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 1
PAGES 1 through 198

PROCEEDINGS:	HEARING
COMMISSIONERS PARTICIPATING:	CHAIRMAN ART GRAHAM COMMISSIONER DONALD J. POLMANN COMMISSIONER GARY F. CLARK
DATE:	Wednesday, March 21, 2018
TIME:	Commenced: 9:30 a.m. Concluded: 1:00 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
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APPEARANCES:

GARY PERKO, BROOKE LEWIS, and MALCOM MEANS, ESQUIRES, Hopping Law Firm, P.O. Box 6526, Tallahassee, Florida 32314, appearing on behalf of Seminole Electric Cooperative.

ROBERT SCHEFFEL WRIGHT and JOHN T. LaVIA, III, ESQUIRES, Gardner Law Firm, 1300 Thomaswood Drive, Tallahassee, Florida 32308, appearing on behalf of Quantum Pasco Power, L.P., Patrick Daly, and Michael Tulk.

RACHAEL DZIECHCIARZ and CHARLES MURPHY, ESQUIRES, FPSC General Counsel's Office, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, appearing on behalf of the Florida Public Service Commission Staff.

KEITH HETRICK, GENERAL COUNSEL; MARY ANNE HELTON, DEPUTY GENERAL COUNSEL; Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, Advisor to the Florida Public Service Commission.

I N D E X

WITNESSES

EXHIBITS

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P R O C E E D I N G S

CHAIRMAN GRAHAM: We are going to call this hearing to order. It's docket number 20170266-EC and 20170267-EC.

Let the record show it is Wednesday, March 21st, and it's approximately 9:31 a.m.

Staff, if I can get you to read the notice, please.

MS. DZIECHCIARZ: Thank you, Chairman.

By notice issued February 9th, 2018, this time and place has been set for a prehearing conference in Docket Number 20170266-EC, petition to determine need for Seminole Combined Cycle Facility by Seminole Electric Cooperative, Inc., and the Docket Number 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. The purpose of the hearing is set for the record in the notice.

CHAIRMAN GRAHAM: Thank you.

Let's take appearances. Seminole, we will start with you.

MR. PERKO: Good morning, Mr. Chairman. My name is Gary Perko with the Hopping Green & Sams

law firm on behalf of Seminole Electric Cooperative, Inc., and Shady Hills Energy Center, LLC. With me is my partner, Brooke Lewis of our law firm, and my associate, Malcolm Means.

MR. WRIGHT: Good morning, Commissioner. Robert Scheffel Wright and John T. Lavia, III, sitting to my right. We are with the Gardner law firm in both dockets, and we have the privilege of representing Michael Tulk, Patrick Daly and Quantum Pasco Power Limited Partnership.

Thank you.

MS. DZIECHCIARZ: And we have myself, Rachel Dziechciarz, and Charlie Murphy for Commission staff.

MS. HELTON: And Mary Anne Helton here as your advisor. I would also like to make an appearance for your General Counsel, Keith Hetrick.

CHAIRMAN GRAHAM: Okay. Before we get to preliminary matters, we have two people that would like to speak from the public, and seeing that this is a hearing, we are going to swear them in and give them three minutes to speak each. And if any of the parties have any questions, want to cross-examine, feel free to raise your hand and let me know and there will be an opportunity for that.

If I can get Jim Duncan and Julius Hackett to stand and raise your right hand, please.

Whereupon,

JAMES DUNCAN &

JULIUS HACKETT

were called as a witnesses, having been first duly sworn to speak the truth, the whole truth, and nothing but the truth, testified as follows:

CHAIRMAN GRAHAM: Thank you.

Mr. Duncan, you are up first. If I can get your name and address for the record, please.

PUBLIC TESTIMONY

MR. DUNCAN: Good morning. I guess this is the benefit of signing in first, right?

My legal name is James Duncan. I go by Jim.

Thank you for the opportunity to speak to you this morning. I am speaking as a member of SECO Energy, and as the CEO for the last 28 years of SECO Energy.

SECO is a not-for-profit, member-owned electric cooperative serving parts of seven counties in Central Florida. SECO had a rather humble beginning starting in 1938, roughly 80 years ago, when they energized their first 400 rural homes in Central Florida.

Over the last 80 years, we have grown rather dramatically. We have morphed from a small rural utility to one of the fastest growing and largest electric cooperatives in the nation, and, of course, in Florida.

Reached a significant milestone last year, in November, when we connected our 200,000th electric meter to our system, fairly large for a cooperative. We added 4,400 new services to our system last year. Our rates this year looks to be even faster. I anticipate 5,500 to 6,000 new services added to our system this year. Primarily in The Villages in Sumter County and in Lake and Marion Counties.

Not only are we growing rapidly, but I am very proud to say that we are offering, in my opinion, prejudiced as it may be, exceptional service to our members. Last year, we proudly accepted our third consecutive JD Power Award for outstanding customer satisfaction. Our scores were the highest in our respective segment, but we also had the highest scores in the nation, regardless of type of utility, investigator-owned, municipal or cooperative. So very proud of that.

Our 2017 ACSI score, American Customer

Satisfaction Index score, was 88, which also ranks very high on the utility scale. Far above the median for investor-owned utilities and municipally-owned utilities.

So customer service is very important to us. We are working very hard to achieve that. Adequate power supply is incredibly important to us, so I am here today very pleased and honored to support Seminole's petition for a determination of need for the facility at Shady Hills, the combined cycle facility in Pasco County, and for the Seminole combined cycle unit to be built in Putnam County.

That future portfolio, which includes those two units, was unanimously approved by the Seminole board, of which I am a member, 27 board members unanimous approval. We collectively agreed that the facilities are needed to provide safe, reliable, affordable electricity to our members and our growing membership in the years to come.

Seminole is in good financial position. Our securities are investment grade rated, very well positioned to take advantage of the low cost power that these units will provide.

CHAIRMAN GRAHAM: Sir, that's three minutes. I will give you about 30 seconds to rap up.

MR. DUNCAN: Thank you, sir, and I am about do wrap up.

So we are also in good position to add additional renewables to our system, primarily solar, if it is financially responsible for our membership and if we can integrate without adversely affecting reliability.

So having said all that, thank you for your time. On behalf myself and our 200,000 members, we respectfully ask that you approve of this determination of need.

Thank you.

CHAIRMAN GRAHAM: Thank you, Mr. Duncan. Hold on for any questions.

Any questions?

Mr. Wright.

MR. WRIGHT: Just a couple of questions, Mr. Chairman.

EXAMINATION

BY MR. WRIGHT:

Q Good morning, Mr. Duncan.

A Good morning, sir.

Q My name is Schef Wright, and I represent the intervenors in this case. I just have a couple of questions for you.

Do you know whether the member co-op's rates will go up with the proposed plan advocated by Seminole here?

A I cannot speak affirmative to that, but I think in all the research that we were given, if it goes up, it will be very minimal. That's my expectation.

Q So you don't -- your answer is you don't know whether they will go up?

A I can't say specifically. I think there might be a small increase, but we are talking, what, three to five years from now, so --

Q Thank you. That's all I have.

A All right. Thank you.

Q Appreciate it.

CHAIRMAN GRAHAM: Nothing from Seminole, I take is it?

MR. PERKO: No, Mr. Chairman.

CHAIRMAN GRAHAM: Staff, anything?

MS. DZIECHCIARZ: No. Staff has no questions.

CHAIRMAN GRAHAM: Commissioners.

Mr. Duncan, thank you for your testimony.

MR. DUNCAN: Thank you all.

CHAIRMAN GRAHAM: Mr. Hackett.

Mr. Hackett, the same as Mr. Duncan, name and address for the record, and you will have about

three minutes.

PUBLIC TESTIMONY

MR. HACKETT: Julius Hackett. 2862 West Highway 90, Madison, Florida 32344.

Good morning. My name is Julius Hackett, and I am a member of Tri-County Electric Cooperative in Madison, Florida. I am also the Chief Executive Officer of Tri-County Electric Cooperative. Tri-County is a not-for-profit member-owned electric cooperative. We are also a member/owner of Seminole Electric Cooperative, where I have served on the Board of Trustees since I became the CEO of Tri-County Electric in June of 2008.

I am a professional engineer, and have 29 years of electric cooperative experience, including 19 years of engineering experience at Southside Electric Cooperative in Crewe, Virginia.

Tri-County Electric provides electric distribution services to Jefferson, Madison, Taylor and a quarter of Dixie County in Florida. We serve approximately 13,000 member owners, with approximately 18,000 meters, and maintain 3,046 miles of energized lines. Our service territory is very rural. Every county that we serve is included in Florida's North Central Rural

Area of Opportunity.

I am here today to voice my support in favor of the petition for the determination of need for the Shady Hills Combined Cycle Facility in Pasco County, and the petition to determine need for the Seminole Combined Cycle Facility.

As a not-for-profit member-owned electric cooperative, all of our costs are passed directly on to our members. We do not have shareholders. We have higher costs of service as our members are spread out over large areas, but we are still required to provide reliable service to our members despite our rural challenges.

We do not have an economic incentive to build things. We exist only to provide our members with safe, affordable, reliable electricity at the lowest cost possible.

I believe the proposals before you today are necessary for Tri-County Electric Cooperative, and all members of Seminole, to continue to provide our members with valuable electric service they depend on.

In addition to the two highly efficient units before you today, Seminole's plans include additional purchase power agreements, including new

solar resources, and removing one of our two coal-fired generation units from service in approximately five years. This direction is a cost-effective, balanced approach while managing the risk and unpredictability of potential future policy changes related to carbon emissions associated with coal.

We will also continue to maintain a coal unit at the Seminole generating statement -- station, preserving valuable fuel diversity, and keeping options open for in the future.

I would ask you to approve the determinations of need before you today for Seminole for the 13,000 member owners of Tri-County Electric Cooperative so that we may utilize the most cost-effective risk-managed portfolio to provide our member owners with safe, affordable, reliable electricity for years to come.

Thank you, and I appreciate your time.

CHAIRMAN GRAHAM: Thank you, Mr. Hackett.

Mr. Wright.

MR. WRIGHT: Thank you, Mr. Chairman.

EXAMINATION

BY MR. WRIGHT:

Q Good morning, Mr. Hackett.

A Good morning.

Q I just have a couple of questions for you.

Is it correct that your co-op's member consumers will pay -- do and will pay all charges billed to Tri-County by Seminole?

A Yes.

Q Do you know what the impact on your rates paid to Seminole will be with the -- Seminole's proposed Clean Power Plan portfolio?

A Well, the rates that our members will pay, they are just inflationary costs of doing business and so I can't tell you specifically what those rates will be as an impact from the decisions that were -- that were made on the generation selection; but, yes, there will be a slight increase. And that's assumed to be a slight increase associated with just the inflationary nature of the business.

Q So you don't know what the impact on your -- Tri-County's rates paid to Seminole will be if this -- if the Commission approves both of these plants, do you?

A I can't tell you the exact number.

Q Okay. And accordingly, you don't know what the impact on your member consumer's rates will be either, do you?

A Not the exact number.

Q Thank you very much.

CHAIRMAN GRAHAM: Seminole.

MR. PERKO: No questions.

CHAIRMAN GRAHAM: Staff.

MS. DZIECHCIARZ: No questions.

CHAIRMAN GRAHAM: Commissioners.

Mr. Hackett, thank you very much for your testimony today.

Mr. Duncan, Mr. Hackett, thank you for coming in, and you are more than welcome to stay for the rest of the show.

Okay. Staff, preliminary matters.

MS. DZIECHCIARZ: Thank you, Chairman. We have just a few preliminary matters. The first being that staff has requested official recognition of Seminole's 2017 Ten Year Site Plan, which we request that you officially recognize at this time. Staff has conferred with both parties, and neither party objects.

We also have, just as a housekeeping matter, seven pending requests for confidentiality that staff has not been able to address, which we will address after the hearing.

And staff has been informed that the testimony of Witness Ankur Mathur has been stipulated to and

request that he be excused from live testimony, and that his testimony and exhibits be included in the record.

CHAIRMAN GRAHAM: Are all parties in agreement with the excusal of Ankur Mathur?

MS. DZIECHCIARZ: Yes, Ankur Mathur, Seminole's witness.

CHAIRMAN GRAHAM: Seminole?

MR. PERKO: We are in agreement, Your Honor.

MR. WRIGHT: As are we, Mr. Chairman. Thank you.

CHAIRMAN GRAHAM: Commissioners don't have any questions for this witness? Seeing none, Mr. Mathur is excused.

(Whereupon, prefiled direct testimony was inserted.)

BEFORE THE PUBLIC SERVICE COMMISSION

SHADY HILLS ENERGY CENTER, LLC

DIRECT TESTIMONY OF ANKUR MATHUR

DOCKET NO. _____-EC

DECEMBER 21, 2017

Q. Please state your name and address.

A. My name is Ankur Mathur. My business address is 901 Main Avenue, Norwalk, CT 06851.

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

A. I am employed by GE Capital US Holdings, Inc. ("GECUSH"), an indirect, wholly-owned subsidiary of General Electric Company ("GE"), and work in the Energy Financial Services business unit ("GE EFS") as a Senior Vice President, Power and Development.

Q. What are your responsibilities in your current position.

A. As a Senior Vice President, Power and Development, I oversee development of natural gas and renewable energy projects in the U.S., including all development activity in Florida. I am the project director and primary developer on the Shady Hills Combined Cycle Facility ("SHCCF" or the "Project"), which will be owned by Shady Hills Energy Center, LLC ("SHEC"), a wholly-owned, indirect subsidiary of GECUSH. I am also involved in other business activities for GE EFS, including identifying new project

development opportunities, evaluating investment opportunities, and other portfolio management activities.

Q. Please describe your professional experience and education background.

A. Prior to joining GE EFS in 2007, I held positions in investment management, energy project development, and project engineering with various asset and investment management, independent power and engineering firms. I have over twenty-eight years of experience in virtually all aspects of the independent power industry, including: integrated resource planning; power plant design, construction and operation; and project development, marketing, and financing. I hold undergraduate and graduate degrees in mechanical engineering from Columbia University, as well as a Master of Business Administration from Cornell University. I am a licensed Professional Engineer in the State of New York.

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

A. The purpose of my testimony is to provide an overview of the SHCCF , including project technology, associated facilities, and schedule. I will provide an overview of GE EFS (and its affiliates who will undertake construction and operation) and its experience in financing, constructing and operating electric generating units. I will also provide an overview of the Tolling Agreement between SHEC and with Seminole Electric Cooperative, Inc. (“Seminole”) pursuant to which the SHCCF will sell capacity, energy and ancillary services.

Q. Are you sponsoring any exhibits in the case?

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

- Exhibit No. __ (AM-1) - Resume of Ankur Mathur; and
- Exhibit No. __ (AM-2) – Site Vicinity Map for the SHCCF.

I am also sponsoring Section 4.2 of Seminole's Need Study, which is identified as Exhibit No. ____ (MPW-2).

Q. Please summarize your testimony.

A. The SHCCF is a 573 MW combined cycle project in Shady Hills, Florida. The SHCCF will be located adjacent to the existing simple cycle gas turbine facility owned by Shady Hills Power Company, L.L.C. ("SHPC"), which is also a wholly-owned, indirect affiliate of GECUSH. The new combined cycle plant will be supported by a 30-year Tolling Agreement with Seminole Electric Cooperative, Inc. GE EFS has a long history of developing and investing in combined cycle power plants, and we are confident in our ability to meet the projected milestones and specifications of the facility.

Q. Please describe GE EFS and any affiliates to be involved in construction/operation of the project.

A. GE EFS is a business unit of GECUSH, an indirect, wholly-owned subsidiary of GE. GE EFS has 35+ years of experience managing energy assets through multiple economic cycles, and a global portfolio that spans conventional and renewable power, and oil and gas infrastructure projects. GE EFS invests globally across the capital spectrum in essential, long-lived, and capital-intensive energy assets that meet the world's energy needs. Based in Norwalk, Connecticut and New York, New York, and with other offices globally, the GE EFS business unit helps its customers and GE grow through new

investments, strong partnerships, and optimization of its approximately $13 billion in assets.

Through its Gas Power Systems ("GPS") business unit, GE will provide an Engineered Equipment Package, comprising a gas turbine, steam turbine, and heat recovery steam generator, and other ancillary equipment, for the Project. Finally, through GE International, Inc. ("GEII"), GE will also provide routine operations and maintenance services, as well as major maintenance services, under long-term contracts with the Project.

Q. What experience does GE EFS have with the development and construction of combined cycle plants and related facilities?

A. GE EFS is a leading sponsor of thermal power assets, with investments representing both full and partial ownership interests. As a result, EFS possesses skills and experience for the full scope of project development, financing, construction, and operations, with a successful track record for reliability, safety, and environmental compliance. GE EFS has played an active role in the development or co-development of several energy projects over the last 10 years, including the gas-fired Russell City Energy Center and CPV Sentinel projects in CA, an expansion at the gas-fired Linden Cogeneration project in NJ, the gas and oil-fired CPV Towantic project in CT, the Colorado Highlands Wind project in CO, and the Linden VFT merchant transmission project in NJ.

Q. What experience does GE EFS have in operating combined cycle units and other electric generating facilities?

A. GE EFS currently has a portfolio of equity investments in over 7,000 MW of thermal power assets in North America, representing both full and partial ownership, and

including development, construction and operational stage projects. Operational stage assets in GE EFS' portfolio include an 813 MW combined cycle facility in Caledonia, MS, a 623 MW combined cycle facility in Hayward, CA, and a 25% share in a 2,800 MW portfolio of six gas-fired plants in Georgia (30% combined cycle facilities and 70% simple cycle facilities). GE EFS' portfolio also includes a 100% share in the existing 517 MW simple cycle facility in Spring Hill, FL. An affiliate of GE EFS currently owns a 50% share of the Birchwood coal-fired generating facility in VA, and a 100% share of the Parlin Energy Center in NJ, each of which is operated by GEII. Previously, GE EFS owned a 100% share in the 900 MW Linden Cogeneration complex in Linden, NJ, and a 100% share in the 600 MW Fox Energy Center in Kaukauna, WI, each of which was operated by GEII.

Q. Please describe the tolling agreement under which SHEC will construct and operate the Project.

A. The Tolling Agreement ("CCTA") between SHEC and Seminole has a term of 30-years from the anticipated commercial operation date of December 1, 2021. Under the CCTA, Seminole will have the right to schedule the dispatch of the plant, provide fuel for such scheduled operation, and receive the power produced. Seminole will make fixed payments related to the demonstrated capacity of the Project, and make other variable payments when the plant is dispatched per Seminole's schedules. The terms of the CCTA provide Seminole with security of power supply at a competitive price for 30 years.

Q. Does GE EFS have experience with similar tolling agreements with electric utilities?

A. Yes, GE EFS has experience with similar tolling agreements, including a 10-year tolling agreement with PG&E for the Russell City Energy Company project; a 10-year tolling agreement with Southern California Edison for the CPV Sentinel project; a 20-year tolling agreement with Exelon Generation for the Green Country Energy project; a 10-year tolling agreement with Wisconsin Public Service for the Fox Energy Center project; several tolling agreements with multiple utility, cooperative and power marketing entities for its Georgia portfolio; and a 17-year tolling agreement with Duke Energy Florida for the existing Shady Hills facility.

Q. Does GE EFS have experience financing similar combined cycle facilities?

A. Yes, GE EFS has experience financing similar combine cycle facilities. GE EFS financed the 1,100 MW combined cycle CPV Fairview Project in Pennsylvania, which reached financial close in March 2017. GE EFS financed the 785 MW combined cycle CPV Towantic facility in Connecticut, which reached financial close in March 2016. Previously, GE EFS also financed the Russell City Energy Company project, a 623 MW combined-cycle contracted with Pacific Gas & Electric and located in Hayward, CA.

Q. Please describe the combined cycle technology that will be used for the SHCCF.

A. The SHCCF will be an advanced class gas turbine, one-on-one (“1x1”) configuration, 573 MW combined-cycle power plant built in a single stage with commercial operation in December 2021. The configuration will include one combustion turbine generator (“CTG”), one heat recovery steam generator (“HRSG”), one steam turbine generator (“STG”), and one generator step-up transformer (“GSU”). The SHCCF will have moderate duct firing capability, which means 30 to 35 MWs of duct fired output will be available as cost effective peaking capacity. The SHCCF will be a natural gas fired, high

efficiency plant that involves the generation of electricity in two stages, first by firing the CTG, and second by using the hot gas from the CTG to produce steam through the HRSG which is fed into the STG to generate additional electricity. This combined-cycle capability makes the most of the input fuel, by burning it and using the waste heat from that process, to generate electricity and, therefore, is a very efficient plant design to produce electrical energy. The combined cycle generation technology is one of the most efficient base load power production technologies available today.

Q. Beyond the combined cycle generating unit itself, what other facilities will be constructed as part of the SHCCF?

A. Other facilities to be constructed include an approximately 1 mile generator tie-line to a new Duke Energy Florida ("DEF") substation, to be designated Hudson North, that will connect the Project to the DEF 230kV high voltage transmission grid in Pasco County, FL. Additional systems to connect the Project to the Pasco County Master Reuse System, and water and wastewater treatment systems to enable use of reclaimed water, including a zero-liquid discharge ("ZLD") system will also be deployed. A new gas metering station will be provided to connect to the existing gas lateral owned by Florida Gas Transmission lateral to the Project.

Q. What are the expected operational parameters for the Project?

A. The facility will have a capacity of 573 MW (Summer), and will produce up to approximately 4.5 million MWh of energy per year.

Q. Please describe the advantages of locating the Project at the existing Shady Hills Power Company site.

A. Locating the SHCCF at the Shady Hills site enables the Project to take advantage of nearby access to existing utility infrastructure, including a high-pressure gas transmission line via an existing gas lateral which was originally sized in anticipation of an expansion, a nearby high voltage electric transmission line, and reclaimed water from Pasco County's reuse water system, including the adjacent Shady Hills wastewater treatment plant. Additionally, by co-locating the SHCCF with the existing simple cycle facility, there are opportunities for operational synergies across the two facilities and the option to share certain other existing infrastructure. Utilizing the remaining space available at an existing generating facility site enables the Project to maintain a consistent use with other land use in the area, which includes an industrial park, generation and transmission facilities, a landfill, cement mix operations, and a potential future Seminole operations control center.

Q. What is the anticipated schedule for the SHCCF?

A. The project expects to obtain all of its required permits in final and non-appealable form by December 2018. Financial close and full notice to proceed are expected in December 2018, and June 2019, respectively. The CCTA anticipates commercial operation to begin on December 1, 2021.

Q. Are you confident that GE EFS can meet this schedule?

A. Yes, I am confident GE EFS can meet this schedule.

Q. Does this complete your direct testimony?

A. Yes. It does.

CHAIRMAN GRAHAM: We also take official recognition of the 2017 Ten Year Site Plan.

And what do we need to do about the confidentiality?

MS. DZIECHCIARZ: Chairman, we request that we treat all of the matters as confidential pursuant to the rule. And then once the Commission makes a determination on the ruling, we can go from there if there are any objections from the intervenors.

CHAIRMAN GRAHAM: So there will be a recommendation coming to us?

MS. DZIECHCIARZ: Yes, Chairman.

CHAIRMAN GRAHAM: Okay. All right. Is there any other preliminary matters?

Seminole.

MR. PERKO: What about the comprehensive exhibits?

MS. DZIECHCIARZ: That's coming next.

CHAIRMAN GRAHAM: All right. Staff, any stipulated exhibits?

MS. DZIECHCIARZ: So staff has compiled a stipulated comprehensive exhibit list, which includes the prefiled exhibits attached to the witness testimony in this case, and it also includes a number of staff exhibits. The list has

been provided to the parties, the Commissioners, as well as the court reporter. And the list is marked as the first hearing exhibit.

At this time, staff asks that the comprehensive exhibit list marked as Exhibit 1 be entered into the record.

CHAIRMAN GRAHAM: As there is no -- if there's no -- excuse me, Seminole.

MR. PERKO: No objection.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: No objection, Mr. Chairman.

CHAIRMAN GRAHAM: If there is no objections, then we will enter comprehensive exhibit list marked Exhibit 1 into the record.

(Whereupon, Exhibit No. 1 was received into evidence.)

MS. DZIECHCIARZ: Thank you, Chairman.

Exhibits 74 through 99 are staff exhibits that have been stipulated by the parties. And staff also requests that Exhibits 74 through 99 be included in the record as well.

CHAIRMAN GRAHAM: Have the parties had the opportunity to review the exhibit list?

MR. PERKO: Yes, Your Honor.

MR. WRIGHT: Yes, sir.

CHAIRMAN GRAHAM: Okay. Seeing there is no objections, we will enter that into the record. That's exhibits 74 through 99.

MS. DZIECHCIARZ: Yes.

(Whereupon, Exhibit Nos. 74-99 were received into evidence.)

MS. DZIECHCIARZ: And also, Chairman, for clarity, staff notes that Witness Mathur, the Seminole witness, his exhibits were numbers 33 and 34 on the comprehensive exhibit list, and we would like to make sure those are already moved into the record as well, for clarity.

CHAIRMAN GRAHAM: Okay. If they are not, we will make sure that's done.

(Whereupon, Exhibit Nos. 33-34 were received into evidence.)

CHAIRMAN GRAHAM: Is that it?

MS. DZIECHCIARZ: The last matter is we ask that any additional exhibits proffered throughout the hearing be numbered sequentially, starting with number 100, after staff's exhibits.

CHAIRMAN GRAHAM: Okay.

MR. PERKO: Mr. Chairman, if I could interject.

CHAIRMAN GRAHAM: Yes, sir.

MR. PERKO: I think the recent practice of the Commission has been to enter all of the exhibits on the comprehensive exhibit list to the extent that they are not objected to, and I am not aware of any objections. I think it might help proceed the case if we were to do that at this time.

CHAIRMAN GRAHAM: Well, I think the ones that are associated with a specific witness, we will enter those when that witness is up here, after the witness is done.

MR. PERKO: Well, we do have one exhibit that we requested that the deposition -- corporate representative deposition of Quantum Pasco Power be admitted into the record, and I think that there has been no objection to that for the purposes stated in the comprehensive exhibit list exit. So I would ask that that be entered at this time.

CHAIRMAN GRAHAM: What is that exhibit number?

MR. PERKO: I am sorry, that is Exhibit No. 98.

CHAIRMAN GRAHAM: Staff.

MS. DZIECHCIARZ: Yes. That's fine. That's on the staff's exhibit, so that is already entered.

CHAIRMAN GRAHAM: Was that part of the comprehensive exhibit list?

MR. PERKO: I apologize, Commissioner, I misunderstood. I thought they were talking about staff's exhibits. I see that's in the record now. I apologize.

CHAIRMAN GRAHAM: Okay.

Any other exhibits, Mr. Wright?

MR. WRIGHT: Thank you, Mr. Chairman.

We don't have any objection to the entry of the exhibit Mr. Perko just mentioned.

CHAIRMAN GRAHAM: Well, it's already in.

MR. WRIGHT: Pardon?

CHAIRMAN GRAHAM: It's already in.

MR. WRIGHT: Well, great. Belt and suspenders.

We had asked that a specific exhibit to the owe he an excerpt of two pages in the deposition of Mr. Ward be entered. And I am not sure what -- what the situation is. We don't seem to have the same exhibit list.

I can enter that when Mr. Ward takes the stand. We discussed -- Mr. Perko and I discussed it, and they are agreeable to it coming in, and staff is also aware of that.

CHAIRMAN GRAHAM: Let's take up that one when we --

MR. PERKO: I believe that's also on the exhibits that staff entered in.

MS. DZIECHCIARZ: It is, yes. The comprehensive exhibit list was the one that listed all of them. The list that I provided yesterday was just the order of the witnesses with their corresponding exhibits.

MR. PERKO: I think that's already been entered --

CHAIRMAN GRAHAM: Okay.

MR. PERKO: -- but subject to pending request for confidentiality.

CHAIRMAN GRAHAM: Okay.

MR. LAVIA: Quick question. We apparently came with an older version of the staff comprehensive exhibit list. Do you guys -- does staff have an extra?

CHAIRMAN GRAHAM: You got a newer version coming right now.

MR. LAVIA: Okay. Thank you so much.

CHAIRMAN GRAHAM: Sure.

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

CHAIRMAN GRAHAM: Okay. Are we to opening statements?

I don't know who my prehearing officer is, but seven-and-a-half minutes, Good Lord.

MR. PERKO: That's my fault, Mr. Chairman, but we have two cases, so I just asked for a little bit more time.

CHAIRMAN GRAHAM: Trust me, that would be the first and last time y'all ever get seven-and-a-half minutes in opening statement.

Okay. Let's start with the opening statements.

MR. PERKO: Good morning, Chairman Graham, Commissioners Clark and Commissioner Polmann.

We are pleased to present our case in support of two need petitions, one by Seminole Electric for a two-on-one combined cycle facility to be constructed at the Seminole generation station statement in Palatka, and another submitted jointly by Seminole and Shady Hills Energy Center, a subsidiary of General Electric, for a one-on-one combined cycle unit to be built and operated by Shady Hills to serve Seminole under a 30-year tolling agreement.

The two dockets were consolidated for hearing because the two new facilities are part of an integrated resource plan that Seminole developed to

cost effectively and reliably meet its members' needs.

From the outset, I think it's important to give you background on Seminole, because they don't appear before you regularly. That's because Seminole is a not-for-profit rural electric cooperative that is owned by its nine member cooperatives.

Seminole only makes wholesale sales to its member cooperatives. It does not make retail sales. Seminole does not earn a return on equity. It exists to provide electric -- reliable electric service to its members as it's done so for 40 years, and that's the reason for the resource planning process that led to these two cases.

As our witnesses will explain, that process began in early 2016, after Seminole had identified a need of approximately a thousand megawatts in the 2021 to '22 timeframe due primarily to the expiration of power purchase agreements. Seminole issued an RFP, and received over 200 proposals for a variety of resources, including renewable energy, traditional system resources and new and existing independent power plants.

Seminole established a team of subject matter

experts from operations, systems planning, transmission, fuels, environmental, finance, and other areas, and that multidisciplinary team evaluated each proposal, and then developed alternative portfolios to determine the most cost-effective and risk-managed mix of resources.

As Ms. Diazgranados explains, the alternative portfolios included a self-built scenario consisting of the Seminole two-on-one unit and various PPAs; a limited build risk scenario, which includes the Shady Hills one-on-one facility in various purchase power agreements; a no-build risk all PPA portfolio, which included only purchase power; and finally, in light of the regulatory uncertainty and long-term economics of coal, Seminole developed a clean power portfolio, which includes taking one of Seminole's existing coal units out of service along with the Seminole and Shady Hills combined cycle units and various PPAs.

For the rest of 2016 and much of 2017, Seminole's team evaluated and scored the alternative portfolios on the basis of cost-effectiveness and other risk and strategic factors. At the same time, Mr. Alan Taylor conducted an independent evaluation, as he's done

for several utilities seeking need determinations from this commission. In the end, the clean power portfolio was the most cost-effective and risk-managed portfolio. Based on Seminole's analysis, it will result in $363 million in net present value cost savings as compared to the next ranked portfolio.

Now, in seeking to have you deny the need deter-- these need determinations, the intervenors attempt to question the credibility of Seminole's entire decision-making process. After essentially questioning the credibility of -- after essentially arguing that you can't believe anything Seminole says, their witness, Dr. Sotkiewicz, opines that Seminole's resource plan will result in uneconomic duplication of generating resources.

As you consider that testimony, I think it's important to understand some facts about Dr. Sotkiewicz's client, Quantum Pasco Power. Quantum owns a 25-year old power plant that was the subject of their response to Seminole's RFP. In its motion to intervene, Quantum alleged that the Pasco facility will likely shut down if it does not receive a contract from Seminole.

The evidence will show that Quantum's current

owner, an investment firm, recently bought the facility during the course of Seminole's RFP, and that in analyzing the potential purchase, the new owner's base case assumption was that the plant would shut down.

Nevertheless, as Quantum's corporate representative testified in deposition, they believe they would return -- they would earn a reasonable rate of return, albeit low by their standards, even if the plant were shut down. He also confirmed that they factored the risk of not getting a contract from Seminole into the purchase price, and they stood to more than double their rate of return if they ended up getting a contract from Seminole.

To put it bluntly, the economics worked just fine for them when they purchased the Pasco plant, even assuming it would shut down, but their witness -- now their witness is imploring to you protect them from uneconomic duplication.

Now, in questioning Seminole's credibility, the intervenors will point out that Ms. Diazgranados recently revised her testimony after staff discovered an issue with her updated economic analysis. Ms. Diazgranados will explain that the

witness was due to a glitch in a software program commonly used in the industry, but in any event, it does not Seminole's board or the end result. The selected portfolio remains the most cost-effective alternative.

The intervenors' witness, Dr. Sotkiewicz, also attempts to question Seminole's credibility by claiming the error rates for Seminole's 2003 to 2012 load forecasts were so high that you can't rely on Seminole's current load forecast. But as Mr. Wood will explain, Seminole has greatly improved its loads forecasting methodology in recent years, thus Dr. Sotkiewicz's analysis of errors predating Seminole's current methodology has no bearing on the reasonableness of Seminole's current load forecast.

We will also present the testimony of a recognized load forecasting expert, Dr. Tao Hong, who has reviewed Seminole's current load forecasting methodology and pertinent error analyses. And Dr. Hong concludes Seminole's current methodology is entirely reasonable.

Now, the apparent reason that the intervenors question Seminole's load forecast in the first place was to support the fundamental theme of their

case, that you should focus solely on the short-term, and ignore the substantial savings that the selected resource plan would provide over the long-term 30-year planning horizon.

Dr. Sotkiewicz admits that most utilities use a 30-year time horizon, but he argues his analysis of Seminole's load forecasting error somehow militates toward use of a shorter analysis in these cases.

For the reasons I just discussed, Dr. Sotkiewicz's analysis does not support rejection of Seminole's load forecast, much less abandonment of the long-term planning horizon routinely used by utilities in this commission in need cases. Nevertheless, the evidence will show that Seminole did consider cost-effectiveness, both over the short and long-term.

In the end, Seminole's board selected a balanced portfolio of new and existing resources in the form of purchase power agreements, Seminole owned assets, along with the strategic decision to remove from service union of its coal units.

CHAIRMAN GRAHAM: Mr. Perko, you go 30 seconds left.

MR. PERKO: Thank you, Your Honor. I'm almost

finished.

We are confident that the record will show that the selected portfolio is the most cost-effective alternative for meeting Seminole's need and based on the consideration of the pertinent statutory factors.

We thank you for your consideration, and we look forward to presenting our case.

CHAIRMAN GRAHAM: Thank you, sir.

MR. WRIGHT: Ready, set, go.

CHAIRMAN GRAHAM: Yes, sir.

MR. WRIGHT: Thank you, Mr. Chairman.

Good morning. I am Schef Wright, and I have the privilege of representing the intervenors in this case, Quantum Pasco Power, LP, Michael Tulk and Patrick Daly. Thank you on behalf of the intervenors for the opportunity to address you.

Mr. Tulk and Mr. Daly are end use customers, member consumers of Withlacoochee River Electric Co-op, and as such, they will be on the hook for whatever Seminole bills to Withlacoochee.

Quantum Pasco proposed both a PPA option and an asset sale option to Seminole to help meet its claimed need with an existing dual fueled combined cycle power plants.

In summary, the Commission should deny both petitions for the both the SCCF and SHCCF because they are not needed for reduced liability, nor are they needed for adequate electricity at a reasonable cost, nor are they the most cost-effective alternatives available to Seminole to meet the needs of its member co-ops and the end use member consumers who depend on Seminole.

Further, adding the SCCF and SHCCF will, in fact, reduce fuel diversity in Peninsular Florida and uneconomically duplicate other available capacity. Seminole's proposed plan will add dramatic amounts of debt, plus 30 years of fixed cost obligations to the tolling agreement to an already massive debit load, and will, thus, impose significant additional risks on the member consumers who depend on Seminole.

In short, at best, Seminole's petitions are 10 years too early for a need that probably doesn't exist in that timeframe, and you should deny both petitions.

I want to address the purpose of these proceedings as articulated by you, the Florida Public Service Commission, and the Florida Supreme Court. From the Court's opinions, it is crystal

clear that the need at issue in these dockets is the need of the retail customers who will be served by the proposed power plants.

Quoting from the Court's ruling in Tampa Electric V Garcia, 767 So.2d 428, at page 434, the Court stated directly and clearly that, quote, "a determination of need is presently available only to an applicant that has demonstrated that a utility or utility serving retail customers has specific committed need for all of the electrical power to be generated at a proposed plant."

In the Commission's 2001 order approving the need determination for the Osprey Energy Center, which was built to meet Seminole's need, the Commission stated the following: "In addition, we find the output of the proposed Osprey Energy Center to be fully committed for use by Florida retail electric customers in compliance with the Florida Supreme Court's decision in Tampa Electric V Garcia."

It is critical here that the Commission keep this in mind, because you have no continuing jurisdiction over Seminole, and no continuing jurisdiction over the rates that the member consumers will have to pay. This is the customer's

only chance to get the protection they deserve personally to the statutory criteria.

With regard to reliability need, Seminole bases its claims regarding the reliability need on load forecasts. Its forecasts have, for the past 12 years, been consistently and dramatically biased in overstating forecasted loads versus the loads that were actually served.

Seminole's criticisms of the testimony of Dr. Paul Sotkiewicz are flawed. Dr. Sotkiewicz relied on Seminole's ten year site plans in preparing his analyses, and even adjusted data shows that Seminole's load forecasts were still substantially biased in overstating forecasted values. Seminole has apparently updated its forecasting methodology, but that's fairly recent, and at best, its new methodology is unproven.

Moreover, and this goes to uneconomic duplication. Peninsular Florida reserve margins are projected to be entirely adequate to meet all reliability criteria to at least 2026 without either the SCCF or the SHCCF.

The winter reserve margins -- and remember, Seminole is a winter peaking utility -- are excessive. 35 percent of firm peak demand over the

period, per the FRCC. Seminole winter peaking utility does not need this capacity and neither does the state.

This plan is not the most cost-effective alternative over 10 years, or over 30 years. Seminole identified a no-build risk all PPA portfolio that has lower costs over the 10 years study period. Delaying the SCCF and the SHCCF, if they are ever needed at all, will improve customer rates by reducing the cumulative present value revenue requirements because the escalation of plant cost is projected to be significantly less than Seminole's discount rate. Of course, delay also defers or avoids altogether the risks associated with these long-term commitments.

The most cost-effective plan for 30 years is the all PPA portfolio for the first whatever, seven, eight, 10 years. And then if Seminole ever does need new re -- new combined cycle capacity, they can take advantage of improvements in technology in the meantime, take advantage of improvements in solar technology, take advantage of improvements in storage technology and other things, all the while reducing risks.

Seminole gave its proposed plan several

hundred million dollars of benefits in its cost analysis for shutting down the coal plant. They never evaluated the all PPA portfolio with respect to that. They never negotiated for later in-service dates for either the SCCF or the SHCCF that would have improved customer economics. This is plainly imprudent and contrary to the best of customers.

Seminole's plan would reduce fuel diversity by increasing Seminole's and the state's dependence on natural gas. Since the no-build risk all PPA portfolio is less costly for the first 10 years, and given that winter reserve margins are already excessive, as projected by the S -- FRCC, Seminole's plan is clearly uneconomically duplicative of existing capacity.

With respect to customers' best interest, Seminole's plan would put all of its member consumers retail customers, but never consumers, on the hook for an estimated $13 billion in costs for just the two new plants, with the majority of those being fixed costs, with no recourse for customers other than to move or go solar.

Seminole would ignore the risks of long-term major capital expenditures. They already have

massive debt, and this will only make it worse.

I would like to come back to the load forecast issue. As you may know -- I know some people in the room know -- I was originally an economist. I served on the staff of PSC as such. About 40 years ago, there was a somewhat popular economist joke that went like this: Economists are really busy these days. They spend half their time telling us what's going to happen and the other half telling us why it didn't.

In this case, Seminole has spent lots of time and lots of effort in their ten year site plans telling you and their customers, and the world, and other participants in the Florida grid, what was going to happen, but it didn't. And now they are trying to tell you why it didn't, and trying to tell you that this time you should really believe them.

When they are proposing to impose $13 billion in cost, most of it fixed, over 30 plus years on the member consumers, when they have a better, less costly option available for the next 10 years, this is not a short-term focus at all. And when they did not even try to modify their plan, or negotiate for later in-service dates of these plants to take

advantage of the economics of the all PPA portfolio, this is not the best most risk-managed option at all.

We don't trust them, and you should not trust them either. The Commission should not allow Seminole to expose the customers who depend on Seminole for their power supply to the risks that Seminole's plan would impose upon them. The Commission should deny both petitions.

CHAIRMAN GRAHAM: Thank you, Mr. Wright.

MR. WRIGHT: Thank you.

CHAIRMAN GRAHAM: All right. Public testimony, we've done that.

Is there anybody new in the public that wishes to speak? I see no hands.

So let's go to witnesses. If you are on the witness list, and are coming to give testimony today, if I could get you to stand and raise your right hand, please.

(Whereupon, all witnesses were sworn.)

CHAIRMAN GRAHAM: Thank you.

Okay. You will be called up by your -- who's ever presenting the witness. You will give -- you will be given five minutes to summarize your testimony, and there is no friendly cross. I am

sure you guys have all been told that.

I am not going to be here to cut off the witness. The witness will be asked a question. He should answer yes or no, and be given a brief sentence or two to explain the yes or no answer. I am fine with him editorializing as long as he wants. It's up to you if you want to just cut him off and go on to the next question. After you have done that the first time, I will chime in and make sure that he adheres to your wishes.

The witness is welcome to clarify the question if he didn't understand it. If he wants to restate it so it makes sense to him, we will allow that to happen. If that's not the question you have asked, I will allow to you ask it again.

And then at the end, whoever sponsored that witness will be given -- after the opposite side asks questions, staff asks questions and Commission asks questions, you will be allowed to give redirect.

Does everybody understand where we are?

Okay. I am going to let you know what's going to happen today. We are going to go until about one o'clock, and we will take a one-hour lunch. And then we will come back here about two o'clock,

and we will go as close as we can to seven o'clock and we will break for the evening. We will start back again tomorrow at 9:00, not 9:30. So make sure you are here at 9:00, because I am starting at 9:00.

We will probably stop about every two hours so our court reporter over here can rest her little fingers. So I am pretty -- I am pretty exact when it comes to time.

We are going to take a five-minute break now just so you guys can prepare. If you make sure that Mr. Ward is there and ready to go at the end of that five-minute time, and also make sure each one of the witnesses, as you call them up, has already been sworn.

Does everybody understand that?

MR. WRIGHT: Yes, sir.

MR. PERKO: Yes, sir.

CHAIRMAN GRAHAM: Okay. We will take a five-minute break.

Thank you.

(Brief recess.)

CHAIRMAN GRAHAM: Mr. Perko.

MR. PERKO: Seminole calls Mr. Michael Ward. May I proceed?

CHAIRMAN GRAHAM: Yes.

Whereupon,

MICHAEL WARD

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

EXAMINATION

BY MR. PERKO:

Q Could you please state your full name for the record?

A Yes, sir. My name is Michael Paul Ward, II.

Q Mr. Ward, have you been sworn today?

A Yes, sir, I have.

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

A My current employer is Seminole Electric Cooperative, and my business address is 16313 North Dale Mabry Highway, Tampa, Florida, 33618.

Q And, Mr. Ward, did you cause to be filed on December 21st, 2017, direct testimony consisting of 13 pages in Docket Number 20170266-EC?

A Yes, sir, I did.

Q And did you also cause to be filed on December 22nd, 2017, corrected direct testimony consisting of 13 pages in Docket Number 20170267-EC?

A Yes, sir, I did.

Q Do you have any changes or corrections to your prefiled direct testimony in either of those dockets?

A No, I do not.

Q If I were to ask you the same questions in your prefiled testimony in those dockets, would your answers be the same as you sit here today?

A Yes.

MR. PERKO: Mr. Chairman, at this time, I would ask that Mr. Ward's prefiled testimony in both dockets, 20170266 and 20170267, be inserted into the record as if read.

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

(Whereupon, prefiled direct testimony was inserted.)

BEFORE THE PUBLIC SERVICE COMMISSION

SEMINOLE ELECTRIC COOPERATIVE, INC.

DIRECT TESTIMONY OF MICHAEL P. WARD II

DOCKET NO. _____-EC

DECEMBER 21, 2017

Q. Please state your name and address.

A. My name is Michael P. Ward, II. 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 Vice President of Strategic Initiatives.

Q. Please describe your responsibilities in your current position.

A. My responsibilities include executive management responsibility for identifying, analyzing, developing and implementing strategic opportunities that fulfill Seminole's strategic resource plan, and to oversee, direct and manage Seminole's self-build combined cycle facility, tolling agreements, purchased power agreements, solar generation, coal unit retirement, headquarters building renovation and back-up control center/business continuity projects.

Q. Please state your professional experience and education background

A. I have worked in the energy industry for over twenty five years. I have been with Seminole since 2013, and have held my current position at Seminole since October 2017. I hold a Bachelor of Science in Electrical Engineering from the University of Florida and a Masters of Business Administration from the University of Maryland University College. In addition, I hold a Certificate in National Security Affairs from the Naval War College and National Defense University. A current copy of my professional resume is attached as Exhibit No. ___ (MPW-1) to this pre-filed testimony.

Q. Are you sponsoring any exhibits in this case?

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

- Exhibit No. __ (MPW-1) - Resume of Michael Ward;
- Sections 1, 2, 3.1, 3.2, and 3.3 of Seminole's Need Study, which is attached as Exhibit No. ____ (MPW-2) (Other witnesses will sponsor the sections of the Need Study within their areas of responsibility);
- Exhibit No. __ (MPW-3) - Seminole Electric Service Areas
- Exhibit No. __ (MPW-4) - Seminole's Power Purchase Contracts (as of December 31, 2016); and
- Exhibit No. _ (MPW-5) - Seminole's New Power Purchase Contracts.

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

A. The purpose of my testimony is to describe Seminole and its Members, and to provide an overview of Seminole's case supporting our request for a determination of need for the proposed Seminole Combined Cycle Facility ("SCCF"), which is more fully set forth in the Need Study attached as Exhibit No. ___ (MPW-2). I also will introduce Seminole's subject matter witnesses and discuss the adverse consequences of a denial of Seminole's need petition.

SEMINOLE & ITS MEMBERS

Q. Please describe Seminole and its Members.

A. Seminole is a not-for-profit rural electric cooperative organized under Chapter 425, Florida Statutes. Seminole is a generation and transmission cooperative that only makes wholesale sales. It does not make retail sales.

Seminole's nine Members are also not-for-profit rural electric cooperatives organized under Chapter 425, Florida Statutes, and each serves retail end use member-consumers in Florida. Seminole's members are: Central Florida Electric Cooperative, Inc., Clay Electric Cooperative, Inc., Glades Electric Cooperative, Inc., Peace River Electric Cooperative, Inc., SECO Energy, Suwannee Valley Electric Cooperative, Inc., Talquin Electric Cooperative, Inc., Tri-County Electric Cooperative, Inc., and Withlacoochee River Electric Cooperative, Inc.

Approximately 1.6 million people and businesses in parts of 42 Florida counties rely on Seminole's Member cooperatives for electricity. The areas which Seminole's Members serve are shown in Exhibit No. ___ (MPW-3).

Q. Please describe Seminole's purpose.

A. Seminole exists to provide reliable electric service at competitive rates to its Members. Seminole was organized in 1948, but remained relatively inactive until shortly after the 1973 oil embargo. In 1974, Seminole's Board determined that Seminole should develop independent power supplies for its Members. In 1975, each Member entered into a long term "All Requirements" contract with Seminole for the purchase of wholesale power. Under these contracts, each Member purchases from Seminole all of its power requirements for distribution within the State of Florida not otherwise supplied under pre-existing contracts. Four of Seminole's Members had pre-existing contracts with the Southeastern Power Administration, which provide 26 MW of the total capacity required by these Members. Members also have the ability to own or lease renewable or peak shaving generation with capacity amounts up to 5% of their 3-year average peak demand.

Q. How is Seminole governed?

A. Seminole is owned by its Members and governed through a Board of Trustees. Each Member has two voting representatives and one alternate representative on Seminole's Board of Trustees. Our CEO and General Manager, Lisa D. Johnson, serves at the pleasure of the Board of Trustees.

Q. How does Seminole meet the power supply needs of its Members and their member-consumers?

A. Seminole meets the power supply needs of its Members and their member/consumers with Seminole-owned generation in combination with purchased power or tolling contracts with independent power producers, investor-owned and municipal utilities, and renewable energy providers.

Q. Please describe the generating units Seminole owns to meet the requirements of its Members and their members-consumers.

A. Seminole's existing owned generating resources are located at two sites. Seminole Generating Station ("SGS"), which is located in Putnam County near Palatka, Florida, includes two coal-fired generating units (Units 1 and 2), each with a net generating capacity (winter) of approximately 664 MW. Midulla Generating Station ("MGS"), which is located in Hardee County, Florida, includes a natural gas-fired combined cycle facility (Units 1-3) with a net (winter) generating capability of 539 MW and five twin-pack gas turbines (Units 4-8) with a combined net (winter) generating capability of 310 MW. All of the MGS units also have fuel oil capability. Each of these facilities is shown on Exhibit No. ___ (MPW-3).

Q. What are Seminole's current purchased power and tolling resources?

A. Exhibit No. ___ (MPW-4) is a table summarizing Seminole's purchased power agreements ("PPAs") and tolling contracts as of December 31, 2016. As a result of the Request for Proposals ("RFP") process discussed in the pre-filed testimony of Jason Peters and Julia Diazgranados, Seminole has extended the

Oleander PPA through December 31, 2021, and has entered into an additional system PPA for intermediate and peaking power with Duke Energy Florida ("DEF"), another system PPA with Southern Company Services ("SCS"), and a power purchase agreement for solar resources with Tillman Solar Center, LLC., a subsidiary of Coronal Energy. These new agreements are summarized in Exhibit No. ____ (MPW-5).

Q. Does Seminole's generation portfolio currently include renewable energy?

A. Seminole's generation portfolio includes a mix of technologies and fuel types, including renewable energy resources. Seminole currently receives 87.8 MW from renewable energy sources including 13 MW from Biomass, 16.8 MW from landfill gas-to-energy, and 58 MW from waste-to-energy. In addition, Seminole operates a 2.2 MW Cooperative Solar facility located in Hardee County, Florida.

SEMINOLE'S REQUEST FOR NEED DETERMINATION

Q. What relief does Seminole request in this proceeding?

A. Seminole requests that the Commission grant an affirmative determination of need for the Seminole Combined Cycle Facility ("SCCF") with an in-service date of December 1, 2022. SCCF will be a state-of-the-art natural gas-fired two-on-one ("2x1") combined cycle unit with a net generating capacity of 1,050 MW (net nominal). The new unit will be constructed adjacent to Seminole's existing SGS site in Putnam County, Florida. The projected cost of SCCF, which is presented in more detail in the testimony of David Kezell, will

be approximately $727 million. Seminole intends to finance the project through long-term financing.

Q. What is the basis for Seminole's request for need determination?

A. As a result of moderately increasing load growth and the expiration of several purchased power and tolling contracts, Seminole determined a need for approximately 901 MW of additional generating capacity beginning in 2021 and that need was projected to grow to approximately 1,265 MW by the end of 2022. Seminole has determined that the most cost effective, risk-managed resource plan to meet this projected capacity need is a mix of resources consisting of:

- existing generation resources;
- the self-build 1,050 MW (net nominal) SCCF in conjunction with the removal from service of one of the two existing 664 MW SGS coal units;
- several power purchase agreements ("PPAs") for generating resources, including a tolling agreement supporting a new 573 MW (winter) 1x1 combined cycle facility to be constructed by Shady Hills Energy Center, LLC ("SHEC"), an indirect subsidiary of General Electric Company, at the existing Shady Hills power plant site (this facility is the subject of a separate determination of need proceeding jointly initiated by Seminole and SHEC).

Seminole's Board of Trustees selected the resource plan that includes the SCCF based on the results of a multi-stage resource planning process. That process included extensive economic analyses of self-build options and

multiple power purchase alternatives, including numerous renewable energy proposals, identified during a robust RFP process, as well as careful consideration of non-economic attributes and risk factors.

Q. What were the results of Seminole's economic evaluations?

A. As discussed in the pre-filed testimony of Julia Diazgranados, the economic evaluation demonstrates that in net present value revenue requirement terms the selected resource plan is approximately $363 million less expensive than the closest alternative resource plan over the study period.

Q. What were the results of Seminole's evaluation of non-economic attributes?

A. In addition to evaluating the cost-effectiveness and risk impacts, Seminole considered our strategic objectives for our future resource portfolio to have the attributes of diversity, flexibility and optionality. As an example, one of the new long-term PPAs included in the selected resource plan provide Seminole with the advantage of optionality in terms of the amount of capacity available for purchase. This gives Seminole the flexibility to modify its commitment up or down. Given the vulnerability of load forecasts, the ability to modify resource commitments gives Seminole the ability to mitigate the impacts of economic acceleration/downturns or faster/slower load growth rates.

Q. Did Seminole consider the potential for new renewable energy resources as part of its evaluation?

A. Yes. As part of its need evaluation process, Seminole solicited proposals for renewable energy resources. The results of Seminole's economic evaluations show that additional renewable energy resources would not be cost-effective as compared to SCCF. Moreover, Seminole is a winter-peaking utility that experiences its highest end-use demand on winter mornings and nights when solar energy is not a viable capacity source to offset peak demand. Nevertheless, in recognition of the energy value and summer capacity value of solar, Seminole has included 40 MW of solar in the selected resource plan.

Q. Did Seminole consider whether additional conservation measures are reasonably available to mitigate the projected capacity need?

A. Yes. As explained in the pre-filed direct testimony of Kyle Wood, Seminole is a wholesale provider of electricity that does not directly implement demand side management ("DSM") and conservation measures. Through its rate structure, Seminole promotes conservation by providing its Members price signals that reflect Seminole's cost of supplying power; thereby providing an incentive for Members to implement cost-effective DSM and conservation measures to lower peak demand. The effect of the DSM and conservation measures offered by Seminole's Members is reflected in Seminole's load forecast, but we nevertheless project need for additional generation capacity. Seminole recently sponsored an evaluation of DSM potential to identify potentially cost-effective DSM measures for our Members to consider and further evaluate. While the results of this study may help Seminole's Members to identify new DSM opportunities, there is not a sufficient amount of reasonably achievable DSM potential to offset the need for SCCF.

Q. Did Seminole consider the potential impact of the selected resource plan on fuel supply reliability?

A. Yes. Seminole considered the potential impact of the resource plan on fuel diversity and supply reliability, particularly in light of the removal from service of one of the existing SGS coal-fired generating units. In order to enhance fuel supply reliability, Seminole is expanding its natural gas transportation plan to include capacity agreements with four different counterparties which ensures access to and delivery of a diverse gas supply. Seminole has supply agreements with over thirty natural gas suppliers. The retention in service of one of the coal-fired units at SGS provides additional mitigation of potential natural gas supply disruptions. Thus, the selected resource plan is not expected to significantly impact fuel diversity or supply reliability.

INTRODUCTION OF SEMINOLE'S WITNESSES

Q. Please identify Seminole's other witnesses in this proceeding and subjects each witness will address in his/her direct testimony.

A. The names and areas of responsibility for each of the other seven witnesses are (in alphabetical order):

Robert DeMelo, Seminole's Manager of Transmission Planning and System Protection, discusses Seminole's transmission planning process, the interconnection and transmission line facilities required to support the SCCF,

and the transmission costs and impacts of the various alternatives considered to address Seminole's need.

Julia Diazgranados, Seminole's Director of Treasury and Planning, addresses Seminole's power supply planning process, the reliability and need assessment Seminole performed to identify its need for capacity, and Seminole's economic evaluation of self-build and purchased power and tolling options. Importantly, she explains why the SCCF project is the most cost-effective, risk managed option to meet the reliability and economic needs of Seminole and its Members. She describes the Seminole Board approval process and addresses the adverse consequences that would result if the requested need determination is not granted.

Tom Hines, of Tierra Resource Consultants, describes the results of work that Tierra Consultants performed to quantify the energy savings that Seminole Members are achieving through implementation of conservation and DSM measures and to help Seminole evaluate other conservation measures that Seminole's Members may choose to implement.

David Kezell, Seminole's Director of Engineering and Capital Development, describes the SCCF project, including its site, technology, related facilities, operating assumptions and estimated total cost. He also presents Seminole's feasibility studies and technology assessment, and describes Seminole's experience in the construction and operation of combined cycle plants and other fossil-fired units.

Jason Peters, Seminole's Portfolio Director (Power), addresses Seminole's capacity solicitations to meet forecasted needs, the request for proposals ("RFP") Seminole conducted to address its need for capacity, the bids Seminole received in response to its RFP, the technical and commercial screening of such bids in conformance with the requirements of the RFP, and other purchased power and tolling options considered by Seminole.

Alan Taylor, President of Sedway Consulting Inc., who conducted an independent evaluation and review of Seminole's overall RFP evaluation process, confirms that the resource plan selected by Seminole represents the best, least-cost alternative to meet Seminole's projected needs for 2021 and beyond.

David Wagner, Seminole's Portfolio Director (Gas), presents the natural gas supply and transportation plans for SCCF, as well as the fuel price forecasts used in the analyses that examined the various options for meeting Seminole's capacity needs. He also addresses fuel supply diversity.

Kyle Wood, Seminole's Manager of Load Forecasting and Member Analytics, presents Seminole's load forecast. He also explains how Seminole and its Members implement conservation and DSM measures and why additional conservation and DSM measures are not reasonably available to mitigate the need for SCCF.

ADVERSE CONSEQUENCES OF DENIAL

Q. Would there be any adverse consequences to Seminole and its Members if the Commission does not grant an affirmative determination of need for the SCCF project?

A. Non-approval would mean that Seminole's Members and the Members' end-use member-consumers would be denied the most cost-effective, risk managed power supply solution. Seminole's required reserve margin would fall below the minimum reserve level in 2021. While additional off-system purchases could perhaps be made to fulfill Member power requirements and maintain the target reserve margin, Seminole would not be able to remove a coal unit from service and the costs of the resulting resource plan would be substantially higher. As explained in the testimony of Julia Diazgranados, denial of the SCCF by itself would result in an NPV revenue requirements impact of $502 million.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

SEMINOLE ELECTRIC COOPERATIVE, INC.

DIRECT TESTIMONY OF MICHAEL P. WARD II

DOCKET NO. _____-EC

DECEMBER 21, 2017

Q. Please state your name and address.

A. My name is Michael Ward. 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 Vice President of Strategic Initiatives.

Q. Please describe your responsibilities in your current position.

A. My responsibilities include executive management responsibility for identifying, analyzing, developing and implementing strategic opportunities that fulfill Seminole's strategic resource plan, and to oversee, direct and manage Seminole's self-build combined cycle facility, tolling agreements, purchased power agreements, solar generation, coal unit retirement, headquarters building renovation and back-up control center/business continuity projects.

Q. Please state your professional experience and education background

A. I have worked in the energy industry for over twenty five years. I have been with Seminole since 2013, and have held my current position at Seminole since October 2017. I hold a Bachelor of Science in Electrical Engineering from the University of Florida and a Masters of Business Administration from the University of Maryland University College. In addition, I hold a Certificate in National Security Affairs from the Naval War College and National Defense University. A current copy of my professional resume is attached as Exhibit No. ___ (MPW-1) to this pre-filed testimony.

Q. Are you sponsoring any exhibits in this case?

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

- Exhibit No. __ (MPW-1) - Resume of Michael P. Ward, II;
- Sections 1, 2, 3.1, 3.2, and 3.3 of Seminole's Need Study, which is attached as Exhibit No. ____ (MPW-2) (Other witnesses will sponsor the sections of the Need Study within their areas of responsibility);
- Exhibit No. __ (MPW-3) - Seminole Electric Service Areas
- Exhibit No. __ (MPW-4) - Seminole's Power Purchase Contracts (as of December 31, 2016); and
- Exhibit No. _ (MPW-5) - Seminole's New Power Purchase Contracts.

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

A. The purpose of my testimony is to describe Seminole and its Members, and to provide an overview of case supporting our joint request, with Shady Hills Energy Center, LLC (“SHEC”), for a determination of need for the proposed Shady Hills Combined Cycle Facility ("SHCCF"). I also will introduce Seminole's subject matter witnesses and address the adverse consequences of a denial of Seminole's need petition.

SEMINOLE & ITS MEMBERS

Q. Please describe Seminole and its Members.

A. Seminole is a not-for-profit rural electric cooperative organized under Chapter 425, Florida Statutes. Seminole is a generation and transmission cooperative that only makes wholesale sales. It does not make retail sales.

Seminole’s nine Members are also not-for-profit rural electric cooperatives organized under Chapter 425, Florida Statutes, and each serves retail end-use member-consumers in Florida. Seminole's members are: Central Florida Electric Cooperative, Inc., Clay Electric Cooperative, Inc., Glades Electric Cooperative, Inc., Peace River Electric Cooperative, Inc., SECO Energy, Suwannee Valley Electric Cooperative, Inc., Talquin Electric Cooperative, Inc., Tri-County Electric Cooperative, Inc., and Withlacoochee River Electric Cooperative, Inc.

Approximately 1.6 million people and businesses in parts of 42 Florida counties rely on Seminole's Member cooperatives for electricity. The areas which Seminole's Members serve are shown in Exhibit No. ___ (MPW-2).

Q. Please describe Seminole's purpose.

A. Seminole exists to provide reliable electric service at competitive rates to its Members. Seminole was organized in 1948, but remained relatively inactive until shortly after the 1973 oil embargo. In 1974, Seminole's Board determined that Seminole should develop independent power supplies for its Members. In 1975, each Member entered into a long term "All Requirements" contract with Seminole for the purchase of wholesale power. Under these contracts, each Member purchases from Seminole all of its power requirements for distribution within the State of Florida not otherwise supplied under pre-existing contracts. Four of Seminole's Members had pre-existing contracts with the Southeastern Power Administration, which provide 26 MW of the total capacity required by these Members. Members also have the ability to own or lease renewable or peak shaving generation with capacity amounts up to 5% of their 3-year average peak demand.

Q. How is Seminole governed?

A. Seminole is governed by its Members, through a Board of Trustees. Each Member has two voting representatives and one alternate representative on Seminole's Board of Trustees. Our CEO and General Manager, Lisa D. Johnson, serves at the pleasure of the Board of Trustees.

Q. How does Seminole meet the power supply needs of its Members and their member-consumers?

A. Seminole meets the power supply needs of its Members and their member-consumers with Seminole-owned generation in combination with purchased power or tolling contracts with independent power producers, investor-owned and municipal utilities, and renewable energy providers.

Q. Please describe the generating units Seminole owns to meet the requirements of its Members and their members-consumers.

A. Seminole's existing owned generating resources are located at two sites. Seminole Generating Station ("SGS"), which is located in Putnam County near Palatka, Florida, includes two coal-fired generating units (Units 1 and 2), each with a net generating capacity (winter) of approximately 664 MW. Midulla Generating Station ("MGS"), which is located in Hardee County, Florida, includes a natural gas-fired combined cycle facility (Units 1-3) with a net (winter) generating capability of 539 MW and five twin-pack gas turbines (Units 4-8) with a combined net (winter) generating capability of 310 MW. All of the MGS units also have fuel oil capability. Each of these facilities is shown on Exhibit No. ___ (MPW-2).

Q. What are Seminole's current purchased power and tolling resources?

A. Exhibit No. ___ (MPW-3) is a table summarizing Seminole's purchased power agreements ("PPAs") and tolling contracts as of December 31, 2016. As a result of the Request for Proposals ("RFP") process discussed in the pre-filed testimony of Jason Peters and Julia Diazgranados, Seminole has extended the

Oleander PPA through December 31, 2021, and has entered into an additional system PPA for intermediate and peaking power with Duke Energy Florida ("DEF"), another system PPA with Southern Company Services ("SCS"), and a power purchase agreement for solar resources with Tillman Solar Center, LLC., a subsidiary of Coronal Energy. These new agreements are reflected in the updated table shown in Exhibit No. ____ (MPW-4).

Q. Does Seminole's generation portfolio currently include renewable energy?

A. Seminole's generation portfolio includes a mix of technologies and fuel types, including a renewable energy portfolio. Seminole currently receives 87.8 MW from renewable energy sources including 13 MW from Biomass, 16.8 MW from landfill gas-to-energy, and 58 MW from waste-to-energy. In addition, Seminole operates a 2.2 MW Cooperative Solar facility located in Hardee County, Florida.

REQUEST FOR NEED DETERMINATION

Q. What relief does Seminole request in this proceeding?

A. Seminole and SHEC jointly request that the Commission grant an affirmative determination of need for the Shady Hills Combined Cycle Facility ("SHCCF") with an in-service date of December 31, 2021. SHCCF will be a state-of-the-art natural gas-fired one-on-one ("1x1") combined cycle unit with a net generating capacity of 550 MW (net nominal). The new facility, which will be owned and operated by SHEC, will be constructed adjacent to the existing Shady Hills power plant site in Pasco County, Florida.

Q. What is the basis for Seminole's request for need determination?

A. As a result of moderately increasing load growth and the expiration of several purchased power and tolling contracts, Seminole determined a need for approximately 901 MW of additional generating capacity beginning in 2021 and that need was projected to grow to approximately 1,265 MW by the end of 2022. Seminole has determined that the most cost effective, risk-managed resource plan to meet this projected capacity need is a mix of resources consisting of:

- existing generation resources;
- the self-build 1,050 MW (net nominal) 2x1 combined cycle facility known as the Seminole Combined Cycle Facility ("SCCF") in conjunction with the removal from service of one of the two existing 664 MW SGS coal units (this facility is the subject of a separate determination of need proceeding initiated by Seminole);
- several power purchase agreements ("PPAs") for generating resources, including a tolling agreement supporting the SHCCF.

Seminole's Board of Trustees selected the resource plan that includes the SHCCF and SCCF based on the results of a multi-stage resource planning process. That process included extensive economic analyses of self-build options and multiple power purchase alternatives, including numerous renewable energy proposals, identified during a robust RFP process, as well as careful consideration of non-economic attributes and risk factors.

Q. What were the results of Seminole's economic evaluations?

A. As discussed in the pre-filed testimony of Julia Diazgranados, the economic evaluation demonstrates that in net present value revenue requirement terms the selected resource plan is approximately $363 million less expensive than the closest alternative resource plan over the study period.

Q. What were the results of Seminole's evaluation of non-economic attributes?

A. In addition to evaluating the cost-effectiveness and risk impacts, Seminole considered our strategic objectives for our future resource portfolio to have the attributes of diversity, flexibility and optionality. As an example, one of the new long-term PPAs included in the selected resource plan provide Seminole with the advantage of optionality in terms of the amount of capacity available for purchase. This gives Seminole the flexibility to modify its commitment up or down. Given the vulnerability of load forecasts, the ability to modify resource commitments gives Seminole the ability to mitigate the impacts of economic acceleration/downturns or faster/slower load growth rates.

Q. Did Seminole consider the potential for new renewable energy resources as part of its evaluation?

A. Yes. As part of its need evaluation process, Seminole solicited proposals for renewable energy resources. The results of Seminole's economic evaluations show that additional renewable energy resources would not be cost-effective as compared to SHCCF and SCCF. Moreover, Seminole is a winter-peaking utility that experiences its highest end-use demand on winter mornings and nights when solar energy is not a viable capacity source to offset peak demand.

Nevertheless, in recognition of the energy value and summer capacity value of solar, Seminole has included 40 MW of solar in the selected resource plan.

Q. Did Seminole consider whether additional conservation measures are reasonably available to mitigate the projected capacity need?

A. Yes. As explained in the pre-filed direct testimony of Kyle Wood, Seminole is a wholesale provider of electricity that does not directly implement demand side management ("DSM") and conservation measures. Through its rate structure, Seminole promotes conservation by providing its Members price signals that reflect Seminole's cost of supplying power; thereby providing an incentive for Members to implement cost-effective DSM and conservation measures to lower peak demand. The effect of the DSM and conservation measures offered by Seminole's Members is reflected in Seminole's load forecast, but we nevertheless project need for additional generation capacity. Seminole recently sponsored an evaluation of DSM potential to identify potentially cost-effective DSM measures for our Members to consider and further evaluate. While the results of this study may help Seminole's Members to identify new DSM opportunities, there is not a sufficient amount of reasonably achievable DSM potential to offset the need for SCCF.

Q. Did Seminole consider the potential impact of the selected resource plan on fuel supply reliability?

A. Yes. Seminole considered the potential impact of the resource plan on fuel diversity and supply reliability, particularly in light of the removal from service of one of the existing SGS coal-fired generating units. In order to

enhance fuel supply reliability, Seminole is expanding its natural gas transportation plan to include capacity agreements with four different counterparties which ensures access to and delivery of a diverse gas supply. Seminole has supply agreements with over thirty natural gas suppliers. The retention in service of one of the coal-fired units at SGS provides additional mitigation of potential natural gas supply disruptions. Thus, the selected resource plan is not expected to significantly impact fuel diversity or supply reliability.

INTRODUCTION OF SEMINOLE'S WITNESSES

Q. Please identify Seminole's other witnesses in this proceeding and subjects each witness will address in his/her direct testimony.

A. The names and areas of responsibility for each of the other seven witnesses are (in alphabetical order):

Robert DeMelo, Seminole's Manager of Transmission Planning and System Protection, discusses Seminole's transmission planning process and the transmission costs and impacts of the various alternatives considered to address Seminole's need.

Julia Diazgranados, Seminole's Director of Treasury and Planning, addresses Seminole's power supply planning process, the reliability and need assessment Seminole performed to identify its need for capacity, and Seminole's economic evaluation of self-build and purchased power and tolling options. Importantly,

she explains why the SHCCF and SCCF are the most cost-effective, risk-managed options to meet the reliability and economic needs of Seminole and its Members. She describes the Seminole Board approval process and addresses the adverse consequences that would result if the requested need determination is not granted.

Tom Hines, of Tierra Resource Consultants, describes the results of work Tierra Consultants performed to quantify the energy savings that Seminole Members are achieving through implementation of conservation and DSM measures and to help Seminole evaluate other conservation measures that Seminole's Members may choose to implement.

Ankur Mathur, a Senior Vice President, of GE Capital US Holdings, Inc. ("GECUSH"), which is an indirect, wholly-owned subsidiary of General Electric Company ("GE") and owner of SHEC. Mr. Mathur describes the SHCCF project, including its site, technology, related facilities, operating assumptions and transmission interconnections, as well as the tolling agreement between Seminole and SHEC. He also describes GE's experience in the construction and operation of combined cycle plants and other fossil-fired units.

Jason Peters, Seminole's Portfolio Director (Power), addresses Seminole's capacity solicitations to meet forecasted needs, the request for proposals ("RFP") Seminole conducted to address its need for capacity, the bids Seminole received in response to its RFP, the technical and commercial

screening of such bids in conformance with the requirements of the RFP, and other purchased power and tolling options considered by Seminole.

Alan Taylor, President of Sedway Consulting Inc., who conducted an independent evaluation and review of Seminole's overall RFP evaluation process, confirms that the resource plan selected by Seminole represents the best, least-cost alternative to meet Seminole's projected needs for 2021 and beyond.

David Wagner, Seminole's Portfolio Director (Gas), presents the natural gas supply and transportation plans for SHCCF, as well as the fuel price forecasts used in the analyses that examined the various options for meeting Seminole's capacity needs. He also addresses fuel supply diversity.

Kyle Wood, Seminole's Manager of Load Forecasting and Member Analytics, presents Seminole's load forecast. He also explains how Seminole and its Members implement conservation and DSM measures and why additional conservation and DSM measures are not reasonably available to mitigate the need for SCCF.

ADVERSE CONSEQUENCES OF DENIAL

Q. Would there be any adverse consequences to Seminole and its Members if the Commission does not grant an affirmative determination of need for the SCCF project?

A. Non-approval would mean that Seminole's Members and the Members'end-use member-consumers would be denied the most cost-effective, risk managed power supply solution. Seminole's required reserve margin would fall below the minimum reserve level in 2021. While additional off-system purchases could perhaps be made to fulfill Member power requirements and maintain the target reserve margin, Seminole would not be able to remove a coal unit from service and the costs of the resulting resource plan would be substantially higher. As explained in the testimony of Julia Diazgranados, denial of the SHCCF by itself would result in an NPV revenue requirements impact of $363 million, along with the continuation of service of the coal unit.

Q. Does this conclude your testimony?

A. Yes.

BY MR. PERKO:

Q Now, Mr. Ward, did you have exhibits numbers MDW-1 through MDW-5 attached to your testimony?

A Yes, I believe those are MPW-1 through MPW-5.

Q Thank you. I apologize.

And if I understand correctly, MDW-1, which is the -- MDW-2, rather, which is the need study, you are sponsoring certain sections of that document; is that correct?

A Yes.

Q Do you have any changes to the exhibits attached to your testimony, or the sections of MDW-2 that you are sponsoring today?

A No.

MR. PERKO: At this time, Your Honor -- or Mr. Chairman, we request that those exhibits be admitted into the record.

CHAIRMAN GRAHAM: We will note them right now and we will admit at the end of his testimony.

MR. PERKO: Thank you.

BY MR. PERKO:

Q Mr. Ward, have you prepared a summary of your direct testimony?

A I have.

Q Would you present it to the Commissioners at

this time?

A Good morning, Chairman and Commissioners. My name is Michael Ward, and I am the Vice-President of Strategic Initiatives and Commercial Operations for Seminole Electric Cooperative.

My primary role in this process was executive oversight, as well as providing operational expertise to develop and evaluate portfolios.

Seminole is a not-for-profit rural electric cooperative organized under Chapter 425 of Florida Statutes. Seminole is a generation and transmission cooperative that only makes wholesale sales. We do not make retail sales. Approximately 1.6 million people and businesses in parts of 42 Florida counties rely on Seminole's member cooperatives for electricity.

Seminole exists to provide reliable electric service at competitive rates to our members. As a not-for-profit member-owned electric cooperative, all of our costs are passed directly on to our members. We do not have shareholders. Our members have member consumers spread out over large areas. They still require reliable service. We do not have an economic incentive to build things. We exist only to provide our members with safe, affordable and reliable electricity.

As our witnesses will describe, this Seminole

team has worked diligently for many months, not for some sort of academic exercise to check a regulatory requirement box, but rather to deliver a thorough and well thought out portfolio of energy resources that will assure that the real people that we serve have their energy needs met. We take our responsibility to serve them very seriously, and we are pleased to respectfully represent our work to the Public Service Commission in this determination of need hearing.

Seminole conducted a comprehensive analysis over more than the last two years in order to determine the most cost-effective, risk-managed portfolio solution for meeting our members' needs. We concluded that the Clean Power Plan portfolio that we've designated consisting of the Seminole Combined Cycle Facility and the Shady Hills Combined Cycle Facility Tolling Agreement, along with additional purchase power agreements was the least cost alternative to reliably meet the needs of our members.

On September 27th, 2017, the Seminole board unanimously approved moving forward with this plan. The economic evaluation demonstrates that in net present value revenue requirement terms, the selected resource plan is approximately $363 million less expensive than the closest alternative resource plan over 30 years.

During this hearing, you will hear from a number of witnesses.

Mr. David Kezell will discuss the Seminole Combined Cycle Facility.

Mr. David Wagner will discuss Seminole fuel supply and price forecasts.

Mr. Robert DeMelo will discuss transmission.

Mr. Kyle Wood will provide Seminole's load forecast and discuss conservation measures employed by Seminole and its members.

Mr. Tom Hines will discuss his expert analysis of demand side management and energy conservation measures.

Mr. Jason Peters will discuss the market alternative request for proposals process and risk analysis.

Ms. Julie Diazgranados and Mr. Alan Taylor will just cost-effective necessary and his analysis of Seminole's portfolios.

Seminole requests an affirmative determination of need for the Seminole Combined Cycle Facility and the Shady Hills Combined Cycle Facility projects. Non-approval would mean that Seminole's members and the members' end use member consumers would be denied the most cost-effective power supply solution.

Seminole's required reserve margin would fall below the minimum reserve in 2021, while additional off-system purchases could perhaps be made to fulfill member power requirements, and maintain the target reserve margin, Seminole would not be able to remove a coal unit from service, and the cost of the resulting resource plan would be substantially higher.

Thank you for your time.

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

CHAIRMAN GRAHAM: Thank you.

Mr. Ward, welcome.

THE WITNESS: Yes, sir.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: Thank you, Mr. Chairman.

EXAMINATION

BY MR. WRIGHT:

Q Good morning, Mr. Ward.

A Good morning.

Q It's good to see you again.

A Yes, sir.

Q Thank you.

You are the only officer of Seminole Electric Co-op testifying in this case, is that correct?

A That is correct.

Q And it is correct that Seminole is a member of the Florida Reliability Coordinating Council?

A Yes, sir.

Q Thank you.

I want to ask you a few questions about the tolling agreement between Seminole and Shady Hillds.

A Yes.

Q And that's Shady Hills Energy Center, LLC, correct?

A Yes.

Q Okay. Does Seminole have the opportunity to vary the capacity paid for under the tolling agreement?

A No.

Q So it's the full 573 megawatts for the life of the tolling agreement, correct?

A Yes, it is.

Q What, if any, opportunity does Seminole have to get out of the tolling agreement?

A It's a 30-year contract, so the agreement would go for 30 years.

Q So if there were a permitting failure, the contract would terminate?

A Yes.

Q Failure to get transmission service would terminate the contract?

A Yes. And failure -- failure to get interconnect for fuel supply would terminate as well.

Q Thank you.

Hypothetically, a significant default could result in termination?

A Yes, it could.

Q And Seminole does have the option to purchase the plant, correct?

A We do.

Q Okay. Is it correct that the capacity payments under the tolling agreement escalate, I am not asking for you any numbers, but is it correct that they escalate over time?

A Yes, they do.

Q Thank you.

I may ask you some questions that will be better answered by another witness, and if so, feel free to say so. The situation I am in is that you are the first up, you are the only officer, and if I don't ask you and somebody else says I should have asked you, then I have got a problem, so bear we me and we will do our best.

In your deposition, we discussed the power purchase agreement with the Osprey Energy Center Calpine Construction Finance company --

A Yes.

Q -- that served Seminole. Do you know for how long that contract served Seminole?

A I do not. I was not at Seminole when that contract was in process.

Q Okay. Thank you.

May I ask Ms. Diazgranados about that?

A You may, but I don't believe she was here during that contract, but she may be able to answer that.

Q Okay. I am sure she was there during the contract. She said so in her deposition, but I will go on there.

Are you aware whether the Osprey PPA had optionality as to the amount of megawatts taken and paid for?

A No, I am not.

Q Are you aware of the reopener, or early out provisions in the Osprey?

A I understand that there were provisions for that, but I don't know them in particular.

Q Okay. Do you know how long Seminole took power from Osprey?

A I do not.

Q Thank you.

Did you attempt to negotiate for optionality as to the megawatts paid for under the tolling agreement in your negotiations with Shady Hills?

A With Shady Hills, no, we did not. But we do have optionality in several of the purchase power agreements other than Shady Hills, which are probably commensurate with the Osprey -- size of the Osprey deal.

Q Did you attempt to negotiate for alternate pricing with Shady Hills for a later in-service date than what is proposed here?

A No, we did not.

Q These are some questions about alternatives that may be available to Seminole to meet its needs.

Whose responsibility within Seminole is it to keep up with developments on solar by itself and solar with storage?

A There is not an individual responsibility for that. We do have a team that reviews that continuously. We are always looking for better alternatives. We are assessing the market.

This RFP demonstrates that we do a robust assessment. And the portfolio that we've put forward in this case provides staged -- a staged approach and opportunity as purchase power agreements are rolling off for us to take advantage of cost-effective resources

such as solar in the future.

Q Would Mr. Peters be a significant member of that team to whom I might pose such questions?

A Yes.

Q Thank you.

Ms. Diazgranados?

A Yes.

Q I would like to talk with you about costs and cost risks. I -- excuse me.

MR. WRIGHT: Mr. Chairman, I try to make things go as efficiently as possible. In this case, I have got a lot of exhibits. I don't know exactly what order they are going to appear in, and many of them are confidential. And for that reason, I have not given them to the staff at this time, but I do have an exhibit that I would like to distribute at this time.

CHAIRMAN GRAHAM: Sure. We are at Exhibit No. 100, so we will give it that number.

Mr. Wright, do you have a short title for this exhibit?

MR. WRIGHT: I do. It's on the label, and it says CPC/CC Portfolio, revenue requirements by gen.resource. It's also a response to Intervenor's Interrogatory No. 63. This is a confidential

document.

(Whereupon, Exhibit No. 100 was marked for identification.)

MR. PERKO: Mr. Chairman, for the record, and perhaps to move things along, I believe the initial column on pages one and two -- subject to confirmation from my associate, the initial column on pages one and two of this document are what we are claiming is confidential, and it is subject to a pending confidentiality request.

MS. HELTON: And, Mr. Chairman, it's really hard to work with these documents if you don't highlight in yellow the confidential, or the proposed confidential information. So it's -- when the information is not highlighted, it's difficult to know which you can say in public and which you cannot.

MR. PERKO: I apologize, Mr. Chairman. We did highlight this in our confidentiality request, which was provided to intervenors, as well as staff. So this was a document that was produced in discovery separate from that to the intervenors.

CHAIRMAN GRAHAM: Mr. Perko, you said only the first two columns are confidential?

MR. PERKO: The first column on the first two

pages.

CHAIRMAN GRAHAM: The first column?

MR. PERKO: Yes, sir.

CHAIRMAN GRAHAM: On the first two pages?

MS. HELTON: So not the years, but the first two that are labeled?

CHAIRMAN GRAHAM: No. The first column on the first two pages. Not the year but --

MR. PERKO: It's the first column that refers to NG transportation.

CHAIRMAN GRAHAM: It's the first column that refers to NG transportation on the first two pages.

Okay, Mr. Wright.

MR. WRIGHT: Mr. Chairman, I will say I apologize. It's been a busy time, and I did not see their confidentiality request until this minute. I understood that all except a couple of the summary values at the bottom of this table were to be treated as confidential, and accordingly, I was treating it that way. As time permits, I will endeavor to mark as confidential what is, and do the best we can.

CHAIRMAN GRAHAM: Well, you heard the attorney, it's just the first column, so other than that, anything else is not confidential.

MR. WRIGHT: That's good news. Thank you.

CHAIRMAN GRAHAM: Okay.

BY MR. WRIGHT:

Q I don't have a lot of questions with respect to this exhibit, Mr. Ward. And fortunately, I am not going to ask you about natural gas transportation, so I think you can answer all of my questions directly.

Well, is it correct that in -- the first sheet of this exhibit shows the annual revenue requirements in nominal dollars?

A That is correct.

Q The second sheet shows in present value?

A That is correct.

Q And the third sheet shows numbers toted up by certain categories, correct?

A Yes.

Q Thank you.

The total cost for the SCCF in nominal dollars are $8.229 billion over the 30-year analysis period, correct -- or sorry, 33-year analysis period?

A The total revenue requirement, yes.

Q Thank you for that clarification.

And correspondingly, the total dollars for the Shady Hills is 4.773 billion in revenue requirements, correct?

A Yes.

Q I would like to look at the last page of the -- page three of the exhibit, please.

Will you agree that the categories generation capital, transmission capital, other capital and fixed O&M are fixed costs?

A Yes.

Q And the fuel and variable O&M and Co2 emissions are variable costs?

A Yes.

Q In regard to the fixed versus variable status, what can you tell us about the other column?

A I don't know.

Q Okay. We discussed cost risk at your deposition. As I recall, you testified there that you believe that all costs are at risk, both fixed and variable. Is that still your opinion?

A Yes, fixed and variable costs are -- are cost risk. Variable can be deferred or mitigated through lower cost alternatives with market purchases in realtime.

Q If you don't have to generate electricity to meet load, you would at least save the fuel and variable O&M costs associated with such energy, correct?

A Yes.

Q This document shows that Seminole assumes, for planning purposes and evaluation purposes, that you would close the Seminole Generating Station Unit 1, the Unit 1 Coal Plant, as of the end of 2022; is that correct?

A Yes.

Q And for these purposes, you would run the second coal unit through the analysis period, correct?

A In the analysis, that is correct. The actual termination of which unit would be removed from service has not been made yet.

Q Thank you. I understand that, and I appreciate the clarification.

If you know, as those units operate, do they generally produce about the same amounts of electricity over time?

A Yes, they do.

Q Thank you.

Will you agree that risks are greater with long-term investments as a general proposition?

A No. What I would say is that risk -- there is risk in short-term and there is risk in long-term. Those risks are balanced by trying to incorporate lower short-term risk and lower long-term risk together.

Q Okay.

MR. WRIGHT: I have -- I want to explore certain aspects of risk, and I have another exhibit, Mr. Chairman.

CHAIRMAN GRAHAM: Sure. We will number this one 101.

MR. WRIGHT: Short title, Mr. Chairman, is SGS Debt Service. It's also a response to the Intervenor's Interrogatory No. 38.

CHAIRMAN GRAHAM: Thank you.

MR. WRIGHT: And fortunately, the -- to the best of my knowledge, the -- all the data is confidential, and highlighted accordingly on these copies.

(Whereupon, Exhibit No. 101 was marked for identification.)

BY MR. WRIGHT:

Q Mr. Ward, you have seen this exhibit before, correct?

A Yes.

Q And this shows the --

CHAIRMAN GRAHAM: Mr. Wright, hold on a minute.

MR. WRIGHT: Oh, I'm sorry, Mr. Chair.

CHAIRMAN GRAHAM: I want to make sure everybody has got it in front of them.

MR. WRIGHT: Thank you.

CHAIRMAN GRAHAM: Okay, Mr. Wright.

MR. WRIGHT: Thank you, Mr. Chairman.

BY MR. WRIGHT:

Q Is it correct that this exhibit shows the projected debt service for the Seminole Generating Station debt for Seminole Electric Co-op?

A Yes.

Q The top block shows, by year and by debt issue, interest payments, and the bottom block shows the principal payments by year and by debt issue; correct?

A Yes.

Q So if we wanted to know the total amount of debt -- amounts of debt service, we could simply add up all the numbers in the top to get the interest, correct?

A Yes.

Q And same for the principal payments in the bottom, correct?

A Yes.

Q Thank you.

If you know, do you consider the totals of those values to be confidential?

A Yes, we do.

Q I can show you a copy of your annual report if necessary, but will you agree that your 2017 annual

report shows debt -- long-term debt and capital lease obligations of approximately $1.35 billion?

A Approximately, yes.

Q Thanks.

And if you can't answer this because it's confidential, just say so and I will deal with it in my brief, but will you agree that the total principal debt on the Seminole coal plants is a majority of that $1.35 billion?

MR. PERKO: I guess, Mr. Chairman, I would just object to relevance. I am not sure what the relevance is to any of the issues in this case.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: It goes to the risks imposed on customers by the -- the proposed plan.

CHAIRMAN GRAHAM: I will allow it.

MR. WRIGHT: Thank you.

THE WITNESS: Can you repeat the question, please?

BY MR. WRIGHT:

Q Certainly.

The question is, and again if this is -- if it's confidential to even give this qualitative answer, ordinal answer, then just say so, but can you say whether the total principal outstanding on the Seminole

coal plant debt is more than half of the total $1.35 billion number we just discussed?

A Yes, it is.

Q Thank you.

I am correct that Seminole intends to pay off the debt on the Seminole Generating Station loans, bonds, whatever, as scheduled; correct?

A Yes. The plan that we've put forward, and the savings that we've identified include maintaining that debt service, and paying it off commensurate with the time schedule that we have.

Q So the savings that are presented are solely operational cost savings, correct?

A It's total portfolio savings in the operations of every resource we have.

Q There is a separate number for the savings resulting from the Seminole coal plant, is there not?

MR. PERKO: I object. I think that's a vague question, Your Honor.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: Well, I can grab another exhibit and go that way. Let my try this.

BY MR. WRIGHT:

Q Is it true that Seminole has a separate number calculated by an independent consulting firm for the

estimated cost savings for the closing of one coal unit?

A Yes.

Q Thank you.

Can you tell us who the engineering firm that -- who performed that analysis is?

A Sargent & Lundy performed that.

Q Thank you.

And is that number approximately the number shown in Mr. Taylor's Exhibit AST-2 with respect to the savings from closing the Seminole Generating Station unit in his exhibit?

A Approximately, yes.

Q Thank you.

Do you have any idea what the Seminole coal plant is worth today?

A Not off the top of my head, no.

Q Do you have any offers to buy it?

A No, we do not.

Q Are you aware that other coal plants in the state of Florida have been, and are in the process of being shut down?

A Yes, I am.

Q Okay. St. Johns River Power Park is one of those?

A Yes.

Q Are you aware that Gulf Power closed its coal units at Plant Smith?

A Yes.

Q Are you aware that next month, according to its Ten Year Site Plan, Duke Energy Florida is closing Crystal River 1 and 2?

A Yes.

Q Are you aware that Florida Power & Light has purchased the ownership interest in two other smaller power plants, Cedar Bay and Indiantown, and is in the process of closing them?

A I wasn't aware of that purchase, but I understand it's true.

Q Thank you.

Is it correct that Seminole did not evaluate the potential cost savings to consumers of closing the other coal unit?

A Yes. Seminole evaluated portfolios of a wide -- wide range of resources, and using industry recognized tools, we identified the best resource mix as we proceeded forward. And one of the portfolios, the Clean Power Plan portfolio in front of the Commission today actually identified the least cost alternative and that being the Seminole Combined Cycle Facility and the Shady Hills Combined Cycle Facility with other purchase

power agreements incorporated into that portfolio.

The -- analyzing additional resources and shutting down the coal units, Seminole is a unique utility, especially in the state of Florida, but -- but nationwide, in that we have to operate in five balancing areas. So we have to take into consideration operationally and the ability to serve our members by transferring energy from one balancing area to another. And when we have to do that, if we have to take generation in a balancing area that doesn't have sufficient load, we are required to transfer that energy to the balancing areas that have our greatest load. And we identified those -- parts of those resources within this request for proposal that most efficiently meet our members' needs and reduce that cost.

MR. WRIGHT: Mr. Chairman, I think that went way beyond my question. I am not going to move to strike or anything, but it went way beyond my question, which was did Seminole evaluate the cost of closing the second coal unit.

CHAIRMAN GRAHAM: Okay.

MR. PERKO: And I think his clarification went directly to that issue.

CHAIRMAN GRAHAM: Continue, Mr. Wright.

BY MR. WRIGHT:

Q Can you give me a direct answer to my question, Mr. Ward?

A Yes, I believe I did. I answered that with, no, the -- Seminole did not evaluate that, and I gave the reasons why.

Q I got all the reasons, I missed the no. Thank you.

Did you attempt to negotiate for any shorter term PPAs, power purchase agreements, in the no-build risk all PPA portfolio?

A Yes. And, in fact, several of the shorter term purchase power agreements we negotiated are incorporated into the portfolio that we have in front of the Commission today, as well as they were in front of the -- they were part of the no-build risk all PPA portfolio.

Q This goes back to a question I asked you a minute ago. Are you aware that FPL paid JEA a shut-down payment $90 million for shutting down St. Johns River Power Park?

A No, I am not.

MR. WRIGHT: Mr. Chairman, I have a couple more exhibits.

CHAIRMAN GRAHAM: Sure. Mr. Wright, we are at No. 102 and 103.

MR. WRIGHT: Thank you, Mr. Chairman.

To follow the date order of these documents -- I will wait until you have them. Thanks.

MR. PERKO: Mr. Chairman, if I could get clarification as to what the numbers are for which document.

CHAIRMAN GRAHAM: We are going to do that in a second.

MR. PERKO: Okay, sorry.

MR. WRIGHT: I was just waiting until we had them.

Just to follow the date order, there is an exhibit titled -- or the description is 5/10/2017 Board P-2021 workshop excerpts.

CHAIRMAN GRAHAM: Is that 102?

MR. WRIGHT: I would like that to be 102, Mr. Chairman.

CHAIRMAN GRAHAM: Okay.

(Whereupon, Exhibit No. 102 was marked for identification.)

MR. WRIGHT: And the other is 7/12/2017 P-2021 Process Update and Recommended Actions, also excerpts, I would like that to be No. 103.

CHAIRMAN GRAHAM: All right.

MR. WRIGHT: Thank you.

CHAIRMAN GRAHAM: That will be the case.

(Whereupon, Exhibit No. 103 was marked for identification.)

MR. WRIGHT: And my understanding is that these entire documents are treated by Seminole as confidential, and for that reason I did not endeavor to mark them as such. I will get with Mr. Perko, and we will figure out what's what after the hearing in terms of confidentiality.

CHAIRMAN GRAHAM: You know you suffer the wrath of Mary Anne yelling at you again, right?

MR. WRIGHT: Yes, sir.

CHAIRMAN GRAHAM: Okay.

MR. WRIGHT: I am trying to respect the other side's confidentiality claim and do the best we can, Mr. Chairman. Thank you.

CHAIRMAN GRAHAM: Proceed, Mr. Wright.

MR. WRIGHT: Thank you.

BY MR. WRIGHT:

Q Do you have what has now been marked for identification as Exhibit 102, that's the May 10 board workshop excerpts?

A Yes.

Q Thank you.

I would like to ask you to turn to first

numbered page 34. I think it's the third -- third or fourth page in. It's the fourth page in. The page number is in the bottom left.

A Yes.

Q Are you with me? Okay.

This shows -- appears to show portfolios presented to a March workshop of the Seminole board, is that correct?

A Yes.

Q Is it correct that there is nothing here showing anything about the all PPA portfolio, the no-build risk all PPA portfolio?

A Yes. There is nothing on that -- on this page for that.

Q Thank you.

On page 35, is the -- on the left side, there is something called the no new build portfolio. Is that the no -- no-build risk all PPA portfolio?

A Yes.

Q Thank you.

I would like to ask you to turn to page 44. This -- this appears to show member rate comparison projections from a prior financial forecast versus the SGS two-by-one portfolio?

A That is correct.

Q Okay. Is the left-hand bar in each pair of bars in the bar graph, is that the rates based on the 2017 March financial forecast?

A Yes, it is.

Q If you know, is the value shown in the bar at the very far left side, and treating the numbers confidential, is that the current rate paid by members on an average dollars per megawatt hour basis?

A Approximately.

Q And the corresponding bar with the SGS two-by-one portfolio shows the -- what would occur if the SGS two-by-one portfolio were adopted, correct?

A Based on this financial forecast, yes.

Q Well, is the -- this says SG -- 2017 March FF, which I interpret to be financial forecast; correct?

A That is correct.

Q Versus the SGS two-by-one portfolio, correct?

A That is correct.

Q So the red numbers there, are the projected costs for the SGS two-by-one portfolio?

A At the time of this analysis, yes.

Q Thank you. Okay. Thank you.

And I would like to ask you now to turn to page 54. This shows the projected member rates in dollars per megawatt hour for three portfolios, correct?

A Yes, it does.

Q Those are the SGS two-by-one shown in yellow or orange, correct?

A Yes.

Q The clean -- looks like a typo, I think CCP/CC should be CPP/CC?

A Yes, I believe so.

Q Okay. And that's shown in blue. And then the limited build risk, Shady Hills, is shown in what appears to be something like purple, correct?

A Yes.

Q If you look, please, at page 55. That shows the same information presented in bar graph form, correct?

A Yes.

Q And pages 56 and 57 show essentially the same information for different time periods, correct?

A Yes.

Q Actually, the page 55 shows it for 2018 to 2027, and then the next two show it for '28 through '37 and '37 through '51; correct?

A Yes.

Q Thank you.

CHAIRMAN GRAHAM: Mr. Wright, is your intention to use these same exhibits for other

witnesses?

MR. WRIGHT: At this point, I am not sure, Mr. Chairman. I would have to give you a qualified maybe.

CHAIRMAN GRAHAM: No, I just -- I just wanted to make sure, Mr. Ward, as we are numbering this, if you would make sure you number your copies as well just in case the next witness has got to pull the information up.

THE WITNESS: Yes, sir.

CHAIRMAN GRAHAM: Thank you.

BY MR. WRIGHT:

Q I would like to ask you to look now at what's been marked as Exhibit 103?

A Could you give me one minute? I want to make sure everything is numbered correctly.

Q Of course, Mr. Ward.

A Thank you.

Q Thank you.

And this is excerpts from the July 12th, 2017, Process Update and Recommended Actions, correct?

A Yes.

MR. WRIGHT: And by the way, Mr. Chairman, I have three copies of the complete document. If Seminole or you wish to invoke optional

completeness, I can get more made electronically or otherwise, but they are, you know, five-eighths of an inch thick, and they are all color, so I only brought three copies with me.

CHAIRMAN GRAHAM: We will take that up at the end of Mr. Ward's testimony.

MR. WRIGHT: Thank you.

BY MR. WRIGHT:

Q Again, I would like to ask you to turn inside -- this is the third page in, counting the cover page as page one. It's numbered page 16 in the document. This shows presentation of three portfolios, correct?

A Yes, it does.

MR. PERKO: I apologize, Your Honor, my -- unless I am looking at the wrong document, I don't have that page.

MR. WRIGHT: It's the document with a description titled 7/12/2017 P-2021 Process Update -- and Recommended Actions.

MR. PERKO: Thank you --

MR. WRIGHT: -- and Recommended Actions.

MR. PERKO: I have got it now.

MR. WRIGHT: Okay.

BY MR. WRIGHT:

Q And so page 16 shows -- is headed May Workshop Portfolios, correct?

A Yes.

Q And this shows information on the three portfolios, SGS two-by-one, limited build risk Shady Hills, and CPP/CC; correct?

A Yes.

Q I can hand you the complete document, but it appears to me there was not any presentation on the all PPA portfolio at this presentation to -- correct?

A That is correct.

Q Thank you.

A The board made the determination, prior to this presentation, that the all -- the no-build risk was not a opportunity -- not a portfolio that they wished to pursue based on reliability and overall cost.

Q And is it then also correct that there was no presentation of the no-build risk all PPA portfolio to the board when it made its decision on September 27th, 2017?

A Yes. And that was also after this workshop, which previous to this workshop, the board had made the determination, based on overall cost and overall reliability risk, to remove that from contention.

Q Thank you.

I would like to ask you about numbered page 20. That shows the base case rate impacts of the three portfolios, correct?

A Yes.

Q Page 23 presents sensitivity definitions?

A Yes.

Q And I want to focus briefly on the pessimistic scenario. That was a combination of low load growth with high gas prices, correct?

A That is correct.

Q Is it correct that you did not do a separate evaluation of just the low load growth scenario?

A That is correct.

Q And the results of the analyses with the pessimistic -- well, the results of the analyses under all the portfolios are shown in the bar graphs on page 24, correct?

A Yes.

Q And then page 25 shows the projected member rate comparisons for the pessimistic scenario, again for the three portfolios we've been discussing, correct?

A Yes.

Q Thank you.

MR. WRIGHT: Just a moment, Mr. Chairman, I have got a couple more exhibits.

CHAIRMAN GRAHAM: Sure.

MR. WRIGHT: Mr. Chairman, I would ask that the smaller confidential exhibit be marked as No. 104.

CHAIRMAN GRAHAM: Have you got a name for me?

MR. WRIGHT: Yes, sir. Deposition of Michael P. Ward excerpt, pages 63, 64.

(Whereupon, Exhibit No. 104 was marked for identification.)

MR. PERKO: Commissioner, if I am not mistaken, I believe this is already Exhibit No. 99.

CHAIRMAN GRAHAM: That's all right. We will deal with it.

MR. WRIGHT: Do you want to go ahead and take it as 104?

CHAIRMAN GRAHAM: We will take it as 104, and we will decide if we are going to put it in or not when --

MR. WRIGHT: That's fine. I believe Mr. Perko is correct.

CHAIRMAN GRAHAM: Okay, that's fine.

MR. WRIGHT: Thank you.

CHAIRMAN GRAHAM: We don't lose any money by putting another exhibit number on it.

MR. WRIGHT: And fortunately, the confidential

information on this exhibit is, in fact, highlighted.

CHAIRMAN GRAHAM: And so the one that's not confidential, it's going to be 105?

MR. WRIGHT: Correct.

CHAIRMAN GRAHAM: And your title for that one?

MR. WRIGHT: PSC Comparative Rate Statistics for Electric Utilities as of 12/31/2016.

CHAIRMAN GRAHAM: Okay.

(Whereupon, Exhibit No. 105 was marked for identification.).

BY MR. WRIGHT:

Q Mr. Ward, you pretty much confirmed this by a response to a question I asked you about one of the other exhibits, but the value that's shown on pages 63 and 64, first at line two on page 63, and line nine of page 63, is the approximate current cost of wholesale power expressed in dollars to megawatt hour to Seminole's member co-ops, correct?

A Yes.

Q And that number appears a few times on page 64. Then on line 18 of page 64, I believe you agreed that the percentage that that value represents of 1,000 kWh Withlacoochee River Electric Co-op bill is the numbers shown in line 18, correct?

A Yes.

Q Thank you.

I would like to ask you a few questions about No. 105, please. And you have seen this before?

A Yes.

Q This is a Public Service Commission report of comparative rate statistics, and I am just going to ask you some questions about where the retail rates of the member consumers served by Seminole's member co-ops stack up against other utilities in Florida.

You will agree that the two co-ops in Florida with the lowest --

MR. PERKO: Mr. Chairman, I guess I am going to object to relevance. I am not sure how this is pertinent to the issues in the case.

CHAIRMAN GRAHAM: I will allow the question.

MR. WRIGHT: Thank you, Mr. Chairman.

BY MR. WRIGHT:

Q This shows the comparison of what we call the 1,000 kWh residential bill for all Florida electric utilities, correct?

A Can you tell me what page you are referring to here?

Q Thank you. I am looking at the last page of the document, 8-10.

A Thank you.

Q And thank you for keeping me straight.

You agree that the 1,000 kWh residential bill is a standard yardstick for comparing utility rates, correct?

A For comparing retail rates, yes.

Q Retail rates, correct.

You will -- will you agree that the two cooperatives in this table with the lowest rates are Florida Keys at number two, and Lee County Electric at number nine?

A I believe Lee County is at number eight.

Q You are correct. Thank you.

And those are not Seminole member co-ops, are they?

A That is correct.

Q And so the Seminole member with the lowest rates is Clay Electric at 23, correct?

A That is correct.

Q And next is Sumter at 28?

A That's correct.

Q And Okefenokee is not a Seminole member co-op, is it?

A No, they are not.

Q And neither is Choctawhatchee or Gulf Coast,

correct?

A That is correct.

Q So the next Seminole member co-op as we are going from lowest to highest is Withlacoochee at No. 39, correct?

A Correct.

Q Suwannee Valley at No. 41, correct?

A Yes.

Q Talquin at 44?

A Yes.

Q Central Florida at 45, correct?

A Yes.

Q West Florida is not a Seminole member, correct?

A That is correct.

Q Peace River, at 49, is a Seminole member, correct?

A Yes.

Q Tri-County at 50 is a Seminole member?

A Yes.

Q And Glades at 51?

A Yes.

Q Thank you.

And then Escambia River at 54 is not a Seminole member co-op, correct?

A Yes.

Q Thank you.

You testified in your deposition that it's your opinion that Seminole's wholesale rates are competitive. Do you recall that exchange?

A Yes.

Q And on what -- what comparison basis do you make that statement?

A I make that statement based on the value that Seminole provides based on the ability to provide service to our members, given that a cooperative covering a rural area, larger geographic area, lower density and being able to provide the service that the customers need, that that becomes a -- that we provide a competitive rate for that.

Q Did you make that statement on the basis of a comparison to other wholesale power costs in Florida?

A Yes.

Q Okay. And when I asked you in your deposition, what -- what, if any, specific power purchase agreements did you look at as the basis for that comparison?

MR. PERKO: I am not sure this is a proper use of deposition. This is -- it's typically used for impeachment, if the witness says something

different than they said in deposition. He hasn't asked a question yet --

MR. WRIGHT: Well --

BY MR. WRIGHT:

Q In your deposition, did you tell me that you had made a comparison of your wholesale power rates to other wholesale power rates in Florida?

MR. PERKO: Mr. Chairman, if he could ask the predicate question and then he can use the deposition to impeach the witness. This is improper use of his recollection of what the deposition says.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: I will restate. Thank you.

CHAIRMAN GRAHAM: Sure.

BY MR. WRIGHT:

Q Did you base your statement on a comparison of Seminole's wholesale rates to other wholesale power costs in Florida?

A Yes.

Q Can you name a specific wholesale power purchase agreement that you used as a basis for comparison to make that statement?

A A specific agreement, no.

Q Did you review any investor-owned utilities

cost of service study to attempt to identify their bulk power costs?

A No.

Q Thank you.

Will you agree that the rate impacts of the Clean Power Plan portfolio will be greater if, other things equal, sales are less than projected?

A Yes. I would agree the rate impact of any plan would -- would be greater if sales are less than projected. I don't think that's exclusive to the Clean Power Plan.

Q Isn't that true largely with respect to the fixed cost components of the -- of any given plan?

A Yes. And all the plans we reviewed had fixed costs, including purchase power agreements, which have demand charges, which are fixed costs, so that rate impact would -- would be greater if sales were lower.

Q If load does not materialize, it's easier to get out of a five-year PPA than a 30-year tolling agreement, isn't it?

A Yes.

Q And same question with respect to owning a life-of-the-plant unit such as the SCCF. If you were serving load with a five-year PPA, or a 10-year PPA, it's easier to get out of that than it is the ownership

of a power plant, is it not?

A Yes.

Q Will you agree that to provide power at the lowest feasible cost is roughly equivalent to providing power using the most cost-effective alternatives?

A Yes.

Q Who in your company is most familiar with your rates and billing?

A That's likely our rate department.

Q Okay. Who among the witnesses in this case are most familiar with your rates and billing?

MR. PERKO: Again, Mr. Chairman, I just fail to see the relevance to any of the issues in this case.

MR. WRIGHT: It goes to member rates and the impact thereon, Mr. Chairman.

CHAIRMAN GRAHAM: I will allow the question.

THE WITNESS: I have think the witnesses -- any -- most of the witnesses can talk about it at a high level; but a detailed level of the exact rate calculation, none of the witnesses are in that area of operation for Seminole Electric.

MR. WRIGHT: Mr. Chairman, I believe this is 106.

CHAIRMAN GRAHAM: Correct.

MR. WRIGHT: The short title is WREC Bills, Tulk and Daly.

(Whereupon, Exhibit No. 106 was marked for identification.)

CHAIRMAN GRAHAM: Okay, Mr. Wright.

MR. WRIGHT: Thank you, Mr. Chairman.

The witness appeared to be studying the exhibit, so I was giving him time to do so. Thanks.

BY MR. WRIGHT:

Q Do you ever have occasion to see the bills of lower case member consumers?

A Occasionally, yes.

Q Okay. Now, I know you have seen these, because we talked about them at your deposition.

A That's when I have seen them.

Q Okay. My question for you is, is there any way, looking at this bill, to tell how much of this bill is amounts paid to Seminole by Withlacoochee?

MR. PERKO: Mr. Chairman, I am going to object to this. This -- there is lack of foundation as to what this document is, whether it's authentic. He hasn't established any foundation to ask any questions about this document.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: Mr. Chairman, we furnished these documents to the other side early in this process for purposes of establishing that Mr. Tulk and Mr. Daly are member consumers of Withlacoochee River Electric Cooperative. This goes to their rates, and what customers know about their rates. I think it's completely relevant.

MR. PERKO: It may be relevant, Your Honor, but it has not been authenticated. I don't know where this document came from. I don't know if it's complete. I don't know if it's a true bill to those -- those individuals. If he -- he could have brought them to testify to authenticate these documents. I don't know what this is.

CHAIRMAN GRAHAM: Mr. Wright, I agree with Mr. Perko, unless you show some foundation to this document.

Do you want to take a couple minutes and think it through?

MR. WRIGHT: I would, Mr. Chairman. Thank you very much.

CHAIRMAN GRAHAM: Sure. Let's take a break for about three minutes. That clock in the back says 18 after. We will come back at 21 after.

MR. PERKO: Thank you, Your Honor -- Mr.

Chairman.

(Brief recess.)

CHAIRMAN GRAHAM: Okay. Mr. Wright, you have the floor.

MR. WRIGHT: Thank you, Mr. Chairman.

Mr. Chairman, I am going to withdraw 106. You can either unnumber it or leave it numbered and not enter it.

CHAIRMAN GRAHAM: We will just leave it numbered.

MR. WRIGHT: That's fine. Thank you.

BY MR. WRIGHT:

Q Mr. Ward, do you have a general impression as to what the trend has been with respect to the cost of combustion turbines, say, in terms of dollars per kilowatt?

A I would say rising slightly would be the trend.

Q Thank you.

And over what time period?

A Over the last five to 10 years.

Q Thank you.

In terms of long-term resource planning, is it Seminole's objective to minimize costs subject to meeting reliability criteria?

A Yes.

Q Do you participate in preparing the company's ten year site plans?

A I have not previously, but I will be moving forward.

Q Thanks.

This relates to a question I asked you a little bit ago, and it relates to the percentage value that we talked about on page 64 of your deposition. You don't really need to look at it.

My question is simply this: Could we take the numeric dollar value that you agreed is the approximate cost on pages 63 and 64 and use that to calculate approximate percentages of other co-ops as we did for Withlacoochee?

A Approximately, yes.

Q Thank you.

Will you also agree that your wholesale rate in 2016 was comparable to the current rate?

A Yes.

Q Is it -- is it your understanding -- and I am not asking you to go into the legalities of contracts, but is it your understanding that each member cooperative of Seminole is obligated to pay for all the power supply costs that are billed to it by Seminole?

A Yes.

Q Can you tell us how long the current -- well, do I have it right that each member has a separate contract with Seminole?

MR. PERKO: Objection. I think it calls for a legal conclusion. Mr. Ward is not a lawyer.

BY MR. WRIGHT:

Q Mr. Ward, you are the Vice-President -- one of the Vice-Presidents of the company, are you aware of documents that are -- that appear to you to be contracts between bulk power -- wholesale power contracts between Seminole and each member cooperative?

A Yes.

Q And does each such member cooperative have such a document reflecting its agreement with Seminole?

A I believe each -- each member is signatory to that type of document.

Q Thank you.

Can you tell us, without breaching any confidentiality obligation, what the current expiration date of those agreements is, to the best of your knowledge without asking for you a legal conclusion?

A I believe the expiration is approximately 2051.

Q Thank you.

To the best of your knowledge, in the analyses that led to the selection of the Clean Power Plan, did you or your team consider any portfolios that allowed the start date of the SCCF to be later than 2021?

A No, we did not have any offers that allowed the start date of Seminole Combined Cycle Facility any later than 2021.

Q Same question with respect to the SHCCF in 2022, which I understand to be its in-service date?

A That's correct. But I would like to correct one thing that I just said, because our initial analysis was 2021, and we did negotiate end of 2022, 2023 start date for Seminole Combined Cycle Facility.

Q Thank you.

There are a lot of numbers there. Is the SCCF now scheduled to come on line at the end of 2022?

A Yes.

Q Thank you.

Did you attempt to negotiate for dual fuel capability for the SCCF?

A No, we did not.

Q Did you attempt to negotiate for dual fuel capability for the SHCCF?

A No, we did not.

Q Is it correct that none of the portfolios were

designed to improve fuel supply reliability?

A No, that is not correct. Fuel supply reliability was a factor in determining the portfolios, and securing firm transportation service for any natural gas-fired facility was part of this analysis and portfolio design, which we are pursuing with all three interstate pipelines.

We also maintained one coal unit in service to allow for fuel diversity. And we also operate and have contracts with secondary fired fuel for units that we have existing in service, and will during the timeframe of these portfolios.

Q At your deposition -- and I can show you the page, it's page 137 -- I asked you the question: "Would you agree that Seminole's CPP/CC portfolio was not primarily designed to improve the fuel supply reliability," question mark.

Answer: "None of the portfolios were designed to improve fuel supply reliability."

I just want to know what your answer is today.

A Yes, sir. My answer stands, and the question you asked --

Q The one you gave a minute ago or not?

A Both of them actually.

Q Okay.

A The question you asked during my deposition was the portfolio primarily designed to increase fuel diversity. And the primary design of the portfolio was not fuel diversity. It was one of the factors that we took into account. Cost-effectiveness was the primary factor for design of the portfolios.

Q Okay. So in your deposition answer, you left out the word primarily but --

A No, sir, it was in your question in the deposition.

Q Okay. With your proposed portfolio, it is correct, is it not, that there will be a single lateral serving the SCCF?

A That's correct.

Q Thank you.

And that -- that will come off the FTT line?

A Yes.

MR. WRIGHT: One minute, Mr. Chairman.

CHAIRMAN GRAHAM: Sure.

MR. WRIGHT: Thank you for the brief interlude, Mr. Chairman. And thank you for your time, Mr. Ward. I don't have anymore questions for you.

CHAIRMAN GRAHAM: Thank you, Mr. Wright.

Staff.

MS. DZIECHCIARZ: We have just a few questions, Chairman.

EXAMINATION

BY MS. DZIECHCIARZ:

Q Good morning, Mr. Ward.

A Good morning.

Q The same qualifications, just like the deposition that Mr. Wright gave you. If you need me to clarify or restate anything, or rephrase, please just let me know.

A Thank you.

Q Staff just has a few questions for you. The first line related to fuel diversity.

So subject to check, is Seminole's current generating fleet, including its own generation and purchase power, natural gas-fired for approximately 67 percent of its total winter net capacity as of winter 2017?

A Based on capacity, subject to check, that seems a little high, but it's probably close, for -- for capacity. For energy, it's significantly lower.

Q Okay. But you would say for the owned generation purchase power, it's -- 67 percent is the ballpark?

A Ballpark, yes.

Q Okay. Thank you.

And again subject to check, the addition of the proposed new combined cycle units and the retirement of the one SGS coal unit would cause Seminole's generating fleet to be natural gas-fired for approximately 81 percent of its total net capacity as of winter 2022, correct?

A For total capacity, that's -- that is probably a ballpark figure. And for energy, it would be lower than that.

Q Sock. So by adopting the CPP/CC portfolio, Seminole is reducing the overall fuel diversity of its generating fleet and becoming more dependent on natural gas, is that correct?

A We are becoming more dependent on natural gas, that is correct. And we are commensurate with other generating utilities within the Florida Peninsula.

Q Okay. And then similar to Attorney Wright's line of question, was Seminole -- did Seminole select the portfolio the CPP/CC portfolio to primarily address a fuel supply reliability need?

A That was not the primary reason that we selected that portfolio. The primary reason was cost-effectiveness, and lowest cost power supply to our members. Fuel supply diversity was -- was one of the

factors that we weighed during the analysis.

Q Okay. And then over the first 10 years of the study period, is the -- isn't the no-build risk all PPA portfolio the least cost portfolio for the first 10 years?

A Approximately for the first seven years, that is correct. At about the seven-year point, the cost-effectiveness starts to go away, but it also increases risk because projecting out into the future, we don't know what costs will be.

Q Okay, thank you.

And could you explain why the utility is choosing to build the Seminole Combined Cycle Facility in 2022 versus delaying this facility and meeting its needs with purchase power agreements?

A We've chosen to do this because we have a competitive market for -- competitive market offer from the original equipment manufacturers and engineering, procure and construct companies to build the unit in that timeframe.

The longer you go in the construction industry in time, you introduce significant risk, and we would not be able to say with certainty that we would have that same available cost in another seven to 10 years.

Q Okay. Thank you, Mr. Ward.

MS. DZIECHCIARZ: Staff has no more questions.

CHAIRMAN GRAHAM: Commissioners, any questions of Mr. Ward?

Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Mr. Chairman.

Mr. Ward, immediate follow-up to the question that you just answered. On the construction, in that market risk with regard to costs, would you agree that there are -- there have been circumstances known within the history of the EPC markets, construction market, in general, within the timeframe of five years, 10 years or longer, where, in fact, development costs, construction costs have not increased and, in fact, have gone down?

THE WITNESS: Yes, sir, I would agree with that.

COMMISSIONER POLMANN: And could you tell us again what is the timeframe? Did you mention 2022, is that correct, sir?

THE WITNESS: That is currently the scheduled timeframe, yes, sir.

COMMISSIONER POLMANN: Do you have a certainty that -- that beyond that timeframe, the cost for

development of the facility that you are considering would, in fact, increase?

THE WITNESS: We do not -- we do not have certainty. No, sir.

COMMISSIONER POLMANN: Okay. Mr. Chairman, I have a number of questions, should I just proceed, or would you like to --

CHAIRMAN GRAHAM: Trudge on.

COMMISSIONER POLMANN: Go back and forth here? Okay. Thank you.

Mr. Ward, were you part of the discussion process that led to the decision to close one of your coal facilities?

THE WITNESS: Yes, sir, I was.

COMMISSIONER POLMANN: And there have been a number of questions here from Mr. Wright and staff on the various factors of this change in your portfolio regarding primary factors, and so forth.

So with regard to change -- to closing the coal unit, what you would describe as the primary factors in that consideration, closing that unit?

THE WITNESS: When we looked at the entire portfolio, and looked at that -- at the opportunity of removing one of those units from service, and capitalizing on high efficiency gas turbines

available through the Seminole Combined Cycle Facility and the Shady Hills Combined Cycle Facility Tolling Agreement, the primary deciding factor holistically was cost-effectiveness for the members.

COMMISSIONER POLMANN: Thank you.

I have -- I have heard, seen the phrase used, in fact, Mr. Perko used it, I believe, in introductory remarks today, and if I recall, the phrase is most cost-effective and risked -- and risk-managed portfolio.

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: And I believe cost-effectiveness, the -- the metric is net present value revenue requirement. Do I have that correct? Is that your understanding?

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: So most cost-effective is a net present value revenue requirement. Could you please explain, in terms of risk-managed, is that also the best risk-managed, or most risk-managed? What -- what is the metric for the risk-managed side of that phrase?

THE WITNESS: From the risk-managed side of that phrase, sir, we -- we incorporate a number of

items.

One is the diversity of power supply.

Two is balancing short-term cost risk and long-term cost risk. And the portfolio folds in short-term purchase power agreements that capitalize on lower short-term costs and staged Seminole for the future for any changes in market conditions, possibly lower cost solar or renewable generation in folding more of that into our portfolio. We do include solar generation in our portfolio, capitalizing on that possibility and availability for our members.

We also look at the risk of unknown regulatory constraints. The Clean Power Plan was introduced early on during our analysis process, and carbon emissions are always a regulatory risk, so that becomes part of the risk calculus. Those are just a couple of the risk areas that we look at.

We also look at operational risk. And as I stated, we have a unique system in that we have to be able to transmit generation -- transmit energy to our -- our load. And we have a load and generation in five different balancing areas. So we have a risk to transfer that energy, and we have to balance that with the appropriate resources

within our portfolio.

COMMISSIONER POLMANN: It's clear to me on the cost-effectiveness that there is a known metric of dollars, and the calculation of net present value is pretty straightforward. The revenue requirement is a known method. You obviously have costs -- capital and operating costs have to be paid, and you have a fixed set of customers and so forth. But on the risk factors you just described, many of those seem to be qualitative, or unknown in some sense that you are almost speculating, you know, the carbon issue, or regulatory factors are truly unknown. So how do you quantify those to come up with the best?

THE WITNESS: Well, we -- we did go through a process of trying to weight those items, and -- and we -- as a group, we identified those risk areas and independently weighted them, and then collectively brought that together as a group.

COMMISSIONER POLMANN: And you say as a group. So who is the group? Is that a staff of management? Consultants --

THE WITNESS: It is.

COMMISSIONER POLMANN: -- your board? Who is included in that group --

THE WITNESS: Included -- I am sorry, sir.

Included in that group are all of the witnesses you will see during this hearing, as well as the members of the executive staff of Seminole, as well as the board members. They were presented with all of those analyses, and they participated in the -- the analysis of those risks.

COMMISSIONER POLMANN: Now, is there, in that process, and in particular including the Seminole board, do you -- do you start that process with everything on the table, or do you start with everything on the table with a team that then kind of narrows it down, by the time you get to the board there is a short list? Could you kind of describe that process for us?

THE WITNESS: Yes, sir, I would be happy to.

This process, as I said, took longer than two years to do, and it was a robust process. It started with everything on the table, and we presented everything to the Seminole board. The entire team reviewed it, and the Seminole board was privy to all of that information.

We did continue to narrow that down, analyze those resources individually, and then holistically in portfolios. And we -- we did narrow those down

to short lists. The board concurred with those decisions and were a part of the process of analyzing, not only the cost-effectiveness, but the risk involved in that, and their decision was the final decision.

COMMISSIONER POLMANN: In discussion with Mr. Wright, and in the confidential Exhibit 103, if you recall, that concerns some communication before your board. You had mentioned in response to a question, I believe he had asked about the no-build portfolio and it being removed from consideration earlier in 2017.

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: He was looking at a document later in the summer, and then he made reference conversationally within his question to a September presentation, and so forth. And he noted that the no-build portfolio was -- was not included --

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: -- later in that 2017 presentation, and he questioned whether that no-build had been removed.

Could you elaborate for us the process by which your portfolio selection then, with your

board consideration, had narrowed that down? And why was that no-build -- I am saying why in terms of how that decision came about that the no-build portfolio was eliminated from consideration?

THE WITNESS: Yes, sir.

The -- the primary reason that portfolio was eliminated was cost-effectiveness. That was -- that was the top criteria. That -- that is what drove the decision.

We did look at -- there were operational risks because of the resources available, and how we had to make the most cost-effective portfolio just from a generation cost perspective. We had significant operational risk because of where the resources were located, and having to get that energy to our member load.

So those two -- the number one being the cost-effectiveness, and then adding in that operational risk, the board decided to remove that from contention.

COMMISSIONER POLMANN: Thank you.

You had indicated also in response to Mr. Wright that -- and I believe your phrase was "off system purchases could possibly be made."

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: And I take that to be through the PPA, that's what you are referring to --

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: -- through purchase agreements.

Now, you mentioned several times that, you know, you need the power where the customers are because you have a diverse, geographically disbursed customer base; but then physically you have, you know, you have production facilities that you own at one location, and then you have a facility then at Shady Hills, which is physically located at one, but with a tolling agreement that you are talking about, but nonetheless it's a physical plant at two locations; is that correct?

THE WITNESS: That is correct. Yes, sir.

COMMISSIONER POLMANN: And then you have these purchase agreements at various other facilities at different locations, is that -- is my understanding --

THE WITNESS: Yes, sir. That's correct.

COMMISSIONER POLMANN: So you have an ability to -- to transact for -- for power at various locations. So it would be my expectation that you

would have the ability geographically to meet your customer demands through power purchase agreements, and I -- I guess I am -- I am trying to get a better understanding of, although I understand the term cost-effectiveness, how this risk issue on meeting your -- your demand through PPA is not manageable.

THE WITNESS: Sir, how I would answer that is 80 zero percent of our member load is in the Duke Energy Florida balancing area. If we have excessive generation resources outside of that balancing area, where we cannot make it a network integrated resource, we have to pay additional transmission -- transmission costs to get it from another balancing area into the Duke Energy Florida balancing area, as well as pay the transmission costs to get it to the members within -- within that balancing area. So we are -- we are adding additional transmission costs and risk to our members, because we have to go through wheeling through multiple areas, and that's where that risk comes in.

Then we also have risk if we purchase excessive power from outside the FRCC footprint, and we have to take power over the Florida

Interface. We are competing with other customers at the Florida Interface, and if there is any difficulties in terms of capacity, or operational imbalances, that could impose a risk on us as well.

COMMISSIONER POLMANN: Okay. I understand you are the Vice-President of Strategic Initiatives.

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: The key word there that strikes me is strategic. And Mr. Perko, in his introductory remarks, I believe he indicated the phrase strategic decision to remove one of the coal units, and I am going to ask you, why was it a strategic decision to remove a coal unit?

THE WITNESS: It was a strategic decision because of the wide ranging effect it has on our members, on their member consumers, as well as our employees at Seminole Electric.

COMMISSIONER POLMANN: In that -- in that phrasing, strategic decision to remove, that seems like a positive. And I am -- I am looking for why it's a good idea to remove a coal unit.

THE WITNESS: The biggest benefit is the cost benefit and the savings through this portfolio that the members are afforded that -- and to the next least cost alternative, we are saving $363 million

over 30 years.

COMMISSIONER POLMANN: If you were to examine a shorter time period, would those -- would that dollar value of savings be less?

THE WITNESS: That could be a possibility, yes, sir.

COMMISSIONER POLMANN: Okay. By eliminating the coal, you are reducing your source -- fuel source diversity, is that correct?

THE WITNESS: Yes, sir. And we believe it's commensurate with other utilities within Florida.

COMMISSIONER POLMANN: Would you agree that there is a distinction, or some difference that should be considered between fuel source diversity and fuel source reliability? Does that -- do you see a difference there in diversity and reliability?

THE WITNESS: I believe there -- there is a difference. Diversity being the various different kinds of fuel, whether it be natural gas, coal, oil or nuclear -- nuclear fuel or renewables, such as solar. The reliability being the ability to deliver that fuel to the final source.

And I believe we've -- we've worked on fuel deliverability and fuel reliability with this

portfolio maintaining one coal unit and having reliable on-site coal storage, as well as looking at diversifying our natural gas transportation portfolio so we can capitalize on all three intrastate pipelines within the FRCC footprint.

COMMISSIONER POLMANN: So is it your opinion that eliminating one of your coal units and replacing that with gas has not reduced your fuel reliability in any fashion?

THE WITNESS: Yes, sir, that is my opinion.

COMMISSIONER POLMANN: Mr. Chairman, I will yield to Commissioner Clark. Let me review my notes here. I may have some follow-up, if that's all right.

CHAIRMAN GRAHAM: Mr. Clark.

COMMISSIONER CLARK: Thank you, Mr. Chairman.

Mr. Ward, if you need to defer these to other individuals, just let me know. I have got several kind of quick questions I believe.

What was the -- did you set a new system peak demand this January, winter?

THE WITNESS: The -- yes, sir, we did.

COMMISSIONER CLARK: What was that new demand?

THE WITNESS: I don't have the number right off the top of my head, sir.

COMMISSIONER CLARK: Okay. How do you currently recover costs from your members? What does your rate structure to your wholesale members look like? Do you sell it on just an average kilowatt hour cost? Do you have a demand and energy component? How does that structure look?

THE WITNESS: We have a demand and energy component, sir, and the -- separating out the demand fixed side and the overall energy fuel side.

COMMISSIONER CLARK: What are those -- what's your demand charge per kW? Is that a confidential?

THE WITNESS: I believe that's a confidential number, sir.

COMMISSIONER CLARK: But you do recover your costs to your members in two components, demand, which is primarily recover the largest portion of your fixed cost, and the energy side, which recovers your variable cost; is that correct?

THE WITNESS: That's correct. Yes, sir.

COMMISSIONER CLARK: What happens when you begin to look at demand side management programs as it relates to those costs? Do those costs get shifted around among your members who implement demand side management programs?

THE WITNESS: The -- I don't believe that cost

shift happens. We do have a large number of members that use demand side management techniques and measures. The -- there are members that don't use it, so they may not have the benefit of that cost reduction. But holistically, the shift -- the change is, I believe, minor. I think other witnesses may be better to answer that specifically.

COMMISSIONER CLARK: Okay. We talked about the load balancing. You mentioned that you had five -- you have five regions that you have to balance load in. Are there disparities with the -- within those different areas of the amount of generation resources that you have to provide -- what are those differences?

THE WITNESS: Yes, sir. As I stated, about 80 percent of our load is within the Duke Energy Florida area. About 15 to 16 percent is within the FPL balancing area. And then we have a four- to five-percent within our home area.

We also have other resources -- generating resources that are in balancing areas that don't have load associated with them, so we have to transmit that out.

COMMISSIONER CLARK: What percentage of the

transmission grid that you utilize within your own service territory is owned by Seminole?

THE WITNESS: Within our -- within -- just within Seminole's territory?

COMMISSIONER CLARK: Within your footprint.

THE WITNESS: Within the entire footprint?

COMMISSIONER CLARK: Yes.

THE WITNESS: Subject to check, I believe it's less than 10 percent.

COMMISSIONER CLARK: Less than 10 percent.

Do you have -- in your wholesale billing mechanism, do you use a coincident peak billing?

THE WITNESS: Yes, sir, we do.

COMMISSIONER CLARK: Do you ratchet those costs?

THE WITNESS: I don't know the answer to that, sir.

COMMISSIONER CLARK: Purchase power agreements, in looking at your load forecast and your ability to meet certain components of your demand over time, you are filling those with purchase power agreements. Should you build the two facilities that you are proposing, there is an assumption that you will have an excess of capacity for a period of time. Would you reduce those PPAs

during that period of time to -- so that you didn't have an overabundance of capacity?

THE WITNESS: Well, based on our analysis, we don't think we will have an excess capacity in overabundance. We will be meeting our 15 percent reserve requirement. But we do have in the -- some of the peak purchase power agreements that we have, we have optionality where we can change the overall capacity of those purchase power agreements on an annual basis to respond to fluctuations in any load forecast, as we do it on an annual basis or any looking forward changes in the market.

COMMISSIONER CLARK: Would that be a prudent business decision -- would you do that based on cost of dispatch generation out of the units versus the cost of the PPAs, or would you automatically run your own units and canceling the PPAs?

THE WITNESS: We would run the most cost-effective resource to serve our members. We would not -- if our own generating resources were less cost-effective than other resources we had available, they would run behind. We dispatch based on the most cost-effective resource running first, and the least cost-effective running last.

COMMISSIONER CLARK: That's all I have, Mr.

Chairman.

CHAIRMAN GRAHAM: Redirect?

MR. PERKO: Thank you, Mr. Chairman.

CHAIRMAN GRAHAM: Hold on a second.

MR. PERKO: I am sorry.

CHAIRMAN GRAHAM: Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Mr. Chairman.

Mr. Ward, one more question.

Could you tell me who among the witnesses would be best to get into some detail on the forecasting methodology?

THE WITNESS: Yes, sir. That would be Mr. Kyle Wood.

COMMISSIONER POLMANN: Mr. Wood.

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: Thank you, sir.

CHAIRMAN GRAHAM: Redirect.

MR. PERKO: Thank you, Mr. Chairman.

FURTHER EXAMINATION

BY MR. PERKO:

Q Mr. Ward, early on in the direct -- or the cross-examination, Mr. Wright asked you some questions about Exhibit No., I believe it was 100, which shows the revenue requirements for various alternatives that were

considered. Do you recall that?

A Yes.

Q And just to be clear, those revenue requirement numbers, do they include both fixed and variable costs?

A Yes, they do. This is -- this is total cost for the revenue requirement.

Q Over the entire study period, is that right?

A That is correct, over 30 years.

Q So over 30 years. So the $8.2 billion figure would include fixed and variable costs over that 30 year period?

A That is correct.

Q And what would -- what variable costs would be included in that?

A That would be any variable O&M -- I am sorry, variable operations and maintenance costs associated with running the units, as well as all fuel costs.

Q Okay. Thank you.

Now, Mr. Ward, Mr. Wright also mentioned -- you talked about the additional debt that would be incurred in order to pursue the Seminole Combined Cycle Facility. Did the evaluation team consider the potential impacts of that increased debt?

A Yes, we did. And with that evaluation, the

economic evaluation we did incorporated the increased debt as well as existing debt that Seminole currently holds as -- and that's where we arrived at the $363 million savings over a 30-year period.

Q And Mr. Wright also referred to a confidential figure. He referred to it as the cost savings presented in Mr. Taylor's Exhibit AST-2. I believe it's actually AST-1 document two. Are you familiar with that figure?

A Yes, I am.

Q Does that figure include the fuel savings associated with removing a coal unit out of service?

A No, it does not. That is only fixed cost.

Q Fixed cost?

A That is -- that is not the -- that does not incorporate everything.

Q Okay. Thank you.

A And I am sorry I said fixed cost. I meant variable cost on that, because it's the fuel cost associated with it.

Q Thank you.

Now, Mr. Wright also mentioned a number of instances where other utilities have decided to shut down coal units early, is that -- do you recall that testimony?

A Yes, I do.

Q And what is your understanding of the reasons were utilities are taking coal units out of service?

A I believe they are taking them out of service because they are replacing them with high efficiency natural gas-fired generation that's more cost-effective for their customer base.

Q Mr. Wright also presented you with a chart from, I believe it's Exhibit No. 105. The last page that provides a comparison of retail rates for various utilities in Florida. Do you recall that?

A Yes, I do.

Q Now, what factors would come into play in explaining why the Seminole cooperative members fall within where they do within these rankings?

A This comparison is challenging at best, because Seminole's members are rurally distributed, and provide electric service over a much less dense service area.

On average, Seminole's members have 13 meters per mile on energized line compared to investor-owned utilities, who have much higher, and most greater than 50 or 60 meters per energized line. That causes higher distribution costs, higher transmission costs and, therefore, making that a -- not an apples to apples comparison.

Q Now, Mr. Wright pointed out that the Florida Keys Cooperative, which is not a Seminole member, ranks at number two. Why do you think that is?

A I can't speak specifically, but I believe it's because Florida Keys Cooperative has a much smaller footprint, a very localized area, and taking a whole -- all requirements directly from a single provider.

Q And does this comparison of retail rates provide any basis to determine the competitive -- competitiveness of Seminole's wholesale rates?

A No, it does not, because this retail rate includes all the costs associated with the members' higher distribution costs, and doesn't -- Seminole is not incorporated into this list at all, other than through its members' rates.

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

CHAIRMAN GRAHAM: Okay. Exhibits.

MR. WRIGHT: Mr. Chairman, I would like to ask a follow-up question because an answer that Mr. Ward gave to Mr. Perko, frankly, left me confused as to the -- as to the composition of the number to which I referred, and to which Mr. Perko referred, with respect to the cost savings associated with closing a coal unit as reported in

Mr. Taylor's exhibit.

There was some discussion about fixed variable fuel, and it was just not clear where -- the answer to me was not clear, Mr. Chairman. I would like to ask for clarification of that, if I might.

CHAIRMAN GRAHAM: It was a question that Mr. Perko asked?

MR. WRIGHT: Yes, sir, it was. It was his response to questioning by Mr. Perko that left me confused.

CHAIRMAN GRAHAM: Do you recall that question?

MR. PERKO: Yes, Your Honor. I believe the question --

CHAIRMAN GRAHAM: Push your button again.

MR. PERKO: Sorry. I believe the question was something to the fact that the figure referenced in Mr. Taylor's report, did that include all cost savings associated with retire-- with moving a coal unit out of service. That was the question.

MR. WRIGHT: And my recollection of his initial answer was, no, it was just the fixed costs, and then there was some other discussion. Mr. Perko looked up and said, fixed costs? And he said some other words, and I just want the record to be clear, Mr. Chairman.

MR. PERKO: I am fine with that.

CHAIRMAN GRAHAM: That's fine. That's fine. I agree with you. I heard him say that. And I heard him try to clarify it, but I will let him ask and answer that question again.

Mr. Perko, would you ask it again?

MR. WRIGHT: Yes, that's great.

BY MR. PERKO:

Q Well, I will go back to the original question, Mr. Ward.

The confidential number that's stated in Mr. Taylor's report as the savings associated with removing a coal unit out of service, does that include all the cost savings that would result from taking a coal unit out of service?

A No, it does not. It only includes the specific costs associated with that unit. Debt service would be continued throughout the portfolio timeframe, and the cost savings associated with -- associated with variable costs.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: Thank you, Mr. Chairman.

FURTHER EXAMINATION

BY MR. WRIGHT:

Q I am trying to understand the last clause that

you said, Mr. Ward.

Does the number reported by Mr. Taylor include the cost savings attributable to variable costs, as you just used that term?

A No, it is -- no.

MR. WRIGHT: Thank you very much. That clarifies it for me.

CHAIRMAN GRAHAM: Good job.

THE WITNESS: Thank you.

CHAIRMAN GRAHAM: I think if you would have added to that, he would ask you five more questions.

THE WITNESS: Yes, sir.

CHAIRMAN GRAHAM: Okay. Exhibits. Mr. Perko, MPW-1 through 5.

MR. PERKO: Yes, Your Honor.

CHAIRMAN GRAHAM: If there is no objections, we will add that to the record.

Is that all your exhibits, Mr. Perko?

MR. PERKO: Yes, Mr. Chairman.

CHAIRMAN GRAHAM: Okay, Mr. Wright.

MR. WRIGHT: We move 100 through 105, Mr. Chairman.

CHAIRMAN GRAHAM: Is there no objections to 100 through 105?

MR. PERKO: I think some of this is cumulative, Your Honor. Frankly, I am not sure he's established a foundation for some of these. I believe he got the response to the questions he was asking for eventually, but -- I guess we don't -- we don't object.

CHAIRMAN GRAHAM: Okay.

MR. PERKO: As long as we maintain our confidentiality concerns.

CHAIRMAN GRAHAM: Sure. So we will put in one through five, and number six is not going in -- 106.

MR. WRIGHT: 106 was withdrawn. Yes, sir.

(Whereupon, Exhibit Nos. 100-105 were received into evidence.)

CHAIRMAN GRAHAM: Okay, Mr. Ward.

MR. PERKO: Mr. Chairman, I apologize, but with respect to MPW-2, there are various witnesses that are sponsoring portions of that document, that's the need study. We do have a couple of corrections to that that other witnesses will speak to, so I just wanted to make that clear for the record.

CHAIRMAN GRAHAM: Sure.

MS. HELTON: And, Mr. Chairman, just for

purposes of the record, MP-1 -- MPW-1 through 5 are marked as Exhibits 2 through 6 on the comprehensive exhibit list.

CHAIRMAN GRAHAM: Yes.

Would you like this witness excused, Mr. Perko?

MR. PERKO: That would be fine.

CHAIRMAN GRAHAM: Okay.

(Witness excused.)

CHAIRMAN GRAHAM: And call your next witness, please.

MR. PERKO: Seminole calls Mr. David Kezell.

MR. WRIGHT: Mr. Chairman, you had said we were going to take a 10-minute break or so every couple of hours, and I am in need -- with that one little brief break to figure something out, I need a brief break.

CHAIRMAN GRAHAM: All right. We will take a five-minute break.

MR. WRIGHT: Thank you, Mr. Chairman.

MR. PERKO: Thank you, Mr. Chairman.

(Brief recess.)

CHAIRMAN GRAHAM: Mr. Perko.

MR. PERKO: Seminole calls Mr. David Kezell.

CHAIRMAN GRAHAM: Mr. Kezell, welcome.

THE WITNESS: Thank you.

MS. DZIECHCIARZ: Chairman, if I may interrupt, I just wanted, for clarity, to ask to move Exhibits 28 through 32, which are Michael Ward's MP-1 through MP-5 for the Shady Hills docket into the record.

CHAIRMAN GRAHAM: That is exhibits --

MS. DZIECHCIARZ: 28 through 32 on the comprehensive exhibit list.

CHAIRMAN GRAHAM: Mr. Wright, no problems with those exhibits as well?

MR. WRIGHT: Mr. Chairman, I apologize, we were getting organized for Mr. Kezell, I did not hear the exhibit numbers.

CHAIRMAN GRAHAM: It's Exhibits 28 through 32 for Mr. Ward.

MR. WRIGHT: We have no problems with that. Thank you, Mr. Chairman.

CHAIRMAN GRAHAM: Okay. We will entered those into the record as well.

MS. DZIECHCIARZ: Thank you.

(Whereupon, Exhibit Nos. 28-32 were received into evidence.)

CHAIRMAN GRAHAM: Mr. Perko.

Whereupon,

DAVID LEON KEZELL

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

EXAMINATION

BY MR. PERKO:

Q Could you please state your full name for the record?

A My name is David Leon Kezell.

Q And, Mr. Kezell, have you been sworn?

A I have.

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

A My employer is Seminole Electric Cooperative, Incorporated. Our business address is 16313 North Dale Mabry Highway in Tampa, Florida, 33618.

Q And, Mr. Kezell, did you cause to be filed on December 21st, 2017, direct testimony consisting of 12 pages in Docket Number 20170266-EC?

A Yes, I did.

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

A No.

Q And did you also have attached to your testi-- direct filed testimony -- excuse me -- four exhibits

that were labeled DK-1 through DK-4?

A Yes, I did.

Q Did you have any changes to those Exhibits?

A No.

Q Mr. Kezell, if I were to ask you the same questions in your prefiled direct testimony today, would your answers be the same?

A Yes, they would.

Q Have you prepared a summary of your testimony?

A I have.

Q Would you please present that to the commissioners at this time?

A Yes.

Good morning, Chairman and Commissioners. My name is David Kezell. I serve as the Director of Engineering and Capital Development at Seminole Electric Cooperative, where I have been employed since June of 2013.

I hold a Bachelor of Science Degree in Mechanical Engineering and a Bachelor of Arts Degree in General and Sciences, both from the Pennsylvania State University. I hold a Master of Science Degree in Mechanical Engineering from Arizona State University. I also hold a Certificate in Air Quality Management from the University California Berkeley, and I have been a

continuously licensed professional engineer in the state of California since 1994.

I have more than 26 years of experience in the energy industry, either as an engineering consultant or as an employee working directly for companies engaged in the generation of electrical energy. During much of that time, I have been involved in the development and execution of major capital projects that have had a material beneficial impact on the businesses that I have served.

My role in Seminole's need determination process was to develop self-build options for the company to consider in our pursuit of the most cost-effective risk-managed portfolio that we could come up with. That development process included three primary efforts.

First, Seminole conducted a multistep site selection process that resulted in the selection of the existing SGS site as the most advantageous location for a self-built facility.

Second, we executed a competitive bidding process to procure Power Island equipment and a long-term service agreement to support the major maintenance of that equipment.

And, third, Seminole executed a competitive

bidding process to secure engineering, procurement and construction services to design and build the Seminole Combined Cycle Facility, or SCCF.

This process has resulted in a highly developed conceptual design and an accurate cost estimate for the SCCF. My written testimony supports my verbal assertion that I share with you here today that our cooperative can build the Seminole Combined Cycle Facility for the costs that we have estimated, that the facility will perform as described, and that it will prove to be a key asset in assuring that Seminole can meet our members' energy needs cost effectively for many years to come.

I would like to thank the Commissioners and the Commission staff in advance for your thoughtful consideration of our petition.

MR. PERKO: And we proffer Mr. Kezell for cross-examination.

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

(Whereupon, prefiled testimony was inserted.)

BEFORE THE PUBLIC SERVICE COMMISSION

SEMINOLE ELECTRIC COOPERATIVE, INC.

DIRECT TESTIMONY OF DAVID KEZELL

DOCKET NO. _____-EC

DECEMBER 21, 2017

Q. Please state your name and address.

A. My name is David Kezell. My business address is 16313 North Dale Mabry Highway, Tampa, Florida 33618-2000.

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

A. I am employed by Seminole Electric Cooperative, Inc. ("Seminole") as Director of Engineering and Capital Development.

Q. What are your responsibilities in your current position?

A. As Seminole's Director of Engineering and Capital Development, I am responsible for the planning, development, and coordination of capital projects associated with existing and potential new generating facilities, coordination of the activities of the engineering resources team as well as development, maintenance and administration of Seminole's multi-year Construction Work Plan (CWP) and Capital Budget and Work Plan. I have management oversight responsibility for the development and execution of the Seminole Combined Cycle Facility ("SCCF") project.

Q. Please describe your professional experience and education background.

A. I have more than twenty six years of experience in the energy industry either as an engineering consultant or as an employee of a company involved in the generation of electrical energy. My roles have included Project Engineer, Engineering Supervisor, Project Manager, Operations Manager, Manager of Construction Management, General Manager, and Director of Engineering and Capital Development. I have personally managed the development and construction of two generating facilities and have had oversight responsibilities for the personnel managing the engineering, procurement and construction management of several more. I have served as Seminole's Director of Engineering since 2013.

I hold a B.S. in Mechanical Engineering and a B.A. in General Arts and Sciences from the Pennsylvania State University and an M.S. in Mechanical Engineering from Arizona State University. I also hold a certificate in Air Quality Management from the University of California at Berkeley and I am a licensed Professional Engineer in the state of California.

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

A. The purpose of my testimony is to provide an overview of the SCCF project and its development from a technical perspective in support of Seminole's Petition for Determination of Need for the SCCF. Specifically, I will describe the process utilized to select the project site, the project technology, and the business partners that will execute the project on behalf of Seminole. I will describe related facilities, operating assumptions, the development of estimated

costs for the project, and its projected in-service date. I will also describe Seminole's experience in construction and operation of combined cycle units and other fossil-fired generation facilities.

Q. Are you sponsoring any exhibits in the case?

A. Yes. I am sponsoring the following exhibits:

- Exhibit No. __ (DK-1), which is my professional resumé;
- Exhibit No. __ (DK-2) - Preliminary Arrangement of the SCCF at the SGS Site;
- Exhibit No. ___ (DK-3) - Summary of Estimated Capital Costs; and
- Exhibit No. __ (DK-4) - P2021 Single Fuel Facility Analysis;

I am also sponsoring Sections 4.1.1 through 4.1.7, 4.1.10, 4.1.11, and 6.2 of Seminole's Need Study (Exhibit No. ____ (MPW-2)), all of which were prepared by me or under my direct supervision.

Q. Please summarize your testimony.

A. The SCCF will be a highly efficient, cost effective new generation resource that will provide flexible quantities of reliable energy to Seminole's Member cooperatives for decades to come. The facility will be located on the same property where the existing Seminole Generating Station ("SGS") is located and will share that facility's existing transmission and water resource infrastructure. This co-location reduces the overall impact from the new generation resource from that which would be required if it were to be located elsewhere. Seminole is partnering with very capable equipment suppliers, engineers, and constructors to bring the plant to commercial operation in 2022.

Q. Please describe the combined cycle technology that will be used for SCCF Project.

A. The SCCF will utilize two natural gas fired combustion turbine generators ("CTGs") each coupled with an associated heat recovery steam generator ("HRSG") that will produce steam to drive a single steam turbine generator ("STG"). This configuration is commonly referred to as a "two on one" or "2x1" combined cycle plant. The selected CTGs are advanced class General Electric ("GE") 7HA.02 gas turbines. The GE manufactured HRSGs are three-pressure, re-heat units that will deliver steam to a single GE D650 series STG. The HRSGs will be provided with duct burners to provide supplemental firing for additional steam production during peak demand periods. Steam exhausting from the STG will be condensed in a water cooled condenser which cools the steam by means of a 16 cell forced draft cooling tower utilizing water supplied from the St. John's River. Exhibit No. __ (DK-2) is a schematic showing the preliminary site arrangement for the SCCF.

Q. Beyond the combined cycle generating unit itself, what other facilities will be constructed as part of the SCCF?

A. A new natural gas lateral will be constructed by a third party within Putnam County to deliver fuel to the SCCF, as discussed in the testimony of Mr. David Wagner. No off-site new water lines will be required as the SCCF will utilize existing water infrastructure associated with the existing SGS facility. New connections to existing water pipelines on the SGS property will be installed to serve the SCCF. Network upgrades to the existing transmission system that may be required to facilitate the increased output from SGS/SCCF to serve

Seminole's Member load within the Florida Reliability Coordinating Council Region are discussed in the testimony of Mr. Robert DeMelo.

Q. What experience does Seminole have with the evaluation and construction of combined cycle plants and related facilities?

A. Seminole regularly develops generic power plant models with estimated thermodynamic and economic characteristics that are used in our generation planning process. These models allow the organization to stay abreast of technological developments in the industry and evaluate their potential contribution to our future portfolios. Seminole developed the 2x1 combined cycle Midulla Generating Station ("MGS") in Hardee County in 2002 and has operated this facility since that time. Seminole also installed ten additional simple cycle gas turbines at MGS in 2006.

Q. How did Seminole evaluate the feasibility and appropriateness of the combined cycle technology selected for the SCCF?

A. Seminole retained Black and Veatch to help evaluate numerous power generation technologies as potential future resources prior to selecting the advanced class gas turbine technologies incorporated in the SCCF. Combined cycle technology was selected because the high fuel efficiency and flexible dispatch capability offered by these systems will allow the SCCF to match varying system load at a low cost and with limited environmental impact. Seminole selected state-of-the-art "advanced class" gas turbine technology coupled with flexible operation heat recovery steam generators and an associated steam turbine as the most cost-effective risk managed self-build

option. Seminole initiated a power island equipment purchase bidding process followed by an Engineer, Procure, Construct ("EPC") services bidding process to develop accurate self-build cost estimates which would then compete with market alternatives.

Seminole evaluated several different technologies from three different vendors, General Electric, Mitsubishi, and Siemens. Upon completion of the initial screening, Seminole issued an RFP in February of 2016 to the same three vendors; two of which, General Electric and Mitsubishi, responded with compliant bids. Both of these vendors submitted two proposals; one for a 1x1 configuration and the second for a 2x1 configuration. All four options were evaluated along with the market alternatives**.** We ultimately determined that the 2x1 GE 7HA.02 technology was the most economic option.

Q. What are the expected operational parameters for the SCCF?

A. The facility has a nameplate gross nominal output of 1,183 MW and a net nominal output of 1050 MW. The facility is anticipated to achieve the nominal output across the entire range of ambient conditions typically experienced in Palatka, Florida. It will have significant flexibility in terms of its operational characteristics. The 7HA.02 gas turbines have an extended "turndown" capability which will allow them to meet their required emissions levels while firing the turbines down to as low as 25% of their full-fire levels. This low turn-down capability is valuable as it will allow the SCCF to remain operational during low load periods typically experienced at night and avoid the thermal stresses, wear, and higher emission concentrations typically

associated with a shut-down / start-up cycle. During peak load periods, the SCCF can fire supplemental natural gas in duct burners in the HRSGs to get additional generation out of the STG.

The facility will also be capable of running in a 1x1 mode with only one of the CTGs in operation. Finally, if the steam turbine trips, the facility will be able to continue to generate by bypassing the STG with steam generated in the HRSGs and sending it directly to the condenser.

The maximum output of the 2x1 facility at ISO conditions is expected to be approximately 1078 MW without supplemental duct firing and approximately 1131 MW with duct burners in operation. The heat rate of the facility in these same two conditions will be approximately 6,218 and 6,349 Btu/kW-hr higher heating value ("HHV") respectively. The minimum output of the facility at ISO conditions will be approximately 370 MW in 2x1 mode and 164 MW in 1x1 mode.

Q. Did Seminole consider the provision of a back-up fuel in the design of the SCCF?

A. Yes. Seminole considered utilizing diesel fuel oil as a secondary fuel at the SCCF to replace natural gas should that primary fuel be curtailed. Seminole determined that it was not cost-effective to include diesel fuel firing capability at the SCCF. This conclusion was based on consideration of a number of factors, including:

- the cost of the additional fuel delivery, storage, and combustion equipment (estimated at $15.2M);
- the additional operational costs (present worth estimated at $5.1M);
- the real and potential environmental impacts of the secondary fuel;
- the relative rarity of disruptions in Florida's natural gas supplies;
- the level of natural gas-fired energy supplies within Seminole's current portfolio that are already backed up with diesel fuel; and
- the proximity of the remaining SGS coal unit.

Seminole's current portfolio of energy resources includes a variety of owned and purchased power assets including solar, landfill gas, waste-to-energy, coal, and natural gas resources. Included in that portfolio are the following dual fuel capable resources; 500 MW of combined cycle and 310 MW of peaking capacity at the Seminole owned Midulla Generating Station (MGS), 266 MW of combined cycle and 178 MW of peaking capacity through a PPA with Hardee Power Partners, and 546 MW of peaking capacity through a PPA with the Southern Company owned Oleander facility. This amounts to 40% of Seminole's committed resources. Seminole also has access to 122 MW of widely distributed Member owned diesel fired generators (another 3% of our committed resources) that can be called upon in times of necessity. In the future, Seminole anticipates having a regularly changing set of owned and purchased power assets that will nevertheless maintain a level of diversity in our generation mix adequate to provide reliable energy to our Members, manage our risk of exposure to changing market conditions, and keep our rates competitive.

Seminole hired Black & Veatch to evaluate the pros and cons of a single versus dual fuel facility. As explained in Black & Veatch's report which is . attached as Exhibit No. ___ (DK-4), the need for backup fuel can appropriately be evaluated on a fleet rather than an individual plant basis and it should also take into account that natural gas supply impact events typically occur in Florida concurrently with transmission system impacts. During such events, Seminole's system is anticipated to be capable of meeting the load the impacted transmission system can deliver with energy generated either from diesel as a backup fuel or from coal or other resources until the natural gas availability is restored to its normal level. It is anticipated that a significant number of storm events will result in a system that is limited by transmission and distribution, rather than gas supply, limitations. Ultimately, as Black and Veatch concluded that, considering "the environmental and permitting impacts with dual fuel operation, the reliable nature of the natural gas supply in Florida, and the cost to add fuel oil to the facility, the incremental benefit to add fuel oil as backup for the [SCCF] facility would not result in a commensurate benefit to the [Seminole] system."

Q. Please describe how Seminole monitors the operational performance and reliability of its power plants.

A. Seminole uses various industry standard techniques to measure and report on the performance and reliability of its power plants. Daily, monthly and annual reports are created describing the availability factor, capacity factor, energy generated, heat rate, and fuel consumed for its generating plants. Furthermore,

the generating facilities are monitored continuously by onsite instrumentation and control systems to assure that various critical operational parameters stay within safe operating limits. On specific units, Seminole also utilizes long-term service agreements ("LTSAs") with external providers for continuous monitoring and periodic maintenance.

Q. How did Seminole select the SGS site for location of the SCCF?

A. In order to fully evaluate potential self-build site location options, Seminole retained a third party environmental consultant to assess the environmental licensing considerations associated with locating new generation facilities at two potential sites owned by Seminole: the SGS site in Putnam County and another 586-acre site in Gilchrist County. Informed by the results of that study and subsequent information, Seminole utilized Black & Veatch to evaluate the SGS site versus the Gilchrist site using a comparative analysis that utilized the following criteria:

- Land Use/Ownership
- Site Development
- Electrical Transmission
- Fuel Supply
- Water Supply
- Waste Water
- Environmental Assessment
- Transportation
- Technology Selection
- Schedule

Based on the comparative analysis, the SGS site scored substantially better than the Gilchrist site for a combined cycle facility. In particular, the Gilchrist site posed significant issues relative to water availability and wastewater discharge options. In addition, the SGS site is a brownfield site with capability of utilizing existing water intake, water discharge, and electrical transmission infrastructure. Overall, the SGS site has significant economic and strategic advantages for siting a combined cycle facility.

Q. Please describe the advantages of locating the SCCF on the existing SGS site.

A. The SCCF will be located on the south side of the existing SGS property. This location takes advantage of the existing transmission and water resource infrastructure at SGS as well as the existing employee base. The Putnam County site will require a new natural gas lateral to be developed and installed as described in the testimony of Mr. David Wagner. However, even with the gas lateral, total installed costs were minimized with the selection of this site.

Q. Have you estimated the capital and operations and maintenance (O&M) costs for the SCCF facility?

A. Yes, Seminole started with capital cost estimates that were formed around major equipment estimates received from manufacturers and EPC estimates developed by Black & Veatch. The capital cost estimates became increasingly accurate as Seminole contracted for power island equipment and received competitive bids for EPC services. Seminole has also developed and refined

operations and maintenance estimates for the SCCF that are based in part upon our experience with the MGS combined cycle facility.

Q. What are the estimated capital costs for the SCCF?

A. The estimate capital cost of SCCF is approximately $727 million. Exhibit No. __ (DK-3) is a summary table providing a breakdown of the estimated capital costs.

Q. What is the anticipated schedule for the SCCF Project?

A. Seminole anticipates completing the SCCF permitting activities in 2018 and achieving commercial operation in late 2022. Prior to that time any initial engineering work that is required to keep the overall project on schedule will be executed using Limited Notices to Proceed ("LNTPs") with the EPC Contractor and the power island equipment provider. Detailed engineering and balance of plant equipment procurement activities will occur in 2020. The EPC Contractor will likely mobilize to the site in 2020, major foundations will be completed in 2021 and equipment erection, piping, electrical, etc. work will occur primarily in 2021 and 2022.

Q. Does this complete your direct testimony?

A. Yes it does.

CHAIRMAN GRAHAM: And, Mr. Wright, he is your witness.

MR. WRIGHT: Thank you, Mr. Chairman.

EXAMINATION

BY MR. WRIGHT:

Q Good morning -- good afternoon, Mr. Kezell.

A Good afternoon.

Q As you have heard, I am Schef Wright, and I represent the intervenors. I have a few questions for you, but if you answer as directly and succinctly as Mr. Ward, we are going to get you out of here pretty quick, okay?

A I think we would all appreciate that.

Q Good deal.

You can look there if you want, but I am sure you know what I am asking you about here. On page 12 of your testimony, you state that the estimated capital cost of the SCCF, the Seminole Combined Cycle Facility, is $727 million, correct?

A Yes.

Q Okay. And you don't have any changes to make to that number, do you?

A No, I do not.

Q Do you have a finalized EPC contract yet?

A We do not.

Q On page 11, lines 13 through 15, you state that the SCCF site will require new natural gas lateral to be developed and installed, correct?

A Yes.

Q Does the $727 million value we discussed include the cost of that gas lateral?

A It does not.

Q Okay. Can you tell what that cost is estimated to be?

A I don't know the capital costs. We intend to engage a third party to develop, build, own and operate that gas line, and I believe that we will pay for it over a longer period of time. So we don't -- I am not privy to the actual capital costs for it.

Q Okay. You just mentioned that you expect to pay for it over time. If you know, then, would that -- those costs for that lateral, over time, be included in that confidential column, headed NG Transportation that we talked about with Mr. Ward?

A I would probably have to defer to someone else to answer that question, but I am confident that the cost, over time, for that gas line is incorporated in our analysis.

Q Okay. On page four of your testimony, you refer to network upgrades to the existing transmission

system that will be required to facilitate the increased output from the SCCF, correct?

A Yes.

Q Does the $727 million value include the cost of those upgrades?

A It includes the costs on our site to extend the switchyard. The external costs that may be required by other transmission service providers are covered elsewhere.

Q They are not included in the $727 million, correct?

A That's correct.

Q Okay. Do you know what the amount of those costs is?

A I do not.

Q Is there another witness who would know that?

A We have a good estimate that could probably be shared by Robert DeMelo.

Q Thank you.

On page eight of your testimony, you -- you talk about managing our, meaning Seminole's, risk of exposure to changing market conditions and keep our rates competitive; correct?

A I believe so.

Q Okay. Is it important, in your opinion, to

keep Seminole's rates competitive?

A Absolutely.

Q Did Seminole consider the impact on rates paid by the member cooperatives as part of its evaluation of generation alternatives?

MR. PERKO: I think we are getting beyond this witness' area of testimony, Your Honor. There are other witnesses that cover the evaluation process.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: He talks about keeping their rates competitive. I think it's completely appropriate to this witness' testimony.

THE WITNESS: Could you rephrase the question -- excuse me.

CHAIRMAN GRAHAM: Ask the question again.

MR. WRIGHT: Sure.

CHAIRMAN GRAHAM: If you don't know the answer, or if there is a better witness, just let him know.

THE WITNESS: Thank you.

BY MR. WRIGHT:

Q Do you know whether Seminole considered the impact on the rates paid by its member cooperatives in the process that led to the decision to go with the Clean Power Plan?

A I believe we absolutely did. As shared by Mr. Ward, we analyzed these various portfolios for their impact on member rates, and the selected portfolio was, by far, the least expensive, most cost-effective one.

MR. WRIGHT: Mr. Chairman, this is a document provided in discovery by Seminole. It was designated as confidential without any specification as to what was confidential. I would like to wait -- I am not convinced that what I want to ask about is confidential, but I want to wait and let Mr. Perko and his team have an opportunity to look at it --

CHAIRMAN GRAHAM: Okay.

MR. WRIGHT: -- before -- before I go further.

CHAIRMAN GRAHAM: This is Exhibit 107. Do you have a name for me, Mr. Wright?

MR. WRIGHT: It's emails produced in response to Quantum's POD No. 4. And there is also a description that gives Bates pages.

CHAIRMAN GRAHAM: Emails, Quantum POD No. 4.

(Whereupon, Exhibit No. 107 was marked for identification.)

MR. PERKO: Mr. Chairman, based on further consultation with my client, I think we can agree that this document is not confidential.

CHAIRMAN GRAHAM: Okay. Mr. Wright.

MR. WRIGHT: Yay.

CHAIRMAN GRAHAM: We can shed the red folder.

MR. WRIGHT: Okay. Thank you, Mr. Perko.

MR. PERKO: Forgive me, but what number did we assign this?

CHAIRMAN GRAHAM: 107.

MR. PERKO: Thank you.

BY MR. WRIGHT:

Q So at -- let's look at the second page of the document, where the cover sheet counts as the first page.

With respect to number two, you pose the question, why is the member rate impact rating only looking at 2021 through 2025, correct?

A Yes.

Q Did you get a satisfactory answer to that question? And if so, what was it?

A I don't recall distinctly. These questions were asked as we were establishing various criteria to evaluate the various options. And this was simply a question on my part to see -- inquiring as to why we would have a short period of member rate impacts rather than a longer one.

Q So was the answer to my question, you don't

recall getting an answer to your question?

A I don't recall a specific answer.

Q Thank you.

I would like to ask you to look at what is actually the fourth page in. It's the SECI 001500 Bates number. This appears to be an email from you to Mr. Peters, and it looks like the whole evaluation team maybe with some extra folks, is that about right as to what it is?

A Yes.

Q At number two, you made the statement, I think the member rate impact rating -- weighting at 10 percent is too low. Can you explain what you meant by that, please?

A I believe this was associated with our risk analysis, and we were looking at weighting the various elements of risk, and I felt that the member rate impact should be weighted rather highly.

Q Now, you just mentioned the risk analysis, was this used to evaluate bids -- proposals?

A I am sorry, could you --

Q What was the evaluation with respect to which this criterion was being considered, the evaluation of proposals?

A I believe we were looking at portfolios at

this time.

Q Thank you. That was my next question. I was trying to avoid asking you a compound question.

A Okay.

Q So portfolios.

Okay. In number three, you make the statement, I am not sure that I understand the difference between member rate impact rating and the economic rating, correct?

A Yes, that's what I wrote.

Q Okay. Do you know whether the member rate impact rating wound up being part of the overall portfolio rating?

A I am sure that it did.

MR. WRIGHT: Excuse me just a moment, Mr. Chairman.

CHAIRMAN GRAHAM: Sure.

MR. WRIGHT: Mr. Chairman, we will come back to this later, but this is an exhibit proffered by Ms. Diazgranados. It's her Exhibit No. JAD-4. With your permission, I would like to show it to the witness for now for the purpose of these questions.

CHAIRMAN GRAHAM: Mr. Perko.

MR. PERKO: That's fine, Your Honor -- Mr.

Chairman.

BY MR. WRIGHT:

Q Mr. Kezell, are you familiar with that document -- that exhibit?

A Yes, I have seen it.

Q Okay. I note on that exhibit, that there are two -- two criteria titled Economic Rating, one for 10 years and one for 30 years; correct?

A Yes.

Q I do not see a separate rating for member rate impact there, do you?

A No.

Q Okay.

A However, I believe that the -- those MPVs would incorporate impacts to member rates, so I think it's a good proxy.

Q Thank you.

MR. WRIGHT: May I -- may I retrieve my document?

CHAIRMAN GRAHAM: Sure. Sure.

BY MR. WRIGHT:

Q Was risk of member dissatisfaction one of the risks that Seminole considered in deciding on the portfolio in this case?

A Which one?

Q Risk of member dissatisfaction.

A I don't believe we named anything that.

Q In your -- in your email of January 27th, at page 1,500 that we were just talking about, you make the statement: "We either focus on getting more competitive, or we resign ourselves to the increasing risk of member dissatisfaction and defections;" correct?

A Yes. Can you point me to the number?

Q Sure. It's within number two. It's within the last three lines of your paragraph number two.

A Yes, I wrote that.

Q Okay. And you suggested that the weighting be increased, correct?

A Yes. I suggested that we take member rates very seriously as a key component of member satisfaction.

Q Was the weighting increased as you suggested?

A I don't recall exactly how we did it, but certainly it was a key component to our overall analysis.

Q Is Lee County Electric Co-op an example of a defection, as you used the term in your email?

MR. PERKO: Objection, Your Honor.

CHAIRMAN GRAHAM: What's your objection?

MR. PERKO: I will withdraw the objection.

CHAIRMAN GRAHAM: Okay.

THE WITNESS: Then my answer would be, yes, they chose not to continue with Seminole.

BY MR. WRIGHT:

Q And so that was really intended to be a predicate question to this: Was risk of defections like LCEC's departure one of the risks that Seminole considered?

A Our intent all along -- member satisfaction is very important for us, and so, yes, keeping our members is critically important to us, and we want to satisfy them in any way that we can.

Q Do you know how Seminole's rates stack up against other wholesale providers or -- question mark?

A I have a general understanding.

Q And what is that understanding?

A I think on a wholesale basis we do well, particularly given the differences between us and some of the other wholesale providers.

Q Now, the wholesale aspect of this is just generation and delivery, correct?

A I believe it would be generation and transmission.

Q And I should have said transmission instead of delivery. That's what I meant. Thanks.

How much does that have to do with the rural character of Seminole's -- of the ultimate member consumers who receive their bulk power from Seminole?

A It impacts it substantially. And as Mr. Ward described, we do work in different balancing areas, and our loads are discontiguous throughout the state. And so we have to rely on other transmission service providers to essentially carry our energy from where it's generated to where it's delivered. And essentially you could consider the transmission lines owned by others as toll roads. And so every time we move energy across those lines, we are paying a toll, and so that adds to our cost.

Q Thanks.

Of Seminole's total bulk power -- total costs, can you tell us approximately what percent is transmission? If that's confidential, then you don't have to answer, but --

MR. PERKO: Mr. Chairman, I think we are getting far afield of the subject matter of this witness' direct testimony here. We've got other witnesses that can deal with transmission. I think if we go through every topic with every witness, we are going to be here more than two days.

CHAIRMAN GRAHAM: Mr. Wright.

MR. WRIGHT: Well, I don't think we are going to be here anything like two days, Mr. Chairman, for starters.

CHAIRMAN GRAHAM: I can guarantee you that.

MR. WRIGHT: Well, thank you.

This goes to his testimony about Seminole's rates being competitive. I am just exploring -- you know, he just gave a response about wholesale power rates. He says it's important that they be competitive. He answered a question about the composition of generation and transmission. I was asking a follow-up question, which I think is perfectly natural as to, if he can answer without breaching a confidentiality obligation to his company, what percentage of Seminole's total costs are transmission.

CHAIRMAN GRAHAM: Mr. Kezell, is there a better witness to speak to transmission?

THE WITNESS: I believe there are better -- a better witness is Mr. DeMelo.

CHAIRMAN GRAHAM: Okay.

THE WITNESS: I can tell you that I don't know those numbers, so I can't even breach the confidentiality.

CHAIRMAN GRAHAM: That's fine.

Mr. Wright.

BY MR. WRIGHT:

Q That's a perfectly good answer, Mr. Kezell. You did, indeed, author these emails, did you not?

A Yes.

Q Okay. Thanks.

MR. WRIGHT: One second, Mr. Chairman.

Thank you, Mr. Chairman, for your indulgence.

BY MR. WRIGHT:

Q Thank you, Mr. Kezell, for your time. I don't have anymore questions for you.

A You are welcome.

CHAIRMAN GRAHAM: Thank you, Mr. Wright.

Staff.

MS. DZIECHCIARZ: Yes, staff has just a few questions -- sorry, staff has no questions. Thank you.

CHAIRMAN GRAHAM: Commissioners.

Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Mr. Chairman.

Good afternoon, Mr. Kezell.

THE WITNESS: Good afternoon.

COMMISSIONER POLMANN: Briefly, a few moments

ago, you answered Mr. Wright regarding -- I think you were in the middle of discussing the email of January 27 in Exhibit 107, and regarding -- it was in the context of the member rate impact, and you said something to the effect of -- that member satisfaction was very important. And I believe your phrase then was you want -- you -- we want to satisfy them any way that we can. Do you have some recollection of saying something to that effect, sir?

THE WITNESS: Yes, sir.

COMMISSIONER POLMANN: I would ask, how do you identify and measure member satisfaction?

THE WITNESS: That's a great question.

We do have frequent meetings with our Board of Directors, where they can express any concerns that they may have in the services that we are delivering to them. We ask them. We have open conversations with them.

Clearly, one of the objectives of my role is to make sure that we are wise stewards of the money that they entrust us with, and that when we select it to do various projects, we have selected good projects and that we execute them well.

COMMISSIONER POLMANN: I would like to follow

up on this notion of selecting projects in particular. And Mr. Ward identified -- or answered that the Board was directly involved in the process of selecting the proposed portfolio. And I take it that you would agree with Mr. Ward's testimony, that price and economics of the portfolio were a primary factor. Do you agree with that?

THE WITNESS: Yes, I do.

COMMISSIONER POLMANN: And that the costs are one measure of member satisfaction, do you agree?

THE WITNESS: Certainly, I do.

COMMISSIONER POLMANN: In the process of the project selections, are you directly involved in that process?

THE WITNESS: For capital projects within the organization, I am. So with respect to this process in particular, my primary role was to provide self-build options to the organization so that they could be considered to be included in the various portfolios.

COMMISSIONER POLMANN: And the proposed portfolio, which includes the new gas-fired generation and the closure of a coal plant, was that one of your recommendations -- or were you involved in developing that recommendation?

THE WITNESS: I was involved in evaluating those various portfolios, yes.

COMMISSIONER POLMANN: Was there a discussion with the Board regarding that capital configuration -- with regard to that portfolio and the infrastructure of the coal plant replacement with the gas-fired plant on matters other than cost, to your recollection?

THE WITNESS: Absolutely.

COMMISSIONER POLMANN: Could you describe what were those subjects, other than cost?

THE WITNESS: We clearly were concerned for our employees. There are currently approximately 300 employees at the Seminole Generating Station, and we recognized that if we took one of those units out of service, that would impact jobs. So that was a clear concern that was discussed on numerous occasions.

COMMISSIONER POLMANN: What aspects would you describe in that context of the infrastructure of the plant, the physical plant changes, what aspects of that discussion would you put in the category of member satisfaction that you had expressed? Again, other than price.

THE WITNESS: Perhaps I could repeat your

question back to you to make sure I understand it correctly?

COMMISSIONER POLMANN: Yes, please.

THE WITNESS: What aspects of the decision to remove one unit from service and build a new gas-fired facility there would impact member satisfaction?

COMMISSIONER POLMANN: Other than price.

THE WITNESS: Other than price.

I think the relationship between Seminole and its member owners is a critical one. It's a relationship that's built upon trust and mutual understanding. And certainly, they have an interest in the morale of the employees of Seminole and the potential impact of these decisions on that morale. And so I think that was a key component that would be evaluated by our member owners as they considered these various portfolios.

COMMISSIONER POLMANN: And let me ask you directly, Mr. Kezell. Is this your interpretation of your board members, or did they speak to you on that subject of employee concern directly?

THE WITNESS: I don't recall any specific conversations with them, between myself personally and board members, but I know that it was a subject

that was brought up in the board meetings on multiple occasions.

We recognize that this was a large decision. We also recognize that there is value in fuel diversity, and we recognize that -- we continued to want to have fuel diversity in the portfolio, in the Seminole portfolio, and so we were balancing the risks associated with continuing with a heavy carbon portfolio, if you will, versus other impacts it would have if we reduce that carbon level.

COMMISSIONER POLMANN: Thank you, sir.

Mr. Chairman, that's all I have.

CHAIRMAN GRAHAM: Redirect.

MR. PERKO: Thank you, Mr. Chairman.

FURTHER EXAMINATION

BY MR. PERKO:

Q Now, Mr. Kezell, Mr. Wright asked you about whether we had -- Seminole had an EPC contract in place. Do you recall that?

A Yes, do I.

Q What's the status of that EPC contract negotiation?

A Almost all the details have been negotiated, and we anticipate executing the agreement within the next several weeks.

Q What level of confidence do you have that the EPC component of your cost estimate is accurate?

A I have a very high level of confidence.

Q And why is that?

A We've discussed various scope options with the EPC provider. We've talked about additional scopes, removing some scope. And with all those -- the net change of all those discussions we've had will have an impact of the price of less than one percent of where it was previously.

Q And I believe, if I understood you correctly, in response to Mr. Wright's questions regarding the gas pipeline that you were confident that it was included in the economic analysis -- the cost of that was included in the economic analysis; is that correct?

A I am confident of that, yes.

Q Okay. And he also raised questions about the transmission upgrade costs. Do you know if those were included in the economic analysis?

A I think I prefer to defer to Mr. DeMelo.

Q Mr. DeMelo, and perhaps Ms. Diazgranados?

A I believe you would know better than I do.

Q Thank you.

Mr. Wright asked you questions about your emails, and one of things that you were talking about

was member rate impact and only looking at 2021 through 2025, do you recall that?

A Yes.

Q Do you have an exhibit -- it's a confidential exhibit so I don't want to get into the specifics -- labeled 103 in front of you by any chance?

CHAIRMAN GRAHAM: It's to the right.

THE WITNESS: Yes.

BY MR. PERKO:

Q If you could take a look at page 20 of that document.

Well, first of all, do you recognize this document? This is excerpts from a document, but do you recognize what it is?

A Yes, I do.

Q And what is it?

A These are presentations that were made to our board in July of 2017.

Q Okay. Now, if you could look at page 20. Does that refresh your recollection as to what term the rate impact was looked at over the course of this evaluation?

A Certainly.

Q And how far do they extend?

A It goes out to 2051.

Q Thank you.

And as far as the emails where you express your thoughts on the evaluation grades, if you will, I believe you refer to this Jason, and that's Mr. Peters?

A That is correct.

Q You say: "Thanks for taking a first cut." So this was a first cut at the methodology that you were going to go by to evaluate the portfolios?

A Absolutely. And we had a robust discussion along those lines.

Q And that was a robust discussion amongst the various team members that are included within this email?

A That's correct.

Q And how satisfied were you that your concerns were fully vetted?

A I was completely comfortable with the outcome. And I think that we all had opportunity to voice any concerns that we had with respect to various weightings, and we came to an agreement as to how we would go through that process. And I believe that we all came out of it feeling, unanimously, that we had done a good job of arriving at the right decision.

Q And was the Seminole board kept up to speed on how that process developed, and how the various criteria

were to be evaluated?

A Yes, on a periodic basis. We generally met with the board seven times a year. There is times when we would meet with them for special meetings, and so we did update them pretty much every board meeting through this process.

MR. PERKO: Thank you, Mr. Chairman. I have nothing further.

CHAIRMAN GRAHAM: Okay. Exhibits.

MR. PERKO: Exhibits --

CHAIRMAN GRAHAM: Looks like I have 7 through 10 and 70 through 73.

MR. PERKO: Well, 70 through 73 are his rebuttal exhibits, Mr. Chairman.

CHAIRMAN GRAHAM: Okay. You are correct. So 7 through 10?

MR. PERKO: Yes, sir.

CHAIRMAN GRAHAM: Mr. Wright, any objections?

MR. WRIGHT: No objections, Mr. Chairman.

CHAIRMAN GRAHAM: Okay.

(Whereupon, Exhibit Nos. 7-10 were received into evidence.)

MR. WRIGHT: And we would move 107, Mr. Chairman.

CHAIRMAN GRAHAM: Mr. Perko, any objection to

107?

MR. PERKO: No objection.

CHAIRMAN GRAHAM: And you said this is not confidential, correct?

MR. PERKO: That is correct.

CHAIRMAN GRAHAM: Okay.

MR. PERKO: I had my button off here.

(Whereupon, Exhibit No. 107 was received into evidence.)

CHAIRMAN GRAHAM: All right. Would you like this witness excused until rebuttal?

MR. PERKO: Yes, Mr. Chairman.

CHAIRMAN GRAHAM: We are about one o'clock. It sounds like -- looks like a good spot to take that lunch break. So let's get back here at two o'clock on the nose.

MR. HETRICK: Mr. Chairman, if I could ask Mr. Wright what you would like to do with these confidential exhibits. Do you want them secured? Collected? How would you request that we deal with those right now?

MR. WRIGHT: I think that -- if I may. I think maybe the best thing is to ask folks to hold on to them so that I can discuss with Mr. Perko. It's not my client's confidential information. I

don't want to cause a breach of his client's confidentiality, but I do want them in the record.

MR. HETRICK: I am told we could probably collect them and lock them up.

MR. WRIGHT: That is certainly fine with me, as long as the court reporter gets to keep a copy.

MR. PERKO: That's fine with me.

CHAIRMAN GRAHAM: So we are going to collect them? Can we just leave a staff member in here and make sure they don't walk out the door?

MS. HELTON: Mr. Trice can collect them, and we can take them upstairs too keep them safe and then bring them back down. And we have -- we need to locate the key for this cabinet so that we can deal with it next time.

CHAIRMAN GRAHAM: Okay. We will be back here at two o'clock with Mr. Wagner.

(Lunch recess.)

(Transcript continues in sequence in Volume 2.)

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

Seminole Electric
COOPERATIVE, INC.

Ten Year Site Plan

2017 – 2026
(Detail as of December 31, 2016)
April 1, 2017

Submitted To:
State of Florida
Public Service Commission

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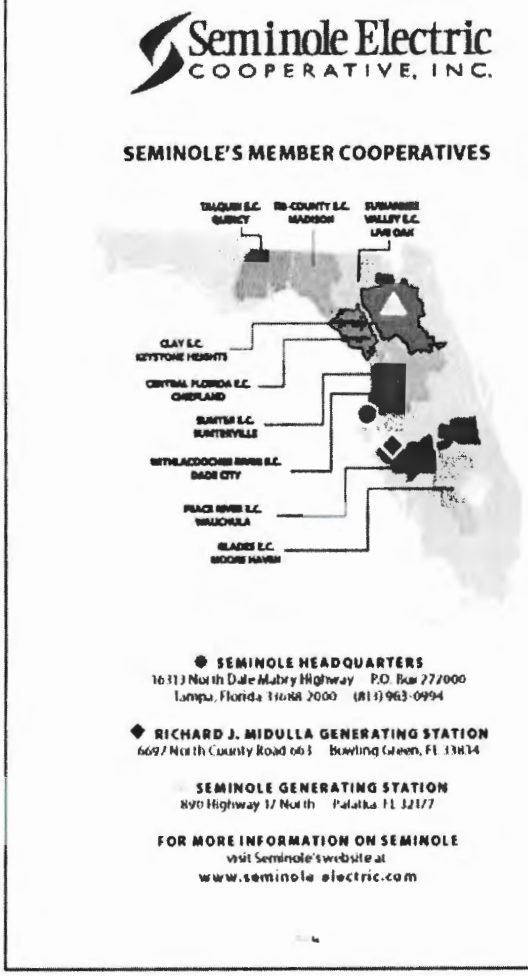
1. DESCRIPTION OF EXISTING FACILITIES

1.1 Overview

Seminole Electric Cooperative, Inc. (Seminole) is a generation and transmission cooperative responsible for meeting the electric power and energy needs of its nine distribution cooperative members (Members). Member service areas are indicated on Map 1 below:

Map 1



Seminole provides full requirements service to all of its Members with the only exception relating to contracts between four Members with the Southeastern Power Administration (SEPA), which provides 26 MW or 1% of the total energy required by all Members. Seminole serves the aggregate loads of its Members with a combination of owned and purchased power resources. As of December 31, 2016, Seminole had total summer capacity resources of approximately 3,700 MW consisting of owned, installed net capacity of 2,012 MW and the remaining capacity in firm purchased power. Additional information on Seminole's existing resources can be found in Schedule 1 and Table 1.2 below.

1.2 Existing Facilities

1.2.1 Owned Generation

Seminole's existing generating facilities include:

1) Seminole Generating Station (SGS) Units 1 & 2 comprise a 1472 MW nameplate coal-fired plant located in Putnam County;
2) Midulla Generating Station (MGS) Units 1–3 comprise a 587 MW nameplate gas-fired combined cycle plant located in Hardee County; and,
3) MGS Units 4–8 comprise a 310 MW nameplate peaking plant.

Schedule 1
Existing Generating Facilities as of December 31, 2016

Plant	Unit No.	Location	Unit Type	Fuel		Fuel Transportation		Alt Fuel Days Use	Com In-Svc Date (Mo/Yr)	Expected Retirement (Mo/Yr)	Gen. Max Nameplate (MW)	Net Capability (MW)	
				Pri	Alt	Pri	Alt					Summer	Winter
SGS	1	Putnam County	ST	BIT	N/A	RR	N/A	N/A	02/84	Unk	736	626	664
SGS	2	Putnam County	ST	BIT	N/A	RR	N/A	N/A	12/84	Unk	736	634	665
MGS	1-3	Hardee County	CC	NG	DFO	PL	TK	Unk	01/02	Unk	587	482	539
MGS	4-8	Hardee County	CT	NG	DFO	PL	TK	Unk	12/06	Unk	310	270	310

Schedule Abbreviations:

General
Unk – Unknown
N/A – Not applicable

Unit Type
ST – Steam Turbine
CC – Combined Cycle
CT – Combustion Turbine
PV – Photovoltaic

Fuel Type
BIT – Bituminous Coal
NG – Natural Gas
DFO – Ultra low sulfur diesel
Sun – Solar Energy

Fuel Transportation
PL – Pipeline
RR – Railroad
TK – Truck

1.2.2 Transmission

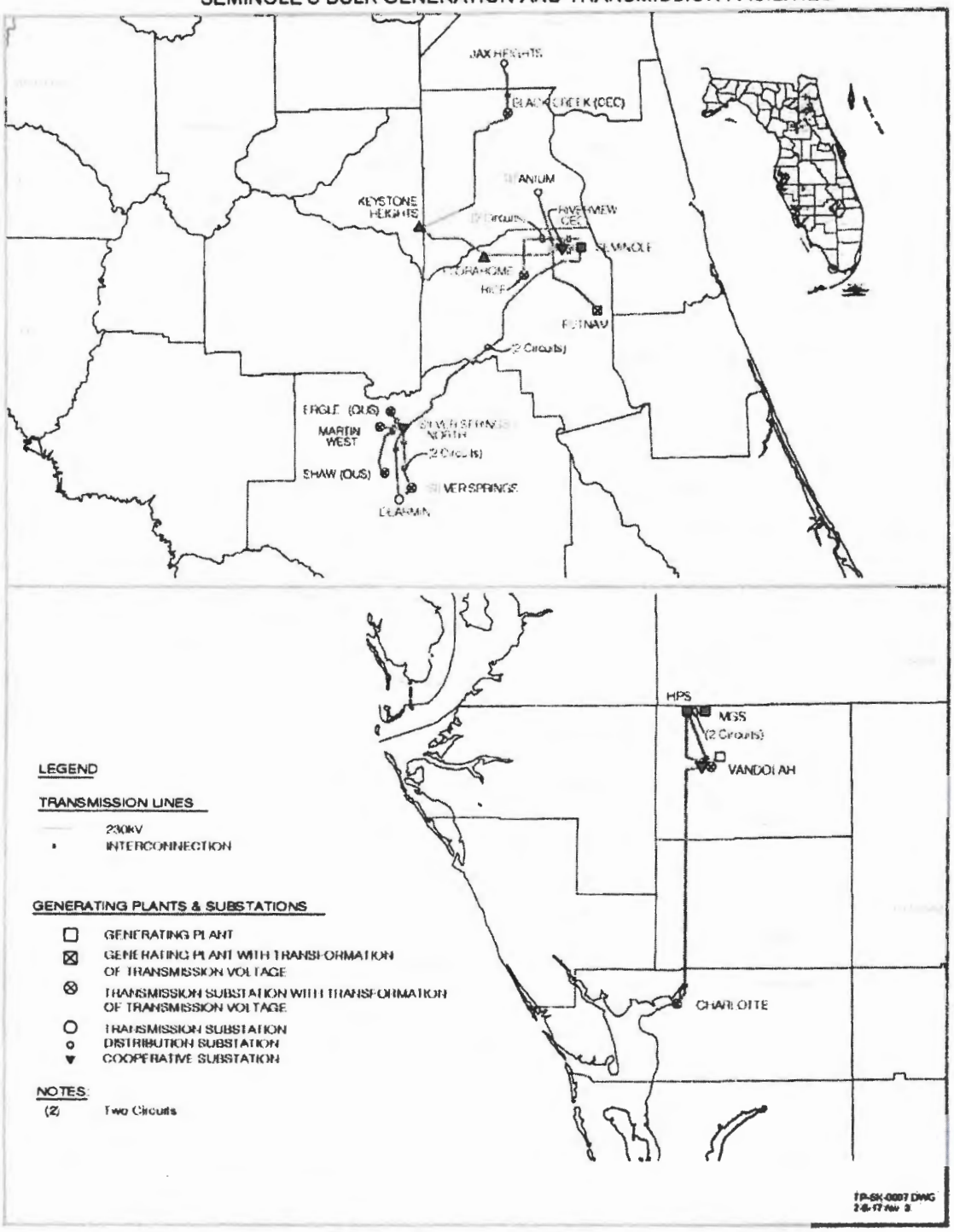
Seminole serves its Members' load primarily in three transmission areas: Seminole Direct Serve (SDS) system, Duke Energy Florida (DEF) system, and Florida Power & Light (FPL) system. Seminole's existing transmission facilities consist of 254 circuit miles of 230 kV and 127 circuit miles of 69 kV lines. Seminole's facilities are interconnected to the grid at nineteen (19) 230 kV transmission interconnections with the entities shown in Table 1.1.

Table 1.1 Transmission Grid Interconnections with Other Entities		
Entity	**Voltage (kV)**	**Number of Interconnections**
Florida Power & Light	230	5
Duke Energy Florida	230	7
JEA	230	1
City of Ocala (OUS)	230	2
Tampa Electric Company	230	1
Invenergy, LLC	230	3
Note: This table describes physical facility interconnections, which do not necessarily constitute contractual interconnections for purposes of transmission service or interconnections between balancing areas.		

Seminole contracts with other utilities for firm transmission service and interchange when required to serve loads. Map 2 below depicts Seminole's 230 kV transmission lines, including its interconnections with those entities identified in Table 1.1 above.

Map 2

SEMINOLE'S BULK GENERATION AND TRANSMISSION FACILITIES



1.3 Purchased Power Resources

Table 1.2 below sets forth Seminole's purchased power resources.

Table 1.2

2016				
SUPPLIER	**FUEL**	**MW (WINTER RATINGS)**	**IN SERVICE DATE**	**END DATE**
Hardee Power Partners	Gas/Oil	445	1/1/2013	12/31/2032
Oleander Power Project	Gas/Oil	546	1/1/2010	5/31/2021
FPL	System	200	6/1/2014	5/31/2021
DEF	System	<1	6/1/1987	-
DEF	System	600	1/1/2014	12/31/2020
DEF	System	150	1/1/2014	12/31/2020
DEF	System	50	6/1/2016	12/31/2018
DEF	System	200-500	6/1/2016	12/31/2024
DEF	System	50-600	1/1/2021	3/31/2027
Lee County Florida	Waste Landfill	55	1/1/2009	12/31/2016
Telogia Power	Biomass	13	7/1/2009	11/30/2023
Seminole Energy, LLC	Landfill Gas	6.2	10/1/2007	3/31/2018
Brevard Energy, LLC	Landfill Gas	9	4/1/2008	3/31/2018
Timberline Energy, LLC	Landfill Gas	1.6	2/1/2008	3/31/2020
Hillsborough County	Waste Landfill	38	3/1/2010	2/28/2025
City of Tampa	Waste Landfill	20	8/1/2011	7/31/2026

Note: Seminole Electric Cooperative may sell a portion of the renewable energy credits associated with its renewable generation to third parties. The third parties can use the credits to meet mandatory or voluntary renewable requirements.

2. FORECAST OF ELECTRIC DEMAND AND ENERGY CONSUMPTION

2.1 Energy Consumption and Number of Customers

Residential consumer growth is projected to increase at an average annual rate of 1.6 percent from 2017 through 2026. Similarly, commercial consumer growth is projected to increase at an average annual rate of 1.4 percent during the same period. Residential energy sales are projected to grow at an average annual rate of 1.6 percent, and commercial energy sales are projected to grow at an average annual rate of 2.0 percent from 2017 through 2026. Schedules 2.1, 2.2, and 2.3 below show the aggregate number of customers and energy consumption by customer classification of Seminole's nine Members, including other sales and purchases.

Schedule 2.1
History and Forecast of Energy Consumption and Number of Customers by Customer Class

Year	Estimated Population Served by Members	Residential			
		People per Household	GWh	Average Number of Customers	Average Consumption Per Customer (kWh)
2007	1,716,841	2.14	11,444	803,957	14,235
2008	1,740,705	2.15	11,104	808,926	13,727
2009	1,748,408	2.15	11,293	811,767	13,912
2010	1,692,257	2.22	11,369	761,993	14,920
2011	1,716,516	2.24	10,412	765,279	13,605
2012	1,723,920	2.24	9,979	769,591	12,967
2013	1,749,359	2.25	10,018	777,493	12,885
2014	1,643,174	2.48	8,808	662,626	13,293
2015	1,666,850	2.48	9,068	673,215	13,470
2016	1,638,985	2.40	9,101	683,648	13,312
2017	1,644,922	2.38	9,124	691,082	13,202
2018	1,655,886	2.36	9,369	701,498	13,356
2019	1,677,848	2.35	9,560	713,238	13,404
2020	1,703,402	2.35	9,671	726,091	13,320
2021	1,729,353	2.34	9,822	738,768	13,295
2022	1,754,297	2.33	9,955	751,387	13,249
2023	1,778,469	2.33	10,104	763,924	13,227
2024	1,802,279	2.32	10,254	776,173	13,211
2025	1,825,251	2.32	10,406	788,118	13,203
2026	1,847,474	2.31	10,539	799,658	13,180

NOTE: Actual value for 2013 and prior includes Lee County Electric Cooperative

Estimated-actual values for 2016.

Schedule 2.2
History and Forecast of Energy Consumption and Number of Customers by Customer Class

Year	Commercial[1]			Other Sales (GWh)[2]	Total Member Sales to Ultimate Customers (GWh)[3]
	GWh	Average Number of Customers	Average Consumption Per Customer (kWh)		
2007	4,839	88,306	54,798	165	16,448
2008	4,894	86,121	56,827	163	16,161
2009	4,776	84,318	56,643	167	16,236
2010	4,525	78,788	57,433	158	16,052
2011	4,366	78,828	55,386	160	14,938
2012	4,456	80,598	55,287	164	14,599
2013	4,482	82,302	54,458	166	14,666
2014	4,001	72,632	55,086	151	12,960
2015	4,155	73,290	56,689	151	13,374
2016	4,201	74,399	56,464	133	13,435
2017	4,256	75,257	56,553	132	13,512
2018	4,336	76,299	56,830	133	13,838
2019	4,450	77,357	57,527	134	14,144
2020	4,546	78,424	57,966	134	14,351
2021	4,634	79,495	58,294	135	14,590
2022	4,719	80,609	58,536	136	14,809
2023	4,804	81,742	58,774	137	15,045
2024	4,890	82,830	59,036	138	15,282
2025	4,978	83,888	59,340	139	15,523
2026	5,066	84,920	59,658	140	15,746

NOTE: Actual value for 2013 and prior includes Lee County Electric Cooperative.
Estimated-actual values for 2016.

[1] Includes industrial and interruptible customers.

[2] Includes lighting customers.

[3] Excludes sales for resale and includes SEPA.

Schedule 2.3 History and Forecast of Energy Consumption and Number of Customers by Customer Class					
Year	Sales for Resale (GWh)	Utility Use & Losses, Less SEPA (GWh)*	Net Energy for Load (GWh)	Other Customers*	Total Number of Customers[1]
2007	0	1,221	17,669	5,150	897,413
2008	0	1,171	17,332	5,075	900,122
2009	0	1,217	17,453	5,036	901,121
2010	0	1,294	17,346	4,956	845,737
2011	157	942	16,037	4,954	849,061
2012	134	1,036	15,769	4,818	855,007
2013	137	1,009	15,812	5,185	864,980
2014	170	724	13,854	5,308	740,566
2015	16	714	14,104	5,343	751,848
2016	56	980	14,471	5,389	763,436
2017	24	639	14,175	5,310	771,648
2018	20	689	14,548	5,310	783,106
2019	23	704	14,871	5,320	795,915
2020	26	709	15,087	5,345	809,860
2021	7	718	15,316	5,372	823,634
2022	0	722	15,531	5,404	837,399
2023	0	728	15,773	5,438	851,104
2024	0	734	16,016	5,468	864,470
2025	0	741	16,264	5,494	877,500
2026	0	744	16,490	5,519	890,097

NOTE: Actual value for 2013 and prior includes Lee County Electric Cooperative
[1] Estimated-actual values for 2016

2.2 Annual Peak Demand and Net Energy for Load

Both summer and winter net firm demands are projected to increase at an average annual rate of 1.5 percent from 2017 through 2026. Net Energy for Load is projected to grow at an average annual rate of 1.6 percent from 2017 through 2026. Schedules 3.1, 3.2, and 3.3 provide Seminole's summer peak demand, winter peak demand, and net energy for load, respectively.

Schedule 3.1

History and Forecast of Summer Peak Demand (MW)

Year	Total	Wholesale	Retail	Interruptible Load[1]	Distributed Generation[2]	Residential		Commercial[5]		Net Firm Demand[4]
						Load Mgmt.[3]	Cons.	Load Mgmt.[3]	Cons.	
2007	4,006	4,006	0	0	62	105	N/A	N/A	N/A	3,839
2008	3,778	3,778	0	0	48	100	N/A	N/A	N/A	3,630
2009	3,987	3,987	0	0	62	101	N/A	N/A	N/A	3,824
2010	3,714	3,714	0	0	67	99	N/A	N/A	N/A	3,548
2011	3,829	3,829	0	0	79	97	N/A	N/A	N/A	3,653
2012	3,525	3,525	0	0	0	97	N/A	N/A	N/A	3,428
2013	3,665	3,665	0	0	0	99	N/A	N/A	N/A	3,566
2014	3,155	3,155	0	0	0	67	N/A	N/A	N/A	3,088
2015	3,092	3,092	0	0	0	71	N/A	N/A	N/A	3,021
2016	3,318	3,318	0	0	0	75	N/A	N/A	N/A	3,243
2017	3,223	3,223	0	33	71	73	N/A	N/A	N/A	3,045
2018	3,284	3,284	0	34	71	75	N/A	N/A	N/A	3,104
2019	3,344	3,344	0	34	71	76	N/A	N/A	N/A	3,163
2020	3,389	3,389	0	34	71	77	N/A	N/A	N/A	3,207
2021	3,425	3,425	0	34	71	78	N/A	N/A	N/A	3,241
2022	3,479	3,479	0	39	71	79	N/A	N/A	N/A	3,290
2023	3,526	3,526	0	33	71	80	N/A	N/A	N/A	3,341
2024	3,578	3,578	0	34	71	81	N/A	N/A	N/A	3,391
2025	3,629	3,629	0	34	71	82	N/A	N/A	N/A	3,441
2026	3,676	3,676	0	34	71	83	N/A	N/A	N/A	3,487

NOTE: Actual values for 2013 and prior includes Lee County Electric Cooperative.

[1] Excludes wholesale interruptible purchases

[2] Distributed generation reflects customer-owned self-service generation.

[3] Historical load management data is estimated amount exercised at the time of the seasonal peak demand.

[4] Excludes SEPA allocations.

[5] Reduced demands associated with Member Cooperative coincident demand billing are not reflected, although reductions are reflected in "Total" & "Net Firm Demand"

Schedule 3.2

History and Forecast of Winter Peak Demand (MW)

Year	Total	Wholesale	Retail	Interruptible Load[1]	Distributed Generation[2]	Residential		Commercial		Net Firm Demand[4]
						Load Mgmt.[3]	Cons.	Load Mgmt.[3]	Cons.	
2006-07	4,178	4,178	0	0	43	109	N/A	N/A	N/A	4,026
2007-08	4,410	4,410	0	0	56	133	N/A	N/A	N/A	4,221
2008-09	4,946	4,946	0	0	58	150	N/A	N/A	N/A	4,738
2009-10	5,263	5,263	0	0	64	152	N/A	N/A	N/A	5,047
2010-11	4,476	4,476	0	0	55	106	N/A	N/A	N/A	4,315
2011-12	4,118	4,118	0	0	66	134	N/A	N/A	N/A	3,918
2012-13	3,839	3,839	0	0	0	132	N/A	N/A	N/A	3,707
2013-14	3,333	3,333	0	0	0	93	N/A	N/A	N/A	3,240
2014-15	3,696	3,696	0	0	0	103	N/A	N/A	N/A	3,593
2015-16[5]	3,403	3,403	0	0	0	96	N/A	N/A	N/A	3,307
2016-17	3,106	3,106	0	0	0	88	N/A	N/A	N/A	3,018
2017-18	3,727	3,727	0	31	71	102	N/A	N/A	N/A	3,523
2018-19	3,799	3,799	0	31	71	104	N/A	N/A	N/A	3,593
2019-20	3,853	3,853	0	31	71	105	N/A	N/A	N/A	3,646
2020-21	3,911	3,911	0	32	71	106	N/A	N/A	N/A	3,701
2021-22	3,961	3,961	0	32	71	107	N/A	N/A	N/A	3,750
2022-23	4,014	4,014	0	31	71	109	N/A	N/A	N/A	3,803
2023-24	4,070	4,070	0	31	71	110	N/A	N/A	N/A	3,857
2024-25	4,125	4,125	0	31	71	111	N/A	N/A	N/A	3,911
2025-26	4,177	4,177	0	31	71	113	N/A	N/A	N/A	3,962
2026-27	4,231	4,231	0	32	71	114	N/A	N/A	N/A	4,013

NOTE: Actual value for 2013-14 and prior includes Lee County Electric Cooperative

[1] Excludes wholesale interruptible purchases

[2] Distributed generation reflects customer-owned self-service generation.

[3] Historical load management data is actual amount exercised at the time of the seasonal peak demand

[4] Excludes SEPA allocations.

[5] Reduced demands associated with Member Cooperative coincident demand billing are not reflected, although reductions are reflected in "Total" & "Net Firm Demand."

Schedule 3.3 History and Forecast of Annual Net Energy for Load (GWh)								
Year	Total	Conservation		Retail	Total Sales Including Sales for Resale[1]	Utility Use & Losses, less SEPA[1]	Net Energy for Load	Load Factor %
		Residential	Commercial					
2007	17,669	N/A	N/A	0	16,448	1,221	17,669	50.1
2008	17,332	N/A	N/A	0	16,161	1,171	17,332	46.7
2009	17,453	N/A	N/A	0	16,236	1,217	17,453	42.1
2010	17,346	N/A	N/A	0	16,052	1,294	17,346	39.2
2011	16,037	N/A	N/A	0	15,095	942	16,037	46.7
2012	15,769	N/A	N/A	0	14,733	1,036	15,769	45.8
2013	15,812	N/A	N/A	0	14,803	1,009	15,812	45.7
2014	13,854	N/A	N/A	0	13,130	724	13,854	44.3
2015	14,104	N/A	N/A	0	13,390	714	14,104	48.7
2016	14,471	N/A	N/A	0	13,491	980	14,471	54.7
2017	14,175	N/A	N/A	0	13,536	639	14,175	45.9
2018	14,548	N/A	N/A	0	13,858	689	14,548	46.2
2019	14,871	N/A	N/A	0	14,167	704	14,871	46.6
2020	15,087	N/A	N/A	0	14,377	709	15,087	46.5
2021	15,316	N/A	N/A	0	14,597	718	15,316	46.6
2022	15,531	N/A	N/A	0	14,809	722	15,531	46.6
2023	15,773	N/A	N/A	0	15,045	728	15,773	46.7
2024	16,016	N/A	N/A	0	15,282	734	16,016	46.7
2025	16,264	N/A	N/A	0	15,523	741	16,264	46.9
2026	16,490	N/A	N/A	0	15,746	744	16,490	46.9

NOTE: Actual value for 2013 and prior includes Lee County Electric Cooperative

[1] Estimated-actual values for 2016

2.3 Monthly Peak Demand and Net Energy for Load

Schedule 4 shows peak demand and net energy actuals for load by month for 2016 and January 2017 and forecasts thereafter.

Schedule 4

Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month

Month	2016 Actual		2017 Forecast		2018 Forecast	
	Peak Demand (MW)[1]	NEL (GWh)	Peak Demand (MW)[2]	NEL (GWh)	Peak Demand (MW)	NEL (GWh)
January	3,307	1,179	3,018	1,059	3,523	1,189
February	3,107	1,041	3,065	1,024	3,126	1,048
March	2,211	1,020	2,471	1,026	2,535	1,050
April	2,701	1,036	2,441	1,039	2,502	1,059
May	2,803	1,253	2,809	1,242	2,871	1,264
June	3,137	1,434	2,944	1,336	2,995	1,358
July	3,243	1,574	3,016	1,442	3,087	1,463
August	3,164	1,479	3,045	1,449	3,104	1,468
September	2,997	1,338	2,875	1,311	2,929	1,333
October	2,690	1,129	2,577	1,118	2,630	1,140
November	2,238	952	2,489	993	2,548	1,017
December	2,410	1,035	2,766	1,136	2,823	1,158
ANNUAL		**14,471**		**14,175**		**14,548**

NOTE: Peak demand for January 2017 is actual

[1] Peak demand includes interruptible load; Excludes distributed generation, load management and SEPA allocations.

[2] Peak demand excludes Interruptible load, distributed generation, load management and SEPA allocations.

2.4 Fuel Requirements

Seminole's coal, oil, and natural gas requirements for owned and future generating units are shown on Schedule 5 below.

Schedule 5
Fuel Requirements For Seminole Generating Resources

Fuel Requirements		Units	Actual 2015	Actual 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Nuclear		Trillion BTU	-	-	-	-	-	-	-	-	-	-	-	-
Coal		1000 Tons	3,048	2,997	3,290	3,039	3,021	2,934	2,727	2,611	2,397	2,431	2,447	2,481
Residual	Total	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	1000 BBL	33	32	37	34	34	33	31	30	27	28	29	28
	Steam	1000 BBL	32	32	37	34	34	33	31	30	27	28	28	28
	CC	1000 BBL	1	0	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	0	-	-	-	-	-	-	-	-	1	-
Natural Gas	Total	1000 MCF	18,895	24,856	24,403	28,321	28,200	29,312	41,445	50,048	61,392	62,745	66,287	67,931
	Steam	1000 MCF	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 MCF	17,529	23,177	23,631	27,477	27,455	28,658	40,997	49,678	61,176	62,457	65,445	66,875
	CT	1000 MCF	1,366	1,679	772	844	745	654	448	370	216	288	842	1,056

NOTE: Above fuel is for existing and future owned generating resources (excludes purchased power contracts).
Totals may not add due to rounding.

2.5 Energy Sources by Fuel Type

Seminole's total system energy sources in GWh and percent for each fuel type are shown on Schedules 6.1 and 6.2, respectively, on the following pages. Generation listed under renewable reflects the renewable units output but Seminole may sell a portion of the renewable energy credits associated with its renewable generation to third parties. The third parties can use the credits to meet mandatory or voluntary renewable requirements. Seminole's additional requirements for capacity beyond 2021 are assumed to be from gas/oil resources. Due to concerns over proposed environmental regulations that would impact coal units negatively, future coal generation was not currently considered as a viable resource option.

Schedule 6.1
Energy Sources (GWh)

Energy Sources		Units	Actual 2015	Actual 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Inter-Regional Interchange		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Coal		GWh	7,803	7,488	8,173	7,418	7,379	7,124	6,545	6,215	5,612	5,701	5,756	5,844
Residual	Total	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	GWh	36	37	34	43	41	37	38	27	21	22	25	23
	Steam	GWh	19	18	22	20	20	19	18	17	15	15	16	16
	CC	GWh	17	17	10	17	13	17	13	9	6	6	6	7
	CT	GWh	-	2	2	6	8	1	7	1	-	1	3	-
Natural Gas	Total	GWh	5,333	6,015	5,322	6,523	6,913	7,394	8,206	8,763	9,623	9,865	10,297	10,533
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	5,052	5,737	5,187	6,337	6,761	7,278	8,146	8,715	9,598	9,830	10,194	10,413
	CT	GWh	281	278	135	186	152	116	60	48	25	35	103	120
NUG		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Renewables *		GWh	932	931	646	564	538	532	527	526	517	428	186	90
Other		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Net Energy for Load		GWh	14,104	14,471	14,175	14,548	14,871	15,087	15,316	15,531	15,773	16,016	16,264	16,490

NOTE: Net interchange, unit power purchases and DEF and FPL system purchases are included under source fuel categories.
Totals may not add due to rounding.

* Seminole Electric Cooperative may sell a portion of the renewable energy credits associated with its renewable generation to third parties. The third parties can use the credits to meet mandatory or voluntary renewable requirements.

Schedule 6.2
Energy Sources (Percent)

Energy Sources		Units	Actual 2015	Actual 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Inter-Regional Interchange		%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Nuclear		%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Coal		%	55.32%	51.75%	57.65%	50.99%	49.62%	47.22%	42.74%	40.02%	35.58%	35.60%	35.39%	35.44%
Residual	Total	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Steam	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	CC	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	CT	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Distillate	Total	%	0.26%	0.26%	0.24%	0.30%	0.28%	0.25%	0.25%	0.17%	0.13%	0.14%	0.15%	0.14%
	Steam	%	0.14%	0.12%	0.15%	0.14%	0.13%	0.13%	0.12%	0.11%	0.10%	0.09%	0.10%	0.10%
	CC	%	0.12%	0.13%	0.08%	0.12%	0.10%	0.11%	0.08%	0.05%	0.03%	0.04%	0.03%	0.04%
	CT	%	0.00%	0.01%	0.01%	0.04%	0.05%	0.01%	0.05%	0.01%	0.00%	0.01%	0.02%	0.00%
Natural Gas	Total	%	37.81%	41.57%	37.55%	44.84%	46.49%	49.01%	53.58%	56.42%	61.01%	61.59%	63.31%	63.88%
	Steam	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	CC	%	35.82%	39.64%	36.60%	43.56%	45.47%	48.24%	53.18%	56.11%	60.85%	61.38%	62.68%	63.15%
	CT	%	1.99%	1.92%	0.95%	1.28%	1.02%	0.77%	0.39%	0.31%	0.16%	0.21%	0.63%	0.73%
NUG		%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Renewables *		%	6.61%	6.43%	4.56%	3.88%	3.62%	3.53%	3.44%	3.39%	3.28%	2.67%	1.14%	0.55%
Other		%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Energy for Load		%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

NOTE Net interchange, unit power purchases and DEF and FPL system purchases are included under source fuel categories
Totals may not add due to rounding.

* Seminole Electric Cooperative may sell a portion of the renewable energy credits associated with its renewable generation to third parties. The third parties can use the credits to meet mandatory or voluntary renewable requirements

3. FORECASTING METHODS AND PROCEDURES

3.1 Forecasting Methodology

Seminole adheres to generally accepted methodology and procedures currently employed in the electric utility industry to forecast number of consumers, energy, and peak demand. Forecast models are developed using regression analysis. Each Member Cooperative is modeled separately based on the unique growth characteristics in that service territory. Seminole produces monthly forecasts for each Member system, and when applicable, by rate classification. Seminole's system forecast is the aggregate of Member system forecasts. Model input data sources include Member Rural Utilities Services Form-7 Financial and Statistical Reports (RUS Form-7), Moody's Economic Consumer and Credit Analytics (ECCA), and University of Florida's Bureau of Economic and Business Research (UF BEBR), Seminole's System Operations Power Billing System (PBS), Itron, Bureau of Labor Statistics (BLS) and AccuWeather.

3.1.1 Consumer Model

Numbers of consumers are modeled by month with regression analysis. Explanatory variables analyzed in these models include population, housing statistics, and economic indicators. Consumer models are specified by Member total and by rate classification. Rate class forecasts are reconciled to match, in aggregate, the total consumer forecasts by Member. Territorial agreements and information provided directly from Member representatives regarding anticipated changes in service territories are incorporated in forecast projections. The "other" consumer class represents a small portion of Member energy sales, including irrigation, street and highway lighting, public buildings, and sales for resale.

3.1.2 Energy Model

Forecasts of Member energy purchases from Seminole are developed using regression analysis on hourly delivery point meter data aggregated to monthly values. Models are developed by Member total and by rate classification. Explanatory variables analyzed in these models include temperature and precipitation statistics, population and housing statistics, economic indicators, and price projections developed internally. Parameters explaining the reduction in load due to energy efficiency are also included. Member rate class energy purchases from Seminole are derived by scaling-up RUS Form-7 monthly energy sales to end-users by distribution loss factors. Rate class forecasts are reconciled bottom-up to match total level forecasts.

3.1.3 Peak Demand Model

Maximum peak demand is modeled by month and by season for each Member system using regression analysis. Explanatory variables analyzed in these models include temperature and precipitation statistics, population and housing statistics, gross product, internal electricity price data, load factor and energy efficiency.

Seasonal peak models are designed to predict winter and summer peaks based on a range of months where the highest peaks are expected to occur in each season. Winter seasonal peak models regress the highest peak during November through March of each year against contemporaneous explanatory variables. Summer seasonal peak models regress the highest peak from April through September of each year against contemporaneous explanatory variables. Seasonal peak forecasts replace monthly model forecast results for the month each seasonal peak is most likely to occur.

Seminole's maximum demand is the aggregate of the one-hour simultaneous demands of

all Members that maximizes the peak of the system in a single month. Forecasts of Seminole maximum demand are derived by applying coincident factors to Member-maximum demand forecasts. Future peak demands coincident with Seminole may be equal to or less than Member non-coincident maximum peaks, if the Member peak is normally not coincident with Seminole.

Load factor forecasts are derived through regression analysis of daily and monthly temperatures leading up to the peak day. These models are also developed by month and by season.

3.1.4 Alternative-Scenario Models

In addition to the base forecasts, Seminole produces high and low forecasts based on population growth alternatives provided by UF BEBR. Seminole's system is primarily residential and population growth is the primary driver for load growth. Seminole also forecasts load conditions given mild and severe temperatures in a Member's geographical region. We show a set of alternative projections associated with the statistical error of each model at the 95 percent prediction interval.

3.2 Load Forecast Data

The primary resources for load forecasting are weather data, economic data, Member retail data, delivery point meter data, and energy efficiency data. Number of consumers and sales by consumer class are provided by Members through the Form-7 financial report. Hourly delivery point load data is provided monthly by Seminole's System Operations department. Independent source data for economic and demographic statistics as well as energy efficiency are provided by government and credit rating agencies, independent vendors, and local universities.

Energy efficiency data for load forecast models are derived by combining Itron

Statistically Adjusted End-Use (SAE) spreadsheets and Member residential appliance saturation surveys. Itron's spreadsheets provide appliance energy consumption and equipment stock historical data and projections from the U.S. Energy Information Administration's (EIA) Annual Energy Outlook (AEO) for the South Atlantic census region. Seminole also uses electric appliance saturation statistics captured in Member residential surveys to better reflect Member territory equipment adoption trends. These data are analyzed by utilizing Itron's Statistically SAE indexing methodology interacted with temperature statistics to produce "heat-use index", "cool-use index", and "base-use index" time-series at the usage-per-consumer level. These statistics are scaled to fit Seminole's total-energy requirement models by rate class and are aggregated to a Member-system total using weighted combinations. The SAE theory for calculating commercial energy efficiency variables is optimized by incorporating County-level employment by industry data from the BLS to approximate weighted shares and intensities of industrial equipment within each Member Cooperative's service territory as opposed to the broader South Atlantic census region. Last, the "other" rate class efficiency assumptions include lighting efficiencies for Member Cooperatives that account for public street and highway lighting in this classification.

3.2.1 Materials Reviewed and/or Employed

Load Data by Delivery Point:

- Seminole's System Operations' Power Billing System (PBS)

Retail Number of Consumers, Energy Sales by Rate Class:

- Rural Utilities Services Form-7 Financial and Statistical Reports (RUS Form-7)

Individual Large Consumer Loads Over 1000 kVA:

- Member provided

Demographic and Economic Indicators:

- DataBuffet, Moody's Analytics Economic Consumer and Credit Analytics (ECCA)
- Projections of Florida Population by County, Volume 49, Bulletin 174, University of Florida Bureau of Economic and Business Research (UF BEBR)
- Employment by Industry, Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics (BLS)

Energy Efficiency:

- 2015 Annual Energy Outlook (AEO), U.S. Energy Information Administration (EIA)
- Residential and Commercial Statistically Adjusted End-Use Spreadsheets, Itron

Weather Data:

- AccuWeather

3.3 Significant Load Forecast Assumptions

3.3.1 Economic Assumptions

Seminole Members serve electricity to primarily-rural areas within 42 counties in the north, central, and south regions of Florida, which differ uniquely in geography, weather, and natural resources. These broad, low-density land areas are largely undeveloped. Population growth in Seminole's territory is sensitive to national economic and demographic factors that influence population migration from other states and metropolitan areas within Florida.

The Seminole system is expected to reach its highest growth potential over the next five years. The leading indicators for load growth are Florida's expanding economy and net migration prospects into the state, especially from "baby boomer" retirees. Consumer growth and business

activity will drive system growth, while downward pressure will come from flattening and declining residential end-use due to growth in efficient technologies, renewable generation, and alternative resources.

3.3.2 Weather Assumptions

Hourly temperature data for 25 weather stations in the proximity of Member service territories are provided by AccuWeather. Weather statistics for each Member's geographical area are derived from a set of weather stations that are found to best predict Member load over recent years.

Historical weather statistics input into forecast models include precipitation and relative humidity, minimum and maximum temperatures, and heating and cooling degree days. Monthly heating degree days represent the sum of degrees each daily average temperatures falls below 61° Fahrenheit, which is an approximate temperature when consumers turn on heating devices. Alternatively, monthly cooling degree days represent the sum of degrees each daily average temperatures exceeds 72° Fahrenheit, which is an approximate temperature when consumers turn on A/C units.

Normal weather statistics are based on a 30-year horizon of historical monthly observations. The two seasonal peak demand months for each year across the 30-year horizon are used to generate seasonal weather statistics. Extreme weather used for alternative-scenario forecasts include the 10^{th} and 90^{th} percentiles of historical temperatures, representing mild, and severe events, respectively.

4. FORECAST OF FACILITIES REQUIREMENTS

Seminole's forecasts of capacity and demand for the projected summer and winter peaks are in the following Schedules 7.1 and 7.2, respectively. The forecasts include the addition of approximately 1,650 MW of capacity by 2026. Such capacity is needed to replace expiring purchased power contracts and to serve increased Member load requirements while maintaining Seminole's reliability criteria.

Seminole's capacity expansion plan includes the need for three 244 MW class combustion turbine units and two 592 MW combined cycle plants, none of which are currently sited. The first combined cycle plant is scheduled to be in service May 2021 and the second combined cycle plant in December 2022. In addition, one combustion turbine unit is scheduled to enter service in December 2024 and the remaining two combustion turbines are scheduled to enter service in December 2027. A final decision as to whether Seminole will construct and own these additional facilities will be based upon future economic studies. The inclusion of these units in Seminole's capacity expansion plan does not represent at this time a commitment for construction by Seminole.

In March of 2015 Seminole issued a request for proposals for 2 MW of solar photovoltaic (PV) energy either through an Engineer, Procure, and Construct (EPC) contract or through a Purchase Power Agreement (PPA). On March 21 2016 Seminole finalized agreements for a 2.2 MW solar facility to be constructed at Seminole's MGS site in Hardee County. Seminole has incorporated a 2 MW solar photovoltaic facility into Seminole's ten year plan to be in service April 2017.

Schedule 7.1
Forecast of Capacity, Demand and Scheduled Maintenance at Time of Summer Peak

Year	Total Installed Capacity (MW)	Firm Capacity Import (MW)			Firm Capacity Export (MW)	QFs (MW)	Capacity Available (MW)		System Firm Summer Peak Demand (MW)		Reserve Margin Before Maintenance		Scheduled Maintenance (MW)	Reserve Margin After Maintenance	
		PR and FR	Other Purchases	Total			Total	Less PR and FR	Total	Obligation	MW	% of Pk		MW	% of Pk
2017	2,012	0	1,657	1,657	0	0	3,669	3,669	3,045	3,045	624	20%	0	624	20%
2018	2,012	0	1,642	1,642	0	0	3,654	3,654	3,104	3,104	550	18%	0	550	18%
2019	2,012	0	1,892	1,892	0	0	3,904	3,904	3,163	3,163	741	23%	0	741	23%
2020	2,012	0	1,891	1,891	0	0	3,903	3,903	3,207	3,207	696	22%	0	696	22%
2021	2,605	0	1,133	1,133	0	0	3,738	3,738	3,241	3,241	498	15%	0	498	15%
2022	2,605	0	1,190	1,190	0	0	3,794	3,794	3,290	3,290	504	15%	0	504	15%
2023	3,198	0	682	682	0	0	3,879	3,879	3,341	3,341	538	16%	0	538	16%
2024	3,198	0	713	713	0	0	3,911	3,911	3,391	3,391	520	15%	0	520	15%
2025	3,413	0	555	555	0	0	3,968	3,968	3,441	3,441	527	15%	0	527	15%
2026	3,413	0	608	608	0	0	4,021	4,021	3,487	3,487	534	15%	0	534	15%

NOTES 1 Total installed capacity and the associated reserve margins are based on Seminole's current base case plan and are based on a 15% reserve margin criterion.

2 Total Installed Capacity does not include SEPA or Solar.

3. Percent reserves are calculated at 15% of Seminole's obligation and include any surplus capacity

Schedule 7.2
Forecast of Capacity, Demand and Scheduled Maintenance at Time of Winter Peak

Year	Total Installed Capacity (MW)	Firm Capacity Import (MW)			Firm Capacity Export (MW)	QFs (MW)	Capacity Available (MW)		System Firm Winter Peak Demand (MW)		Reserve Margin Before Maintenance		Scheduled Maintenance (MW)	Reserve Margin After Maintenance	
		PR and FR	Other Purchases	Total			Total	Less PR and FR	Total	Obligation	MW	% of Pk		MW	% of Pk
2017/18	2,178	0	2,329	2,329	0	0	4,507	4,507	3,523	3,523	985	28%	0	985	28%
2018/19	2,178	0	2,314	2,314	0	0	4,492	4,492	3,593	3,593	898	25%	0	898	25%
2019/20	2,178	0	2,564	2,564	0	0	4,742	4,742	3,646	3,646	1,096	30%	0	1,096	30%
2020/21	2,178	0	2,089	2,089	0	0	4,267	4,267	3,701	3,701	566	15%	0	566	15%
2021/22	2,770	0	1,553	1,553	0	0	4,323	4,323	3,750	3,750	572	15%	0	572	15%
2022/23	3,362	0	1,022	1,022	0	0	4,384	4,384	3,803	3,803	581	15%	0	581	15%
2023/24	3,362	0	1,084	1,084	0	0	4,446	4,446	3,857	3,857	588	15%	0	588	15%
2024/25	3,606	0	904	904	0	0	4,510	4,510	3,911	3,911	599	15%	0	599	15%
2025/26	3,606	0	961	961	0	0	4,567	4,567	3,962	3,962	605	15%	0	605	15%
2026/27	3,606	0	1,019	1,019	0	0	4,626	4,626	4,013	4,013	613	15%	0	613	15%

NOTES 1 Total installed capacity and the associated reserve margins are based on Seminole's current base case plan and are based on a 15% reserve margin criterion.

2 Total Installed Capacity does not include SEPA or Solar

3 Percent reserves are calculated at 15% of Seminole's obligation and include any surplus capacity

4.1 Planned and Prospective Generating Facility Additions and Changes

Schedule 8 below shows Seminole's planned and prospective generating facility additions and changes.

Schedule 8
Planned and Prospective Generating Facility Additions and Changes

Plant Name	Unit No	Location	Unit Type	Fuel		Transportation		Const. Start Date	Comm. In-Service Date	Expected Retirement Date	Max Nameplate	Summer MW	Winter MW	Status
				Pri	Alt	Pri	Alt							
MGS Solar	1	Hardee County	PV	Sun		N/A		5/2016	4/2017	Unk	2	0	0	P
SGS CC	1	Putnam County	CC	NG		PL		(1)	5/2021	Unk	592	593	592	P
Unnamed CC	2	TBA	CC	NG		PL		(1)	12/2022	Unk	592	593	592	P
Unnamed CT	1	TBA	CT	NG		PL		(1)	12/2024	Unk	244	215	244	P
Unnamed CT	2	TBA	CT	NG		PL		(1)	12/2027	Unk	244	215	244	P
Unnamed CT	3	TBA	CT	NG		PL		(1)	12/2027	Unk	244	215	244	P

NOTES:
(1) Future resource which may be existing or new as determined by future Request for Proposal results.
(2) Abbreviations – See Schedule 1
(3) MGS Solar facility is planned to be a leased facility

4.2 Proposed Generating Facilities

Schedule 9 below reports status and specifications of Seminole's proposed generating facilities.

Schedule 9 Status Report and Specifications of Proposed Generating Facilities		
1	Plant Name & Unit Number	MGS Solar Unit 1
2	Capacity a. Nameplate - AC (MW) b. Summer Firm - AC (MW): c. Winter Firm - AC (MW):	 2 0 0
3	Technology Type:	Photovoltaic
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	 May 2016 April 2017
5	Fuel a. Primary fuel: b. Alternate fuel:	 Sun
6	Air Pollution Control Strategy	N/A
7	Cooling Method:	N/A
8	Total Site Area:	TBD
9	Construction Status:	In Progress
10	Certification Status:	Planned
11	Status With Federal Agencies	N/A
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	 N/A N/A N/A 26.8% N/A
13	Projected Unit Financial Data ($2021) Book Life (Years): Total Installed Cost (In-Service Year $/kW): Direct Construction Cost ($/kW): AFUDC Amount ($/kW): Escalation ($/kW): Fixed O&M ($/kW-Yr): Variable O&M ($/Run Hour): Variable O&M ($/MWH): K Factor:	 25 2,212 2,212 N/A N/A 0.02 N/A N/A N/A **NOTE:MGS Solar is planned to be a leased facility**

Schedule 9 Status Report and Specifications of Proposed Generating Facilities		
1	Plant Name & Unit Number	SGS CC Unit 1
2	Capacity a. Summer (MW): b. Winter (MW):	 593 592
3	Technology Type:	Combined Cycle
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	 May 2018 May 2021
5	Fuel a. Primary fuel: b. Alternate fuel:	 Natural Gas
6	Air Pollution Control Strategy	SCR
7	Cooling Method:	Wet Cooling Tower with Forced Air Draft Fans
8	Total Site Area:	SGS
9	Construction Status:	Planned
10	Certification Status:	Planned
11	Status With Federal Agencies	N/A
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	 4.50 2.50 93.00 50% 6550 Btu/kWh (HHV) - ISO Rating
13	Projected Unit Financial Data ($2021) Book Life (Years): Total Installed Cost (In-Service Year $/kW): Direct Construction Cost ($/kW): AFUDC Amount ($/kW): Escalation ($/kW): Fixed O&M ($/kW-Yr): Variable O&M ($/Run Hour): Variable O&M ($/MWH): K Factor:	 30 942 884 57 Included in values above 8.28 - 0.08 N/A

Schedule 9 Status Report and Specifications of Proposed Generating Facilities		
1	Plant Name & Unit Number	Unnamed Generating Station CC Unit 2
2	Capacity a. Summer (MW): b. Winter (MW):	 593 592
3	Technology Type:	Combined Cycle
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	 December 2019 December 2022
5	Fuel a. Primary fuel: b. Alternate fuel:	 Natural Gas
6	Air Pollution Control Strategy	SCR
7	Cooling Method:	Wet Cooling Tower with Forced Air Draft Fans
8	Total Site Area:	SGS
9	Construction Status:	Planned
10	Certification Status:	Planned
11	Status With Federal Agencies	N/A
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	 4.50 2.50 93.00 50% 6550 Btu/kWh (HHV) - ISO Rating
13	Projected Unit Financial Data ($2021) Book Life (Years): Total Installed Cost (In-Service Year $/kW): Direct Construction Cost ($/kW): AFUDC Amount ($/kW): Escalation ($/kW): Fixed O&M ($/kW-Yr): Variable O&M ($/Run Hour): Variable O&M ($/MWH): K Factor:	 30 980 904 76 Included in values above 8.40 - 0.08 N/A

Schedule 9 Status Report and Specifications of Proposed Generating Facilities		
1	Plant Name & Unit Number	Unnamed Generating Station CT Unit 1
2	Capacity a. Summer (MW): b. Winter (MW):	 215 244
3	Technology Type:	Combustion Turbine
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	 December 2022 December 2024
5	Fuel a. Primary fuel: b. Alternate fuel:	 Natural Gas
6	Air Pollution Control Strategy	Dry Low NOx Burner
7	Cooling Method:	Air
8	Total Site Area:	TBD
9	Construction Status:	Planned
10	Certification Status:	Planned
11	Status With Federal Agencies	N/A
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	 1.4 3.5 95.1 5% 9807 Btu/kWh (HHV) - ISO Rating
13	Projected Unit Financial Data ($2022) Book Life (Years): Total Installed Cost (In-Service Year $/kW): Direct Construction Cost ($/kW): AFUDC Amount ($/kW): Escalation ($/kW): Fixed O&M ($/kW-Yr): Variable O&M ($/MWH): K Factor:	 30 566 547 19 Included in values above 7.20 0.25* N/A *Variable O&M does not include start up charge of $5,970 per start

Schedule 9 Status Report and Specifications of Proposed Generating Facilities		
1	Plant Name & Unit Number	Unnamed Generating Station CT Unit 2&3
2	Capacity a. Summer (MW): b. Winter (MW):	 215 244
3	Technology Type:	Combustion Turbine
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	 December 2025 December 2027
5	Fuel a. Primary fuel: b. Alternate fuel:	 Natural Gas
6	Air Pollution Control Strategy	Dry Low NOx Burner
7	Cooling Method:	Air
8	Total Site Area:	TBD
9	Construction Status:	Planned
10	Certification Status:	Planned
11	Status With Federal Agencies	N/A
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	 1.4 3.5 95.1 5% 9807 Btu/kWh (HHV) - ISO Rating
13	Projected Unit Financial Data ($2022) Book Life (Years): Total Installed Cost (In-Service Year $/kW): Direct Construction Cost ($/kW): AFUDC Amount ($/kW): Escalation ($/kW): Fixed O&M ($/kW-Yr): Variable O&M ($/MWH): K Factor:	 30 607 584 23 Included in values above 7.72 0.27* N/A *Variable O&M does not include start up charge of $6,382 per start

4.3 Proposed Transmission Lines

Schedule 10 below reports status and specifications of Seminole's proposed directly associated transmission lines corresponding with proposed generating facilities.

Schedule 10 Status Report and Specifications of Proposed Associated Transmission Lines		
1	Point of Origin and Termination:	Unknown
2	Number of Lines:	To be determined
3	Right-of-Way	To be determined
4	Line Length:	To be determined
5	Voltage:	To be determined
6	Anticipated Construction Timing:	To be determined
7	Anticipated Capital Investment:	To be determined
8	Substation:	To be determined
9	Participation with Other Utilities:	N/A

5. OTHER PLANNING ASSUMPTIONS AND INFORMATION

5.1 Transmission Reliability

In general, Seminole models its transmission planning criteria after the Florida Reliability Coordinating Council's ("FRCC") planning guidelines. The FRCC has modeled its planning guidelines consistent with the North American Electric Reliability Corporation's ("NERC") Reliability Standards. In addition, Seminole uses the following voltage and thermal criteria as guidelines for all stations:

1. No station voltages generally above 1.05 per unit or below 0.90 per unit under normal or contingency conditions.
2. Transmission facilities shall not exceed their applicable facility rating under normal or contingency conditions.

5.2 Plan Economics

Power supply alternatives are compared against a base case scenario which is developed using the most recent load forecast, fuel forecast, operational cost assumptions, and financial assumptions. Various power supply options are evaluated to determine the overall effect on the present worth of revenue requirements (PWRR). All other things being equal, the option with the lowest long-term PWRR is normally selected. Sensitivity analyses are done to test how robust the selected generation option is when various parameters change from the base study assumptions (e.g., load forecast, fuel price, and capital costs of new generation).

5.3 Fuel Price Forecast

5.3.1 Coal

Spot and long-term market commodity prices for coal (at the mine) and transportation rates have shown increased volatility in recent years. This condition is expected to continue into the future, as environmental rules/standards, coal generating station retirements, coal supply/demand imbalances, coal transportation availability/pricing, and world energy markets all combine to affect U.S. coal prices. The underlying value of coal at the mine will continue to be driven by changing domestic demand, reductions to the number of available coal suppliers, planned coal unit retirements, export opportunities for U.S. coal, and federal/state mine safety rules/legislation affecting the direct mining costs. Additional coal delivered price increases and volatility will come from the cost of transportation equipment (railcars), handling service contracts and freight transportation impacts. Railroads are also affected by reduced coal deliveries, federal rules and legislative changes and fuel oil markets, all of which are impacting the volatility of the cost of rail service in the U.S. As long-term rail transportation contracts come up for renewals, the railroads have placed upward pressure on delivered coal costs to increase revenues to overcome operating cost increases and reduced demand. However, since 2012, lower natural gas prices have created an opportunity for electric utilities to swap natural gas for coal-fired generation and this price arbitrage may have reduced the railroads' near-term ability to apply upward pricing pressure during contract renewals. CSX Transportation, Inc. is Seminole's sole coal transport provider and the parties are operating under a confidential multi-year rail transportation contract. Seminole also has a confidential multi-year coal contract with Alliance Coal, LLC providing a majority of our coal requirements from the Illinois Basin. Both of these existing relationships reduce Seminole's coal price volatility risk for the near term.

5.3.2 Fuel Oil

The domestic price for fuel oils will continue to reflect the price volatility of the world energy market for crude oil and refined products. In late 2014 and through 2016, the price for fuel oil moved down significantly across the globe. Seminole is currently only purchasing ultra-low sulfur fuel oil for its generating stations. As Seminole uses limited quantities of fuel oil to provide for the energy requirements of its members, fuel oil volatility is not a major driver in regards to system energy costs.

5.3.3 Natural Gas

At year-end 2016, natural gas prices had increased to nearly $4.00 per mmBtu in response to relatively high gas demand and large storage withdrawals in the early part of the 2016/2017 winter heating season. Henry Hub gas prices for 2017 were $3.60 per mmBtu. Beyond 2017, nominal gas prices are projected to remain near $3.00 per mmBtu through 2024 before increasing to almost $3.50 per mmBtu at the end of the ten-year study period.

5.3.4 Modeling of Fuel Sensitivity

Given the uncertainty of future fuel prices, the historical volatility of natural gas prices, and Seminole's reliance on gas as a significant component of its fuel portfolio, it is prudent to evaluate the impact of various gas prices on its alternative resources for meeting future needs. For this, Seminole incorporates both a high and low natural gas price forecast as a complement to its base case price forecast to support resource planning. Calculated with available market information (e.g. projected volatility of gas prices), Seminole's high/low gas price curves form a statistical confidence interval around its base case price forecast.

5.4 Coal/Gas Price Differential

The 2017 and 2018 market prices for natural gas and coal delivered to Seminole's generating units continue to reflect a significant narrowing of the price spread that existed between the two fuels over the prior ten years primarily due to soft gas prices. This spread is projected to invert, with natural gas prices below that of coal, beginning in 2019 and remain that way throughout the study period given the market's projection of depressed gas prices.

5.5 Modeling of Generation Unit Performance

Existing units are modeled with forced outage rates and heat rates for the near term based on recent historical data. The long-term rates are based on a weighting of industry average data or manufacturers' design performance data.

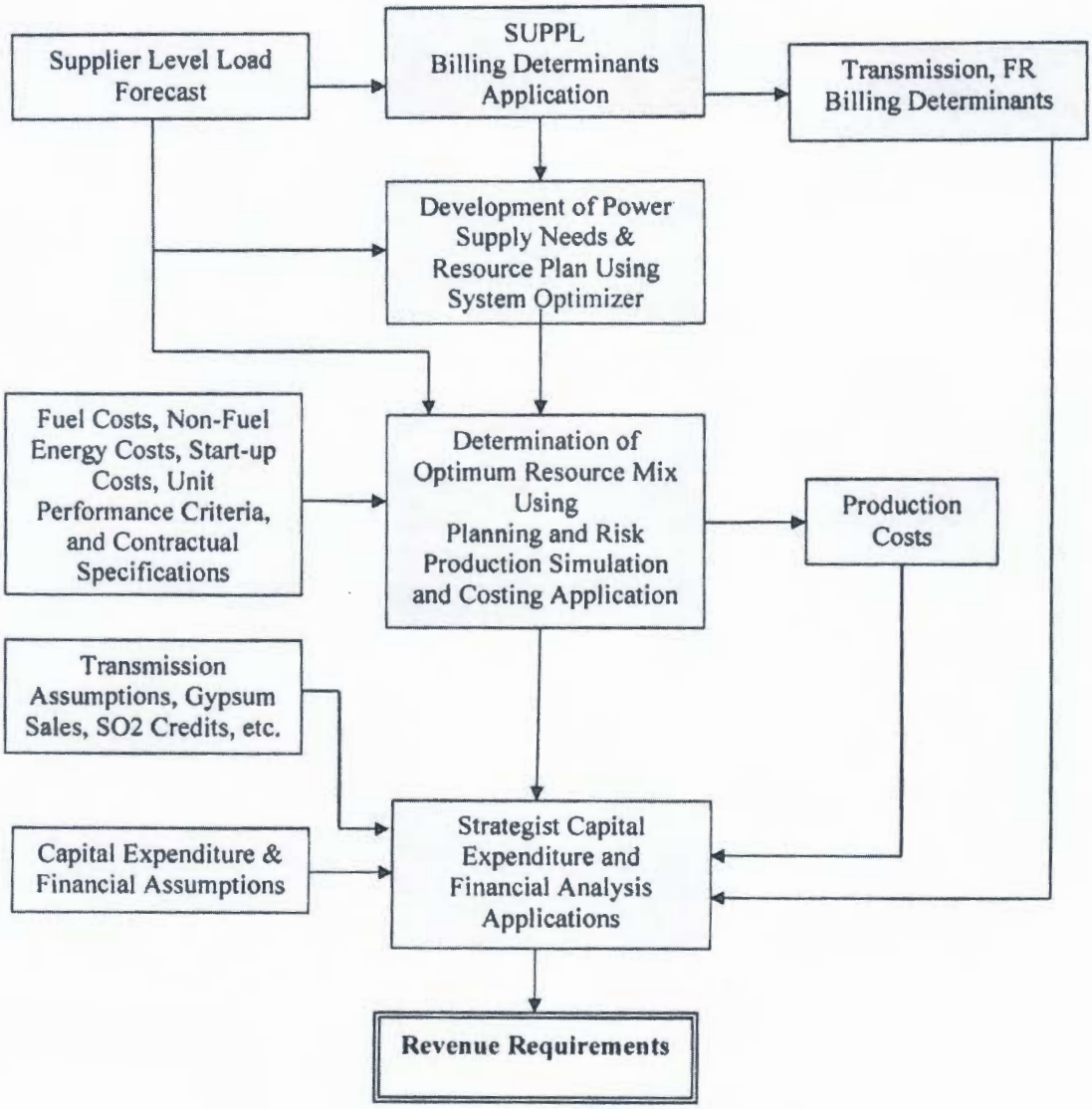
5.6 Financial Assumptions

Expansion plans are evaluated based on Seminole's forecast of market-based loan fund rates.

5.7 Resource Planning Process

Seminole's primary long-range planning goal is to develop the most cost-effective way to meet its Members' load requirements while maintaining high system reliability and managing risk. Seminole's optimization process for resource selection is based primarily on total revenue requirements. As a not-for-profit cooperative, revenue requirements translate directly into rates to our Members. The plan with the lowest revenue requirements is generally selected, assuming that other factors such as reliability impact, initial rate impact, risk, and strategic considerations are neutral. Seminole also recognizes that planning assumptions change over time, so planning decisions must be robust and are, therefore, tested over a variety of sensitivities. A flow chart of Seminole's planning process is shown below in Figure 5.1.

Figure 5.1
Resource Planning Process



5.8 Reliability Criteria

The total amount of generating capacity and reserves required by Seminole is affected by Seminole's load forecast and its reliability criteria. Reserves serve two primary purposes: to provide replacement power during generator outages; and to account for load forecast uncertainty. Seminole's primary reliability criteria is a minimum reserve margin of 15% during the peak season which ensures that Seminole has adequate generating capacity to provide reliable service to its Members and to limit Seminole's emergency purchases from interconnected, neighboring systems.

5.9 DSM Programs

Seminole promotes Member involvement in demand side management (DSM) through coincident peak billing and time-of-use energy rates as well as substation level conservation voltage reduction (CVR). The majority of Seminole's Members are active in managing their peak demand via one or more of these programs and several Members offer a time of use rate and a curtailable service rate to their commercial consumers for shifting energy usage from on-peak to off-peak periods.

Seminole's load management generation programs utilize standby generation on commercial consumer loads to lower demands at the time of the Seminole system peak demand. This program allows Seminole's Members to install distributed peaking generation resources on their system and/or to partner with their retail end-users to install "behind the meter" customer-based distributed generation (DG) to operate as dispatchable load management resources for Seminole's system, while providing load-center based generation to improve system reliability.

Seminole's load forecast accounts for reductions in peak demand resulting from DSM programs. Energy efficiency and energy conservation programs implemented by Seminole

Members have not been specifically quantified or estimated, but are both reflected in Seminole's load history and extrapolated into the future.

5.10 Strategic Concerns

In the rapidly changing utility industry, strategic and risk related issues are becoming increasingly important and play a companion role to economics in Seminole's power supply planning process. Seminole values resource diversity, flexibility and optionality as a hedge against a variety of risks, as evidenced by our current generation portfolio. Long-term resources contribute stability while shorter term arrangements add flexibility. Seminole considers both system and unit-specific capacity when determining our reserve requirements. Resource location and transmission interconnection is also a consideration for Seminole in constructing its portfolio. Flexibility in fuel supply is another significant strategic concern. A portfolio that relies on a diverse number of fuel types is better protected against extreme price fluctuations, supply interruptions, and transportation constraints/instability. Seminole believes that the existing and future diversity in its power supply plan has significant strategic value, leaving Seminole in a good position to respond to both market and industry changes while remaining competitive.

The ongoing debate over the further need to regulate carbon emissions, mercury emissions and/or whether to establish renewable resource mandates has introduced increased risks for electric utilities – among them is the risk of the most cost-effective fuels and associated technologies under current environmental regulations could change via new federal or state emissions rules. Using the best available information, Seminole is addressing these risks through its evaluation of a range of scenarios to assess what constitutes the best generation plan to ensure

adequate and competitively priced electric service to its Members. Given the current regulatory environment, Seminole has assumed that all future large generation additions will be primarily fueled with natural gas. Seminole is also reviewing the possibility of renewable generation additions, including solar.

5.11 Procurement of Supply-Side Resources

In making decisions on future procurement of power supply, Seminole compares self-build, acquisition, and purchased power alternatives. Seminole solicits proposals from reliable, creditworthy counterparties in the wholesale market. Seminole's evaluation of its options includes an assessment of economic life cycle cost, reliability, operational flexibility, strategic concerns, and risk elements.

5.12 Transmission Construction and Upgrade Plans

Seminole is in the process of assessing future combined cycle generation at Seminole's existing Seminole Generation Station Switchyard to identify any transmission upgrades or new transmission infrastructure required to support the additional generation,

6. ENVIRONMENTAL AND LAND USE INFORMATION

6.1 Potential Sites

6.1.1 Gilchrist Site – Gilchrist County, Florida

Seminole owns land in Gilchrist County but has not made a final determination if or when the site will be used for any of Seminole's future resource requirements. The Gilchrist site is approximately five-hundred twenty (520) acres in size. The site is located in the central portion of Gilchrist County, approximately two (2) miles east-northeast of Bell, Florida, and about thirty (30) miles west of Gainesville and may be suitable for installation of generation or transmission resources.

Following initial site evaluation in 2007, an additional site evaluation in 2015 included ecological surveys to identify current vegetation/land use types, listed plant or animal species, and location of any wetlands. Prior to the field surveys, available maps and other pertinent information were gathered and reviewed, including: wetland occurrence information documented on National Wetland Inventory (NWI) map(s) from the U.S. Fish and Wildlife Service (USFWS), soils maps information from the National Resource Conservation Service (NRCS), records of any listed plants or animals known from Gilchrist County that are available from online data and records maintained by the Florida Natural Areas Inventory (FNAI) and the Atlas of Florida Vascular Plants maintained by the University of South Florida Herbarium, lists of federally listed plants and animals maintained by USFWS, and records of eagle nest locations and wading bird rookeries that might occur within the site available on the Florida Fish and Wildlife Conservation Commission (FWC) website.

Much of the site has been used for silviculture (pine plantation) and consists of large tracts of planted longleaf and slash pine communities. Few natural upland communities remain. Most of these large tracts have been harvested, leaving xeric oak, and pine remnants. A few wetland communities remain on the east side of the site with relatively minor disturbances due to adjacent silvicultural activities. Evidence of listed species included the Sherman's fox squirrel (state species of special concern) and gopher tortoise (state threatened) burrows.

At such time as Seminole has determined the Gilchrist site should be considered a preferred site for the construction of generation or transmission facilities, Seminole will update the site evaluation and will obtain necessary approvals.

6.2 Preferred Sites

6.2.1 Midulla Generating Station (MGS) – Hardee County, Florida

MGS is located in Hardee and Polk Counties about nine (9) miles northwest of Wauchula. The site is bordered on the east by Old Castle, Inc., County Road 663, and a CSX railroad line. The remaining portions of the site are surrounded by The Mosaic Company property. Payne Creek flows along the site's south and southwestern borders. The site was originally strip-mined for phosphate and was reclaimed as pine flatwoods, improved pasture, and a cooling reservoir with a marsh littoral zone. Seminole's photovoltaic (PV) solar station will be operated on approximately 29-acres of land in Hardee County on the west side of the current plant entrance road and to the north of three onsite above ground storage tanks.

The PV solar station project boundary is located on land owned by Seminole, but is leased by Hardee Power Partners, therefore, the project was done as an amendment to the Hardee Power Station Conditions of Certification (COC). The MGS COC only includes the plant itself and directly related facilities.

6.2.1.1 Land and Environmental Features

a. U.S. Geological Survey Map

See Map 4

b. Proposed Facilities Layout

The current proposed configuration of the single-axis tracking solar facility is attached. See Map 5

c. Map of Site and Adjacent Areas

See Map 6

d. Existing Land Uses of Site and Adjacent Areas

The location upon which Seminole is constructing the solar station was previously found to be consistent with the land use plans and zoning ordinances of Hardee County as part of the 1990 site certification proceeding. The area is designated Industrial on the Hardee County Future Land Use Map and is zoned I-1, Industrial. The solar PV area of the site will be operated in an area that was most recently active cattle pasture. The adjacent areas include reclaimed mine lands with both forested and non-forested uplands and wetlands interspersed, as well as industrial land use designations.

e. General Environmental Features On and In the Site Vicinity

1. Natural Environment

The majority of the site is currently made up of MGS facilities, a 570-acre cooling reservoir, pastureland, and some forested and non-forested uplands and wetlands interspersed. The PV solar station is being constructed on an area that was formerly pastureland, and will not have

any wetland impacts.

2. Listed Species

   A FNAI database query was done for the PV solar station and indicated no documented occurrences of any state or federal listed plant or animal species within 1-mile. Wildlife field surveys were performed on August 26 and 27, as well as December 8, 2015, and no listed species or signs of their presence were observed. Based on this information, no negative impacts to threatened or endangered species are anticipated as a result of the PV project.

3. Natural Resources of Regional Significance Status

   There are no natural resources of regional significance on or adjacent to the PV solar station site.

4. Other Significant Features

   Seminole is not aware of any other significant site features.

f. Design Features and Mitigation Options

   The design includes construction of a single-axis tracking solar PV facility with approximately 2.2 MW of power generation. Because Seminole does not anticipate on-site wetland impacts, no mitigation is expected.

g. Local Government Future Land Use Designations

   The solar station site is designated Industrial on the Hardee County Future Land Use Map.

h. Site Selection Criteria Process

   The Seminole Solar site at MGS was selected as the location of the PV facility

based on various factors including system load, interconnection availability, and proximity to existing Seminole operations, and maintenance personnel, as well as economics.

i. Water Resources

Minimal amounts of water, if any, would be required for cleaning the PV panels. The intent is for the panels to be washed naturally from rainfall. If needed, additional water would be provided by water trucks or obtained from existing onsite permitted water resources.

j. Geological Features of Site and Adjacent Areas

The soil types found on and adjacent to the site include Smyrna fine sand, Myakka fine sand, Basinger fine sand, Floridana muck fine sand (depressional), Ona fine sand, and Bradenton-Felda-Chobee Association (frequently flooded). The soils are disturbed in most areas since the site is on reclaimed mine lands.

k. Projected Water Quantities for Various Uses

The PV solar station site requires minimal water, if any, for the cleaning of the panels in the absence of sufficient rainfall.

l. Water Supply Sources by Type

A water supply source is not required for this site. Any needed water may be brought to the site by water truck or obtained from existing onsite permitted water resources.

m. Water conservation Strategies Under Consideration

The PV solar station site does not require a permanent water source. Water conservation strategies include minimizing water use by cleaning the panels with

water only in the absence of sufficient rainfall and leaving the vegetation in and around the site as is with no required watering.

n. Water Discharges and Pollution Control

Although no discharges of water are planned at the PV site, the facility will implement Best Management Practices (BMP) to prevent, and control the inadvertent release of pollutants. No improvements or additions to the existing stormwater system are required for construction of the PV solar generating station as areas of impervious surface have been minimized and runoff will be allowed to percolate naturally into the underlying grassy area. Stormwater during construction and operation will be managed in accordance with the Florida Department of Environmental Protection's (FDEP) BMPs for stormwater, and in compliance with all applicable requirements.

o. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

No traditional fuel sources are required and no waste products will be generated at the site.

p. Air Emissions and Control Systems

Solar PV does not generate air emissions.

q. Noise Emissions and Control Systems

Solar PV does not generate noise.

r. Status of Applications

FDEP issued a final order amending HPS certification to allow construction of a 2.2 MW AC / 2.68 MW DC PV solar generating station on April 8, 2016. The facility is currently under construction.

6.2.2 Seminole Generating Station (SGS) - Putnam County, Florida

SGS is located in a rural unincorporated area of Putnam County approximately five (5) miles north of the City of Palatka. The site is one thousand nine-hundred ninety-six (1,996) acres bordered by U.S. 17 on the west, and is primarily undeveloped land on the other sides. The site was certified in 1979 (PA78-10) for two 650 MW class coal-fired electric generating units, SGS Units 1 & 2. The SGS Site is the preferred location for potential construction and operation of a new natural gas-fired combined cycle (CC) unit of up to 1130 MW (maximum) with a nominal generating capacity of 1050 MW (net) to meet a need for additional capacity beginning in 2021.

6.2.2.1 Land and Environmental Features

a. U.S. Geological Survey Map

See map 7

b. Proposed Facilities Layout

See map 8

c. Map of Site and Adjacent Areas

See map 9

d. Existing Land Uses of Site and Adjacent Areas

Subject to future land use map amendments scheduled to conclude in April 2017 [see subparagraphs (g) and (r)], the existing land use for the majority of the SGS site is Industrial (IN), with smaller portions designated Agricultural II (A2) and Rural Residential (RR). The SGS site zoning is Planned Unit Development (PUD) and Agriculture (AG). Upon finalization of zoning modifications in April

2017 [see subparagraph (r)], the entire SGS site will be zoned PUD. The SGS site is currently utilized as a power generation facility. The portion of the SGS site on which potential new generation would be located is undeveloped woodland. The potential new CC unit would be located south of an existing substation, southwest of existing hyperbolic cooling towers, north of an SGS recreational area, and east of the existing SGS waste treatment area. When complete, the new CC unit would be surrounded by existing SGS facilities and wooded land. The northern, northwestern, western, northeastern, eastern and southern adjacent properties to SGS are designated A2. The RR land use designation abuts the portion of the property located south of CR 209.

e. General Environmental Features On and In the Site Vicinity

1. Natural Environment

The SGS site is currently used for electrical generation. Units 1 and 2 are located in the central portion of the site. The site is undeveloped except for Units 1 and 2 and ancillary facilities. Undeveloped portions of the site are primarily forested wetlands and uplands. The potential new CC unit would be located on an upland portion of the property, and Seminole does not anticipate any on-site impacts to wetlands.

2. Listed Species

Ecological surveys of the potential location for new generation revealed the presence of gopher tortoises, and one Sherman's fox squirrel was also observed. No listed plant species have been identified in the areas to be impacted. Gopher tortoises are a state-designated threatened species, and the

Sherman's fox squirrel is a state species of special concern. Neither species is federally listed. Seminole will comply with current (FWC) gopher tortoise permitting and relocation rules prior to commencing construction of the new CC unit. With regard to the Sherman's fox squirrel, suitable habitat exists outside of the potential area to be impacted. In addition, Seminole will conduct pre-clearing surveys to avoid adverse impacts to any listed species. For these reasons, no adverse impacts to threatened or endangered species are anticipated as a result of the potential new CC unit.

3. Natural Resources of Regional Significance Status

The site appears to be located partially within or near a recharge area identified on Figure 6, "Natural Resources of Regional Significance—Recharge Areas," of the Natural Resources of Regional Significance section of the Northeast Florida Regional Planning Council Strategic Regional Policy Plan.1 However, as shown on map 10, much of the site is actually located in a discharge area, and none of the site is located in a high recharge area (defined as 8 inches or more per year in the Putnam County Comprehensive Plan, Conservation Element, Policy E.1.2.13, E.1.2.14; Putnam County Land Development Code, Section 6.07.02). Therefore, construction of the CC unit is not anticipated to impact recharge in the area.

4. Other Significant Features

Seminole is not aware of any other significant site features.

f. Design Features and Mitigation Options

The design includes a new up to 1050 MW (net nominal) CC unit, consisting of two combustion turbine generators, two heat recovery steam generators, and a steam turbine generator. Because Seminole does not anticipate on-site wetland impacts, no mitigation is anticipated.

g. Local Government Future Land Use Designations

As shown on map 9, most of the site (1,804 acres) is currently designated IN on the Putnam County Future Land Use Map. The remaining portions of the site (approximately 187 and 4.5 acres, respectively) are designated A2 and RR. On September 7, 2016, Seminole filed an application to amend the Putnam County Comprehensive Plan to consolidate the entire site under the Public Facilities (PF) land use category which allows Community Facilities and Services Type 4, of which power generating plants and facilities are one. Related Putnam County approvals have been subsequently obtained, and the Amendments are expected to be finalized in April 2017.

h. Site Selection Criteria Process

The SGS site has been selected as the location of a potential new CC unit based on various factors including land use/ownership, site development, electrical transmission, fuel supply, water supply, wastewater, environmental assessment, transportation, technology, schedule, and economics.

i. Water Resources

Water Resources include surface water from the St. Johns River and groundwater from the Upper Floridan Aquifer.

j. Geologic Features of Site and Adjacent Areas

Rock units ranging in age from Paleocene to recent underlay the SGS site. Formations and groups include (from oldest to youngest): the Cedar Keys Formation of Paleocene age; Avon Park Formation of middle Eocene Age; Ocala Limestone of late Eocene age; Hawthorn Group of Miocene age; and undifferentiated sediments of Pliocene and Holocene Age.

With the exception of the northern lowland of the site, the site is underlain by poorly graded sand with little or no fines to approximately 40 feet below ground surface (bgs). The northern lowland is organic silt to a depth of 4 bgs. The sand is underlain by a mixture of sandy silts and clays, silts, and clays to a depth of approximately 200 ft bgs. After 200 ft bgs, limestone is encountered.

k. Projected Water Quantities for Various Uses

Cooling water make-up: 8.261 million gallons per day (MGD)

Process water: 0.412 MGD

Potable water: 0.001 MGD

l. Water Supply Sources by Type

Cooling water make-up: Surface Water

Process water: Floridan Aquifer System

Potable water: Floridan Aquifer System

m. Water Conservation Strategies Under Consideration

Water conservation measures that are incorporated into the current operation of SGS include the collection, treatment, and recycling of plant process wastewater streams. This wastewater reuse minimizes groundwater and service water uses.

A portion of recirculated condenser cooling water (cooling tower blowdown) is withdrawn from the closed cycle cooling tower and discharged to the St. Johns River. Site stormwater is reused to the maximum extent possible and any not reused is treated in wet detention ponds and released to onsite wetlands.

The potential new CC unit will likewise utilize a closed cooling system that will cycle cooling water approximately three times prior to disposal. In addition, like the existing SGS units, the source of cooling water make-up is tidally-influenced surface water. Water conservation measures will include collection, treatment, and recycling of plant process wastewater streams to minimize groundwater and service water uses. The new CC unit will not require any additional surface water allocation and will require less than 0.5 MGD of additional ground water.

n. Water Discharges and Pollution Control

The potential new CC unit will utilize a closed cycle cooling system with cooling towers for heat dissipation, minimizing water discharges. Heat recovery steam generator blowdown and evaporative cooler blowdown will also be reused in the cooling tower. Cooling tower blowdown will be combined with treated sanitary waste and other wastewaters for discharge via existing infrastructure. Discharge from the existing SGS units is to the St. Johns River, and the potential new CC unit will utilize the same discharge location. The current discharge meets, and any future discharge will meet, all applicable requirements. Stormwater management and treatment will be provided via an on-site stormwater management system designed based on, at a minimum, the 25-year, 24-hour storm and in accordance with all applicable federal, state, and local requirements.

o. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Natural gas will be delivered to SGS via a new pipeline lateral from existing regional gas lines. At this time, Seminole has not determined what entity will supply gas for the new CC unit or will own and operate the natural gas pipeline lateral. Solid waste will be disposed of at an appropriate off-site landfill. All hazardous waste generated during operation of the new CC unit will be managed in accordance with applicable requirements. Seminole will implement BMPs to prevent and control the inadvertent release of pollutants.

p. Air Emissions and Control Systems

Air emissions will be minimized through the use of clean natural gas as the fuel source for the new CC unit, efficient CC technology, internal combustion controls, and air pollution control equipment. The combustor design will minimize the formation of nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOCs). Selective catalytic reduction (SCR) will further control NO_x emissions.

q. Noise Emissions and Control Systems

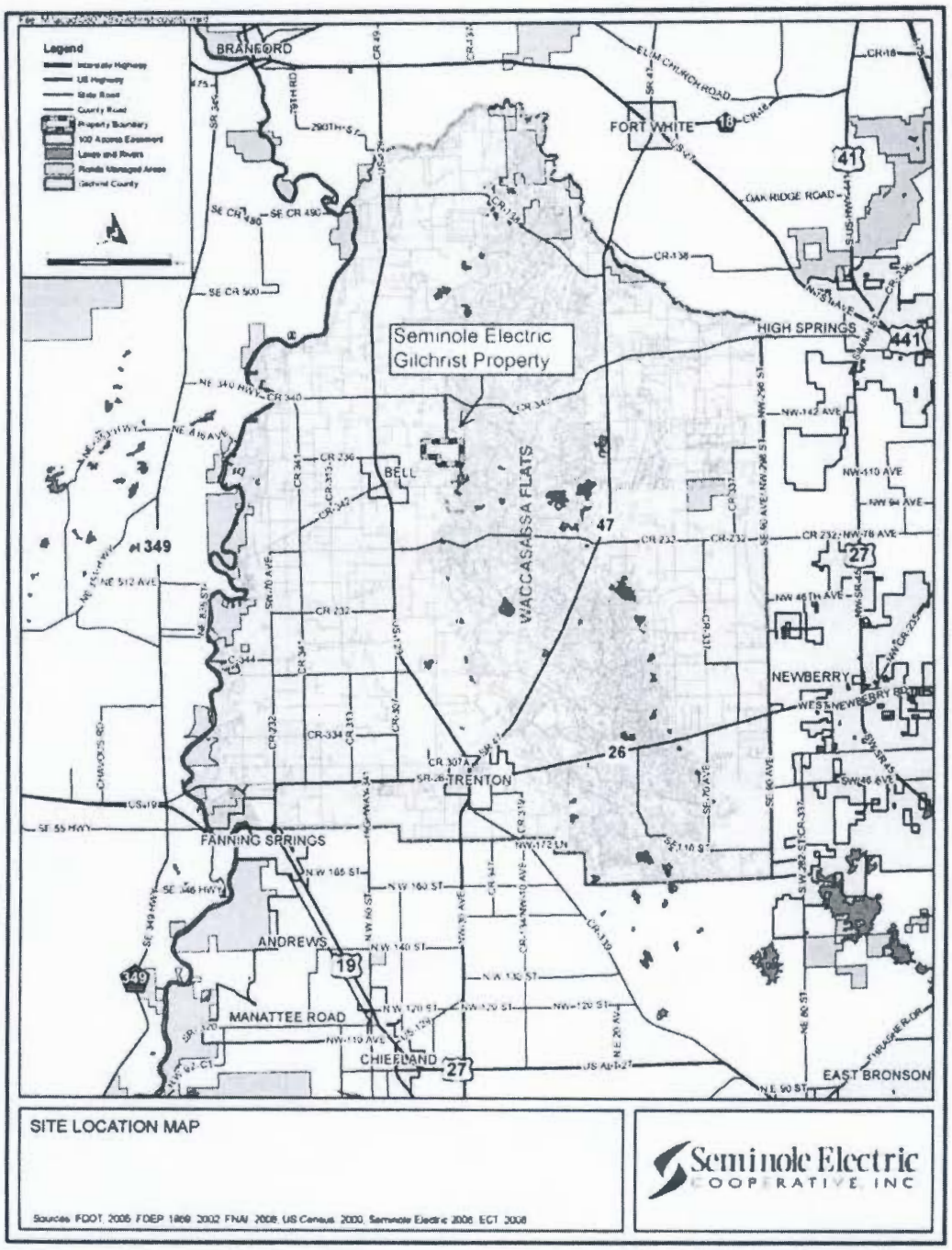
Off-site noise impacts from the new CC unit are expected to be minimal given that the site has been in operation for electrical generation for decades. Further, the area to be impacted on-site is more than 1,300 feet from the site boundary and over 2,000 feet from the nearest residence. Any noise generated by the new CC unit will comply with or be below permissible Putnam County sound levels.

r. Status of Applications

Applications will be made to the Florida Department of Environmental Protection

(FDEP) to certify the new CC unit under the PPSA, revise the existing National Pollutant Discharge Elimination System (NPDES) permit, and modify the existing Prevention of Significant Deterioration (PSD) air construction permit. Final Putnam County Future Land Use Amendments and Zoning Modifications were approved on March 14, 2017 and will be effective in April 2017.

Map 3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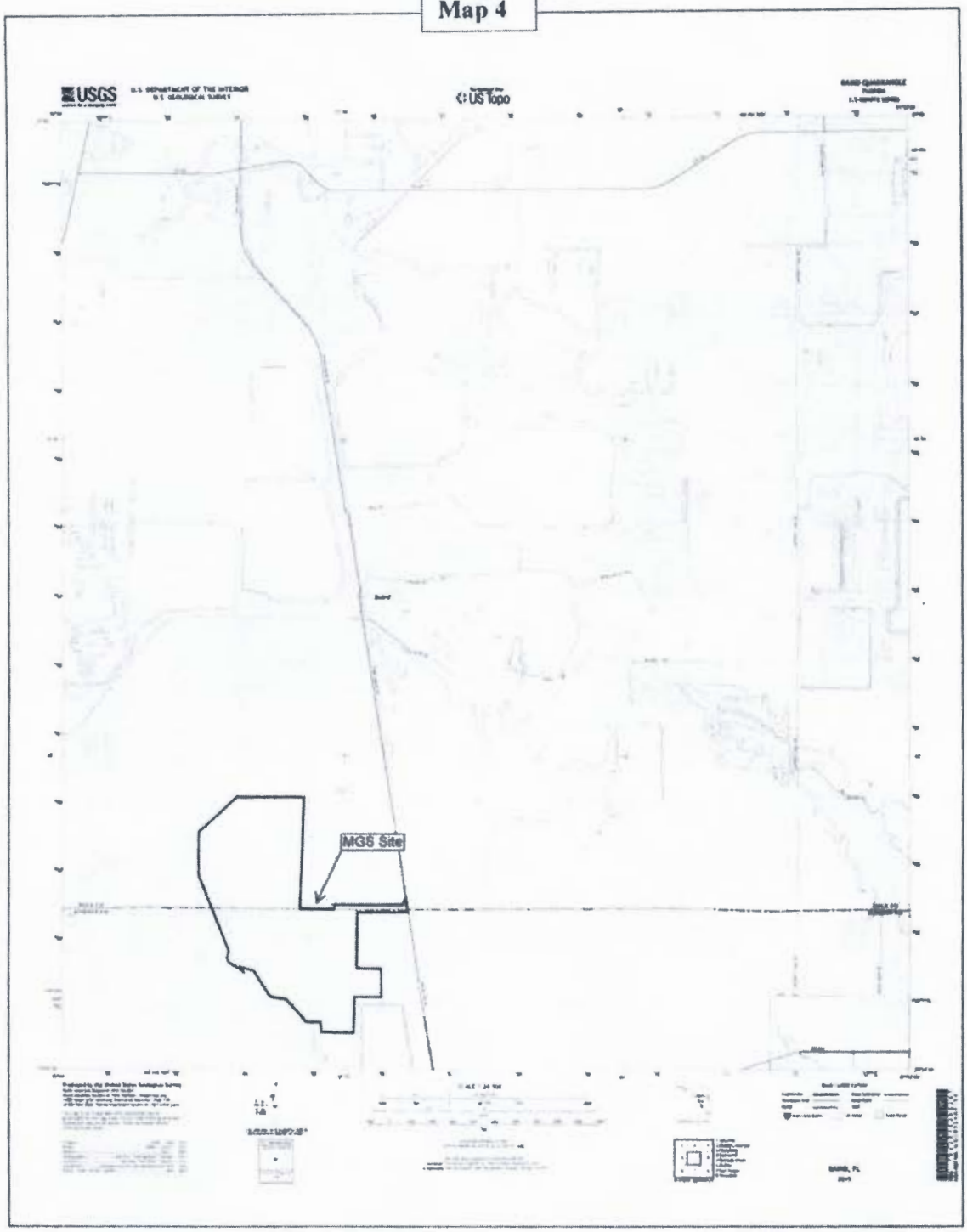
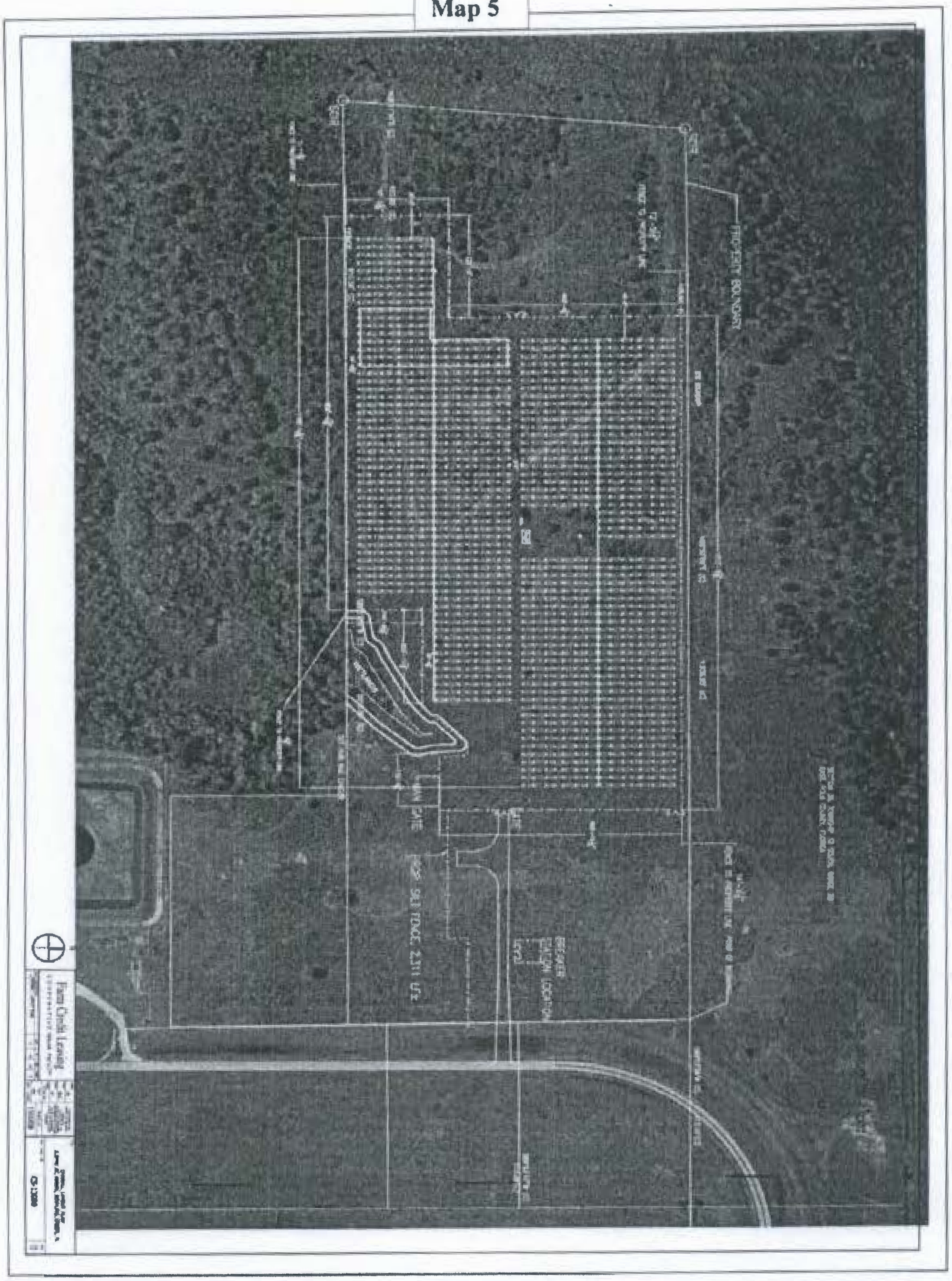
Seminole Electric
Gilchrist Property
BRANFORD
FORT WHITE
HIGH SPRINGS
BELL
WACCASASSA FLATS
NEWBERRY
TRENTON
FANNING SPRINGS
ANDREWS
MANATTEE ROAD
CHIEFLAND
EAST BRONSON
SITE LOCATION MAP
Seminole Electric
COOPERATIVE, INC

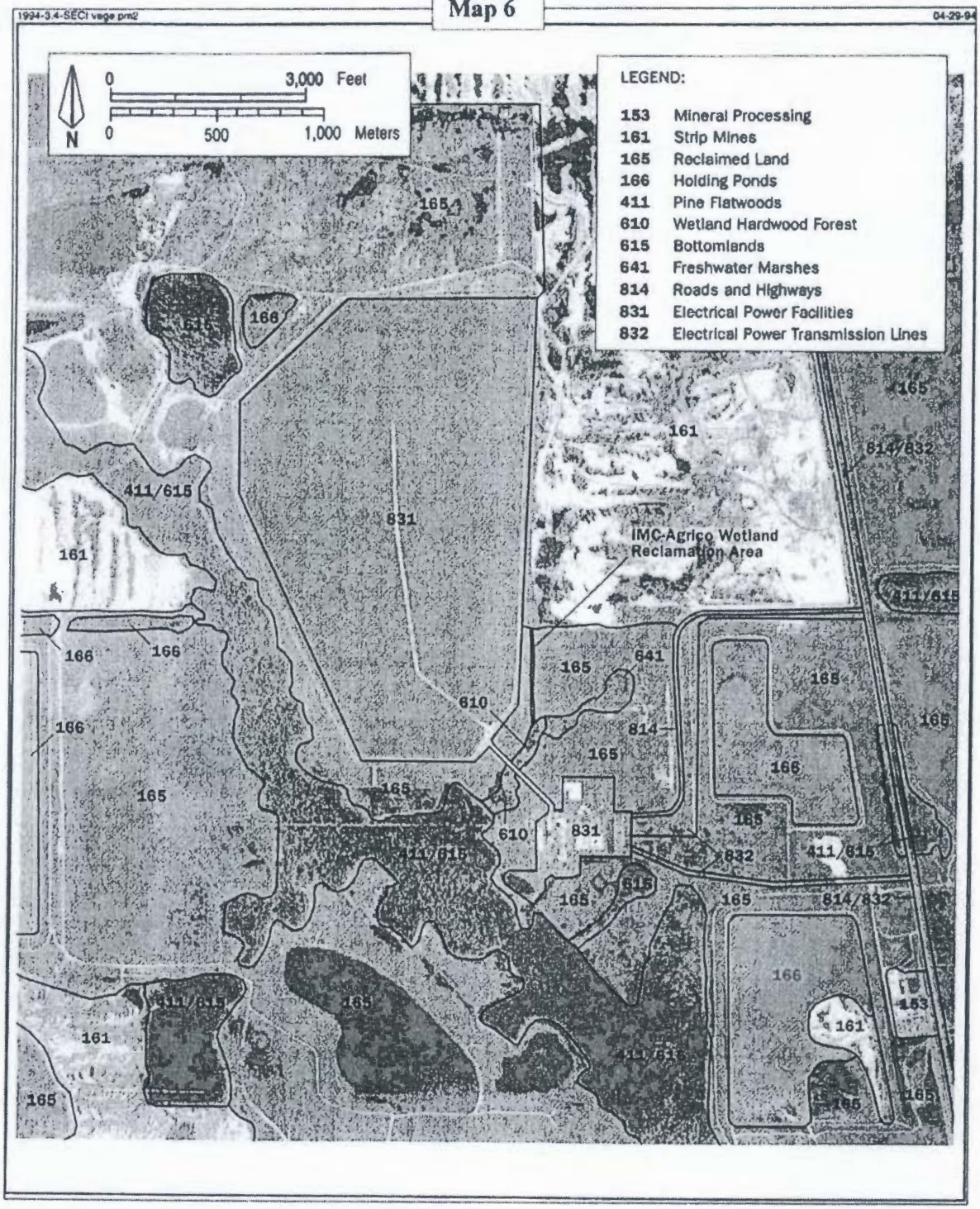
Map 4



Map 5



Map 6


1994-3.4-SECI vege pm2
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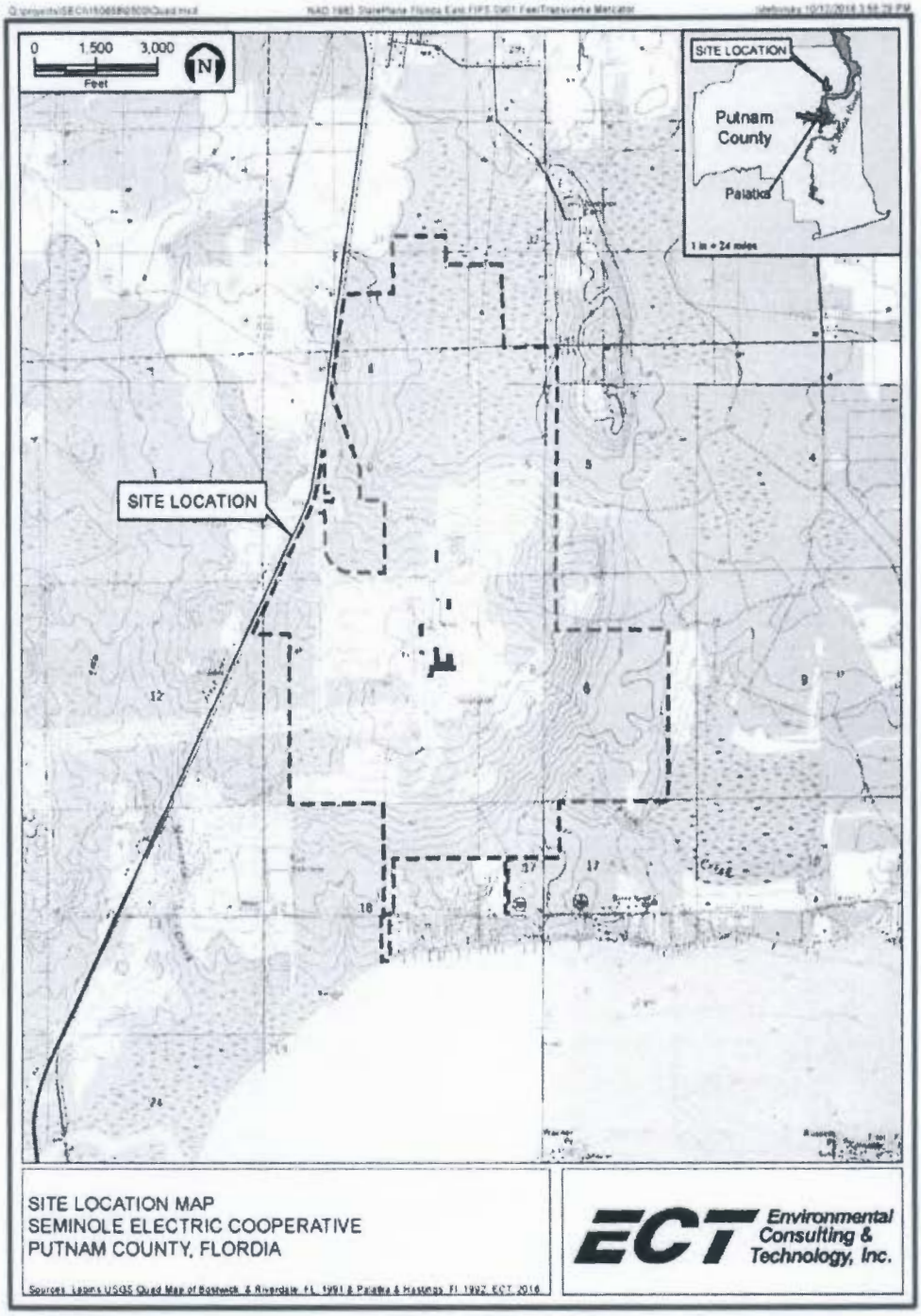
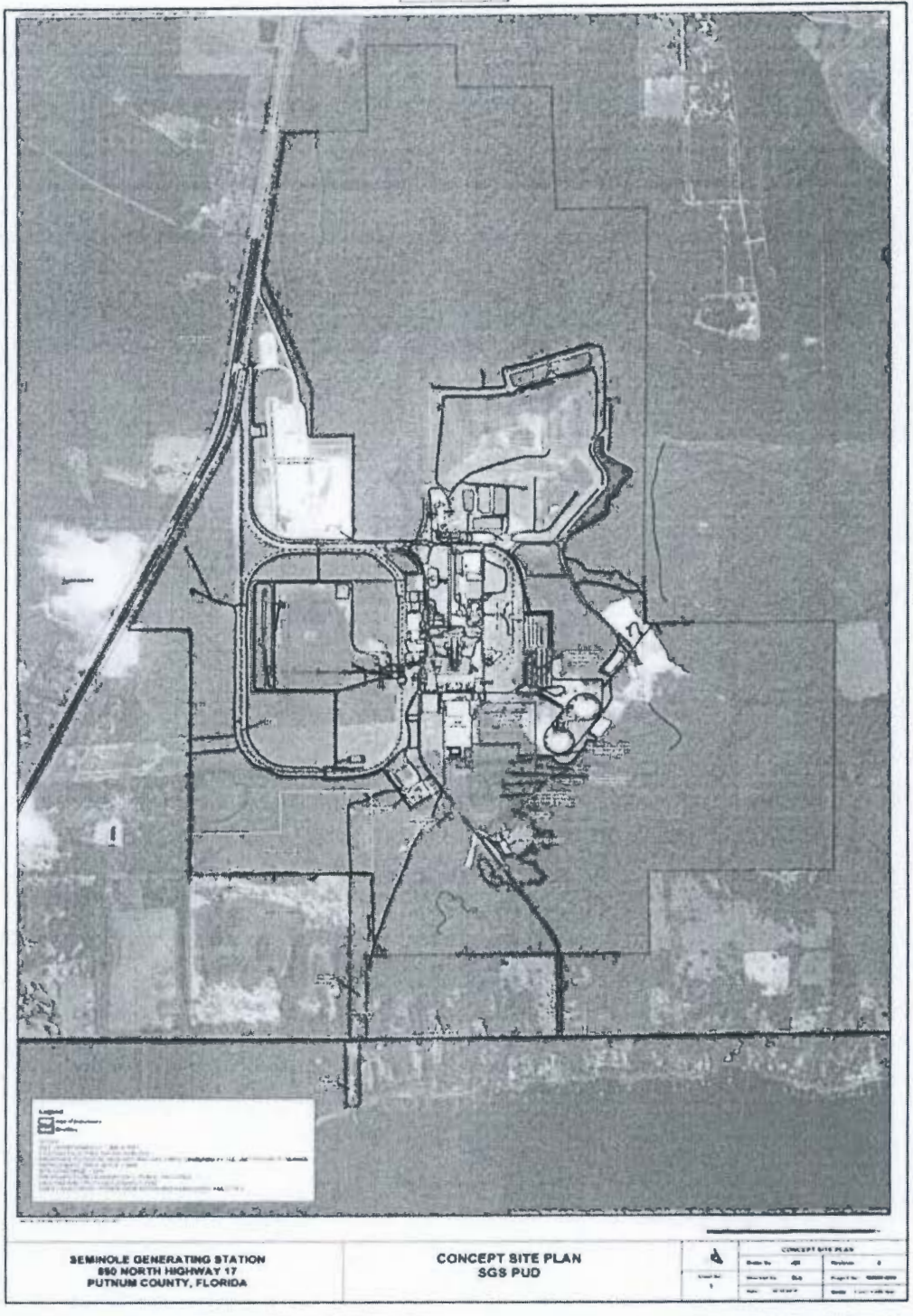
0
3,000 Feet
0
500
1,000 Meters
LEGEND:
153 Mineral Processing
161 Strip Mines
165 Reclaimed Land
166 Holding Ponds
411 Pine Flatwoods
610 Wetland Hardwood Forest
615 Bottomlands
641 Freshwater Marshes
814 Roads and Highways
831 Electrical Power Facilities
832 Electrical Power Transmission Lines
IMC-Agrico Wetland Reclamation Area

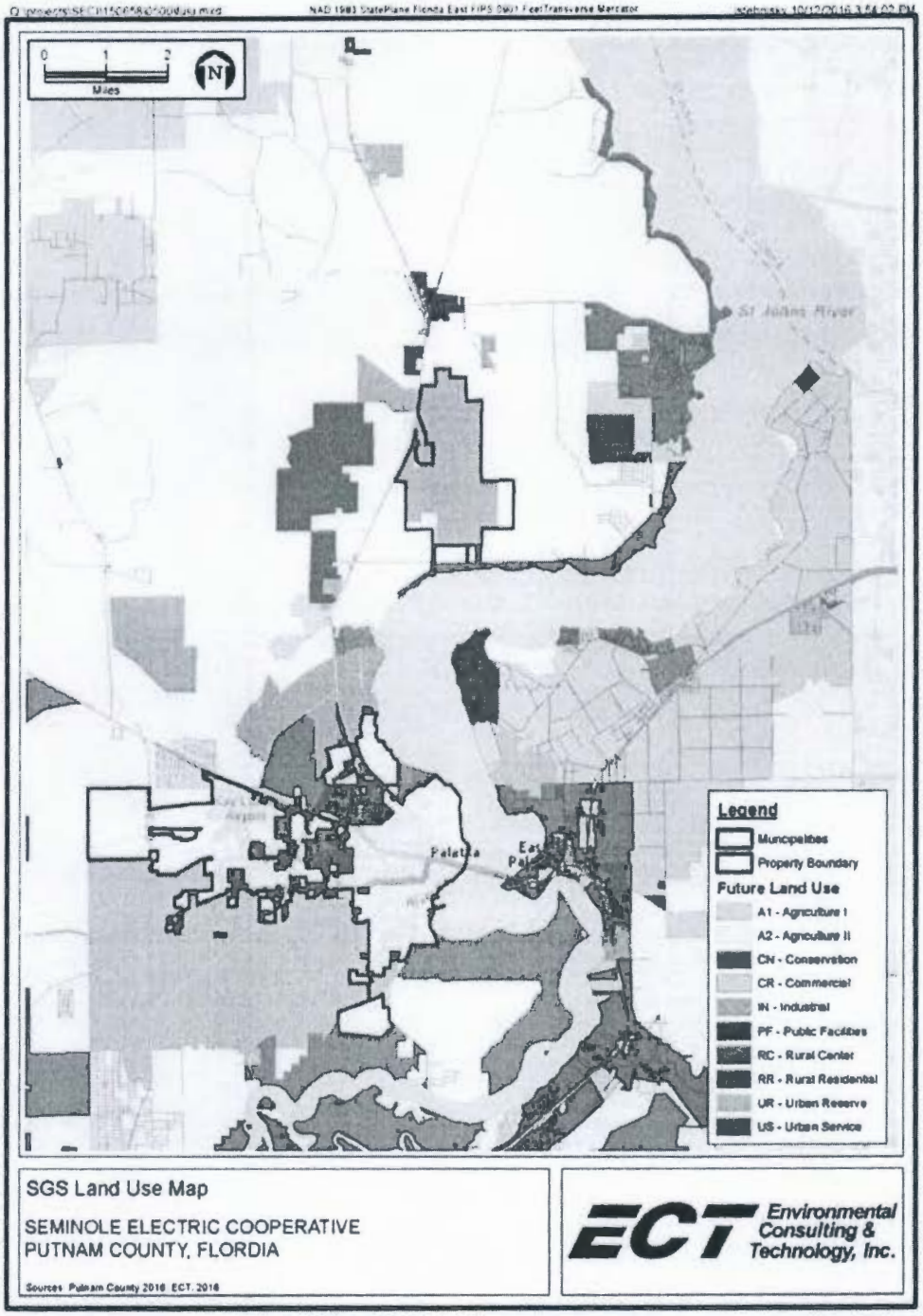
Map 7


0 1,500 3,000
Feet
N
SITE LOCATION
Putnam County
Palatka
SITE LOCATION
SITE LOCATION MAP
SEMINOLE ELECTRIC COOPERATIVE
PUTNAM COUNTY, FLORDIA
ECT Environmental Consulting & Technology, Inc.

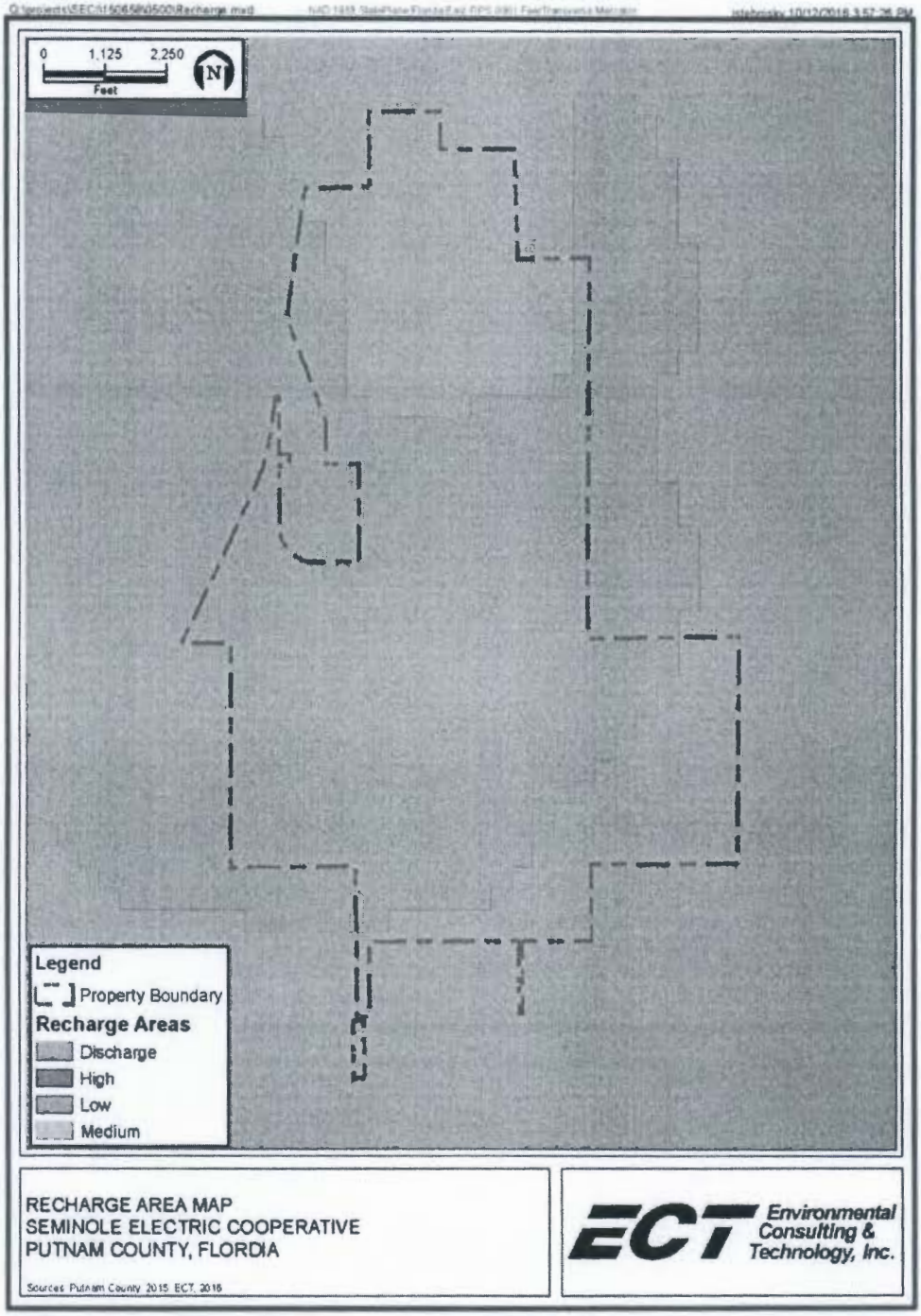
Map 8


SEMINOLE GENERATING STATION
850 NORTH HIGHWAY 17
PUTNUM COUNTY, FLORIDA
CONCEPT SITE PLAN
SGS PUD

Map 9


NAD 1983 StatePlane Florida East FIPS 0901 FeetTransverse Mercator
0 1 2
Miles
N
St Johns River
Palatka
Legend
Municipalities
Property Boundary
Future Land Use
A1 - Agriculture I
A2 - Agriculture II
CN - Conservation
CR - Commercial
IN - Industrial
PF - Public Facilities
RC - Rural Center
RR - Rural Residential
UR - Urban Reserve
US - Urban Service
SGS Land Use Map
SEMINOLE ELECTRIC COOPERATIVE
PUTNAM COUNTY, FLORDIA
Sources: Putnam County 2016, ECT, 2016
ECT Environmental Consulting & Technology, Inc.

Map 10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Feet
N
Legend
Property Boundary
Recharge Areas
Discharge
High
Low
Medium
RECHARGE AREA MAP
SEMINOLE ELECTRIC COOPERATIVE
PUTNAM COUNTY, FLORDIA
Sources: Putnam County 2015, ECT, 2016
ECT Environmental Consulting & Technology, Inc.