percent of Seminole's overall
18 system, net amount of energy in capacity.

19 MR. PERKO: Thank you. I have nothing
20 further.

21 CHAIRMAN GRAHAM: Thank you, Mr. Perko.
22 Exhibits.

23 MR. PERKO: Yes, Commissioner -- or Mr.
24 Chairman -- I am sorry. Too many documents here.

25 CHAIRMAN GRAHAM: It looks like we have

1 Exhibit 11 and 12, and 35 and 36, is what I see.

2 MR. PERKO: That is correct, Mr. Chairman.

3 And also we would move the exhibits -- or the
4 portions of Exhibit W -- Exhibit No. 3 and 29, the
5 need study that Mr. Wagner sponsored, and those
6 would be with the correction that Mr. Wright
7 pointed out, sections 4.18, 4.27 and 6.43.

8 CHAIRMAN GRAHAM: Mr. Wright, any complaints
9 or adeptions about those exhibits?

10 MR. WRIGHT: No, sir.

11 CHAIRMAN GRAHAM: Okay.

12 (Whereupon, Exhibit Nos. 11, 12, 35 & 36 were
13 received into evidence.)

14 MR. PERKO: Mr. Chairman, I apologize, but I
15 failed to move in those portions of that -- those
16 same two exhibits, the need study that Mr. Ward and
17 Mr. Kezell were sponsoring. So if I could, I would
18 like to move those at this time. That would be,
19 for Mr. Ward, sections 1.2, 3.1, 3.2, 3.3, and for
20 Mr. Kezell, 4.1.1, 4.1.7, 4.1.10, 4.1.11 and 6.2.

21 CHAIRMAN GRAHAM: If no objections, then we
22 will enter into the record as well.

23 Mr. Wright, you didn't have any exhibits, did
24 you?

25 MR. WRIGHT: That's correct, Mr. Chairman.

1 CHAIRMAN GRAHAM: Okay.

2 CHAIRMAN GRAHAM: Mr. Perko, would you like to
3 excuse this witness until -- I guess excuse him?

4 MR. PERKO: Yes, Mr. Chairman.

5 CHAIRMAN GRAHAM: Mr. Wagner, thank you for
6 coming. Travel safe.

7 (Witness excused.)

8 CHAIRMAN GRAHAM: Okay. Mr. Perko, your next
9 witness.

10 MR. PERKO: Seminole calls Mr. Robert DeMelo.
11 Whereupon,

12 ROBERT DEMELO

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

16 MR. PERKO: May I proceed?

17 CHAIRMAN GRAHAM: Sure.

18 EXAMINATION

19 BY MR. PERKO:

20 Q Could you your name for the record?

21 A Robert DeMelo.

22 Q And, Mr. DeMelo, have you been sworn today?

23 A Yes, I have.

24 Q Who is your current employer, and what is your
25 current business address?

1 A Current employer is Seminole Electric
2 Cooperative, Inc. Address is 16313 North Dale Mabry
3 Highway, Tampa, Florida, 33618.

4 Q And, Mr. DeMelo, did you cause to be filed on
5 December 21st, 2017, direct testimony consisting of nine
6 pages in Docket Number 20170266-EC?

7 A Yes.

8 Q And did you also cause to be filed, on
9 December 21st, 2017, direct testimony consisting of five
10 pages in Docket Number 20170267-EC?

11 A Yes.

12 Q Do you have any corrections or changes to your
13 prefiled direct testimony?

14 A No, I do not.

15 Q Did you also attach one exhibit to your
16 testimony?

17 A Yes.

18 Q Do you have any changes to that exhibit?

19 A I do not.

20 Q And, Mr. DeMelo -- Mr. DeMelo, are you also
21 sponsoring sections 3.4 and 4.19 of the need study
22 that's been marked as W -- Exhibit W -- MPW-2 and
23 inserted into the record as Exhibits 3 and 29?

24 A Yes.

25 Q Do you have any changes to those sections of

1 **the -- of those exhibits?**

2 A I do. I am sponsoring changes to Section 4.19
3 on page number 24 of the termination of need study, last
4 paragraph would be paragraph three, second to the last
5 sentence --

6 CHAIRMAN GRAHAM: Hold on. Hold on. Hold on.

7 THE WITNESS: Sorry.

8 CHAIRMAN GRAHAM: Give us that location again.

9 THE WITNESS: This is on page 24, within
10 Section 4.19.

11 BY MR. PERKO:

12 Q Mr. DeMelo, I think if you could refer to the
13 header of the document, refer to page whatever of 153 of
14 the exhibit, that might be helpful.

15 A All I have is the actual need study. I don't
16 have the entire --

17 Q Okay. Forgive me.

18 CHAIRMAN GRAHAM: What page on your study are
19 you looking at?

20 THE WITNESS: It's page 24 at the top of the
21 header, it does say page 29 of 73, if that helps.

22 MR. PERKO: We must have a different version,
23 Your Honor. It's page 29 of 153, page 24 of the
24 document.

25 CHAIRMAN GRAHAM: I got 29 of it 153 as well.

1 It starts off delivery of the SCCF at the top of
2 the page?

3 THE WITNESS: It starts -- this is the third
4 paragraph on the page. It starts, Seminole's
5 original interconnection evaluation of.

6 CHAIRMAN GRAHAM: Yep.

7 THE WITNESS: So the second to the last
8 sentence there, it says, this resulted in a lower
9 net incremental difference of 480 megawatts. That
10 number should reflect 386 megawatts to be
11 consistent with my written testimony.

12 CHAIRMAN GRAHAM: Has everybody got that
13 correction?

14 Okay. Thank you.

15 Is that the only correction?

16 THE WITNESS: That is.

17 CHAIRMAN GRAHAM: Mr. Perko.

18 MR. PERKO: Thank you, Mr. Chairman.

19 At this time, we would ask that Mr. DeMelo's
20 direct testimony in both dockets be inserted into
21 the record as if read.

22 CHAIRMAN GRAHAM: We will insert Mr. DeMelo's
23 prefiled direct testimony in both dockets into the
24 record as though read.

25 (Whereupon, prefiled direct testimony was

1 inserted.)

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1 BEFORE THE PUBLIC SERVICE COMMISSION
2 SEMINOLE ELECTRIC COOPERATIVE, INC.
3 DIRECT TESTIMONY OF ROBERT DEMELO
4 DOCKET NO. _____-EC
5 DECEMBER 21, 2017
6

7 **Q. Please state your name and address.**

8 A. My name is Robert DeMelo. My business address is 16313 North Dale Mabry
9 Highway, Tampa, Florida 33618.
10

11 **Q. By whom are you employed and in what capacity?**

12 A. I am employed by Seminole Electric Cooperative, Inc. (“Seminole”) as
13 Manager of Transmission Planning and System Protection.
14

15 **Q. Please describe your responsibilities in your current position.**

16 A. As Manager of Transmission Planning and System Protection, my
17 responsibilities encompass a range of transmission-related responsibilities,
18 including transmission planning for Seminole and its Members, transmission,
19 generation, and system protection NERC compliance, system protection and
20 controls for the Seminole transmission system, and transmission reliability for
21 Seminole’s Member delivery points. I also serve as Seminole’s representative
22 on multiple Florida Reliability Coordinating Council (“FRCC”) standing
23 committees and subcommittees, including current Vice-Chair of the FRCC
24 Planning Committee.
25

1 **Q. Please state your education and background professional experience**

2 A I hold a bachelor's of science degree in Electrical Engineering from the
3 University of South Florida ("USF"). During my studies at USF, I received
4 top honors for my senior design which encompassed various facets of
5 transmission load flow studies. Since obtaining my degree in 2007, I have held
6 positions with increasing responsibility within Seminole's transmission
7 organization. I was promoted to Lead Transmission Planning Engineer in
8 2011 and to Supervisor of Transmission Planning in 2014. I assumed my
9 current role as Manager of Transmission Planning and System Protection in
10 July 2015. In February of 2016, I was awarded the Young Engineer of the
11 Year Award from the Institute of Electrical and Electronics Engineers
12 ("IEEE"), Florida West Coast Section.

13
14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. The purpose of my testimony is to describe the process for determining the
16 transmission plan and associated costs for the interconnection of those
17 alternatives evaluated as part of Seminole's Request for Proposals ("RFP")
18 process. In particular, I will summarize the identified transmission upgrades,
19 provide the preliminary estimated transmission costs and address the
20 reasonableness of the preliminary project schedules for the Seminole
21 Combined Cycle Facility ("SCCF").

22
23 **Q. Are you sponsoring any exhibits in the case?**

24 A. I am sponsoring Exhibit No. ____ (RD-1), which is a copy of my professional
25 resume. I also am sponsoring Sections 3.4 and 4.1.9 of the Need Study

1 (Exhibit No. __ (MPW-2)), all of which were prepared by me or under my
2 supervision.

3

4 **Q. How does Seminole transmit electric service to its Members?**

5 A. Seminole owns and operates approximately 127 circuit miles of 69 kV and 254
6 circuit miles of 230 kV transmission lines, via a total of nineteen (19) 230 kV
7 points of interconnection with six (6) neighboring entities. However,
8 Seminole's transmission facilities have limited direct interconnections with
9 Seminole's Members' load. Seminole is therefore primarily a transmission
10 dependent utility ("TDU") that relies mainly upon the transmission systems of
11 Duke Energy Florida ("DEF") and Florida Power & Light Company ("FPL")
12 for the delivery of Seminole's owned and/or contracted power supply
13 resources to Seminole's Members' load. Seminole is a Network Integration
14 Transmission Service ("NITS") customer of DEF and FPL under each of their
15 respective Open Access Transmission Tariffs ("OATT"). Approximately
16 76%, or 2,294 MW, (based on 2016-17 actual winter net firm peak demand) of
17 Seminole's Members' load is served by DEF's transmission system,
18 approximately 16%, or 483 MW, is served by FPL's transmission system, and
19 approximately 8%, or 241 MW, is served directly by Seminole's transmission
20 system.

21

22 **Q. Please describe Seminole's transmission interconnection process.**

23 A. Seminole's transmission interconnection process is based on prudent utility
24 practice and is consistent with the reliability requirements and guidelines set
25 forth by the FRCC, the North American Reliability Corporation ("NERC"),

1 and the Federal Energy Regulatory Commission (“FERC”). Seminole’s
2 planning criteria is outlined in the FERC Form 715 filing that is updated
3 annually and submitted to the FERC. The transmission interconnection
4 process involves a System Impact Study that identifies potential impacts and
5 mitigation plans for addressing such impacts on Seminole’s transmission
6 system as well as neighboring systems. The analysis is performed by
7 Seminole in coordination with the FRCC through the FRCC’s Reliability
8 Evaluation Process for Generator and Transmission Service Requests.

9
10 The System Impact Study incorporates the use of steady-state load flow, short
11 circuit, and stability analysis using industry standard tools and software
12 programs to ensure that Seminole’s transmission system operates reliably over
13 a broad spectrum of system conditions and following a wide range of probable
14 planning and extreme events. In general, Seminole’s transmission planning
15 process includes the single contingency loss of any transmission circuit,
16 transformer, bus section, shunt device, internal breaker fault, or generator.
17 Such analysis is performed for multiple load levels, including but not limited
18 to peak, off-peak, and high-import (Southern to Florida transfers) for select
19 summer and winter conditions as modeled and made available by the FRCC.
20 Additional analysis is performed to determine system response to credible, less
21 probable extreme events, to assure the system meets Seminole, FRCC, and
22 NERC transmission planning criteria. The additional analysis includes the loss
23 of multiple elements, including the loss of multiple transmission circuits,
24 transformers, generators, or the combination of each. Seminole utilizes
25 planned operational system adjustments, corrective action plans which can

1 include projects that require construction of new facilities or upgrades and load
2 loss, if permissible by the applicable NERC Reliability Standards, to mitigate
3 exceptions to transmission planning reliability criteria.

4

5 Seminole's transmission planning process also includes the evaluation of
6 multiple fault types at various locations, consistent with the criteria of FRCC
7 and NERC, to understand the magnitude of the resultant fault current that may
8 be experienced by Seminole's interrupting devices and to ensure that such
9 magnitude is safely mitigated. Lastly, Seminole's transmission
10 interconnection process evaluates critical clearing time at multiple load levels
11 to ensure that the system is able to respond to planning and extreme events to
12 not compromise the existing transmission system and to ensure the system
13 remains adequate, reliable, and secure.

14

15 **Q. How have you analyzed the extent to which interconnection upgrades may**
16 **be needed for the SCCF?**

17 A. Typically, new generation interconnections, such as for the SCCF, are
18 evaluated for both interconnection and deliverability simultaneously.
19 However, because Seminole is a TDU within the FRCC region, Seminole is
20 required to submit separate Transmission Service Requests ("TSR") to DEF
21 and FPL after completion of the interconnection analyses, in accordance with
22 their respective OATTs, for the deliverability of the output from the SCCF to
23 Seminole's Members' load in the respective balancing areas in order to
24 determine transmission impacts on the systems of FPL and DEF, in addition to
25 any impacts on neighboring systems that may result due to the SCCF. In order

1 to request a TSR from DEF and FPL on their respective Open Access Same
2 Time Information System (“OASIS”), via the designation of network resource
3 (“DNR”) process, Seminole is required to attest it either owns the resource, has
4 committed to purchase generation pursuant to an executed contract, or has
5 committed to purchase generation where execution of a contract is contingent
6 upon the availability of transmission service, in accordance with the FERC
7 pro-forma OATT. Thus, Seminole could not submit the TSRs in advance of
8 the interconnection process in order to obtain estimates of the costs for
9 delivery of the SCCF on DEF’s or FPL’s systems. Given this situation,
10 Seminole was limited to evaluating the SCCF interconnection for short circuit
11 and stability impacts, including limited steady-state load flow analysis across
12 Seminole’s own transmission system emanating from the SGS Switchyard.

13
14 In order to evaluate the deliverability of the SCCF with a complete steady-state
15 load flow analysis, Seminole and the members of the FRCC Transmission
16 Technical Subcommittee (“TTS”) in late 2016 agreed to perform a “quasi”
17 study to evaluate the impacts of interconnection and deliverability
18 simultaneously, with the recognition that deliverability would need to be
19 studied again once TSRs were submitted after the completion of the
20 interconnection process. In order to model the deliverability of the SCCF, the
21 power output was modeled as being delivered to the DEF control area for
22 ultimate delivery to Seminole’s Members’ load in DEF’s area. The “quasi”
23 study for deliverability of the SCCF included the assumption that the two
24 existing SGS units, Unit 1 and Unit 2, were also running at full output in
25 addition to the SCCF.

1 As a result of Seminole’s Board of Trustees decision of the most cost effective
2 and risk managed solution on September 27, 2017, which included the plan to
3 construct the SCCF and removal from service of one of the two existing coal
4 units at the existing SGS site, Seminole was able to work with the FRCC TTS
5 and SAS to perform an Energy Resource Interconnection Study (“ERIS
6 Study”). The ERIS Study included a short circuit review by the FRCC TTS
7 and a stability analysis review by the FRCC SAS. Seminole consulted with
8 Burns & McDonnell for the stability analysis portion of the ERIS Study for the
9 SCCF, including the removal from service of one of the two existing coal
10 units. The ERIS Study resulted in no short circuit impacts to Seminole or any
11 of the entities within the FRCC Region. The stability analysis portion of the
12 ERIS Study resulted in the need for the SCCF to have a tuned and
13 commissioned power system stabilizer, in addition to reduced total breaker
14 failure clearing times associated with breaker failure scenarios at the existing
15 SGS Switchyard. On November 6, 2017, the FRCC PC unanimously approved
16 the ERIS Study for the SCCF. On November 29, 2017, Seminole submitted
17 DNR requests to deliver the output of the SCCF into the DEF and FPL
18 balancing areas to serve Seminole Member load embedded within the two
19 respective areas.

20
21 **Q. What transmission system improvements will be necessitated by the**
22 **addition of the SCCF?**

23 A. Seminole’s interconnection evaluation of the SCCF identified the required
24 expansion of the existing Seminole Generating Station (“SGS”) Switchyard,
25 including the addition of ten (10) new 230 kV circuit breakers and associated

1 relay protection, and twenty (20) new circuit breaker disconnect switches. The
2 “quasi” deliverability steady-state load flow results identified the need for
3 upgrade of seven facilities.

4
5 As stated above, the “quasi” FRCC deliverability study assumed that both SGS
6 Unit 1 and Unit 2 were at full output in addition to the SCCF. The aggregate
7 net nominal winter output of the two existing SGS units and the SCCF
8 emanating from the SGS Switchyard totaled approximately 2,379 MW. As
9 Seminole performed its economic analysis in light of the overall portfolio and
10 mix of resources, it was made known that the study assumptions would change
11 to include the removal from service of one existing SGS unit. The new
12 aggregate net nominal winter output including only one of the two existing
13 SGS units and the SCCF totals 1,715 MW, a net nominal winter incremental
14 difference of 386 MW from the existing installed capacity. This change
15 significantly changes the amount of net site output at SGS such that, given
16 engineering judgment and the magnitude of overloads only three upgrades
17 required to be evaluated further during the TSR process with FPL and DEF for
18 the evaluation of the delivery of the SCCF.

19
20 **Q. What are the projected costs of those transmission system improvements**
21 **to facilitate the interconnection of the SCCF?**

22 A. Seminole’s cost estimates for the potential network upgrades needed on FPL’s
23 and DEF’s transmission systems to facilitate delivery of the SCCF total
24 approximately \$54 million. The projected costs for all Seminole facilities at
25 the SGS Switchyard is approximately \$3.1 million. All preliminary cost

1 estimates above were developed using reasonable engineering assumptions,
2 using the best available information to Seminole, consistent with how other
3 entities in the industry develop cost estimates for similar projects.

4

5 **Q. Have you analyzed the projected costs and impacts of the transmission**
6 **improvements that would be required for the various alternatives**
7 **considered during the RFP process?**

8 A. Seminole, as part of its RFP that was released to the public in March of 2016,
9 requested that respondents acquire NRIS status for all projects interconnected
10 to DEF and FPL. Given that understanding, all applicable responses were
11 evaluated based upon transmission assumptions, including costs and impacts
12 provided by each respondent as they worked through the NRIS process with
13 DEF and FPL. For those offers that were directly interconnecting to Seminole
14 transmission, Seminole followed the same process described above.

15

16 **Q. Does this complete your testimony?**

17 A. Yes.

18

19

1 BEFORE THE PUBLIC SERVICE COMMISSION
2 SEMINOLE ELECTRIC COOPERATIVE, INC.
3 DIRECT TESTIMONY OF ROBERT DEMELO
4 DOCKET NO. _____-EC
5 DECEMBER 21, 2017
6

7 **Q. Please state your name and address.**

8 A. My name is Robert DeMelo. My business address is 16313 North Dale Mabry
9 Highway, Tampa, Florida 33618.
10

11 **Q. By whom are you employed and in what capacity?**

12 A. I am employed by Seminole Electric Cooperative, Inc. (“Seminole”) as
13 Manager of Transmission Planning and System Protection.
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16 A. As Manager of Transmission Planning and System Protection, my
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20 controls for the Seminole transmission system, and transmission reliability for
21 Seminole’s Member delivery points. I also serve as Seminole’s representative
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23 committees and subcommittees, including current Vice-Chair of the FRCC
24 Planning Committee.
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3 University of South Florida ("USF"). During my studies at USF, I received
4 top honors for my senior design which encompassed various facets of
5 transmission load flow studies. Since obtaining my degree in 2007, I have held
6 positions with increasing responsibility within Seminole's transmission
7 organization. I was promoted to Lead Transmission Planning Engineer in
8 2011 and to Supervisor of Transmission Planning in 2014. I assumed my
9 current role as Manager of Transmission Planning and System Protection in
10 July 2015. In February of 2016, I was awarded the Young Engineer of the
11 Year Award from the Institute of Electrical and Electronics Engineers
12 ("IEEE"), Florida West Coast Section.

13

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

15 A. The purpose of my testimony is to describe the process for determining the
16 transmission plan and associated costs for the interconnection of the
17 alternatives evaluated as part of Seminole's Request for Proposals ("RFP")
18 process.

19

20 **Q. Are you sponsoring any exhibits in the case?**

21 A. I am sponsoring Exhibit No. ____ (RD-1), which is a copy of my professional
22 resume. I also am sponsoring Sections 3.4 and 4.1.9 of the Need Study
23 (Exhibit No. __ (MPW-2)), all of which were prepared by me or under my
24 supervision.

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7 dependent utility ("TDU") that relies mainly upon the transmission systems of
8 Duke Energy Florida ("DEF") and Florida Power & Light Company ("FPL")
9 for the delivery of Seminole's owned and/or contracted power supply
10 resources to Seminole's Members' load. Seminole is a Network Integration
11 Transmission Service ("NITS") customer of DEF and FPL under each of their
12 respective Open Access Transmission Tariffs ("OATT"). Approximately
13 76%, or 2,294 MW, (based on 2016-17 actual winter net firm peak demand) of
14 Seminole's Members' load is served by DEF's transmission system,
15 approximately 16%, or 483 MW, is served by FPL's transmission system, and
16 approximately 8%, or 241 MW, is served directly by Seminole's transmission
17 system.

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21 practice and is consistent with the reliability requirements and guidelines set
22 forth by the FRCC, the North American Reliability Corporation ("NERC"),
23 and the Federal Energy Regulatory Commission ("FERC"). Seminole's
24 planning criteria is outlined in the FERC Form 715 filing that is updated
25 annually and submitted to the FERC. The transmission interconnection

1 process involves a System Impact Study that identifies potential impacts and
2 mitigation plans for addressing such impacts on Seminole's transmission
3 system as well as neighboring systems. The analysis is performed by
4 Seminole in coordination with the FRCC through the FRCC's Reliability
5 Evaluation Process for Generator and Transmission Service Requests.

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7 The System Impact Study incorporates the use of steady-state load flow, short
8 circuit, and stability analysis using industry standard tools and software
9 programs to ensure that Seminole's transmission system operates reliably over
10 a broad spectrum of system conditions and following a wide range of probable
11 planning and extreme events. In general, Seminole's transmission planning
12 process includes the single contingency loss of any transmission circuit,
13 transformer, bus section, shunt device, internal breaker fault, or generator.
14 Such analysis is performed for multiple load levels, including but not limited
15 to peak, off-peak, and high-import (Southern to Florida transfers) for select
16 summer and winter conditions as modeled and made available by the FRCC.
17 Additional analysis is performed to determine system response to credible, less
18 probable extreme events, to assure the system meets Seminole, FRCC, and
19 NERC transmission planning criteria. The additional analysis includes the loss
20 of multiple elements, including the loss of multiple transmission circuits,
21 transformers, generators, or the combination of each. Seminole utilizes
22 planned operational system adjustments, corrective action plans which can
23 include projects that require construction of new facilities or upgrades and load
24 loss if permissible to mitigate exceptions to transmission planning reliability
25 criteria.

1

2 Seminole's transmission planning process also includes the evaluation of
3 multiple fault types at various locations, consistent with the criteria of FRCC
4 and NERC, to understand the magnitude of the resultant fault current that may
5 be experienced by Seminole's interrupting devices and to ensure that such
6 magnitude is safely mitigated. Lastly, Seminole's transmission
7 interconnection process evaluates critical clearing time at multiple load levels
8 to ensure that the system is able to respond to planning and extreme events to
9 not compromise the existing transmission system and to ensure the system
10 remains adequate, reliable, and secure.

11

12 **Q. Have you analyzed the projected costs and impacts of the transmission**
13 **improvements that would be required for the various alternatives**
14 **considered during the RFP process?**

15 A. As part of the RFP process, Seminole requested that respondents acquire NRIS
16 status for all projects interconnected to DEF and FPL. Given that
17 understanding, all applicable responses were evaluated based upon
18 transmission assumptions, including costs and impacts provided by each
19 respondent as they worked through the NRIS process with DEF and FPL. For
20 those offers that were directly interconnecting to Seminole transmission,
21 Seminole followed the same process described above.

22

23 **Q. Does this complete your testimony?**

24 A. Yes.

1 BY MR. PERKO:

2 Q Mr. DeMelo, have you prepared a summary of
3 your direct testimony?

4 A I have.

5 Q Would you please provide that to the
6 Commissioners at this time?

7 A Good afternoon, Chairman, Commissioners. And
8 thank you for this opportunity to provide my summary
9 testimony.

10 My name is Robert DeMelo. My education
11 includes a Bachelor of Science Degree in Electrical
12 Engineering from the University of South Florida, where
13 I received top honors for my senior design project that
14 encompassed various facets of transmission load flow
15 studies.

16 I was also recognized in 2016, and awarded
17 Engineer of the Year by Institute of Electrical and
18 Electric Engineers, or IEEE, specifically the Florida
19 west coast section.

20 I also currently serve on various Florida
21 reliability coordinating council and technical
22 subcommittees, and I currently serve as the Vice-Chair
23 of the FRCC Planning Committee, which is charged with
24 overseeing the regional transmission planning process,
25 which includes a review of generator interconnections

1 and transmission service requests.

2 I have been employed by Seminole since 2007,
3 where I have held positions of increasing responsibility
4 within Seminole's transmission organization, where I am
5 currently the manager of Transmission Planning and
6 System Protection.

7 My role at Seminole encompasses a range of
8 transmission related responsibilities, including
9 transmission and generator interconnections and
10 strategy, transmission reliability, transmission system
11 protection and control and compliance with NERC
12 reliability standards.

13 My role in Seminole's need determination to
14 fulfill its identified need was to provide a review or
15 input on the potential transmission impacts associated
16 with each of the resource alternatives evaluated by
17 Seminole as part of the RFPs, including the self-build
18 options.

19 The review of the transmission associated with
20 the Seminole combined cycle and the resource
21 alternatives was pragmatic, and that the reviews were
22 applicable -- where applicable were commensurate with
23 the critical -- oh, with the criteria and methodologies
24 utilized by the Federal Energy Regulatory Commission,
25 the North American Electric Reliability Corporation, the

1 FRCC and prudent industry practice.

2 The evaluation of the Seminole self-build
3 option went through the FRCC energy resource
4 intersection evaluation and was determined to be
5 reliable, adequate and secure.

6 The cost estimates contained within the
7 economic evaluation were based upon potentially impacted
8 Florida Power & Light and Duke Energy Florida
9 transmission lines, including the costs required to
10 expands the existing Seminole Generating Station
11 switchyard.

12 Most of the resource alternatives evaluated as
13 part of Seminole's need and subsequent RFP included
14 resources interconnecting directly with either FPL or
15 DEF transmission to serve Seminole's native load within
16 the respective balancing areas. Therefore, the study
17 results became available by FPL or DEF to the entities
18 responsible for the resource alternatives. Those
19 results were shared with Seminole to evaluate
20 reasonableness and any associated cost estimates and
21 schedules.

22 I specifically reviewed the cost estimates and
23 schedules of the Shady Hills Combined Cycle Facility
24 performed by DEF, and worked with Shady Hills to provide
25 feedback on both cost and schedule.

1 This concludes my summary testimony, and thank
2 you.

3 MR. PERKO: And we proffer the witness for
4 cross-examination.

5 CHAIRMAN GRAHAM: Thank you.
6 Mr. Wright.

7 MR. WRIGHT: Thank you, Mr. Chairman.

8 EXAMINATION

9 BY MR. WRIGHT:

10 Q **Good afternoon, Mr. DeMelo?**

11 A Good afternoon.

12 Q **I just have not a whole lot of questions for
13 you.**

14 **You testified at page three of your testimony
15 that Seminole is a transmission dependent utility,
16 correct?**

17 A That's correct.

18 Q **And you go on to provide a breakdown of the
19 percentages of Seminole's members' loads served by the
20 transmission systems of DEF, FPL and Seminole's own
21 transmission facilities, correct?**

22 A That's correct.

23 Q **Does Seminole currently rely on the
24 transmission systems of any other utilities to serve any
25 of its members' load?**

1 A We have a a very minor stake within Tampa
2 Electric's service territory.

3 **Q And is that associated with a couple of**
4 **facilities that are located there?**

5 A It's regarding one delivery point that we have
6 associated with a mining facility.

7 **Q Okay. And does that -- the answer to that**
8 **question address delivery to customers?**

9 A That's -- that's --

10 **Q As -- go ahead.**

11 A That's delivery to a delivery point that we
12 have on the Tampa Electric system.

13 **Q Got it.**

14 Do you also rely on Tampa Electric for
15 **delivery of bulk power to Seminole for redelivery to its**
16 **delivery points at its member cooperatives?**

17 A Not that I am aware of.

18 **Q Do you have contracts with Hillsborough County**
19 **for power purchase?**

20 A I believe that's correct.

21 **Q Is that facility not interconnected to Tampa**
22 **Electric?**

23 A I believe that is correct.

24 **Q So that power would have flow over Tampa**
25 **Electric's transmission system, wouldn't it, to get to**

1 y'all?

2 A Yes.

3 Q Okay. How long have you been with the
4 company?

5 A Since 2007.

6 Q So when you got there, were you aware that
7 Seminole Electric was purchasing power from the Osprey
8 Energy Center?

9 A I was not.

10 Q Do you know anything about the Osprey Energy
11 Center?

12 A My knowledge of the Osprey Energy Center, just
13 as of late, is due to the activity surrounding Duke and
14 its transmission acquisition across -- to basically flow
15 their energy across their system and to serve their
16 load.

17 Q Is there any inherent problem in receiving
18 power from a facility that's interconnected to Tampa
19 Electric for redelivery to Seminole's member co-ops?

20 A Yeah, any time there is a resource that's not
21 within one of the areas that we are serving the majority
22 of our load, as was -- as was summarized in my written
23 testimony. Again, we have 76 percent of our load in
24 Duke, and we have another 16 percent in FPL, and the
25 remainder in our own direct service territory. So any

1 time we are looking at a resource outside of those three
2 areas, we are having to look at possible risk associated
3 with transmission of getting those megawatts back to the
4 areas where we need to serve load.

5 **Q And you don't normally just take care of that**
6 **by either -- somebody pays for the extra wheel?**

7 A Yeah, that somebody would be Seminole paying
8 for the wheel.

9 **Q I am sorry?**

10 A That somebody would be Seminole paying for
11 that extra wheel.

12 **Q Okay. You said something in a previous**
13 **response about increased transmission risk. Is it -- if**
14 **there is an extra wheel, is there extra reliability**
15 **risk? Is that what you meant to convey, or something**
16 **else?**

17 A I mean, the wheel itself obviously carries
18 costs associated with it, right?

19 **Q Correct.**

20 A The additional risk would be is the
21 transmission available in order to move the megawatts
22 into the areas that we need.

23 **Q With a firm power purchase agreement, wouldn't**
24 **that be handled on the front end in terms of whether the**
25 **supplier or Seminole is going to pay for the wheel?**

1 A I am not 100 percent knowledgeable in
2 terminals of the contract negotiations regarding PPAs.
3 My -- my breadth of knowledge regarding firming of
4 transmission associated with a PPA would be that that's
5 a condition typically precedent in the contracts, or
6 subsequent to the actual agreement taking place, where
7 Seminole is responsible for firming up the transmission,
8 either via a transmission service request or Duke or
9 Light, or whoever the party is to providing that
10 transmission service.

11 Q **At page eight of your testimony, you testify**
12 **that the cost estimates for the potential network**
13 **upgrades needed on FPL's and DEF's transmission systems**
14 **to facilitate delivery of the SCCF total approximately**
15 **54 million, correct?**

16 A That's correct.

17 Q **Is that a number that -- are those costs that**
18 **will be paid by Seminole?**

19 A Those are costs that will get rolled into the
20 transmission access charges of both FPL and Duke as
21 applicable. And then we pay that based on our load
22 ratio share in those respective areas.

23 Q **I didn't quite understand how the 54 million**
24 **will get handled in terms of cost. You said rolled into**
25 **something, and I -- can you help me out there?**

1 A So Seminole takes service from Duke and FPL.

2 **Q Correct.**

3 A We take service and we pay a transmission
4 access charge.

5 **Q Right.**

6 A So what ends up happening is those upgrades,
7 they upgrade them as part of their system, and they get
8 reflected in the transmission access charges; which
9 then, as we serve our load, as load goes up, we continue
10 to pay those access charges.

11 We are not directly -- it may be better to
12 answer your question, we are not directly assigned the
13 54 million.

14 **Q Okay. Do the 54 million -- does the**
15 **54 million get rolled into the rates that are charged by**
16 **FPL and Duke to Seminole and other transmission**
17 **customers?**

18 A That's correct.

19 **Q Okay. Mr. Kezell deferred a question to you,**
20 **which was this: Do you -- can you tell us approximately**
21 **what percentage transmission costs represent of**
22 **Seminole's total bulk power supply costs billed to its**
23 **member cooperatives?**

24 A Yeah, I do not know that answer.

25 **Q Okay. Got any advice for me as to who might?**

1 A I am not sure anyone in this room could.

2 **Q Okay.**

3 A That's a whole different part of the
4 organization.

5 **Q Thank you.**

6 **Thanks very much. That's all I have.**

7 MR. WRIGHT: Thank you, Mr. Chairman.

8 CHAIRMAN GRAHAM: Staff.

9 MS. DZIECHCIARZ: Staff has no questions.

10 Thank you.

11 CHAIRMAN GRAHAM: Commissioners.

12 Redirect.

13 MR. PERKO: No redirect, Your Honor.

14 CHAIRMAN GRAHAM: Okay. Exhibits.

15 MR. PERKO: Yes. Exhibits 13, 37 -- that's
16 the only exhibits that I have, and I have sections
17 of the need study.

18 CHAIRMAN GRAHAM: Seeing no objections, we
19 will enter that -- those into the record.

20 (Whereupon, Exhibit Nos. 13 & 37 were received
21 into evidence.)

22 MR. PERKO: And also sections 3.4 and 4.19 of
23 the need study, which has been entered into as
24 Exhibit 3, and I believe --

25 CHAIRMAN GRAHAM: 29.

1 MR. PERKO: -- 29.

2 CHAIRMAN GRAHAM: We will enter that into the
3 record as well.

4 Would you like this witness excused?

5 MR. PERKO: Yes, please.

6 CHAIRMAN GRAHAM: Mr. DeMelo, thank you for
7 coming out. Travel safe.

8 (Witness excused.)

9 CHAIRMAN GRAHAM: Okay. Your next witness.

10 MR. PERKO: Thank you, Mr. Chairman.

11 Seminole calls Mr. Kyle Wood.

12 Whereupon,

13 KYLE WOOD

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

17 EXAMINATION

18 BY MR. PERKO:

19 Q Could you please state your name for the
20 record? Could you turn your mic on, please?

21 A Kyle Douglas Wood.

22 Q Mr. Wood, have you been sworn today?

23 A Yes, I have.

24 Q Mr. Wood, who is your current employer, and
25 what is your current business address?

1 A Seminole Electric Cooperative. The address is
2 16313 North Dale Mabry Highway, Tampa, Florida. ZIP
3 Code 33618.

4 Q And, Mr. Wood, did you cause to be filed on
5 December 21st, 2017, direct testimony consisting of 19
6 pages in Docket Number 2017026-EC, and also prefiled
7 direct testimony in -- consisting of 19 pages in Docket
8 Number 20170267-EC?

9 A Yes, I did.

10 Q Do you have any corrections or changes to your
11 prefiled direct testimony?

12 A I do not.

13 Q And, Mr. Wood, I believe -- actually, there
14 was an errata sheet entered into the record?

15 A Yes, sir, there was.

16 MR. PERKO: If I could just have 30 seconds,
17 Mr. Chairman.

18 CHAIRMAN GRAHAM: Sure. We have the errata in
19 front of us.

20 MR. PERKO: Mr. Chairman, I don't, and I
21 apologize. Could I have get 30 seconds to get a
22 copy of that?

23 CHAIRMAN GRAHAM: Sure. Of course, my
24 question is, only 19 pages of direct testimony and
25 three pages of errata?

1 MR. PERKO: I apologize, Mr. Chairman.

2 BY MR. PERKO:

3 Q Mr. Wood, just to clarify, we've called it
4 errata that was a deposition exhibit to -- a late-filed
5 deposition exhibit. Are you familiar with that
6 document?

7 A I am.

8 Q And that includes changes to your direct as
9 well as rebuttal testimony?

10 A Yes, sir.

11 Q And if I were to ask you the questions in your
12 direct testimony with the changes indicated on that
13 errata sheet at pages -- page 10, lines 24, would your
14 answers be the same?

15 A Yes, they would.

16 Q Okay. Did you also attach one exhibit to your
17 prefiled direct testimony in both dockets?

18 A I did.

19 Q And your -- your errata sheet -- I am sorry,
20 do you have any changes to that exhibit?

21 A I do, the errata sheet.

22 Q The Exhibit 1 to your testimony, which I
23 believe is your resume?

24 A No. No changes to that.

25 Q Okay. Now, you also sponsored -- you are also

1 sponsoring Sections 5.2 and Section 7 of the need study,
2 which we've referred to as Exhibit No. MPW-2, and has
3 been marked for this hearing Exhibits 3 and 29; is that
4 correct?

5 A Yes.

6 Q And does your errata indicate specific
7 sections of that need study where you are -- that you
8 are sponsoring that need to be changed?

9 A Yes, sir. Table 14 and Table 15.

10 Q Okay.

11 MR. PERKO: At this time, Your Honor, I would
12 ask that Mr. Wood's prefiled direct testimony in
13 both dockets be inserted into the record as though
14 read.

15 CHAIRMAN GRAHAM: We will insert Mr. Wood
16 prefiled direct testimony in both dockets into the
17 record, including the errata, as though read.

18 (Whereupon, prefiled direct testimony was
19 inserted.)

20

21

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25

ERRATA FOR**KYLE D. WOOD**

Direct Testimony Filed in Docket Nos. 20170266-EC and 20170267-EC on December 21, 2017

| Page | Line(s) | Correction |
|-------------|----------------|-------------------------------------|
| 10 | 24 | Change “14,655MWh” to “14,601 MWh” |
| 10 | 24 | Change “16,470 MWh” to “16,437 MWh” |

Rebuttal Testimony Filed in Docket Nos. 20170266-EC and 20170267-EC on February 19, 2018

| Page | Line(s) | Correction |
|-------------|----------------|-------------------------------------|
| 5 | 15 | Change “biannually” to “biennially” |

In Exhibit No. __ (KDW-5) to Rebuttal Testimony Filed in Docket Nos. 20170266-EC and 20170267-EC on February 19, 2018, the reference in the footnote to “January 201” should be changed to “January 2018”

EXHIBIT NO. __ (MPW-2)
SEMINOLE NEED STUDY
Filed in Docket Nos. 20170266-EC & 20170267-EC

| Section | Page | Sponsor | Correction |
|----------------|-------------|----------------|--|
| 5.2.4 | 46 of 153 | Wood | Change Table 14 to attached revised Table 14 |
| 5.2.4 | 47 of 153 | Wood | Change Table 15 to attached revised Table 15 |

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BEFORE THE PUBLIC SERVICE COMMISSION

SEMINOLE ELECTRIC COOPERATIVE, INC.

DIRECT TESTIMONY OF KYLE D. WOOD

DOCKET NO. _____

DECEMBER 21, 2017

Q. Please state your name and address.

A. My name is Kyle D. Wood. My business address is 16313 North Dale Mabry Highway, Tampa, Florida 33618.

Q. By whom are you employed and in what capacity?

A. I am employed by Seminole Electric Cooperative, Inc. ("Seminole") as Manager of Load Forecasting and Member Analytics.

Q. Please describe your responsibilities in your current position.

A. My primary responsibilities are to develop long-term load forecasts of electric demand and energy for Seminole and its Members. I also provide analytical support for the Energy Efficiency Working Group.

Q. Please state your professional experience and education background

A. I have been working as a load forecasting analyst with Seminole since 2012 and have held a supervisory role at the company since 2015. Prior to working at Seminole, I was employed as an economic analyst at Dieter Consulting Group since 2008.

1 I graduated from the University of South Florida with a Bachelors of Arts in
2 International Business and a Masters of Arts in Economics.

3

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

5 A. The purpose of my testimony is to describe Seminole's load forecasting
6 methodology, present and discuss the results of Seminole's most recent long
7 term load forecast, and discuss Seminole's and our Members' demand-side
8 management (DSM), energy efficiency and conservation efforts and
9 achievements.

10

11 **Q. Are you sponsoring any exhibits in the case?**

12 A. Yes. I am sponsoring Exhibit No. ___ (KDW-1), which is a copy my current
13 professional resumé. I also am sponsoring Sections 5.2 and 7 of the Need
14 Study (Exhibit No. __ (MPW-2)), all of which were prepared by me or under
15 my supervision.

16

17

LOAD FORECAST

18

19 **Q. Please describe the existing service territory of Seminole's Members.**

20 The Members' service area is primarily rural and extends into 42 of Florida's
21 67 counties. Seminole's Members provide electricity to over 763,000 member-
22 consumers, serving a population of approximately 1.6 million people and
23 businesses. This service territory encompasses a variety of geographic and
24 weather conditions as well as a diverse mix of economic activity and
25 demographic characteristics.

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The Member service area in northwestern Florida covers a portion of the panhandle east of the Apalachicola River, parts of the Gulf Coast, and an area below the Florida-Georgia border. Over the past ten-years, average annual residential member-consumer growth in this region is nearly zero. Several factors attribute to the low growth including decreasing natural population, low-performing school systems, lack of employment opportunities, and low occupational wages. A portion of member-consumers also reside in the rural service area where the cost of living is low, but commute to other counties or cities outside the service territory where occupational wages are relatively higher. The Members in this region are Central Florida Electric Cooperative, Inc., Suwannee Valley Electric Cooperative, Inc., Talquin Electric Cooperative, Inc., and Tri-County Electric Cooperative, Inc.

The Member service territory extending from north-central Florida to the northern outskirts of Tampa includes some of the largest electric cooperatives in the United States. Growth is strongest in these areas, due to the proximity to expanding metropolitan centers including Jacksonville and Tampa. One expanding development in this region in particular, The Villages, has attracted strong growth over the last ten years despite the economic recession. In 2016, over 75% of Seminole-system load was delivered to this region. The Members in this region are Clay Electric Cooperative, Inc., SECO Energy, and Withlacoochee River Electric Cooperative, Inc.

1 The southern region of Member service territory includes areas around and east
2 of the Sarasota-Manatee-Bradenton metropolitan area down to Lake
3 Okeechobee and the Everglades. The expanding Sarasota metro area has
4 provided a source of new residential development. Residential member-
5 consumer growth in this area has been above 2% in each of the past four years.
6 The area around Lake Okeechobee and the Everglades has enjoyed far less
7 growth however, adding positive gains to the annual residential member-
8 consumer count for only 5 of the past 10 years. The Members in this region are
9 Glades Electric Cooperative, Inc., and Peace River Electric Cooperative, Inc.

10

11 **Q. Please describe the existing consumer base of Seminole's Members.**

12 A. The Members' end-use member-consumer mix is approximately 89%
13 residential, 10% commercial/industrial and 1% "other". Residential member-
14 consumers represent approximately 68% of total energy sales, with
15 commercial/industrial sales representing 31%, and "other" representing 1%.
16 The commercial sector is primarily small to medium sized retail businesses,
17 while the industrial sector is primarily manufacturing, mining and forestry.
18 "Other" consists of irrigation, street and highway lighting, public buildings,
19 and sales for resale.

20

21

22 **Q. What have been Seminole's recent energy sales and peak demands?**

23 A. In 2016, Seminole's net energy for load was approximately 14,471 GWh.
24 From 2014 through 2016, average annual growth in net energy for load was
25 approximately 2.2%. Net firm demand has averaged approximately 3,300 MW

1 in the past three winter seasons and 3,100 MW in the past three summer
2 seasons. Prior to 2014, Seminole Electric Cooperative was a ten-Member
3 system, which included Lee County Electric Cooperative.

4

5 **Q. How does Seminole's consumer and load growth compare to the State of**
6 **Florida as a whole.**

7 A. Historically, member-consumer growth rates in Seminole's nine-Member
8 system have exceeded growth rates in the State of Florida as a whole.
9 According to the Florida Office of Economic and Demographic Research
10 ("EDR"), Florida's population grew approximately 1.0% annually on average
11 from 2007 through 2016. During the same ten-year period, the FRCC Load and
12 Resource Plan shows statewide electric-utility residential customer growth
13 averaged approximately 0.6% annually, while residential member-consumer
14 growth in Seminole's nine-Member service area averaged approximately 0.9%
15 annually. In the ten year forecast horizon from 2017 through 2026, Florida's
16 annual population growth is projected to average approximately 1.4%, while
17 residential consumer growth statewide and in the Seminole service area is
18 projected to average approximately 1.4% and 1.5%, respectively.

19

20 The Florida Economic Overview published by the EDR on July 28, 2017
21 provides context for the current pace of economic growth in Florida compared
22 to the Seminole-system. According to the report, employment growth from
23 March 2007 to March 2016 statewide was 2.6%; only 16 of Florida's 67
24 counties enjoyed growth equal to or greater than 7.1%. Four of these fast-
25 growing counties, Clay, Pasco, Sumter and Lake, contained over half of the

1 residential membership of Seminole's three largest Cooperatives as of March
2 2017. Employment in Sumter County set the highest rate of growth, topping at
3 30.3%. Commercial end-use sales in the nine-Member Seminole-system have
4 grown at an average annual rate of approximately 1.5% in the past ten years
5 and approximately 3.1% in the past five years. EDR expects employment and
6 income to continue on a favorable growth path as statewide population growth
7 strengthens. Seminole projects commercial end-use sales to grow at an average
8 rate of approximately 1.7% annually through the ten-year forecast horizon.

9

10 **Q. Please summarize Seminole's load forecast methodology.**

11 A. Seminole adheres to generally accepted methodology currently employed
12 within the electric utility industry to forecast number of consumers, energy and
13 peak demand. Each Member Cooperative is modeled separately, since each
14 service area exhibits unique growth and geographical characteristics. Seminole
15 produces monthly forecasts for each Member system. If rate classification data
16 is available, class level forecasts are developed and reconciled to match
17 Member-total level forecasts. Seminole's system forecast is the aggregate of
18 Member system forecasts. Model assumptions are collected from Members,
19 government agencies, universities, and other third party providers.

20

21 **Q. How does Seminole forecast consumer growth?**

22 Seminole forecasts monthly member-consumer growth at Member-total and
23 Member-rate class levels using econometric models. Model training data
24 includes historical number of member-consumers and population estimates for
25 counties served by Members. Future consumer growth projections are based

1 primarily on population forecasts from University of Florida's Bureau of
2 Economic and Business Research (UF BEBR). Population forecasts and other
3 explanatory variables such as number of households, housing stock and
4 employment from Moody's Economic and Consumer Credit Analytics
5 (Moody's) are implemented in consumer models sparingly. Territorial
6 agreements and information provided directly from Member representatives
7 regarding anticipated changes in service territories are incorporated into
8 forecasts, as well.

9

10 **Q. How does Seminole forecast energy sales?**

11 A. Seminole forecasts monthly energy sales at the Member-total and Member-rate
12 class level with econometric models. Delivery point billing load and Member
13 rate class sales to end-use member-consumers grossed up for distribution
14 losses are trained with a variety of explanatory variables in order to estimate
15 future growth. Explanatory variables include:

- 16 • **Weather statistics** for temperature, precipitation and degree days.
- 17 • **Economic and demographic indicators** such as population, number
18 of households, housing stock, employment, gross product, income and
19 Seminole's wholesale price.
- 20 • **Energy intensity statistics** for heating, cooling and non-weather
21 sensitive (base) end-use appliance saturation and efficiency rates.
22 These data are based on the 2016 Member Residential Appliance
23 Saturation Survey and the Energy Information Administration's
24 Annual Energy Outlook, which Seminole collects from Itron's
25 statistically adjusted end-use spreadsheets.

1

2 Historical reductions due to energy efficiency and behind-the meter solar
3 generation are reflected in model training data and are implied in load
4 forecasts. Future expectations of additional behind-the-meter solar adoption are
5 forecasted separately and are netted from energy sales forecasts.

6

7 **Q. How does Seminole forecast peak demands?**

8 A. Maximum demand by Member by month and by season are modeled using
9 econometric models. Seasonal peak models are designed to predict winter and
10 summer peaks based on a range of months where the highest peaks are
11 expected to occur in each season. Winter seasonal peak models regress the
12 highest peak during November through March of each year against
13 contemporaneous explanatory variables. Summer seasonal peak models regress
14 the highest peak from April through September of each year against
15 contemporaneous explanatory variables. Seasonal peak forecasts replace
16 monthly model forecast results for the month each seasonal peak is most likely
17 to occur. Explanatory variables analyzed in monthly and seasonal demand
18 models include:

- 19 • **Weather statistics** for temperature, precipitation, humidity and degree
20 days.
- 21 • **Economic and demographic indicators** such as population, number
22 of households, housing stock, employment, income and Seminole's
23 wholesale price.
- 24 • **Energy intensity statistics** for heating, cooling and non-weather
25 sensitive (base) end-use appliance saturation and efficiency rates. These

1 data are based on the 2016 Member Residential Appliance Saturation
2 Survey and the Energy Information Administration's Annual Energy
3 Outlook, which Seminole collects from Itron's statistically adjusted
4 end-use spreadsheets.

- 5 • **Load factor** is modeled by month and by season based on temperature
6 statistics.

7

8 Seminole's maximum demand is the aggregate of the one-hour simultaneous
9 demands of all Members that maximizes the peak of the system by month.

10 Forecasts of Seminole maximum demand are derived by applying coincident
11 factors to Member-maximum demand forecasts. Member demand coincident
12 with Seminole represents Seminole's planning capacity.

13

14 Historical reductions due to demand-side-management and behind-the meter
15 solar generation are reflected in historical load data and are implied in load
16 forecasts. Future expectations of additional behind-the-meter solar adoption are
17 forecasted separately and are netted from peak demand forecasts.

18

19 **Q. Please summarize the key assumptions used in the load forecast**

20 A. Seminole Members serve electricity to primarily-rural areas within 42 counties
21 in the north, central, and south regions of Florida, which differ uniquely in
22 geography, weather, and natural resources. Population growth in Seminole's
23 territory is sensitive to national economic and demographic factors that
24 influence population migration from other states and metropolitan areas within
25 Florida.

1

2 The strongest rates of member-consumer growth in Seminole's forecast
3 horizon are expected to occur within the next five years. Net migration into
4 Florida and economic expansion are expected to drive system growth during
5 this period. Over the next ten years, we expect nearly flat to negative growth in
6 average usage per member-consumer as newer, more efficient technologies
7 saturate the appliance stock.

8

9 **Q. Please describe Seminole's current consumer, energy, and seasonal peak**
10 **demand forecast.**

11 A. From 2018 through 2027, Seminole projects the total number of residential and
12 commercial member-consumers served by Members to grow at an average
13 annual rate of approximately 1.4% and 1.3%, respectively.

14

15 Residential usage-per-member-consumer has grown approximately 1.1%
16 annually on average from 2012 through 2016, yet this trend is expected to
17 reverse and decline at an average rate of approximately -0.5% annually
18 through 2022 and flatten thereafter. Similarly, commercial use-per-member-
19 consumer has grown at an average annual rate of approximately 1.2% from
20 2012 through 2016; however this trend is expected to slow to approximately
21 0.4% through the next ten years.

22

23 Overall, net energy for load is projected to grow at an average annual rate of
24 approximately 1.3%, from 14,655 MWh in 2018 to 16,470 MWh in 2027.

25 Similarly, summer net firm demand is projected to grow at an average annual

1 rate of approximately 1.3%, from 3,140 MW in 2018 to 3,516 MW in 2027.

2 Winter net firm demand is projected to grow at an average annual rate of
3 approximately 1.6%, from 3,398 MW in 2018 to 3,909 MW in 2027.

4

5 **Q. How does Seminole's current load forecast compare to its prior forecasts**
6 **in recent years?**

7 A. The current load forecast is lower than prior forecasts recently produced in
8 TYSP filings. Updates to the latest load model input data and assumptions are
9 listed below:

- 10 • End-use appliance intensities were updated to reflect data from the
11 2016 Annual Energy Outlook (AEO) from the U.S. Energy Information
12 Administration. The 2016 AEO shows stronger declines in end-use
13 intensities due to higher saturation of newer, more-efficient appliance
14 stock.
- 15 • Historical saturation rates of end-use appliances were updated to
16 include results from the 2016 Member Residential Appliance
17 Saturation Survey. The prior survey was conducted in 2012.
- 18 • Population and related housing growth data were updated to include the
19 University of Florida's Bureau of Business and Economic Research
20 (BEBR) and Moody's Analytics April 2017 productions. Growth
21 expectations from these sources are generally lower than the forecasts
22 produced a year before.
- 23 • Photovoltaic energy output and output at the time of peak demand from
24 new behind-the-meter installations were derived in order to reduce
25 Seminole's expected load requirements in the future. The behind-the-

1 meter solar forecast is a new component to the load study that has not
2 been included in prior forecasts.

3

4 **Q. Is Seminole's current load forecast reasonable for planning purposes?**

5 A. Yes. The load forecast is based on generally accepted methodology currently
6 employed within the electric utility industry. Explanatory variable assumptions
7 provided by third parties are reasonable and weather data used to project load
8 is normalized from 30-years of observations. Seminole, its Members, and the
9 Rural Utilities Service (RUS) have consistently relied on Seminole's forecasts
10 as the basis for power supply planning, rate development, and financial
11 planning.

12

13 **Q. Does the RUS approve Seminole's load forecasts?**

14 A. Yes. Consistent with RUS rules, Seminole is required to submit a load forecast
15 in conjunction with a new RUS loan application within 24 months of the
16 application. Nevertheless, Seminole submits a load forecast annually to the
17 RUS for approval. The most recent load forecast study was approved by RUS
18 in October 2017.

19

20 **Q. Does Seminole's load forecast reflect the effects of DSM and conservation
21 programs offered by Seminole's Members?**

22 A. Yes. The historical load data utilized in econometric analysis is net of the
23 effects of DSM, energy efficiency and conservation programs, with the
24 exception of behind-the-meter diesel generation.

25

1 **DEMAND SIDE MANAGEMENT & CONSERVATION**

2

3 **Q. Does Seminole offer any DSM or conservation programs to end-use**
4 **consumers?**

5 A. No. As a Generation and Transmission cooperative, Seminole provides
6 wholesale power to its Members and does not serve end-use member-
7 consumers.

8

9 **Q. Does Seminole promote the use of DSM or conservation to its Members in**
10 **other ways?**

11 A. Yes. Seminole's wholesale rate structure provides Members with price signals
12 that reflect Seminole's cost of supplying power in aggregate. Under this rate
13 structure, Seminole's demand charge to each of its Members is applied to each
14 Member's demand at the time of Seminole's peak. This encourages Members
15 to concentrate their load-management efforts on controlling Seminole's overall
16 system peak rather than their separate peaks. In addition, Seminole's
17 wholesale rate to its Members include time-of-use fuel charges to reflect the
18 differences in fuel costs incurred by Seminole to serve its Members during the
19 peak and off-peak periods. Each Member may use these price signals to
20 evaluate the cost effectiveness of DSM, energy efficiency and conservation
21 measures for its own circumstances. To ensure Members have the opportunity
22 to achieve maximum load-management benefit, Seminole's system operators
23 develop and implement a coordinated load management demand reduction
24 strategy in real time to notify Members when Seminole's monthly billing peak
25 is expected to occur.

1

2 Seminole also assists its members in evaluating and implementing DSM
3 measures. In 2008, Seminole and its Members jointly formed an Energy
4 Efficiency Working Group to coordinate and further-enhance energy
5 conservation and efficiency initiatives. The function of this group is to promote
6 conservation, efficiency and DSM programs through the sharing of
7 information, consumer education, and joint assessment of energy efficiency
8 technologies. In addition to participating in the Working Group, Seminole has
9 sponsored its own conservation and efficiency initiatives, which include giving
10 light emitting diode (“LED”) light bulbs to member-consumers during Member
11 meetings and administering an LED light bulb bulk purchase program for
12 Members. Seminole also provides Members with materials that can be
13 distributed to end-use member-consumers including educational brochures,
14 manufactured housing weatherization brochures, videos on energy efficiency
15 home auditing, and a video on Cooperative Solar. Seminole remains active in
16 upgrading utility system efficiency at administration and generation facilities.

17

18 **Q. Do any of Seminole's Members have Commission-approved DSM or**
19 **conservation programs?**

20 A. No. The provisions of Florida's Energy Efficiency and Conservation Act
21 (“FEECA”) related to numeric conservation goals only apply to investor-
22 owned utilities and certain municipal utilities. Thus, neither Seminole nor its
23 Members have Commission approved numeric conservation goals, DSM
24 programs, or DSM plans.

25

1 **Q. Do Seminole's Members nonetheless offer DSM programs?**

2 A. Yes. Members participate in Seminole's coordinated load management-
3 demand reduction strategy during peak-demand billing events through
4 distribution system voltage reduction ("VR") and coincident peak power rate
5 programs. Seminole's Members also offer a variety of programs and services to
6 end-use member-consumers in order to promote energy efficiency,
7 conservation and cost savings. Member DSM, energy efficiency and
8 conservation programs include:

- 9 • **Distribution System Voltage Reduction (VR):** Coordinated load
10 management-demand reduction program where Member system operators
11 lower voltage during critical peak billing periods, within allowable thresholds,
12 on distribution feeders to reduce demand behind end-use meters during critical
13 peak billing periods.
- 14 • **Commercial Coincident Peak Power (CPP) Rates:** Coordinated load
15 management-demand reduction program where enrolled commercial and
16 industrial member-consumers are signaled to shed load during critical peak
17 billing periods.
- 18 • **Commercial Interruptible Rates:** Direct load control program where
19 Seminole or the Members interrupt electrical service to enrolled member-
20 consumers during extreme peak demand, capacity shortage or emergency
21 conditions.
- 22 • **Commercial Customer Load Generation Program:** Standby peak-shaving
23 generators which Seminole and its Members may dispatch for purpose of load
24 management and enhanced reliability. Members with standby generators under
25 this program receive a billing credit.

- 1 • **Time-of-Use (TOU) Rates:** Residential, commercial, or industrial rates that
2 encourage member-consumers to use power during off-peak hours when prices
3 are relatively less expensive.
- 4 • **Residential Pre-Pay:** Residential member-consumers pre-pay for their
5 electricity and receive enhanced feedback on their energy use and costs. The
6 increased energy awareness that this program provides results in behavioral
7 changes that produce energy savings.
- 8 • **LED/CFL Efficient Bulb Giveaway:** This program provides participating
9 end-use member-consumers with free energy-efficient 10 Watt (W) LED or
10 13W compact fluorescent light (“CFL”) bulbs to replace their existing 60W
11 incandescent bulbs.
- 12 • **LED Outdoor and Street Lighting:** Replacement of Member-owned outdoor
13 and street lighting with lower wattage LEDs.
- 14 • **Energy Smart Rebates:** A rebate is given to residential member-consumers to
15 upgrade to more efficient equipment and/or improve the building envelope.
16 Rebate opportunities include: air conditioners and heat pumps, heat pump
17 water heaters, solar water heaters, insulation – batt or spray foam – and
18 window film.
- 19 • **Energy Audits:** On-site energy audit program for residential, commercial and
20 industrial member-consumers.
- 21
- 22 **Q. Have the peak demand and energy savings achieved by Seminole’s**
23 **Members been quantified?**

1 A. Yes. In 2016, Seminole engaged Advanced Energy and Tierra Resource
2 Consultants, LLC (AE/Tierra), an energy and natural resource consulting firm,
3 to help quantify the energy efficiency and DSM savings achieved by
4 Seminole's Members. As discussed in the pre-filed testimony of Tom Hines,
5 AE/Tierra estimated that Seminole's Members achieved approximately 12,353
6 MWh in annual savings and approximately 85,026 kW (or 85 MW) in winter
7 peak demand savings in year 2015.

8

9 **Q. Has Seminole evaluated whether there are additional conservation**
10 **measures that may be reasonably available to Seminole's Members?**

11 A. Yes. In order to help Seminole evaluate potentially available DSM measures to
12 mitigate the projected need, Seminole also engaged AE/Tierra to identify
13 potential new programs and to evaluate their cost-effectiveness. None of the
14 additional measures evaluated by AE/Tierra satisfied the Rate Impact Measure
15 (RIM) test traditionally relied upon by the Commission in evaluating the cost-
16 effectiveness of DSM measures. A copy of AE/Tierra's report is attached to
17 Mr. Hines' pre-filed testimony.

18

19 **Q. How will Seminole and its Members utilize the results of the DSM**
20 **potential study?**

21 A. Even though none of the measures analyzed by AE/Tierra passed the RIM
22 Test, Seminole is working with Members to evaluate pilot programs. One of
23 the measures of particular interest to Seminole and its Members are Smart
24 Thermostat Incentives. According to estimates from the 2016 Member
25 Residential Appliance Saturation Survey, there are approximately 24,000

1 Smart Thermostats already installed in member households. Seminole also is
2 committed to working with its Members to implement recommendations made
3 by AE/Tierra to help improve program tracking and increase future savings by
4 enhancing current efforts and adding new measures to existing programs when
5 appropriate.

6

7 **Q. In your opinion, are there sufficient DSM or conservation measures**
8 **reasonably available to Seminole or its Members to mitigate the need for**
9 **the Seminole Combined Cycle Facility (SCCF)?**

10 A. No. As noted above, none of the potential DSM measures analyzed by
11 AE/Tierra passed the RIM test traditionally utilized by the Commission for
12 analyzing the cost-effectiveness of DSM measures. Despite the demand
13 reductions associated with Seminole's Members' existing DSM programs,
14 which are reflected in Seminole's load forecast, the need for additional
15 capacity still exists and there is not a reasonable scenario in which sufficient
16 DSM or energy efficiency or conservation could be added to avoid the need for
17 additional capacity.

18

19 Seminole is projected to require more than 901 MW of additional capacity by
20 2021 to meet peak demand and maintain the reserve margin. To put this in
21 perspective, in Order No. PSC-14-0696-FOF-EU, the Commission established
22 DSM goals for the utilities subject to FEECA. Based on those goals, the
23 largest electric utility in the State of Florida, Florida Power & Light, is to
24 achieve Commission-approved DSM goals of approximately 526 MW in
25 summer demand reduction and 324 MW in winter demand reduction, over the

1 course of a ten-year period from 2015 through 2024. As an additional point of
2 comparison, TECO, which is comparable in size to Seminole in terms of
3 consumers and annual peak demand, is expected to achieve Commission-
4 approved DSM Goals of approximately 56 MW in summer demand reduction
5 and 78 MW in winter demand reduction, over the course of the same ten-year
6 period. Based on these Commission-approved DSM goals, even large,
7 vertically integrated utilities comparable to and larger than Seminole's size
8 with centralized staff and resources to offer DSM programs directly to their
9 customers cannot cost-effectively achieve 901 MW peak demand reductions
10 through DSM and conservation programs over the course of the next four
11 years.

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13 **Q. Does this complete your testimony?**

14 **A. Yes.**

1 (Transcript continues in sequence in Volume
2 3.)

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CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, DEBRA KRICK, Court Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

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

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

DATED this 26th day of March, 2018.



DEBRA R. KRICK
NOTARY PUBLIC
COMMISSION #GG015952
EXPIRES JULY 27, 2020