Seminole Electric
COOPERATIVE, INC.

Report
04/03/2023

April 3, 2023

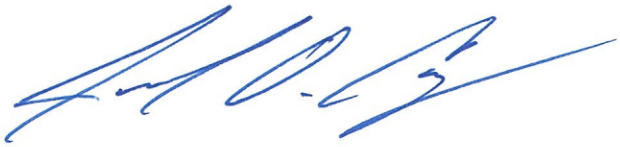
Mr. Adam J. Teitzman, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Dear Mr. Teitzman:

In accordance with Section 186.801, Florida Statutes, Seminole Electric Cooperative, Inc. hereby submits for electronic filing Seminole's 2023 Ten-Year Site Plan. Pursuant to Commission Staff's request, five (5) hard copies will also be provided.

Please do not hesitate to call me if you have any questions or comments.

Sincerely,



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Enclosure

cc: J. Fuller
L. Johnson

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Ten-Year Site Plan

2023 – 2032
(Detail as of December 31, 2022)
April 1, 2023

Submitted To:
State of Florida
Public Service Commission

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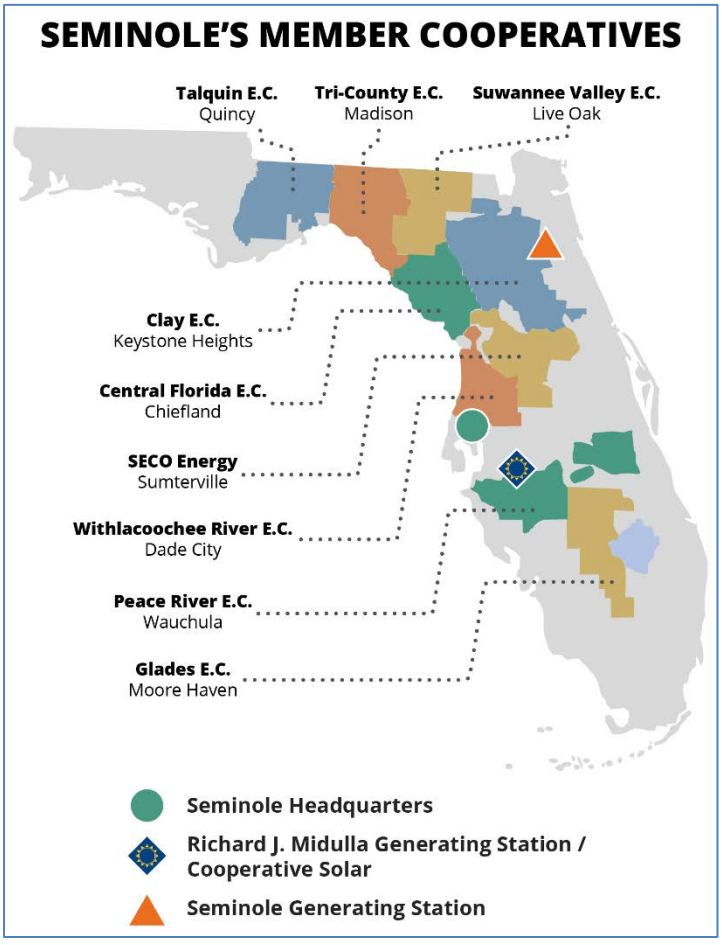
DESCRIPTION OF EXISTING FACILITIES

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 Electric COOPERATIVE, INC.

Seminole provides full requirements service (with limited exceptions) under wholesale power contracts with all of its Members. One exception relates to the ability of four of our Members to purchase small amounts of hydroelectric power allocated to them from the Southeastern Power Administration (SEPA). SEPA provides 26 MW (or approximately 1% of the total energy required by all Members). Seminole's wholesale power contracts also permit each Member to own or lease renewable generation and/or peak shaving generation, (or at the request of Members, Seminole to enter into power purchase agreements for renewable generation), located behind the Member delivery points, up to 5% of their load requirements based on each Member's average annual system peak demands for the prior three calendar years. Seminole serves the aggregate loads of its Members with a combination of owned and purchased power resources. As of December 31, 2022, Seminole had total winter capacity resources of 4,497 MW consisting of owned, installed net capacity of 2,102 MW and the remaining capacity in firm purchased power. Additional information on Seminole's existing resources is located 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 1,220 MW winter capacity coal-fired plant located in Putnam County near Palatka, Florida.
2) Midulla Generating Station (MGS) Units 1–3 comprise 572 MW winter capacity gas-fired two-on-one combined cycle plant located in Hardee County, Florida: and,
3) MGS Units 4–8 comprise 310 MW winter capacity peaking plant consisting of five twin-pack gas turbines.

Schedule 1

Existing Generating Facilities as of December 31, 2022

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
MGS	1-3	Hardee County	CC	NG	DFO	PL	TK	4	01/02	Unk	639	504	572
MGS	4-8	Hardee County	CT	NG	DFO	PL	TK	4	12/06	Unk	310	270	310
SGS	1	Putnam County	ST	BIT	N/A	RR	N/A	N/A	02/84	Unk	735.9	573	580
SGS	2	Putnam County	ST	BIT	N/A	RR	N/A	N/A	12/84	Unk	735.9	634	640

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

Notes:

- Seminole is currently evaluating which of either SGS U1 or SGS U2 will be removed from service subsequent to completion of commissioning of the Seminole Combined Cycle Facility.

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 226 circuit miles of 230 kV and 125 circuit miles of 69 kV lines. Seminole's facilities are interconnected to the grid at twenty-one (21) 230 kV transmission interconnections with the entities shown in Table 1.1.

Table 1.1

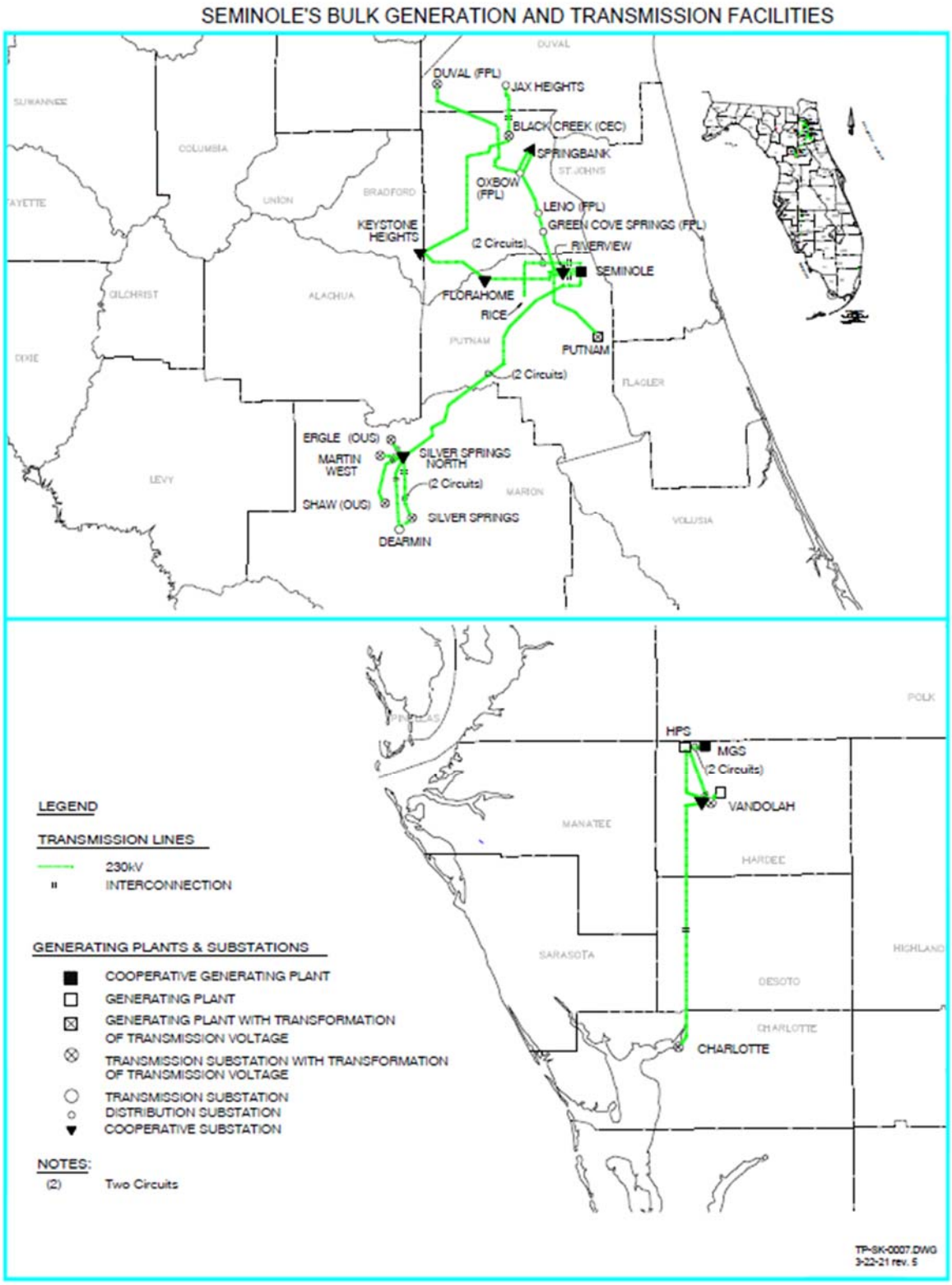
Transmission Grid Interconnections with Other Entities

Entity	Voltage (kV)	Number of Interconnections
Florida Power & Light	230	7
Duke Energy Florida	230	7
JEA	230	1
City of Ocala (OEU)	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 to serve Member loads that are imbedded in the balancing authority areas of other utilities. 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 Electric COOPERATIVE, INC.

1.3 Purchased Power Resources

Table 1.2 reflects the purchased power resources included in Seminole's portfolio.

TABLE 1.2

Seller	Contract Term		Contract Capacity (MW)		Primary Fuel (if Any)	Firm Capacity	Description
	Begins	Ends	Summer	Winter			
Hardee Power Partners	1/1/2013	12/31/2032	360	445	NG	YES [1]	Hardee CC1, CT 2A & CT2B
NextEra Energy	1/1/2023	12/31/2024	459	546	NG	YES	Oleander CTs 2-4
Duke Energy Florida	6/1/2016	12/31/2024	200	200	System [3]	YES	System Intermediate
Duke Energy Florida	1/1/2021	3/31/2027	0	50-600	System [3]	YES	System Peaking
Duke Energy Florida	1/1/2021	12/31/2030	50-450		System [3]	YES	System Intermediate
Duke Energy Florida	1/1/2021	12/31/2035			System [3]	YES	System Peaking
Farm Credit Leasing Services Corporation	8/1/2017	8/31/2027	2.2	2.2	SUN	YES [2]	MGS Solar Facility
Southern Company Services	6/1/2021	5/31/2026	100-150	100-150	System [3]	YES	System Intermediate
The Energy Authority	1/1/2023	1/31/2023	N/A	153	System [3]	YES	System Peaking
FRP Putnam County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [2]	Solar Facility
FRP Gadsden County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [2]	Solar Facility
FRP Gilchrist County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [2]	Solar Facility
FRP Columbia County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [2]	Solar Facility
Hillsborough County, Florida	3/1/2010	2/28/2025	38	38	MSW	YES	Hillsborough WTE
City of Tampa, Florida	8/1/2011	7/31/2026	20	20	MSW	YES	McKay Bay WTE
Individual SECI Member Cooperatives	1/1/2000	Evergreen	124	124	DFO	YES	Member Distributed Generation

Notes:

- While Seminole has the right to sell a portion of the renewable energy certificates (RECs) associated with its renewable generation to third parties, Seminole has not sold RECs for many years.

1) Reflects plant firm capacity however current transmission limitations reduce available winter capacity by 26 MW.

2) Seminole assumes 40% capacity towards summer reserve margin and 0% capacity towards winter reserve margin.

3) System PPAs are not tied to one specific resource or fuel type although they are primarily natural gas.

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 1.3 percent from 2023 through 2032. Similarly, commercial consumer growth is projected to increase at an average annual rate of 1.3 percent during the same period. Residential energy sales are projected to grow at an average annual rate of 1.0 percent, and commercial energy sales are projected to grow at an average annual rate of 1.4 percent from 2023 through 2032. 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

		Residential			
Year	Estimated Population Served by Members	People per Household	GWh	Average Number of Customers	Average Consumption Per Customer (kWh)
2013	1,749,359	2.25	10,018	777,493	12,885
2014	1,639,873	2.47	8,808	662,626	13,293
2015	1,669,888	2.48	9,068	673,215	13,470
2016	1,701,854	2.49	9,310	683,672	13,618
2017	1,730,540	2.50	9,097	692,699	13,133
2018	1,763,400	2.51	9,644	703,331	13,712
2019	1,789,594	2.50	9,754	716,864	13,606
2020	1,836,301	2.50	10,262	733,901	13,983
2021	1,850,327	2.46	10,115	751,351	13,462
2022	1,850,742	2.40	10,471	770,526	13,589
2023	1,860,186	2.37	10,385	783,322	13,258
2024	1,873,797	2.35	10,618	796,158	13,337
2025	1,886,367	2.33	10,729	808,660	13,268
2026	1,896,689	2.31	10,808	819,867	13,183
2027	1,908,309	2.30	10,908	830,817	13,129
2028	1,921,354	2.28	11,016	841,625	13,089
2029	1,935,064	2.27	11,125	852,278	13,053
2030	1,948,523	2.26	11,215	862,470	13,003
2031	1,960,233	2.25	11,306	871,498	12,973
2032	1,971,908	2.24	11,400	880,392	12,949

Notes:

- Actual value for 2013 includes Lee County Electric Cooperative.
- Includes Sales from SEPA.

Schedule 2.2

History and Forecast of Energy Consumption and
Number of Customers by Customer Class

	Commercial[1]				
Year	GWh	Average Number of Customers	Average Consumption Per Customer (kWh)	Other Sales (GWh)[2]	Total Member Sales to Ultimate Consumers (GWh)[3]
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	56,688	151	13,374
2016	4,311	74,411	57,935	152	13,773
2017	4,322	76,118	56,780	144	13,563
2018	4,447	78,044	56,981	145	14,236
2019	4,515	80,257	56,257	156	14,425
2020	4,515	82,015	55,051	157	14,934
2021	4,662	84,037	55,476	153	14,930
2022	4,936	88,776	55,601	159	15,566
2023	5,197	90,080	57,693	123	15,705
2024	5,393	91,435	58,982	126	16,137
2025	5,526	92,714	59,603	127	16,382
2026	5,592	93,933	59,532	128	16,528
2027	5,672	95,128	59,625	129	16,709
2028	5,738	96,310	59,578	129	16,883
2029	5,765	97,472	59,145	130	17,020
2030	5,822	98,614	59,038	130	17,167
2031	5,875	99,691	58,932	131	17,312
2032	5,931	100,743	58,873	132	17,463

Notes:

- Actual value for 2013 includes Lee County Electric Cooperative.
- Includes Sales from SEPA.

1) Includes Industrial and Interruptible Customers.

2) Includes Lighting Customers.

3) Excludes Sales for Resale.

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 Consumers
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	642	14,471	5,384	763,468
2017	64	698	14,325	5,539	774,356
2018	40	636	14,912	5,680	787,055
2019	42	628	15,095	5,756	802,877
2020	8	720	15,662	5,822	821,738
2021	2	607	15,539	5,888	841,276
2022	0	764	16,330	5,979	865,281
2023	0	646	16,351	5,998	879,400
2024	0	667	16,804	6,008	893,601
2025	0	679	17,061	6,017	907,391
2026	0	685	17,213	6,027	919,827
2027	0	698	17,407	6,039	931,984
2028	0	706	17,589	6,051	943,986
2029	0	748	17,768	6,062	955,812
2030	0	759	17,926	6,072	967,156
2031	0	764	18,076	6,083	977,272
2032	0	770	18,233	6,093	987,228

Notes:

- Actual value for 2013 includes Lee County Electric Cooperative.
- Includes Sales from SEPA.

2.2 Annual Peak Demand and Net Energy for Load

Winter net firm demand is projected to increase at an average annual rate of 0.5 percent from the 2022/2023 season through the 2031/2032 season. Summer net firm demand is estimated to increase by 1.0 percent from 2023 through 2032. Net Energy for Load is projected to grow at an average annual rate of 1.2 percent from 2023 through 2032. 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		Net Firm Demand
						Load Mgmt.	Cons.	Load Mgmt.	Cons.	
2013	3,665	3,665	0	0	0	99	N/A	N/A[3]	N/A	3,566
2014	3,155	3,155	0	0	0	67	N/A	N/A[3]	N/A	3,088
2015	3,072	3,072	0	0	0	51	N/A	N/A[3]	N/A	3,021
2016	3,299	3,299	0	0	0	56	N/A	N/A[3]	N/A	3,243
2017	3,187	3,187	0	0	0	54	N/A	19	N/A	3,114
2018	3,196	3,196	0	0	0	54	N/A	20	N/A	3,122
2019	3,477	3,477	0	0	0	58	N/A	20	N/A	3,399
2020	3,505	3,505	0	0	0	49	N/A	10	N/A	3,446
2021	3,496	3,496	0	0	0	50	N/A	11	N/A	3,435
2022	3,723	3,723	0	0	0	52	N/A	23	N/A	3,648
2023	3,688	3,688	0	81	62	53	N/A	11	N/A	3,481
2024	3,754	3,754	0	81	62	53	N/A	11	N/A	3,547
2025	3,805	3,805	0	81	62	53	N/A	11	N/A	3,598
2026	3,833	3,833	0	81	62	54	N/A	11	N/A	3,625
2027	3,871	3,871	0	81	62	54	N/A	11	N/A	3,663
2028	3,906	3,906	0	81	62	54	N/A	11	N/A	3,698
2029	3,942	3,942	0	81	62	56	N/A	11	N/A	3,732
2030	3,972	3,972	0	81	62	56	N/A	11	N/A	3,762
2031	3,996	3,996	0	81	62	56	N/A	11	N/A	3,786
2032	4,026	4,026	0	81	62	58	N/A	11	N/A	3,814

Notes:

- Actual value for 2013 includes Lee County Electric Cooperative.

1) Excludes wholesale interruptible purchases.

2) Distributed generation reflects customer-owned self-service generation.

3) Reduced demands associated with Member Cooperative coincident demand billing are not reflected, although reductions are reflected in net firm demand.

Schedule 3.1.1

High Case Forecast of Summer Peak Demand (MW)

Year	Total	Wholesale	Retail	Interruptible Load[1]	Distributed Generation[2]	Residential		Commercial		Net Firm Demand
						Load Mgmt.	Cons.	Load Mgmt.	Cons.	
2023	3,742	3,742	0	81	62	53	N/A	11	N/A	3,535
2024	3,812	3,812	0	81	62	53	N/A	11	N/A	3,605
2025	3,864	3,864	0	81	62	53	N/A	11	N/A	3,657
2026	3,894	3,894	0	81	62	54	N/A	11	N/A	3,686
2027	3,935	3,935	0	81	62	54	N/A	11	N/A	3,727
2028	3,970	3,970	0	81	62	54	N/A	11	N/A	3,762
2029	4,009	4,009	0	81	62	56	N/A	11	N/A	3,799
2030	4,040	4,040	0	81	62	56	N/A	11	N/A	3,830
2031	4,065	4,065	0	81	62	56	N/A	11	N/A	3,855
2032	4,095	4,095	0	81	62	58	N/A	11	N/A	3,883

Notes:

1) Excludes wholesale interruptible purchases.
2) Distributed generation reflects customer-owned self-service generation.

Schedule 3.1.2

Low Case Forecast of Summer Peak Demand (MW)

Year	Total	Wholesale	Retail	Interruptible Load[1]	Distributed Generation[2]	Residential		Commercial		Net Firm Demand
						Load Mgmt.	Cons.	Load Mgmt.	Cons.	
2023	3,396	3,396	0	81	62	53	N/A	11	N/A	3,189
2024	3,456	3,456	0	81	62	53	N/A	11	N/A	3,249
2025	3,501	3,501	0	81	62	53	N/A	11	N/A	3,294
2026	3,528	3,528	0	81	62	54	N/A	11	N/A	3,320
2027	3,563	3,563	0	81	62	54	N/A	11	N/A	3,355
2028	3,596	3,596	0	81	62	54	N/A	11	N/A	3,388
2029	3,632	3,632	0	81	62	56	N/A	11	N/A	3,422
2030	3,660	3,660	0	81	62	56	N/A	11	N/A	3,450
2031	3,682	3,682	0	81	62	56	N/A	11	N/A	3,472
2032	3,709	3,709	0	81	62	58	N/A	11	N/A	3,497

Notes:

1) Excludes wholesale interruptible purchases.
2) Distributed generation reflects customer-owned self-service generation.

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
						Load Mgmt	Cons.	Load Mgmt.	Cons.	
2013/14	3,333	3,333	0	0	0	93	N/A	N/A[3]	N/A	3,240
2014/15	3,672	3,672	0	0	0	61	N/A	18	N/A	3,593
2015/16	3,377	3,377	0	0	0	56	N/A	14	N/A	3,307
2016/17	3,083	3,083	0	0	0	51	N/A	14	N/A	3,018
2017/18	4,024	4,024	0	0	0	68	N/A	17	N/A	3,939
2018/19	3,068	3,068	0	0	0	53	N/A	22	N/A	2,993
2019/20	3,305	3,305	0	0	0	58	N/A	22	N/A	3,225
2020/21	3,620	3,620	0	0	0	50	N/A	24	N/A	3,546
2021/22	3,982	3,982	0	0	0	55	N/A	12	N/A	3,915
2022/23	3,956	3,956	0	0	0	54	N/A	16	N/A	3,886
2023/24	3,951	3,951	0	80	62	54	N/A	12	N/A	3,743
2024/25	4,008	4,008	0	80	62	54	N/A	12	N/A	3,800
2025/26	4,051	4,051	0	80	62	56	N/A	12	N/A	3,841
2026/27	4,098	4,098	0	80	62	56	N/A	12	N/A	3,888
2027/28	4,138	4,138	0	80	62	57	N/A	12	N/A	3,927
2028/29	4,178	4,178	0	80	62	57	N/A	12	N/A	3,967
2029/30	4,215	4,215	0	80	62	57	N/A	12	N/A	4,004
2030/31	4,241	4,241	0	80	62	58	N/A	12	N/A	4,029
2031/32	4,268	4,268	0	80	62	58	N/A	12	N/A	4,056
2032/33	4,292	4,292	0	80	62	59	N/A	12	N/A	4,079

Notes:

- Actual value for 2013 includes Lee County Electric Cooperative.

1) Excludes wholesale interruptible purchases.

2) Distributed generation reflects customer-owned self-service generation.

3) Reduced demands associated with Member Cooperative coincident demand billing are not reflected, although reductions are reflected in net firm demand.

Schedule 3.2.1

High Case Forecast of Winter Peak Demand (MW)

Year	Total	Wholesale	Retail	Interruptible Load[1]	Distributed Generation[2]	Residential		Commercial		Net Firm Demand
						Load Mgmt	Cons.	Load Mgmt.	Cons.	
2022-23	3,956	3,956	0	0	0	54	N/A	16	N/A	3,886
2023-24	4,258	4,258	0	80	62	54	N/A	12	N/A	4,050
2024-25	4,307	4,307	0	80	62	54	N/A	12	N/A	4,099
2025-26	4,345	4,345	0	80	62	56	N/A	12	N/A	4,135
2026-27	4,384	4,384	0	80	62	56	N/A	12	N/A	4,174
2027-28	4,423	4,423	0	80	62	57	N/A	12	N/A	4,212
2028-29	4,459	4,459	0	80	62	57	N/A	12	N/A	4,248
2029-30	4,493	4,493	0	80	62	57	N/A	12	N/A	4,282
2030-31	4,523	4,523	0	80	62	58	N/A	12	N/A	4,311
2031-32	4,551	4,551	0	80	62	58	N/A	12	N/A	4,339

Notes:

1) Excludes wholesale interruptible purchases.
2) Distributed generation reflects customer-owned self-service generation.

Schedule 3.2.2

Low Case Forecast of Winter Peak Demand (MW)

Year	Total	Wholesale	Retail	Interruptible Load[1]	Distributed Generation[2]	Residential		Commercial		Net Firm Demand
						Load Mgmt	Cons.	Load Mgmt.	Cons.	
2022-23	3,956	3,956	0	0	0	54	N/A	16	N/A	3,886
2023-24	3,479	3,479	0	80	62	54	N/A	12	N/A	3,271
2024-25	3,532	3,532	0	80	62	54	N/A	12	N/A	3,324
2025-26	3,574	3,574	0	80	62	56	N/A	12	N/A	3,364
2026-27	3,618	3,618	0	80	62	56	N/A	12	N/A	3,408
2027-28	3,659	3,659	0	80	62	57	N/A	12	N/A	3,448
2028-29	3,700	3,700	0	80	62	57	N/A	12	N/A	3,489
2029-30	3,737	3,737	0	80	62	57	N/A	12	N/A	3,526
2030-31	3,770	3,770	0	80	62	58	N/A	12	N/A	3,558
2031-32	3,802	3,802	0	80	62	58	N/A	12	N/A	3,590

Notes:

1) Excludes wholesale interruptible purchases.
2) Distributed generation reflects customer-owned self-service generation.

Schedule 3.3

History and Forecast of Annual Net Energy for Load (GWh)

Year	Total	Conservation		Retail	Total Sales Including Sales for Resale	Utility Use & Losses Less SEPA	Net Energy for Load	Load Factor %
		Residential	Commercial					
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	13,829	642	14,471	50.0
2017	14,325	N/A	N/A	0	13,627	698	14,325	52.5
2018	14,912	N/A	N/A	0	14,276	636	14,912	43.2
2019	15,095	N/A	N/A	0	14,467	628	15,095	50.7
2020	15,662	N/A	N/A	0	14,942	720	15,662	51.9
2021	15,539	N/A	N/A	0	14,932	607	15,539	50.0
2022	16,330	N/A	N/A	0	15,566	764	16,330	47.6
2023	16,351	N/A	N/A	0	15,705	646	16,351	48.0
2024	16,804	N/A	N/A	0	16,137	667	16,804	51.2
2025	17,061	N/A	N/A	0	16,382	679	17,061	51.3
2026	17,213	N/A	N/A	0	16,528	685	17,213	51.2
2027	17,407	N/A	N/A	0	16,709	698	17,407	51.1
2028	17,589	N/A	N/A	0	16,883	706	17,589	51.1
2029	17,768	N/A	N/A	0	17,020	748	17,768	51.1
2030	17,926	N/A	N/A	0	17,167	759	17,926	51.1
2031	18,076	N/A	N/A	0	17,312	764	18,076	51.2
2032	18,233	N/A	N/A	0	17,463	770	18,233	51.3

Notes:

- Actual value for 2013 includes Lee County Electric Cooperative.

Schedule 3.3.1

High Case Forecast of Annual Net Energy for Load (GWh)

Year	Total	Conservation		Retail	Total Sales Including Sales for Resale	Utility Use & Losses Less SEPA	Net Energy for Load	Load Factor %
		Residential	Commercial					
2023	17,047	N/A	N/A	0	16,365	682	17,047	50.1
2024	17,631	N/A	N/A	0	16,926	705	17,631	49.7
2025	17,891	N/A	N/A	0	17,175	716	17,891	49.8
2026	18,045	N/A	N/A	0	17,323	722	18,045	49.8
2027	18,239	N/A	N/A	0	17,509	730	18,239	49.9
2028	18,421	N/A	N/A	0	17,684	737	18,421	49.9
2029	18,603	N/A	N/A	0	17,822	781	18,603	50.0
2030	18,753	N/A	N/A	0	17,965	788	18,753	50.0
2031	18,900	N/A	N/A	0	18,106	794	18,900	50.0
2032	19,051	N/A	N/A	0	18,251	800	19,051	50.1

Notes:

- None

Schedule 3.3.2

Low Case Forecast of Annual Net Energy for Load (GWh)

Year	Total	Conservation		Retail	Total Sales Including Sales for Resale	Utility Use & Losses Less SEPA	Net Energy for Load	Load Factor %
		Residential	Commercial					
2023	15,438	N/A	N/A	0	14,820	618	15,438	45.4
2024	15,750	N/A	N/A	0	15,120	630	15,750	55.0
2025	16,003	N/A	N/A	0	15,363	640	16,003	55.0
2026	16,161	N/A	N/A	0	15,515	646	16,161	54.8
2027	16,361	N/A	N/A	0	15,707	654	16,361	54.8
2028	16,546	N/A	N/A	0	15,884	662	16,546	54.8
2029	16,729	N/A	N/A	0	16,026	703	16,729	54.7
2030	16,889	N/A	N/A	0	16,180	709	16,889	54.7
2031	17,038	N/A	N/A	0	16,322	716	17,038	54.7
2032	17,195	N/A	N/A	0	16,473	722	17,195	54.7

Notes:

- None

2.3 Monthly Peak Demand and Net Energy for Load

Schedules 4 to 4.2 show actual net firm peak demand and net energy for load by month for 2022 and forecasts thereafter.

Schedule 4

Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month

	2022 Actual		2023 Forecast		2024 Forecast	
Month	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)
January	3,915	1,327	3,490	1,233	3,743	1,343
February	3,060	1,102	3,221	1,144	3,279	1,181
March	2,487	1,140	2,549	1,170	2,594	1,204
April	2,734	1,193	2,798	1,192	2,855	1,227
May	3,278	1,477	3,215	1,445	3,278	1,482
June	3,648	1,643	3,333	1,551	3,395	1,583
July	3,584	1,694	3,339	1,659	3,400	1,690
August	3,522	1,686	3,481	1,685	3,547	1,717
September	3,406	1,432	3,234	1,530	3,294	1,561
October	2,734	1,220	2,940	1,310	2,997	1,336
November	2,656	1,127	2,479	1,151	2,512	1,175
December	3,886	1,289	2,888	1,281	2,925	1,305
ANNUAL		**16,330**		**16,351**		**16,804**

Schedule 4.1

2-Year High Case Forecast of Peak Demand and Net Energy for Load by Month

	2023 Forecast		2024 Forecast	
Month	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)
January			4,050	1,468
February	3,463	1,192	3,524	1,229
March	2,759	1,228	2,807	1,263
April	2,963	1,254	3,024	1,290
May	3,407	1,506	3,474	1,544
June	3,563	1,625	3,635	1,657
July	3,490	1,716	3,560	1,748
August	3,535	1,717	3,605	1,749
September	3,366	1,564	3,437	1,595
October	3,206	1,418	3,269	1,446
November	2,633	1,208	2,669	1,232
December	3,221	1,386	3,260	1,410
ANNUAL		**17,047**		**17,631**

Schedule 4.2

2-Year Low Case Forecast of Peak Demand and Net Energy for Load by Month

	2023 Forecast		2024 Forecast	
Month	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)
January			3,271	1,211
February	3,004	1,047	3,063	1,083
March	2,503	1,129	2,552	1,163
April	2,715	1,138	2,774	1,171
May	2,980	1,321	3,042	1,355
June	3,190	1,457	3,255	1,488
July	3,175	1,569	3,238	1,600
August	3,189	1,561	3,249	1,592
September	3,098	1,453	3,158	1,483
October	2,807	1,231	2,867	1,257
November	2,401	1,102	2,438	1,126
December	2,734	1,197	2,773	1,221
ANNUAL		**15,438**		**15,750**

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 2021	Actual 2022	Forecast 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Nuclear		Trillion BTU	-	-	-	-	-	-	-	-	-	-	-	-
Coal		1000 Tons	2,750	2,628	2,339	1,175	926	1,071	997	956	1,130	1,054	967	1,028
Residual	Total	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	1000 BBL	37	43	27	16	15	16	15	16	18	15	13	14
	Steam	1000 BBL	37	43	27	16	15	15	15	15	16	15	13	14
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	-	-	1	-	1	2	-	-	-
Natural Gas	Total	1000 MCF	30,005	31,069	53,005	75,214	87,323	86,387	88,725	92,731	90,780	94,827	97,741	97,680
	Steam	1000 MCF	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 MCF	28,675	28,436	52,234	74,875	87,176	86,307	88,456	89,409	87,647	91,237	91,861	91,028
	CT	1000 MCF	1,330	2,633	771	339	147	80	269	3,322	3,133	3,590	5,880	6,652

Notes:

- Above fuel is for existing and future owned generating resources (excludes purchased power contracts).
- Totals may not add due to rounding.

Schedule 5

Fuel Requirements For Seminole Generating Resources

Fuel Requirements		Units	Actual 2021	Actual 2022	Forecast 2023	Forecast 2024	Forecast 2025	Forecast 2026	Forecast 2027	Forecast 2028	Forecast 2029	Forecast 2030	Forecast 2031	Forecast 2032
Nuclear		Trillion BTU	-	-	-	-	-	-	-	-	-	-	-	-
Coal		1000 Tons	2,750	2,628	2,339	1,175	926	1,071	997	956	1,130	1,054	967	1,028
Residual	Total	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	1000 BBL	37	43	27	16	15	16	15	16	18	15	13	14
	Steam	1000 BBL	37	43	27	16	15	15	15	15	16	15	13	14
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	-	-	1	-	1	2	-	-	-
Natural Gas	Total	1000 MCF	30,005	31,069	53,005	75,214	87,323	86,387	88,725	92,731	90,780	94,827	97,741	97,680
	Steam	1000 MCF	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 MCF	28,675	28,436	52,234	74,875	87,176	86,307	88,456	89,409	87,647	91,237	91,861	91,028
	CT	1000 MCF	1,330	2,633	771	339	147	80	269	3,322	3,133	3,590	5,880	6,652

Notes:

- 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 base case 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. Other than the purchases from solar facilities, Seminole's additional requirements for capacity beyond 2022 are assumed to be from resources with natural gas as the primary fuel.

Schedule 6.1

Energy Sources (GWh)

Energy Sources		Units	Actual 2021	Actual 2022	Forecast 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Inter-Regional Interchange		GWh	288	556	7	1	2	1	-	-	-	-	-	-
Nuclear		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Coal		GWh	6,508	6,046	5,773	2,813	2,196	2,546	2,368	2,273	2,700	2,497	2,300	2,456
Residual	Total	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	GWh	21	24	15	7	6	7	6	7	8	7	6	6
	Steam	GWh	21	24	15	7	6	7	6	6	7	7	6	6
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	1	1	-	-	-
Natural Gas	Total	GWh	4,180	3,884	7,896	11,603	13,169	13,098	13,506	13,901	13,563	14,148	14,522	14,466
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	4,072	3,660	7,829	11,574	13,156	13,091	13,480	13,574	13,253	13,788	13,935	13,798
	CT	GWh	108	224	67	29	13	7	26	327	310	360	587	668
NUG		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Renewables		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Other		GWh	4,544	5,820	2,660	2,380	1,688	1,561	1,527	1,408	1,497	1,274	1,248	1,305
Total Renewables		GWh	489	463	423	466	918	823	738	740	738	738	738	740
Non-Firm Interchange Renewables Solar		GWh	4	4	3	44	738	738	738	740	738	738	738	740
Firm Interchange Renewables MSW		GWh	473	447	420	422	180	85	-	-	-	-	-	-
Firm Interchange Renewables Biomass		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Renewables Landfill Gas		GWh	12	12	-	-	-	-	-	-	-	-	-	-
Firm Interchange Base		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Intermediate		GWh	4,000	4,878	1,721	1,696	598	573	620	553	600	484	491	533
Firm Interchange Peaking		GWh	55	479	516	218	172	165	169	115	159	52	19	32
Net Energy for Load		GWh	15,541	16,330	16,351	16,804	17,061	17,213	17,407	17,589	17,768	17,926	18,076	18,233

Notes:

- Net interchange, unit power purchases and DEF system purchases are included under 'Firm Interchange'.
- 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 2021	Actual 2022	Forecast 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Inter-Regional Interchange		GWh	1.9%	3.4%	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-	-
Nuclear		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Coal		GWh	41.9%	37.0%	35.3%	16.7%	12.9%	14.8%	13.6%	12.9%	15.2%	13.9%	12.7%	13.5%
Residual	Total	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	GWh	0.1%	0.1%	0.1%	0.04%	0.04%	0.04%	0.03%	0.04%	0.05%	0.04%	0.03%	0.03%
	Steam	GWh	0.1%	0.1%	0.1%	0.04%	0.04%	0.04%	0.03%	0.03%	0.04%	0.04%	0.03%	0.03%
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	0.01%	0.01%	-	-	-
Natural Gas	Total	GWh	26.9%	23.8%	48.3%	69.0%	77.2%	76.1%	77.6%	79.0%	76.3%	78.9%	80.3%	79.3%
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	26.2%	22.4%	47.9%	68.9%	77.1%	76.1%	77.4%	77.2%	74.6%	76.9%	77.1%	75.7%
	CT	GWh	0.7%	1.4%	0.4%	0.2%	0.1%	0.0%	0.1%	1.9%	1.7%	2.0%	3.2%	3.7%
NUG		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Renewables		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Other		GWh	29.2%	35.6%	16.3%	14.2%	9.9%	9.1%	8.8%	8.0%	8.4%	7.1%	6.9%	7.2%
Total Renewables		GWh	3.1%	2.8%	2.6%	2.8%	5.4%	4.8%	4.2%	4.2%	4.2%	4.1%	4.1%	4.1%
Non-Firm Interchange Renewables Solar		GWh	0.0%	0.0%	0.0%	0.3%	4.3%	4.3%	4.2%	4.2%	4.2%	4.1%	4.1%	4.1%
Firm Interchange Renewables MSW		GWh	3.0%	2.7%	2.6%	2.5%	1.1%	0.5%	-	-	-	-	-	-
Firm Interchange Renewables Biomass		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Renewables Landfill Gas		GWh	0.1%	0.1%	-	-	-	-	-	-	-	-	-	-
Firm Interchange Base		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Intermediate		GWh	25.7%	29.9%	10.5%	10.1%	3.5%	3.3%	3.6%	3.1%	3.4%	2.7%	2.7%	2.9%
Firm Interchange Peaking		GWh	0.4%	2.9%	3.2%	1.3%	1.0%	1.0%	1.0%	0.7%	0.9%	0.3%	0.1%	0.2%
Net Energy for Load		GWh	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes:

- Net interchange, unit power purchases and DEF system purchases are included under 'Firm Interchange'.
- 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.

FORECASTING METHODS AND PROCEDURES

3.1 Forecasting Methodology[1]

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), 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), Google Mobility movement data 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

1 The Seminole 2022 load forecast was produced using Seminole's 2021 load forecast and some post model adjustments. In 2022 Seminole's load forecasting team worked with each Member Cooperative to perform post model adjustments of the 2021 load forecast. These adjustments took into account the comparison between the actual meters, energy, and peak demand observed through March 2022 and the 2021 load forecast predicted values for the same period. It also took into account each Member Cooperative's expectations of meters and load growth for the period 2023 through 2025. For the period 2026 through 2032, the 2021 load forecast predicted load growth rates were applied.

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, daily personal movement trends 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 top-down 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, internal electricity price data, load factor, daily personal movement trends, 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 October 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.

3.1.4 Alternative-Scenario Model

In addition to the base forecast, Seminole forecasts load conditions given mild and severe temperatures in the Members' geographical regions based on 95/5 percentiles of historical temperature observations.

3.1.5 Behind-the-Meter Solar

Seminole added behind-the-meter distributed solar projections to the load forecast study process in 2017. The purpose of the analysis is to reduce future energy and demand requirements that Seminole expects will otherwise be served, by solar facilities that are owned by either Seminole's Members or the end-use consumer members (e.g., rooftop solar). Seminole only forecasts new incremental growth in solar capacity, as existing capacity is already accounted for in historical load data. The underlying data for this analysis are gathered from annual net metering reports that the Members submit to the Florida Public Service Commission, which show the number of customer-owned renewable generation connections and the capacity associated with those connections. The historical trend from these data is analyzed to produce solar capacity growth rates five years ahead. End-use solar capacity growth rates published in the U.S. Energy Information Administration's (EIA) Annual Energy Outlook (AEO) are utilized thereafter. The hourly impacts of the installed capacity are estimated using the solar resource calculator available on the National Renewable Energy Laboratory website. The hourly values output by the calculator are scaled up by Seminole's capacity projections and aggregated to

estimate monthly energy output. Monthly demand estimates are selected based on seasonal peak hours coincident with Seminole.

3.2 Load Forecast Data

The primary resources for load forecasting are weather data, economic data, Member retail data, delivery point meter data, Google Mobility sector-specific movement and energy efficiency data. Number of consumers and sales by consumer class are provided by Members through the RUS Form-7 financial report. Hourly delivery point load data is provided monthly by Seminole's System Operations department. Independent source data for economic, demographic and movement 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 EIA's 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 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.

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, University of Florida Bureau of Economic and Business Research (UF BEBR); Quarterly Estimates from the Florida Legislative Office of Economic and Demographic Research.

Energy Efficiency and Behind-the-Meter Solar:

- Annual Energy Outlook (AEO), U.S. Energy Information Administration (EIA)
- Residential and Commercial Statistically Adjusted End-Use Spreadsheets, Itron

- Member Residential Appliance Saturation Survey
- National Renewable Energy Laboratory of the U.S. Department of Energy (DOE)

Sector-Specific Personal Movement Data:

- Google, Inc.

Weather Data:

- AccuWeather, Inc.

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.

Historically, consumer growth in the Seminole-Member system has grown at a faster rate than the State of Florida as a whole and this trend is expected to continue. The leading indicators for load growth are Florida's expanding economy and net migration prospects into the state, especially from "baby boomer" retirees and migration impacts during the COVID-19 pandemic.

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 air conditioning 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 5th and 95th percentiles of historical temperatures, which represent mild, and severe events.

FORECAST OF FACILITIES REQUIREMENTS

Seminole's base case forecasts of capacity to meet the projected summer and winter peak demands are in the following Schedules 7.1 and 7.2, respectively. The forecast includes the addition of approximately 3,138 MW of winter capacity by 2032. Such capacity is needed to replace the capacity associated with the removal of a Seminole Generating Station coal unit from service, expiring purchased power contracts and to serve increased Member load requirements while maintaining Seminole's reliability criteria. Overall, these additions, expirations, and changes result in a net increase of 854 MW of total winter capacity by 2032.

Seminole's capacity expansion plan includes a new advanced, large-frame two-on-one natural gas combined cycle unit currently undergoing pre-commissioning testing and is located adjacent to the existing Seminole Generating Station Plant (Seminole Combined Cycle Facility or SCCF). The facility is expected to have a winter capacity of 1,130 MW, which it is anticipated to achieve across the entire range of ambient conditions typically experienced in Palatka, Florida. Construction on SCCF began during the first quarter of 2020. Pursuant to regulatory requirements, Seminole expects to permanently remove from service, one (1) SGS coal-fired unit by a date no later than January 12, 2024. At this time, Seminole continues to evaluate which coal unit will be removed from service.

In addition to the SCCF, Seminole's future capacity expansion plan includes purchased power agreements with Florida Renewable Partners for approximately 300 MW of solar generation, with commercial operation scheduled by the end of 2024. Further details on these agreements are detailed in Table 1.2 above.

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
2023	2,507	0	1,709	1,709	0	0	4,216	4,216	3,481	3,481	735	21%	0	735	21%
2024	2,519	0	1,776	1,776	0	0	4,295	4,295	3,547	3,547	748	21%	0	748	21%
2025	3,090	0	1,261	1,261	0	0	4,351	4,351	3,598	3,598	753	21%	0	753	21%
2026	3,090	0	1,293	1,293	0	0	4,383	4,383	3,625	3,625	758	21%	0	758	21%
2027	3,090	0	1,336	1,336	0	0	4,426	4,426	3,663	3,663	763	21%	0	763	21%
2028	3,407	0	1,060	1,060	0	0	4,467	4,467	3,698	3,698	769	21%	0	769	21%
2029	3,407	0	1,098	1,098	0	0	4,505	4,505	3,732	3,732	773	21%	0	773	21%
2030	3,407	0	1,133	1,133	0	0	4,540	4,540	3,762	3,762	778	21%	0	778	21%
2031	3,724	0	893	893	0	0	4,617	4,617	3,786	3,786	831	22%	0	831	22%
2032	3,724	0	943	943	0	0	4,667	4,667	3,814	3,814	853	22%	0	853	22%

NOTE:

- Total installed capacity and the associated reserve margins are based on Seminole's current base plan and are based on a 15% reserve margin criterion.
- Total Installed Capacity does not include SEPA. 60% of Solar Summer Peak Rating is included in reserve calculations.
- 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
2023/24	2,703	0	1,986	1,986	0	0	4,689	4,689	3,743	3,743	946	25%	0	946	25%
2024/25	3,323	0	1,352	1,352	0	0	4,675	4,675	3,800	3,800	875	23%	0	875	23%
2025/26	3,323	0	1,352	1,352	0	0	4,675	4,675	3,841	3,841	834	22%	0	834	22%
2026/27	3,323	0	1,407	1,407	0	0	4,730	4,730	3,888	3,888	842	22%	0	842	22%
2027/28	3,681	0	1,049	1,049	0	0	4,730	4,730	3,927	3,927	803	20%	0	803	20%
2028/29	3,681	0	1,093	1,093	0	0	4,774	4,774	3,967	3,967	807	20%	0	807	20%
2029/30	3,681	0	1,138	1,138	0	0	4,819	4,819	4,004	4,004	815	20%	0	815	20%
2030/31	4,039	0	832	832	0	0	4,871	4,871	4,029	4,029	842	21%	0	842	21%
2031/32	4,039	0	882	882	0	0	4,921	4,921	4,056	4,056	865	21%	0	865	21%
2032/33	4,660	0	882	882	0	0	5,542	5,542	4,079	4,079	1463	36%	0	1463	36%

NOTE:

- Total installed capacity and the associated reserve margins are based on Seminole's current base plan and are based on a 15% reserve margin criterion.
- Total Installed Capacity does not include SEPA.
- Percent reserves are calculated at 15% of Seminole's obligation and include any surplus capacity.
- For 24/25: This table excludes a 38 MW firm purchase which terminates in February, 2025. Seminoles forecasted peak day occurs in January.

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 Pri	Fuel Alt	Transportation Pri	Transportation Alt	Const. Start Date	Comm. In-Service Date	Expected Retirement Date	Max Nameplate	Summer MW	Winter MW	Status
SEMINOLE CC FACILITY	CTG3	Putnam County	CT	NG		PL		02/2020	04/2023		382	351	368	V
SEMINOLE CC FACILITY	CTG5	Putnam County	CT	NG		PL		02/2020	04/2023		382	351	368	V
SEMINOLE CC FACILITY	STG4	Putnam County	ST	WH		NA		02/2020	04/2023		415	397	395	V
SEMINOLE GENERATING STATION	TBD	Putnam County	ST	BIT		RR				Q2-2023	-736	See Note 1	See Note 1	SB
UNNAMED CC2	1	UNKNOWN	CC	NG		PL			01/2025		621	571	621	P
UNNAMED CC2	2	UNKNOWN	CC	NG		PL			12/2032		620.8	571.1	620.8	P
UNNAMED CT2	1	UNKNOWN	CT	NG		PL			12/2027		358	317	358	P
UNNAMED CT2	2	UNKNOWN	CT	NG		PL			12/2030		358	317	358	P
MIDULLA GENERATING STATION	ST	Hardee County	CA	WH	DFO	NA	TK		12/2023		0	11.7	50.8	OP

Notes:

- Abbreviations – See Schedule 1.

1) Seminole is currently evaluating which of either SGS U1 or SGS U2 will be removed from service commensurate with the commissioning of the Seminole Combined Cycle Facility. The applicable capacity ratings are identified on Schedule 1.

2) Represents proxy resource necessary for maintining sufficient capacity to meet reserve requirement obligations. At this time, it has not determined if the capacity need will be met via self-build, acquisition, and/or purchased power alternatives. The ultimate method, type, size and location (if necessary) will be determined subsequent to the completion of a request-for-proposal.

4.2 Proposed Generating Facilities

Schedule 9 below reports the status and specifications of Seminole's proposed generating facility.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

1	Plant Name & Unit Number	Seminole CC Facility	Unnamed Combined Cycle Unit 1[3]	Unnamed Combined Cycle Unit 2[3]	Unnamed Combustion Turbine Unit 1[3]	Unnamed Combustion Turbine Unit 2[3]
2	Capacity					
	a. Summer (MW):	1099	571	571	317	317
	b. Winter (MW):	1130	621	621	358	358
	c. ISO (MW):	1134	609	609	347	347
3	Technology Type:	Combined Cycle	Combined Cycle	Combined Cycle	Combustion Turbine	Combustion Turbine
4	Anticipated Construction Timing					
	a. Field construction start-date[1]:	February 2020				
	b. Commercial in-service date:	Q2-2023	2025	2032	2027	2030
5	Fuel					
	a. Primary fuel:	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
	b. Alternate fuel:	None	None	None	None	None
6	Air Pollution Control Strategy	Dry Low-NOx burners, SCR, and Oxidation Catalyst	TBD	TBD	TBD	TBD
7	Cooling Method:	Wet Cooling Tower with Forced Draft Fans	TBD	TBD	TBD	TBD
8	Total Site Area:	SGS	TBD	TBD	TBD	TBD
9	Construction Status:	Greater than or equal to 50% complete				
10	Certification Status:	Complete				
11	Status With Federal Agencies	N/A	N/A	N/A	N/A	N/A
12	Projected Unit Performance Data					
	Planned Outage Factor (POF):	4.00	TBD	TBD	TBD	TBD
	Forced Outage Factor (FOF):	3.00	TBD	TBD	TBD	TBD
	Equivalent Availability Factor (EAF):	93.00	TBD	TBD	TBD	TBD
	Resulting Capacity Factor (%):	76%	TBD	TBD	TBD	TBD
	Average Net Operating Heat Rate (ANOHR):	6,306 Btu/Kwh	TBD	TBD	TBD	TBD
13	Projected Unit Financial Data ($2022)					
	Book Life (Years):	33	33	33	33	33
	Total Installed Cost (In-Service Year $/kW)[2]:	641	TBD	TBD	TBD	TBD
	Direct Construction Cost ($/kW):	613	TBD	TBD	TBD	TBD
	AFUDC Amount ($/kW):	28	TBD	TBD	TBD	TBD
	Escalation ($/kW):	Included in values above	TBD	TBD	TBD	TBD
	Fixed O&M ($/kW-Yr):	16	TBD	TBD	TBD	TBD
	Variable O&M ($/Run Hour):	-	TBD	TBD	TBD	TBD
	Variable O&M ($/MWH):	-	TBD	TBD	TBD	TBD
	K Factor:	N/A	TBD	TBD	TBD	TBD

Notes:

1) Assumes thirty-six months of construction.
2) Calculated at ISO rating.
3) Represents proxy resource necessary for maintining sufficient capacity to meet reserve requirement obligations. At this time, it has not determined if the capacity need will be met via self-build, acquisition, and/or purchased power alternatives. The ultimate method, type, size and location (if necessary) will be determined subsequent to the completion of a request-for-proposal.

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:	Seminole will utilize existing transmission lines and does not anticipate any new lines.
2	Number of Lines:	
3	Right-of-Way	
4	Line Length:	
5	Voltage:	
6	Anticipated Construction Timing:	
7	Anticipated Capital Investment:	
8	Substation:	
9	Participation with Other Utilities:	

Notes: None

5.1 Transmission Reliability

Seminole models its transmission planning guidelines after the Florida Reliability Coordinating Council's ("FRCC") planning guidelines and procedures and in alignment with the North American Electric Reliability Corporation's ("NERC") Reliability Standards. The FRCC also models its planning guidelines consistent with the North American Electric Reliability Corporation's ("NERC") Reliability Standards. Seminole's Transmission facilities are planned such that they shall not exceed their applicable facility rating under normal conditions or contingency events. In addition, Seminole uses the following voltage guidelines for all applicable stations:

Table 1.3

	Phase-to-Phase Voltage	**No Contingency [1] Normal Conditions (lower/upper limit)**	**Post Contingency [1]**
Seminole Owned	230 kV 115 kV 69 kV	0.95pu/1.05pu 0.90pu/1.05pu 0.90pu/1.05pu	0.95pu/1.05pu 0.90pu/1.05pu 0.90pu/1.05pu
Seminole Member Owned	230 kV 138 kV 115 kV 69 kV	0.90pu/1.05pu 0.90pu/1.05pu 0.90pu/1.05pu 0.90pu/1.05pu	0.90pu/1.05pu 0.90pu/1.05pu 0.90pu/1.05pu 0.90pu/1.05pu

Notes:

1) Exception: For Seminole and Member-owned BES transmission systems; the lower voltage limits used during transient/stability studies are in accordance with the FRCC's Stability Criteria document. For Seminole's owned 230 kV transmission system, the upper voltage limit during steady-state and transient studies can reach up to 1.065 pu; however, typically the transmission planner will utilize 1.05 pu as a starting point.

5.2 Plan Economics

Seminole creates a base case scenario using the most recent load forecast, fuel forecast, operational cost assumptions, and financial assumptions against which power supply alternatives are then compared 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 and risk 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, skilled labor shortages, 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. 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 coal contract that supplies 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 oil will continue to reflect the price volatility of the world energy market for crude oil and refined products. Seminole is currently only purchasing ultra-low sulfur fuel oil for its generating stations, generally as a backup fuel to natural gas. 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

Natural gas prices were very volatile in 2022 where Henry Hub gas prices averaged $6.385 and peaked at $9.85. Relative to 2022, natural gas prices in 2023 have fallen considerably due to a moderate winter but prices are expected to remain elevated and volatile as global demand continues to increase. Beyond 2023, nominal gas prices are projected to average $4.35 per MMBtu through 2031.

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 natural gas prices on Seminole's long-term resource portfolio. 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, 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 2022 market prices for natural gas and coal delivered to Seminole's generating units proved to be a year of extreme volatility and high prices in both markets. In 2022, natural gas pricing exceeded coal pricing however this trend has reversed and Seminole's cost of coal-fired generation is currently higher than natural gas.. Coal prices are projected to fall below natural gas prices during the short-term and remain lower throughout the balance of the study period.

5.5 Modeling of Generation Unit Performance

Recent historical data, planned activities and manufacturers' design performance data are used in the development of modeling assumptions (capacity, heat rate, ramp rates & forced outage rates) for existing units. Purchased power agreements are modeled in accordance with contractual requirements.

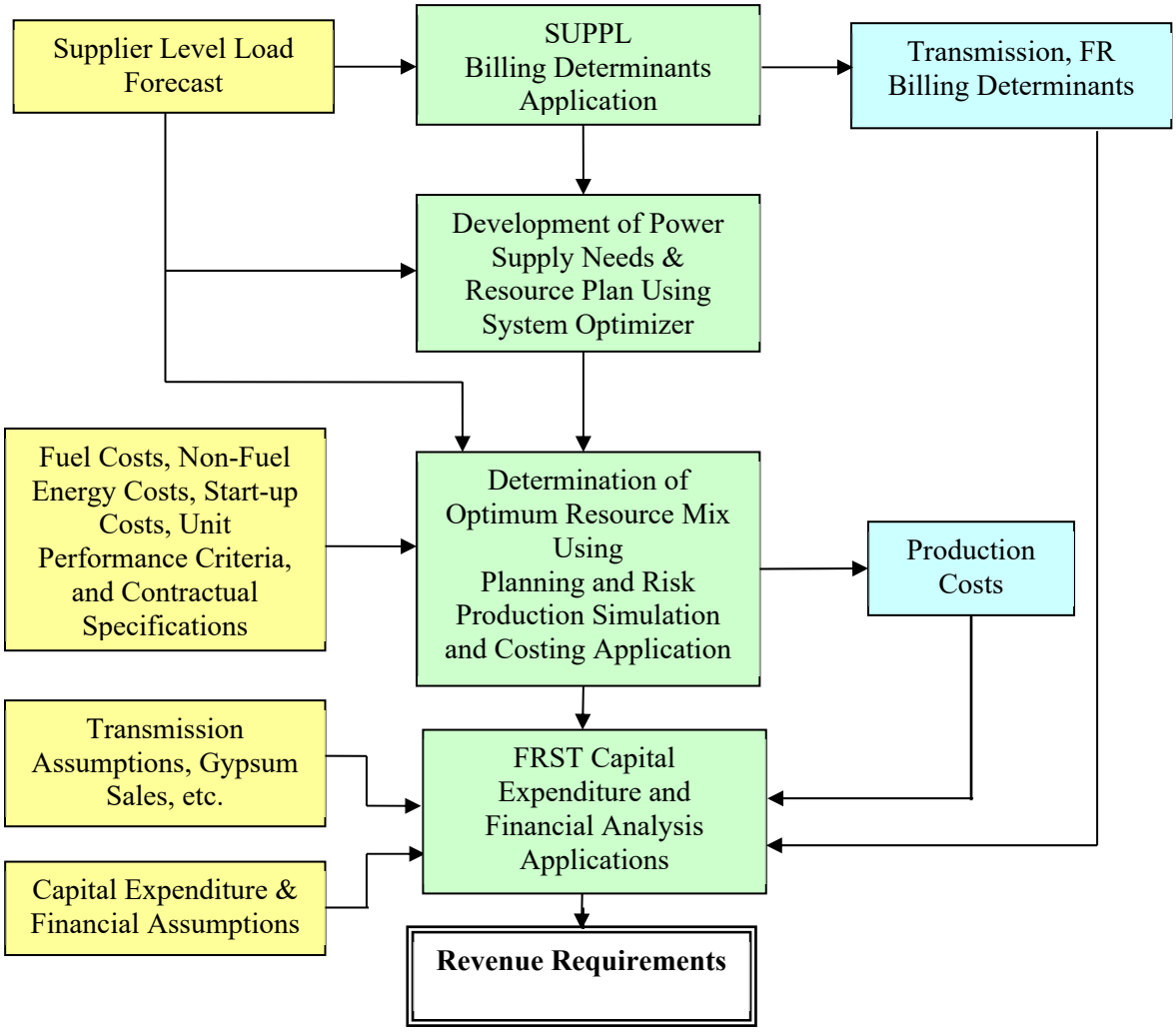
5.6 Financial Assumptions

Expansion plans are evaluated based on Seminole's forecast of market-based loan interest rates.

5.7 Resource Planning Process

Seminole's primary long-range planning goal is to develop the most cost-effective resource portfolio necessary to meet its Members' load requirements while simultaneously maintaining high system reliability and managing risk. Seminole's optimization process for resource selection is driven primarily by 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
- to account for load forecast uncertainty.

Seminole's primary reliability criteria is a minimum reserve margin of 15% during the peak winter and summer seasons 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

Schedules 3.1 and 3.2 reflect the estimated savings from residential and commercial load management programs. Seminole promotes Member involvement in demand side management (DSM) through its rate structure, which provides Members with price signals that reflect Seminole's cost of supplying power in aggregate. Under this rate structure, Seminole's demand charge to each of its Members is applied to each Member's demand at the time of Seminole's peak. This encourages Members to concentrate their load-management efforts on controlling Seminole's overall system peak rather than their separate peaks. In addition, Seminole's wholesale rate to its Members includes time-of-use fuel charges to reflect the differences in fuel costs incurred by Seminole to serve its Members during the peak, off-peak and super off-peak periods.

Each Member may use these price signals to evaluate the cost effectiveness of DSM, energy efficiency and conservation measures for its own circumstances. To ensure Members have the opportunity to achieve maximum load-management benefit, Seminole's system operators develop and implement a coordinated load management demand reduction strategy in real time to notify Members when Seminole's monthly billing peak is expected to occur.

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

- **Distribution System Voltage Reduction (VR):** Coordinated load management-demand reduction program where Member system operators lower voltage during critical peak billing periods, within allowable thresholds, on distribution feeders to reduce demand during critical peak billing periods.
- **Commercial Coincident Peak Power (CPP) Rates:** Coordinated load management-demand reduction program where enrolled commercial and industrial member-consumers are signaled to shed load during critical peak billing periods.
- **Commercial Interruptible Rates:** Direct load control program where Seminole or the Members interrupt electrical service to enrolled member-consumers during extreme peak demand, capacity shortage or emergency conditions.

- **Commercial Customer Load Generation Program:** Standby peak-shaving generators, which Seminole and its Members may dispatch for the purpose of load management and enhanced reliability. Members with standby generators under this program receive a billing credit.
- **Time-of-Use (TOU) Rates**: Residential, commercial, or industrial rates that encourage member-consumers to use power during off-peak hours when prices are relatively less expensive.
- **Residential Pre-Pay:** Residential member-consumers pre-pay for their electricity and receive enhanced feedback on their energy use and costs. The increased energy awareness that this program provides results in behavioral changes that produce energy savings.
- **LED Efficient Bulb Giveaway:** This program provides end-use member-consumers with free energy-efficient 10-Watt (W) equivalent light emitting diode ("LED") bulbs to replace their existing compact fluorescent light ("CFL") bulbs or incandescent bulbs.
- **LED Outdoor and Street Lighting:** Replacement of Member-owned outdoor and street lighting with lower wattage LEDs.
- **Energy Smart Rebates:** A rebate is given to residential member-consumers to upgrade to more efficient equipment and/or improve the building envelope. Rebate opportunities include: air conditioners and heat pumps, heat pump water heaters, solar water heaters, insulation – batt or spray foam – and window film.
- **Energy Audits:** On-site energy audit program for residential, commercial and industrial member-consumers.

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

In addition, Seminole works with Members to evaluate and implement pilot programs. In 2019, Seminole, in coordination with its Members, began the implementation of a Smart Thermostat demand response pilot program that in the first year had 1,100 end-use consumer member thermostats enrolled. The second phase of the Smart Thermostat pilot began in May 2021 and was successfully completed in December 2022 with over 2,750 thermostats available for demand response control. The results of both pilots were analyzed, and it was decided to proceed with a full smart thermostat program beginning in 2023.

Finally, Seminole also is committed to working with its Members to improve program tracking and increase future savings by enhancing current efforts and adding new measures to existing programs when appropriate.

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 reserve requirements. Resource location, transmission interconnection, and deliverability are all considerations 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.

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 has completed the planned expansion of the existing SGS Switchyard to facilitate the interconnection of the new SCCF plant with Seminole's 230kV transmission system and FPL's existing 230 kV transmission line emanating from the SGS Switchyard to FPL's remote-end substation has been rerated. Seminole does not currently have any additional planned construction or upgrades.

. 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 (as shown on map 3) 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. The site may be suitable for installation of generation and/or transmission resources.

Following initial 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. 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 include gopher tortoise (state threatened) burrows.

When Seminole determines 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 Seminole Generating Station Site (SGS) - Putnam County, Florida

Seminole Generating Station Site is located in a rural unincorporated area of Putnam County approximately five (5) miles north of the City of Palatka. The certified site is approximately one thousand nine-hundred eighty-one and a half (1,981.5) 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 coal-fired electric generating units, SGS Units 1 & 2. SCCF, a natural gas-fired two-on-one combined-cycle generating facility is currently under construction on an approximately thirty-two (32) acre parcel adjacent to the existing SGS plant and is expected to be commercially operational in the first half of 2023.

6.2.1.1 Land and Environmental Features

a. U.S. Geological Survey Map

See map 4

b. Proposed Facilities Layout

See map 5

c. Map of Site and Adjacent Areas

See map 6

d. Existing Future Land Use (FLU) Designations of Site and Adjacent Areas

The existing FLU designation for the SGS site is Public Facilities (PF) as shown on map 7. The SGS site zoning is Planned Unit Development

(PUD) as depicted on map 8. The SGS site is currently utilized as a power generation facility. The portion of the SGS site on which the SCCF is located was undeveloped woodland. The SCCF unit is located south of an existing substation, southwest of the existing hyperbolic cooling towers, north of an SGS recreational area, and east of the existing SGS waste treatment area. 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, the SCCF area, and associated ancillary facilities. Undeveloped portions of the site are primarily forested wetlands and uplands.

2. Listed Species

Ecological surveys of the SCCF area revealed the presence of gopher tortoises. No listed plant species were identified in areas to be impacted. Gopher tortoises are a state-designated threatened species. Seminole will continue to comply with current (FWC) gopher tortoise permitting and relocation rules throughout

construction of the SCCF[2]. For these reasons, no adverse impacts to threatened or endangered species are anticipated due to the completion of SCCF.

3. Natural Resources of Regional Significance Status

Construction of the SCCF will not adversely impact natural resources of regional significance.

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 natural gas-fired approximately 1,183 MW (gross nominal)/1,050 MW (net nominal), two-on-one, combined-cycle generating facility and onsite associated facilities on an approximately 32-acre portion of the SGS site.

Because Seminole does not anticipate on-site wetland impacts, no mitigation is anticipated.

g. Local Government Future Land Use Designations

As shown on map 7, all of the SGS site is currently designated PF on the Putnam County Future Land Use Map. The PF category designation allows Community Facilities and Services Type 4, of which power

2 Required pre-clearing surveys were completed in advance of Construction Start activities that began in the first quarter of 2020. Although the construction process is not complete, the site footprint (impacted land areas) is generally established and complete.

generating plants and facilities are one.

h. Site Selection Criteria Process

The SGS site was selected as the location for the SCCF 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

Putnam County is underlain by sedimentary rocks with an average thickness of nearly 4,000' that range in age from the early Paleozoic era to the Recent. Formations and groups include (from oldest to youngest): the Cedar Keys Formation of Paleocene age; Oldsmar Limestone of early Eocene age; Avon Park Formation of middle Eocene Age; Ocala Limestone of the late Eocene Age; Hawthorn Group of Miocene age; Nashua Formation of the Pliocene Age; and undifferentiated sediments of the Pleistocene Age.

The SCCF area is underlain by very loose to very dense fine sand, fine sand with silt, fine sand with clay, silty fine sand, and clayey fine sand and very soft to firm clay to depths of approximately 87' below the

existing ground surface. Soil borings in the area then encountered medium dense to very dense marl and weathered limestone at depths of 90’ to 100’ below the existing ground surface.

k. Projected Water Quantities for Various Uses

Cooling water make-up (peak): 8.26 million gallons per day (MGD)

Process water (peak): 0.410 MGD

Potable water (peak): 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 SCCF 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 SCCF will not require any additional surface water allocation and will require only 0.07 MGD of additional ground water.

n. Water Discharges and Pollution Control

The SCCF 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 SCCF 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 interconnecting with Florida Gas Transmission's mainline transmission system. Seminole has entered into a contract with a third party to construct, 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 SCCF 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 SCCF, efficient combined cycle 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. An oxidation catalyst will further control CO and VOC emissions.

q. Noise Emissions and Control Systems

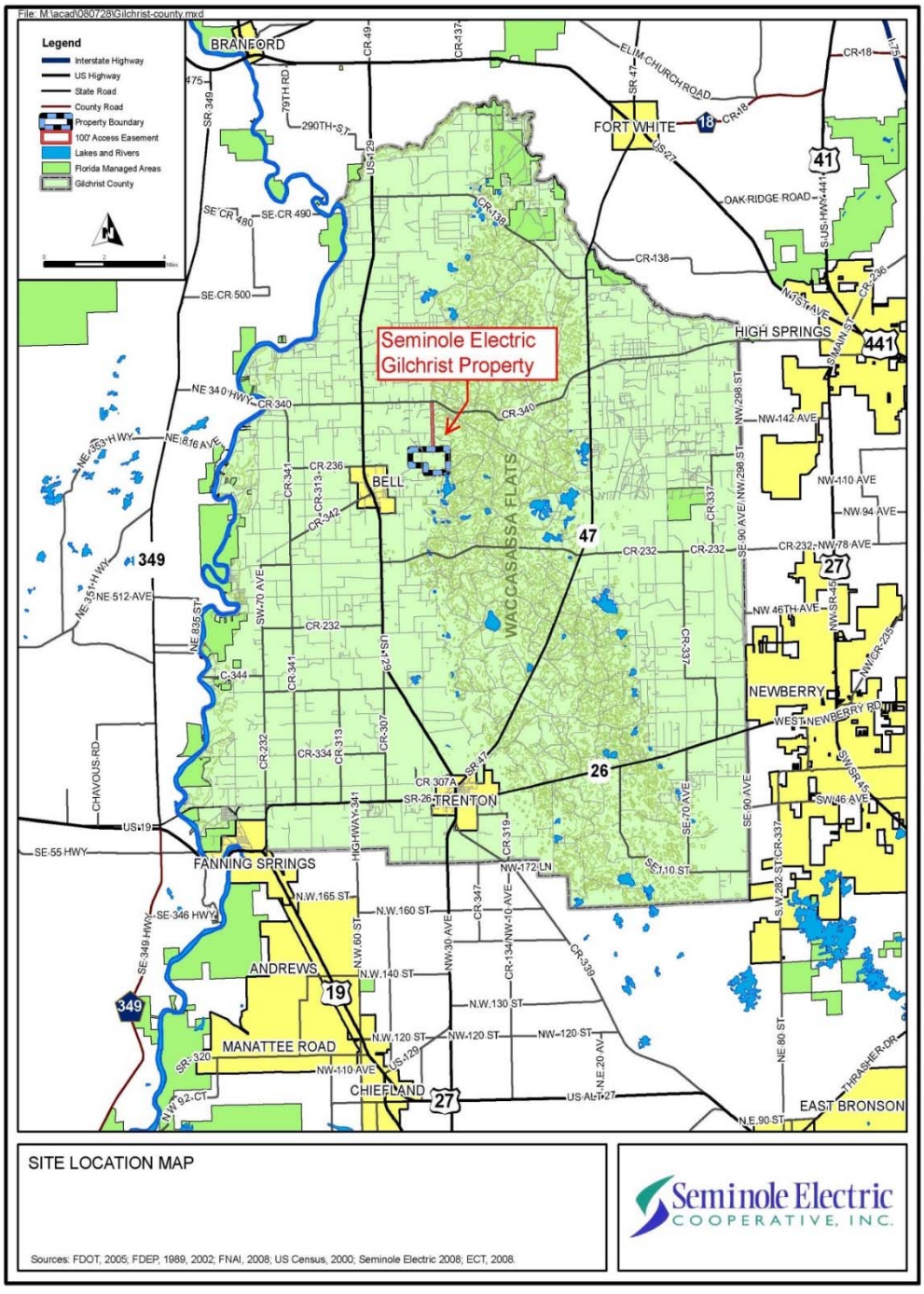
Off-site noise impacts from the SCCF unit are expected to be minimal given that the site has been in operation for electrical generation for decades. Further, the area to be impacted on-site is more than 1,300 feet from the site boundary and over 2,000 feet from the nearest residence.

r. Status of Applications

Seminole filed a Site Certification Application for construction of the SCCF under the Florida Power Plant Siting Act (PPSA), Chapter 403, Part II and received approval from the Florida Department of Environmental Protection (FDEP) on July 27, 2018. An application for a Prevention of Significant Deterioration (PSD) air construction permit with the FDEP was submitted on December 8, 2017, and the permit was issued on March 21, 2018.

Seminole filed a Petition for Determination of Need for the SCCF with the Florida Public Service Commission on December 21, 2017, and received the Final Order on May 25, 2018. An application to revise the existing National Pollutant Discharge Elimination System (NPDES) permit was received by FDEP on October 17, 2018, and the permit was issued on March 12, 2020.

Map 3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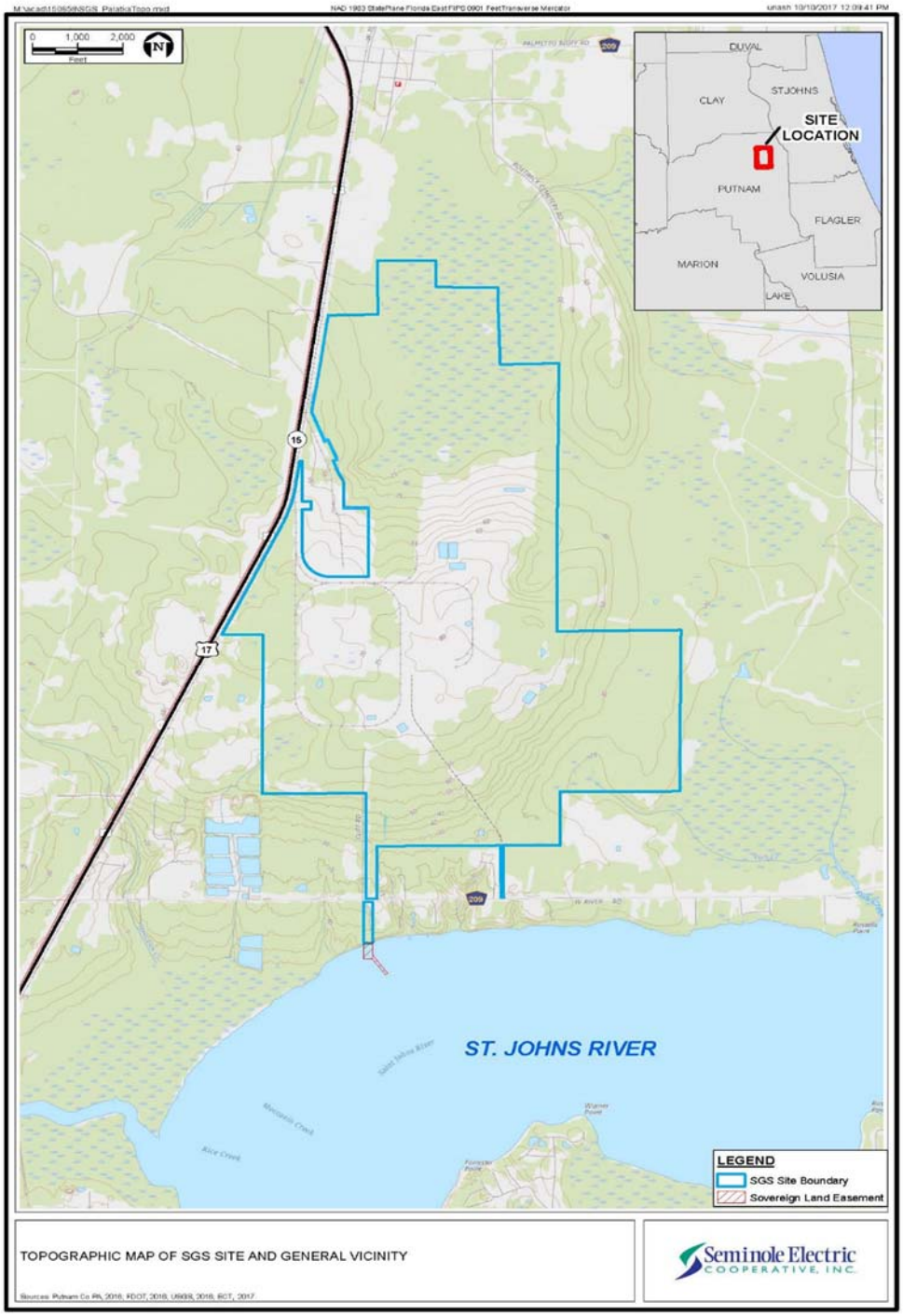
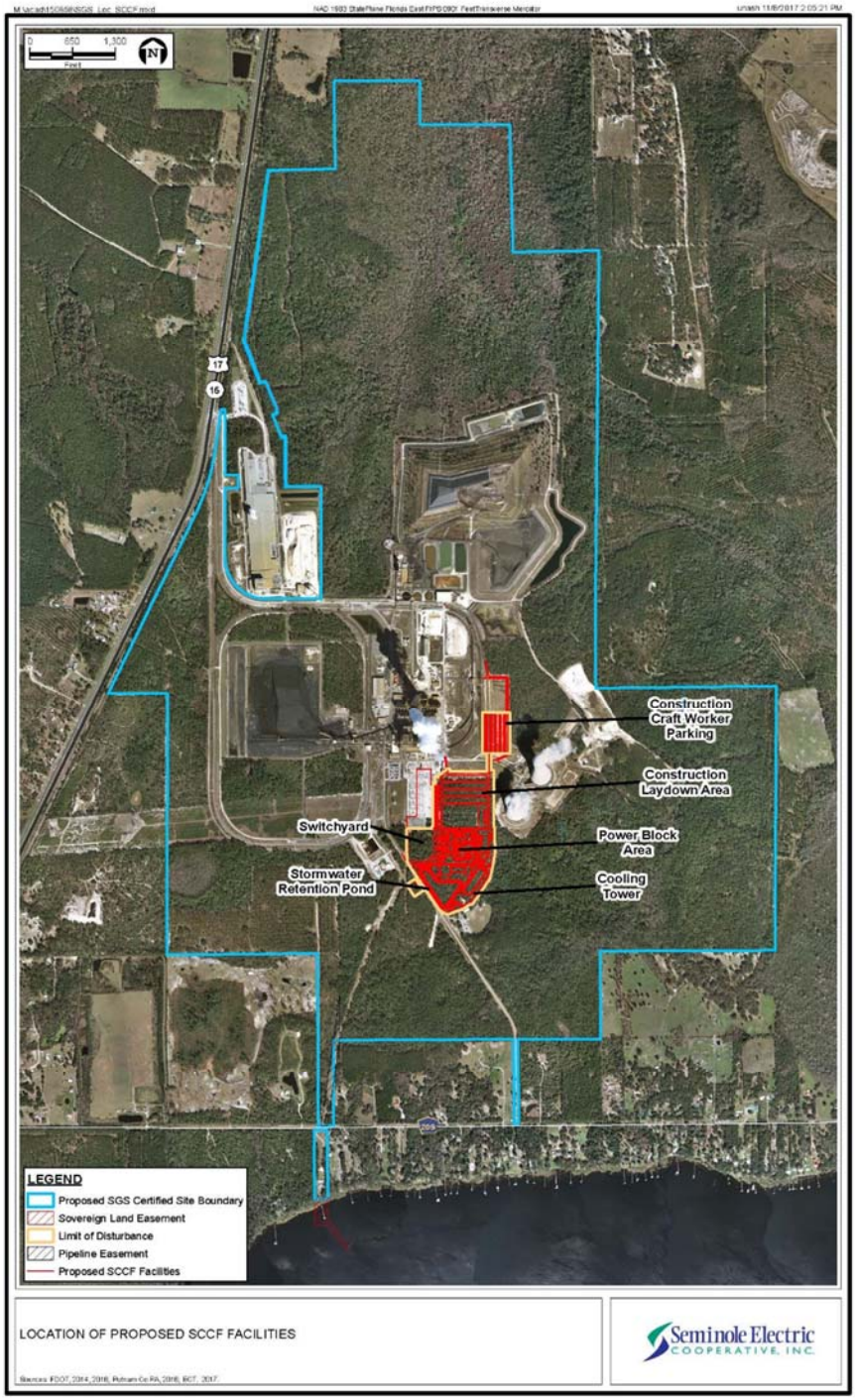
Legend
Interstate Highway
US Highway
State Road
County Road
Property Boundary
100' Access Easement
Lakes and Rivers
Florida Managed Areas
Gilchrist County
Seminole Electric
Gilchrist Property
BRANFORD
FORT WHITE
HIGH SPRINGS
BELL
WACCASASSA FLATS
NEWBERRY
TRENTON
FANNING SPRINGS
ANDREWS
MANATTEE ROAD
CHIEFLAND
EAST BRONSON
SITE LOCATION MAP
Sources: FDOT, 2005; FDEP, 1989, 2002; FNAI, 2008; US Census, 2000; Seminole Electric 2008; ECT, 2008.
Seminole Electric
COOPERATIVE, INC.

Map 4



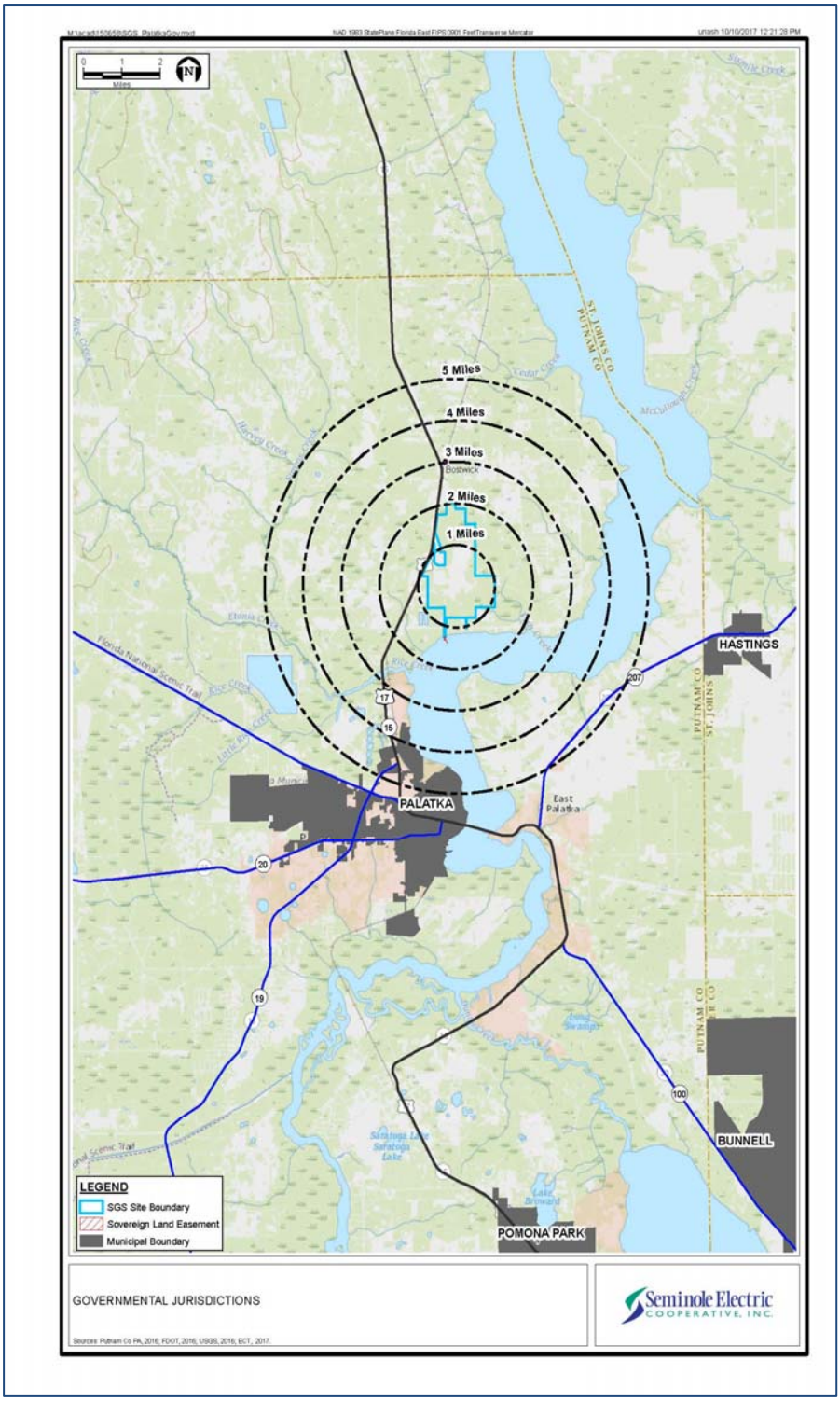
Seminole Electric
COOPERATIVE, INC.

Map 5



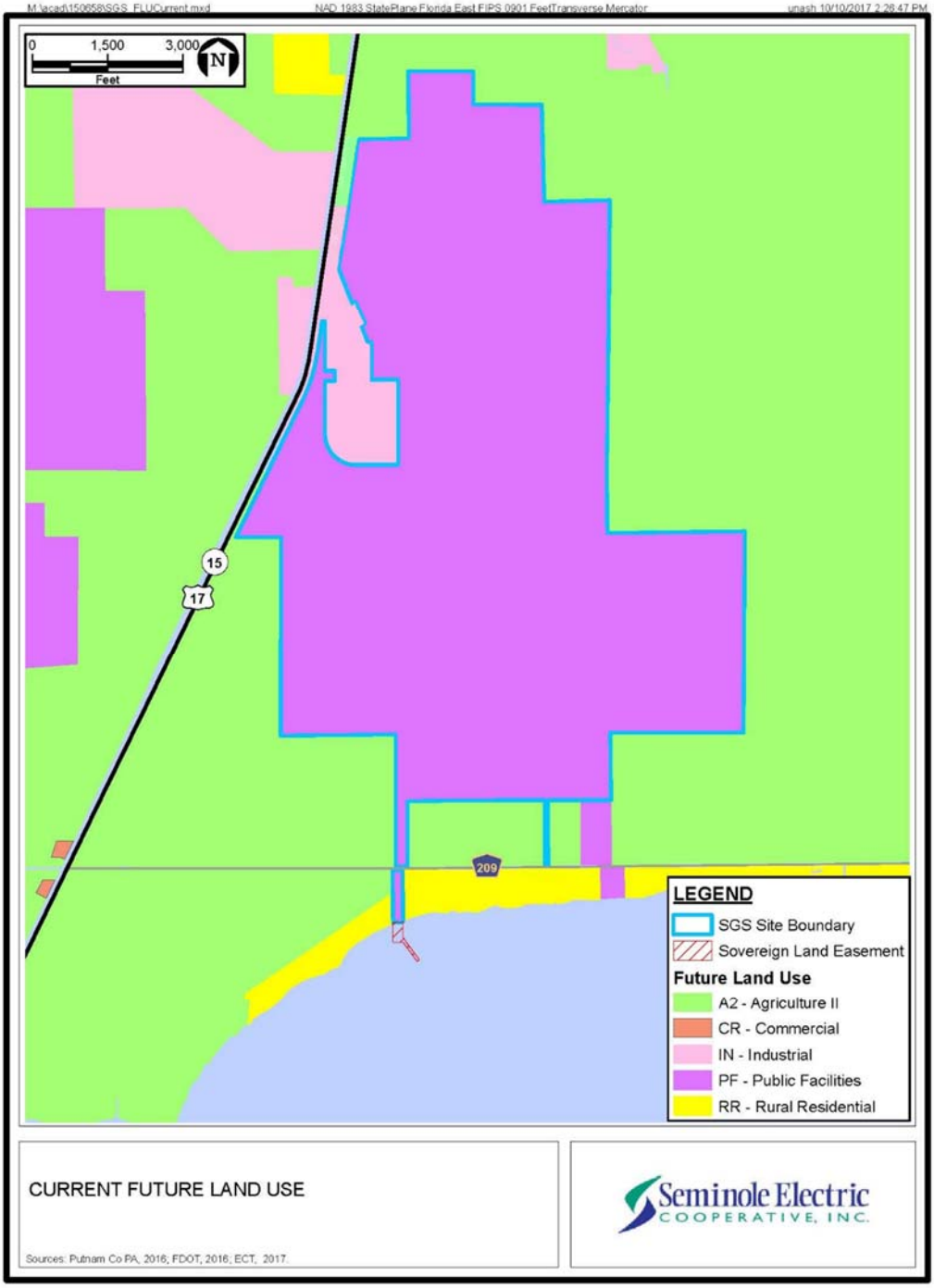
Seminole Electric COOPERATIVE, INC.

Map 6



Seminole Electric
COOPERATIVE, INC.

Map 7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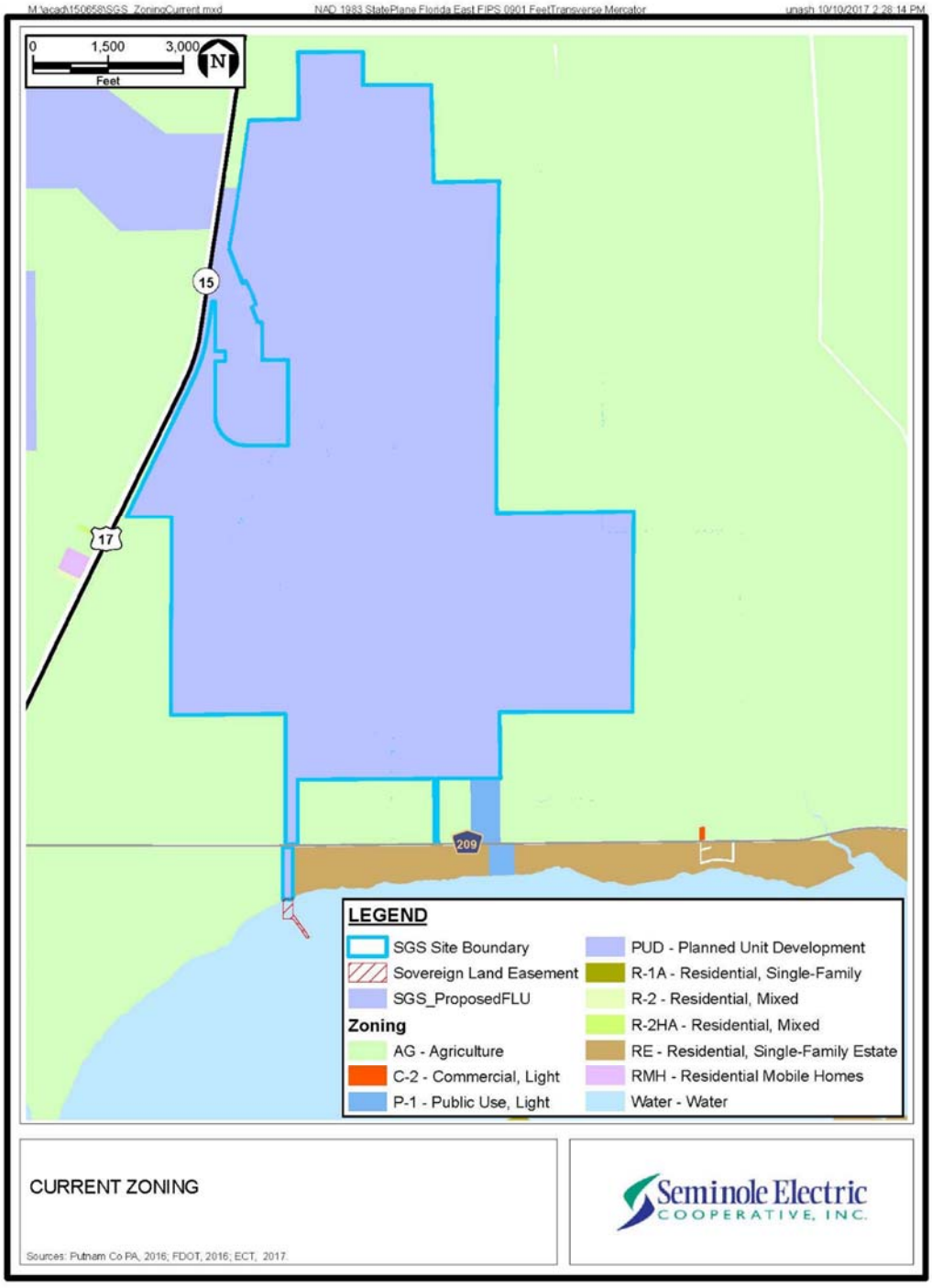
LEGEND
SGS Site Boundary
Sovereign Land Easement
Future Land Use
A2 - Agriculture II
CR - Commercial
IN - Industrial
PF - Public Facilities
RR - Rural Residential
CURRENT FUTURE LAND USE
Sources: Putnam Co PA, 2016; FDOT, 2016; ECT, 2017.
Seminole Electric
COOPERATIVE, INC.

Map 8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209
LEGEND
SGS Site Boundary
Sovereign Land Easement
SGS_ProposedFLU
Zoning
AG - Agriculture
C-2 - Commercial, Light
P-1 - Public Use, Light
PUD - Planned Unit Development
R-1A - Residential, Single-Family
R-2 - Residential, Mixed
R-2HA - Residential, Mixed
RE - Residential, Single-Family Estate
RMH - Residential Mobile Homes
Water - Water
CURRENT ZONING
Sources: Putnam Co PA, 2016; FDOT, 2016; ECT, 2017.
Seminole Electric
COOPERATIVE, INC.