Seminole Electric
COOPERATIVE, INC.

April 1, 2024

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 2024 Ten-Year Site Plan. Pursuant to Commission Staff's request, one (1) hard copy will also be provided.

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

Sincerely,

KJH KJH

Kevin J. Holmes
Sr. Manager of Resource & Operations Planning
813-739-1265 (office)
kholmes@seminole-electric.com

Enclosure

cc: J. Fuller
L. Johnson

Ten-Year Site Plan

2024 – 2033
(Detail as of December 31, 2023)
April 1, 2024

Submitted To:
State of Florida
Public Service Commission

Table of Contents

INDEX OF REQUIRED SCHEDULES

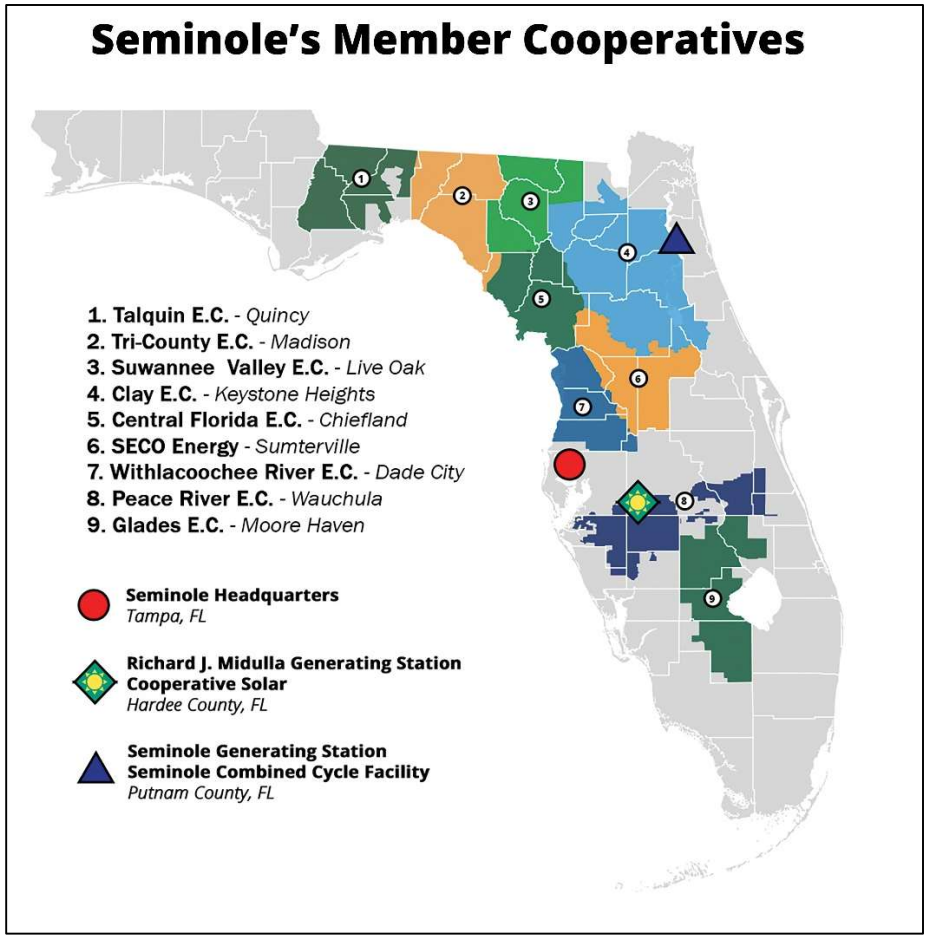
INDEX OF REQUIRED MAPS

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 (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, 2023, Seminole had total winter capacity resources of 4,669 MW consisting of owned, installed net capacity of 2,672 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) Unit 2, a 640 MW winter capacity coal-fired unit located in Putnam County near Palatka, Florida. SGS Unit 1 was decommissioned in December 2023;
2) Seminole Combined Cycle Facility (SCCF) Units 1-3, an 1,130 MW winter capacity gas-fired two-on-one combined cycle plant adjacent to SGS. SCCF was placed into commercial operation in April 2023;
3) Midulla Generating Station (MGS) Units 1–3, a 623 MW winter capacity gas-fired two-on-one combined cycle plant located in Hardee County, Florida; and,
4) MGS Units 4–8, a 279 MW winter capacity peaking plant consisting of five twin-pack gas turbines. One of the two gas turbines of Unit 8 was retired in August 2023.

Schedule 1

Existing Generating Facilities as of December 31, 2023

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	514.7	621.8
MGS	4-8	Hardee County	CT	NG	DFO	PL	TK	4	12/06	Unk	310	243	279
MGS	1	Hardee County	PV	Sun	N/A	N/A	N/A	N/A	08/17	Unk	2.2	0.9	0
SCCF	1-3	Putnam County	CC	NG	N/A	PL	N/A	N/A	04/23	Unk	1179.6	1099.4	1129.7
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

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 108 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

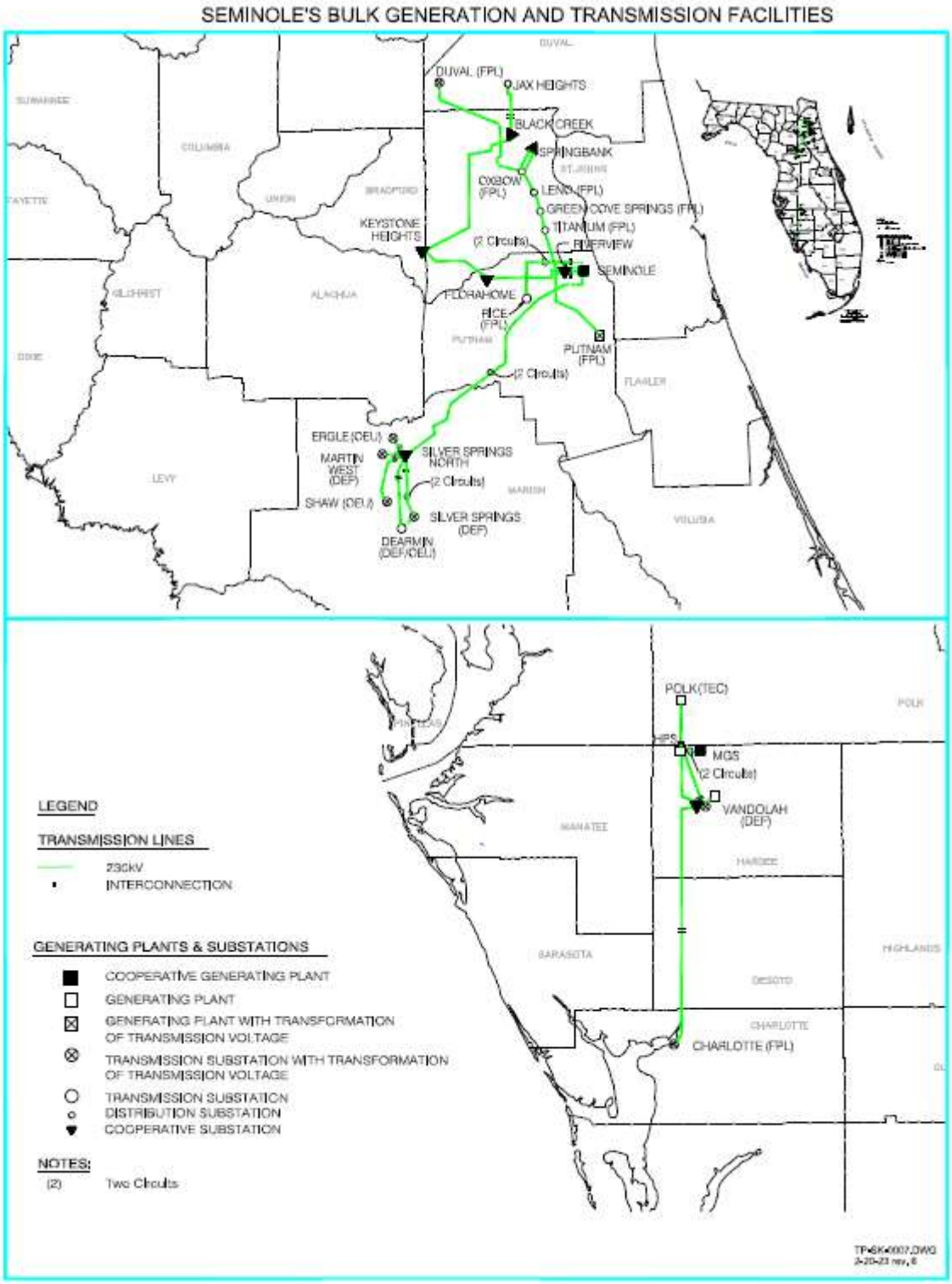
Transmission Grid Interconnections with Other Entities

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 embedded 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 & CT 2B
NextEra Energy	1/1/2023	12/31/2024	459	546	NG	YES	Oleander CTs 2-4
NextEra Energy	1/1/2025	12/31/2027	306	364	NG	YES	Oleander CTs 2-3
Shady Hills Power Company	6/1/2024	5/31/2034	492	528	NG	YES [2]	Shady Hills CTs 1-3
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
Southern Company Services	6/1/2021	5/31/2026	100	100	System [3]	YES	System Intermediate
FRP Tupelo Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [4]	Solar Facility
FRP Gadsden County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [4]	Solar Facility
FRP Gilchrist County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [4]	Solar Facility
FRP Columbia County Solar	12/1/2024	12/1/2049	74.5	74.5	SUN	YES [4]	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	126	126	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 77 MW.

2) Reflects plant firm capacity however current transmission limitations reduce available winter capacity by 528 MW until 4/1/2027.

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

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

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 1.8 percent from 2024 through 2033. Similarly, commercial consumer growth is projected to increase at an average annual rate of 2.4 percent during the same period. Residential energy sales are projected to grow at an average annual rate of 1.3 percent, and commercial energy sales are projected to grow at an average annual rate of 2.5 percent from 2024 through 2033. 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)
2014	1,639,874	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	1,730,539	2.50	9,097	692,699	13,133
2018	1,763,399	2.51	9,644	703,331	13,712
2019	1,789,439	2.50	9,754	716,864	13,606
2020	1,834,590	2.50	10,262	733,901	13,983
2021	1,861,383	2.48	10,115	751,351	13,462
2022	1,891,482	2.45	10,471	770,526	13,589
2023	1,925,439	2.42	10,774	796,949	13,519
2024	1,954,379	2.42	10,604	806,792	13,143
2025	1,980,770	2.41	10,726	823,418	13,026
2026	2,005,899	2.39	10,812	840,032	12,871
2027	2,032,234	2.37	10,935	856,533	12,767
2028	2,059,841	2.36	11,106	872,920	12,723
2029	2,087,782	2.35	11,276	889,039	12,683
2030	2,115,936	2.34	11,438	904,940	12,640
2031	2,144,028	2.33	11,597	920,483	12,599
2032	2,171,204	2.32	11,748	935,531	12,558
2033	2,197,281	2.31	11,897	949,982	12,523

Notes:

- Includes Sales from SEPA.

Schedule 2.2

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

Year	Commercial[1] GWh	Commercial[1] Average Number of Customers	Commercial[1] Average Consumption Per Customer (kWh)	Other Sales (GWh)[2]	Total Member Sales to Ultimate Consumers (GWh)[3]
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	4,960	90,823	54,612	161	15,895
2024	5,301	95,137	55,720	127	16,032
2025	5,477	97,494	56,178	127	16,330
2026	5,643	99,906	56,483	128	16,583
2027	5,789	102,375	56,547	129	16,853
2028	5,936	104,908	56,583	129	17,171
2029	6,081	107,454	56,592	130	17,487
2030	6,226	109,991	56,605	130	17,794
2031	6,367	112,492	56,600	131	18,095
2032	6,508	114,943	56,619	131	18,387
2033	6,647	117,332	56,651	132	18,676

Notes:

- 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
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	417	16,312	6,054	893,826
2024	0	648	16,680	6,026	907,955
2025	0	668	16,998	6,036	926,948
2026	0	685	17,268	6,045	945,983
2027	0	704	17,557	6,054	964,962
2028	0	721	17,892	6,065	983,893
2029	0	740	18,227	6,074	1,002,567
2030	0	758	18,552	6,083	1,021,014
2031	0	773	18,868	6,091	1,039,066
2032	0	792	19,179	6,097	1,056,571
2033	0	808	19,484	6,101	1,073,415

Notes:

- 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 1.5 percent from the 2023/2024 season through the 2032/2033 season. Summer net firm demand is estimated to increase by 1.2 percent from 2024 through 2033. Net Energy for Load is projected to grow at an average annual rate of 1.7 percent from 2024 through 2033. 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.	
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	3,732	3,732	0	0	0	61	N/A	23	N/A	3,648
2023	4,023	4,023	0	0	0	67	N/A	11	N/A	3,945
2024	3,660	3,660	0	65	54	62	N/A	11	N/A	3,468
2025	3,704	3,704	0	65	54	62	N/A	11	N/A	3,512
2026	3,739	3,739	0	65	54	62	N/A	11	N/A	3,547
2027	3,785	3,785	0	65	54	64	N/A	11	N/A	3,591
2028	3,836	3,836	0	65	54	65	N/A	11	N/A	3,641
2029	3,888	3,888	0	65	54	66	N/A	11	N/A	3,692
2030	3,934	3,934	0	65	54	66	N/A	11	N/A	3,738
2031	3,981	3,981	0	65	54	67	N/A	11	N/A	3,784
2032	4,027	4,027	0	65	54	67	N/A	11	N/A	3,830
2033	4,068	4,068	0	65	54	67	N/A	11	N/A	3,871

Notes:

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.	
2024	3,758	3,758	0	65	54	62	N/A	11	N/A	3,566
2025	3,803	3,803	0	65	54	62	N/A	11	N/A	3,611
2026	3,836	3,836	0	65	54	62	N/A	11	N/A	3,644
2027	3,884	3,884	0	65	54	64	N/A	11	N/A	3,690
2028	3,936	3,936	0	65	54	65	N/A	11	N/A	3,741
2029	3,987	3,987	0	65	54	66	N/A	11	N/A	3,791
2030	4,033	4,033	0	65	54	66	N/A	11	N/A	3,837
2031	4,078	4,078	0	65	54	67	N/A	11	N/A	3,881
2032	4,126	4,126	0	65	54	67	N/A	11	N/A	3,929
2033	4,168	4,168	0	65	54	67	N/A	11	N/A	3,971

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.	
2024	3,433	3,433	0	65	54	62	N/A	11	N/A	3,241
2025	3,476	3,476	0	65	54	62	N/A	11	N/A	3,284
2026	3,506	3,506	0	65	54	62	N/A	11	N/A	3,314
2027	3,548	3,548	0	65	54	64	N/A	11	N/A	3,354
2028	3,596	3,596	0	65	54	65	N/A	11	N/A	3,401
2029	3,644	3,644	0	65	54	66	N/A	11	N/A	3,448
2030	3,689	3,689	0	65	54	66	N/A	11	N/A	3,493
2031	3,733	3,733	0	65	54	67	N/A	11	N/A	3,536
2032	3,775	3,775	0	65	54	67	N/A	11	N/A	3,578
2033	3,814	3,814	0	65	54	67	N/A	11	N/A	3,617

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.	
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	3,967	3,967	0	0	0	65	N/A	16	N/A	3,886
2023/24	3,936	3,936	0	56	54	66	N/A	14	N/A	3,746
2024/25	4,029	4,029	0	56	54	67	N/A	14	N/A	3,838
2025/26	4,101	4,101	0	56	54	67	N/A	14	N/A	3,910
2026/27	4,168	4,168	0	56	54	71	N/A	14	N/A	3,973
2027/28	4,229	4,229	0	56	54	72	N/A	14	N/A	4,033
2028/29	4,284	4,284	0	56	54	72	N/A	14	N/A	4,088
2029/30	4,338	4,338	0	56	54	73	N/A	14	N/A	4,141
2030/31	4,388	4,388	0	56	54	73	N/A	14	N/A	4,191
2031/32	4,435	4,435	0	56	54	75	N/A	14	N/A	4,236
2032/33	4,477	4,477	0	56	54	76	N/A	14	N/A	4,277
2033/34	4,508	4,508	0	56	54	76	N/A	14	N/A	4,308

Notes:

1) Excludes wholesale interruptible purchases.

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

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.	
2023-24	4,242	4,242	0	56	54	66	N/A	14	N/A	4,052
2024-25	4,325	4,325	0	56	54	67	N/A	14	N/A	4,134
2025-26	4,390	4,390	0	56	54	67	N/A	14	N/A	4,199
2026-27	4,451	4,451	0	56	54	71	N/A	14	N/A	4,256
2027-28	4,508	4,508	0	56	54	72	N/A	14	N/A	4,312
2028-29	4,562	4,562	0	56	54	72	N/A	14	N/A	4,366
2029-30	4,613	4,613	0	56	54	73	N/A	14	N/A	4,416
2030-31	4,662	4,662	0	56	54	73	N/A	14	N/A	4,465
2031-32	4,709	4,709	0	56	54	75	N/A	14	N/A	4,510
2032-33	4,755	4,755	0	56	54	76	N/A	14	N/A	4,555

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.	
2023-24	3,370	3,370	0	56	54	66	N/A	14	N/A	3,180
2024-25	3,445	3,445	0	56	54	67	N/A	14	N/A	3,254
2025-26	3,506	3,506	0	56	54	67	N/A	14	N/A	3,315
2026-27	3,565	3,565	0	56	54	71	N/A	14	N/A	3,370
2027-28	3,621	3,621	0	56	54	72	N/A	14	N/A	3,425
2028-29	3,675	3,675	0	56	54	72	N/A	14	N/A	3,479
2029-30	3,727	3,727	0	56	54	73	N/A	14	N/A	3,530
2030-31	3,778	3,778	0	56	54	73	N/A	14	N/A	3,581
2031-32	3,827	3,827	0	56	54	75	N/A	14	N/A	3,628
2032-33	3,877	3,877	0	56	54	76	N/A	14	N/A	3,677

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					
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	16,312	N/A	N/A	0	15,895	417	16,312	47.2
2024	16,680	N/A	N/A	0	16,032	648	16,680	50.8
2025	16,998	N/A	N/A	0	16,330	668	16,998	50.6
2026	17,268	N/A	N/A	0	16,583	685	17,268	50.4
2027	17,557	N/A	N/A	0	16,853	704	17,557	50.4
2028	17,892	N/A	N/A	0	17,171	721	17,892	50.6
2029	18,227	N/A	N/A	0	17,487	740	18,227	50.9
2030	18,552	N/A	N/A	0	17,794	758	18,552	51.1
2031	18,868	N/A	N/A	0	18,095	773	18,868	51.4
2032	19,179	N/A	N/A	0	18,387	792	19,179	51.7
2033	19,484	N/A	N/A	0	18,676	808	19,484	52.0

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					
2024	17,679	N/A	N/A	0	16,990	689	17,679	49.8
2025	17,999	N/A	N/A	0	17,297	702	17,999	49.7
2026	18,265	N/A	N/A	0	17,534	731	18,265	49.7
2027	18,550	N/A	N/A	0	17,808	742	18,550	49.8
2028	18,884	N/A	N/A	0	18,129	755	18,884	50.0
2029	19,215	N/A	N/A	0	18,427	788	19,215	50.2
2030	19,537	N/A	N/A	0	18,736	801	19,537	50.5
2031	19,853	N/A	N/A	0	19,039	814	19,853	50.8
2032	20,158	N/A	N/A	0	19,332	826	20,158	51.0
2033	20,458	N/A	N/A	0	19,619	839	20,458	51.3

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					
2024	15,931	N/A	N/A	0	15,310	621	15,931	56.1
2025	16,251	N/A	N/A	0	15,617	634	16,251	56.5
2026	16,523	N/A	N/A	0	15,862	661	16,523	56.9
2027	16,812	N/A	N/A	0	16,140	672	16,812	56.9
2028	17,149	N/A	N/A	0	16,463	686	17,149	57.2
2029	17,486	N/A	N/A	0	16,769	717	17,486	57.4
2030	17,809	N/A	N/A	0	17,079	730	17,809	57.6
2031	18,128	N/A	N/A	0	17,385	743	18,128	57.8
2032	18,442	N/A	N/A	0	17,686	756	18,442	58.0
2033	18,746	N/A	N/A	0	17,977	769	18,746	58.2

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 2023 and forecasts thereafter.

Schedule 4

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

	2023 Actual		2024 Forecast		2025 Forecast	
Month	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)
January	3,503	1,233	3,746	1,326	3,838	1,354
February	2,413	1,043	3,272	1,177	3,340	1,204
March	2,860	1,212	2,738	1,202	2,801	1,229
April	2,944	1,250	2,875	1,230	2,924	1,256
May	3,132	1,417	3,244	1,471	3,293	1,496
June	3,582	1,555	3,327	1,566	3,375	1,593
July	3,723	1,777	3,407	1,671	3,453	1,698
August	3,945	1,849	3,468	1,696	3,512	1,722
September	3,464	1,531	3,286	1,535	3,331	1,562
October	2,959	1,268	2,941	1,331	2,986	1,357
November	2,788	1,115	2,675	1,180	2,726	1,206
December	2,651	1,062	3,005	1,295	3,062	1,321
ANNUAL		**16,312**		**16,680**		**16,998**

Schedule 4.1

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

	2024 Forecast		2025 Forecast	
Month	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)
January	4,052	1,465	4,134	1,492
February	3,661	1,242	3,741	1,269
March	2,967	1,281	3,031	1,308
April	3,043	1,303	3,092	1,330
May	3,423	1,548	3,470	1,574
June	3,530	1,657	3,576	1,684
July	3,564	1,744	3,612	1,771
August	3,566	1,743	3,611	1,770
September	3,406	1,584	3,454	1,612
October	3,209	1,451	3,256	1,477
November	2,841	1,252	2,891	1,278
December	3,341	1,409	3,431	1,434
ANNUAL		**17,679**		**17,999**

Schedule 4.2

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

	2024 Forecast		2025 Forecast	
Month	Net Firm Demand (MW)	NEL (GWh)	Net Firm Demand (MW)	NEL (GWh)
January	3,180	1,248	3,254	1,276
February	3,063	1,124	3,131	1,151
March	2,677	1,181	2,741	1,208
April	2,784	1,191	2,834	1,218
May	3,004	1,367	3,052	1,392
June	3,175	1,493	3,222	1,520
July	3,261	1,602	3,306	1,628
August	3,241	1,595	3,284	1,622
September	3,149	1,480	3,194	1,507
October	2,792	1,267	2,838	1,293
November	2,595	1,148	2,645	1,174
December	2,829	1,235	2,886	1,262
ANNUAL		**15,931**		**16,251**

2.4 Fuel Requirements

Seminole's coal, oil, and natural gas requirements for owned and future generating units are shown in Schedule 5 below:

Schedule 5
Fuel Requirements for Seminole Generating Resources

Fuel Requirements		Units	Actual 2022	Actual 2023	Forecast 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nuclear		Trillion BTU	-	-	-	-	-	-	-	-	-	-	-	-
Coal		1000 Tons	2,628	1,726	771	904	1,098	770	769	853	959	794	816	596
Residual	Total	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	1000 BBL	43	34	14	17	16	14	16	16	16	15	15	11
	Steam	1000 BBL	43	34	14	16	16	14	15	16	15	14	14	11
	CC	1000 BBL	-	-	-	-	-	-	-	-	-	-	-	-
	CT	1000 BBL	-	-	-	1	-	-	1	-	1	1	1	-
Natural Gas	Total	1000 MCF	31,069	66,514	78,843	77,371	75,814	92,225	93,664	92,300	94,660	100,690	100,441	112,815
	Steam	1000 MCF	-	-	-	-	-	-	-	-	-	-	-	-
	CC	1000 MCF	28,436	65,019	78,818	77,328	75,789	92,187	93,644	92,132	91,684	97,067	96,389	110,834
	CT	1000 MCF	2,633	1,495	25	43	25	38	20	168	2,976	3,623	4,052	1,981

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 2024 are assumed to be from resources with natural gas as the primary fuel.

Schedule 6.1

Energy Sources (GWh)

Energy Sources		Units	Actual 2022	Actual 2023	Forecast 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Inter-Regional Interchange		GWh	556	141	261	248	115	-	-	-	-	-	-	-
Nuclear		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Coal		GWh	6,046	4,896	1,827	2,119	2,616	1,766	1,774	1,990	2,266	1,851	1,914	1,366
Residual	Total	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	GWh	24	18	5	6	7	5	5	5	6	5	5	4
	Steam	GWh	24	18	5	6	7	5	5	5	6	5	5	4
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Natural Gas	Total	GWh	3,884	8,920	12,147	11,940	11,688	14,205	14,433	14,211	14,393	15,309	15,236	16,881
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	3,660	8,881	12,145	11,937	11,686	14,202	14,431	14,195	14,098	14,946	14,829	16,684
	CT	GWh	224	39	2	3	2	3	2	16	295	363	407	197
NUG		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Renewables		GWh	-	-	3	3	3	3	3	3	3	3	3	3
Other		GWh	5,820	2,337	2,437	2,682	2,839	1,578	1,677	2,018	1,884	1,700	2,021	1,230
Total Renewables		GWh	463	423	462	915	820	735	737	735	735	735	737	735
Non-Firm Interchange Renewables Solar		GWh	4	3	40	735	735	735	737	735	735	735	737	735
Firm Interchange Renewables MSW		GWh	447	420	422	180	85	-	-	-	-	-	-	-
Firm Interchange Renewables Biomass		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Renewables Landfill		GWh	12	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Base		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Intermediate		GWh	4,878	1,652	1,756	1,338	1,318	663	713	965	965	787	1,007	428
Firm Interchange Peaking		GWh	479	262	219	429	701	180	227	318	184	178	277	67
Net Energy for Load		GWh	16,330	16,312	16,680	16,998	17,268	17,557	17,892	18,227	18,552	18,868	19,179	19,484

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 2022	Actual 2023	Forecast 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Inter-Regional Interchange		GWh	3.4%	0.9%	1.6%	1.5%	0.7%	-	-	-	-	-	-	-
Nuclear		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Coal		GWh	37.0%	30.0%	11.0%	12.5%	15.1%	10.1%	9.9%	10.9%	12.2%	9.8%	10.0%	7.0%
Residual	Total	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Distillate	Total	GWh	0.1%	0.1%	0.0%	0.04%	0.04%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%
	Steam	GWh	0.1%	0.1%	0.0%	0.04%	0.04%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%
	CC	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CT	GWh	-	-	-	-	-	-	-	-	-	-	-	-
Natural Gas	Total	GWh	23.8%	54.7%	72.8%	70.2%	67.7%	80.9%	80.7%	78.0%	77.6%	81.1%	79.4%	86.6%
	Steam	GWh	-	-	-	-	-	-	-	-	-	-	-	-
	CC	GWh	22.4%	54.4%	72.8%	70.2%	67.7%	80.9%	80.7%	77.9%	76.0%	79.2%	77.3%	85.6%
	CT	GWh	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	1.6%	1.9%	2.1%	1.0%
NUG		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Renewables		GWh	-	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other		GWh	35.6%	14.3%	14.6%	15.8%	16.4%	9.0%	9.4%	11.1%	10.2%	9.0%	10.5%	6.3%
Total Renewables		GWh	2.8%	2.6%	2.8%	5.4%	4.7%	4.2%	4.1%	4.0%	4.0%	3.9%	3.8%	3.8%
Non-Firm Interchange Renewables Solar		GWh	0.0%	0.0%	0.2%	4.3%	4.3%	4.2%	4.1%	4.0%	4.0%	3.9%	3.8%	3.8%
Firm Interchange Renewables MSW		GWh	2.7%	2.6%	2.5%	1.1%	0.5%	-	-	-	-	-	-	-
Firm Interchange Renewables Biomass		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Renewables Landfill Gas		GWh	0.1%	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Base		GWh	-	-	-	-	-	-	-	-	-	-	-	-
Firm Interchange Intermediate		GWh	29.9%	10.1%	10.5%	7.9%	7.6%	3.8%	4.0%	5.3%	5.2%	4.2%	5.3%	2.2%
Firm Interchange Peaking		GWh	2.9%	1.6%	1.3%	2.5%	4.1%	1.0%	1.3%	1.7%	1.0%	0.9%	1.4%	0.3%
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

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 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 90/10 percentiles of historical temperature observations.

3.1.5 Behind-the-Meter Solar

Seminole started adding 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 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 the Members. Data from the solar facilities owned by Members (Currently only one Member owns solar facilities) are obtained directly from the Members. End use consumer owned rooftop solar 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 10^{th} and 90^{th} 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 1,554 MW of winter capacity by 2033. Such capacity is needed to replace 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 642 MW of total winter capacity by 2033.

Seminole's capacity expansion plan includes the addition of a new advanced, large-frame one-on-one natural gas combined cycle unit (Shady Hills Energy Center or SHEC) located in Pasco County. The new facility has a winter capacity of 575 MW and construction began in December 2023.

In addition to the SHEC, 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.

Pursuant to regulatory requirements, Seminole permanently removed from service, SGS coal-fired Unit #1 in December 2023, ahead of the deadline of January 12, 2024.

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
2024	2,492	0	2,190	2,190	0	0	4,682	4,682	3,468	3,468	1214	35%	0	1214	35%
2025	2,492	0	1,818	1,818	0	0	4,310	4,310	3,512	3,512	798	23%	0	798	23%
2026	2,492	0	1,798	1,798	0	0	4,290	4,290	3,547	3,547	743	21%	0	743	21%
2027	3,038	0	1,448	1,448	0	0	4,486	4,486	3,591	3,591	895	25%	0	895	25%
2028	3,038	0	1,492	1,492	0	0	4,530	4,530	3,641	3,641	889	24%	0	889	24%
2029	3,038	0	1,492	1,492	0	0	4,530	4,530	3,692	3,692	838	23%	0	838	23%
2030	3,355	0	1,392	1,392	0	0	4,747	4,747	3,738	3,738	1009	27%	0	1009	27%
2031	3,355	0	1,442	1,442	0	0	4,797	4,797	3,784	3,784	1013	27%	0	1013	27%
2032	3,355	0	1,442	1,442	0	0	4,797	4,797	3,830	3,830	967	25%	0	967	25%
2033	3,926	0	982	982	0	0	4,908	4,908	3,871	3,871	1037	27%	0	1037	27%

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.
- 40% of solar summer capacity 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
2024/25	2,671	0	1,911	1,911	0	0	4,582	4,582	3,838	3,838	744	19%	0	744	19%
2025/26	2,671	0	2,032	2,032	0	0	4,703	4,703	3,910	3,910	793	20%	0	793	20%
2026/27	3,246	0	1,530	1,530	0	0	4,776	4,776	3,973	3,973	803	20%	0	803	20%
2027/28	3,246	0	1,599	1,599	0	0	4,845	4,845	4,033	4,033	812	20%	0	812	20%
2028/29	3,246	0	1,662	1,662	0	0	4,908	4,908	4,088	4,088	820	20%	0	820	20%
2029/30	3,604	0	1,364	1,364	0	0	4,968	4,968	4,141	4,141	827	20%	0	827	20%
2030/31	3,604	0	1,423	1,423	0	0	5,027	5,027	4,191	4,191	836	20%	0	836	20%
2031/32	3,604	0	1,474	1,474	0	0	5,078	5,078	4,236	4,236	842	20%	0	842	20%
2032/33	4,224	0	901	901	0	0	5,125	5,125	4,277	4,277	848	20%	0	848	20%
2033/34	4,224	0	999	999	0	0	5,223	5,223	4,308	4,308	915	21%	0	915	21%

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.
- Solar capacity is not included in reserve calculations at the time of the winter peak.
- 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
Shady Hills Energy Center	1	Pasco	CC	NG		PL		12/2023	12/2026		575	546	575	U
UNNAMED CC[1]	1	UNKNOWN	CC	NG		PL			12/2032		620.8	571.1	620.8	P
UNNAMED CT[1]	1	UNKNOWN	CT	NG		PL			12/2029		358	317	358	P

Notes:

- Abbreviations – See Schedule 1.

1) 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 facilities.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

1	Plant Name & Unit Number	Shady Hills Energy Center	Unnamed Combined Cycle Unit 1[3]	Unnamed Combustion Turbine 1[3]
2	Capacity			
	a. Summer (MW):	546	571	317
	b. Winter (MW):	575	621	358
	c. ISO (MW):	575	609	347
3	Technology Type:	Combined Cycle	Combined Cycle	Combustion Turbine
4	Anticipated Construction Timing			
	a. Field construction start-date[1]:	December 2023		
	b. Commercial in-service date:	Q4-2026	2032	2029
5	Fuel			
	a. Primary fuel:	Natural Gas	Natural Gas	Natural Gas
	b. Alternate fuel:	None	None	None
6	Air Pollution Control Strategy	Dry Low Nox Combustion, Selective Catalytic Reduction	TBD	TBD
7	Cooling Method:	Mechanical Draft Cooling Tower	TBD	TBD
8	Total Site Area:	Appx. 14 Acres (Permanent)	TBD	TBD
9	Construction Status:	Less than or equal to 50% complete	Planned	Planned
10	Certification Status:	Complete	Planned	Planned
11	Status With Federal Agencies	N/A	N/A	N/A
12	Projected Unit Performance Data			
	Planned Outage Factor (POF):	4.00	TBD	TBD
	Forced Outage Factor (FOF):	3.00	TBD	TBD
	Equivalent Availability Factor (EAF):	93.00	TBD	TBD
	Resulting Capacity Factor (%):	70	TBD	TBD
	Average Net Operating Heat Rate (ANOHR):	6,371 Btu/kWh	TBD	TBD
13	Projected Unit Financial Data ($2022)			
	Book Life (Years):	33	33	33
	Total Installed Cost (In-Service Year $/kW)[2]:	1304	TBD	TBD
	Direct Construction Cost ($/kW):	1235	TBD	TBD
	AFUDC Amount ($/kW):	70	TBD	TBD
	Escalation ($/kW):	Included in values above	TBD	TBD
	Fixed O&M ($/kW-Yr):	31	TBD	TBD
	Variable O&M ($/Run Hour):	included in Fixed O&M	TBD	TBD
	Variable O&M ($/MWH):	N/A	TBD	TBD
	K Factor:	N/A	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:	Shady Hills Energy Center, LLC to DEF Hudson North
2	Number of Lines:	1
3	Right-of-Way	New transmission line righ-of-way
4	Line Length:	0.51
5	Voltage:	230
6	Anticipated Construction Timing:	Start construction 10/2024, finish construction 6/2025, backfeed 11/2025
7	Anticipated Capital Investment:	$2.2MM
8	Substation:	Shady Hills Energy Center, LLC Switchyard, DEF Hudson North
9	Participation with Other Utilities:	Duke Energy Florida (DEF)

OTHER PLANNING ASSUMPTIONS AND INFORMATION

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 relevant factors being constant, 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, 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 the volatility in coal deliveries, skilled labor imbalances, federal rules and legislative changes and fuel oil markets, all of which are impacting 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 most 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 of system energy costs.

5.3.3 Natural Gas

Natural gas prices were considerably less volatile in 2023 when compared to the prior two years. Henry Hub spot gas prices averaged $2.53 and peaked at $3.81. Relative to 2022, natural gas prices in 2023 have fallen substantially due to consecutive moderate winters, healthy domestic gas production and ample gas in storage, amongst other factors. Natural gas pricing is generally expected to increase and remain volatile with uncertain U.S. policy initiatives, domestic liquefied

natural gas needs, and as global demand increases. Beyond 2024, nominal gas prices are projected to average $3.68 per MMBtu through 2033.

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 2023 market prices for natural gas and coal delivered to Seminole's generating units were generally stable in both markets. On average in 2023, natural gas pricing marginally exceeded coal pricing. Coal prices in 2024 are projected to exceed natural gas prices, however, this trend is expected to reverse and be lower than natural gas 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.

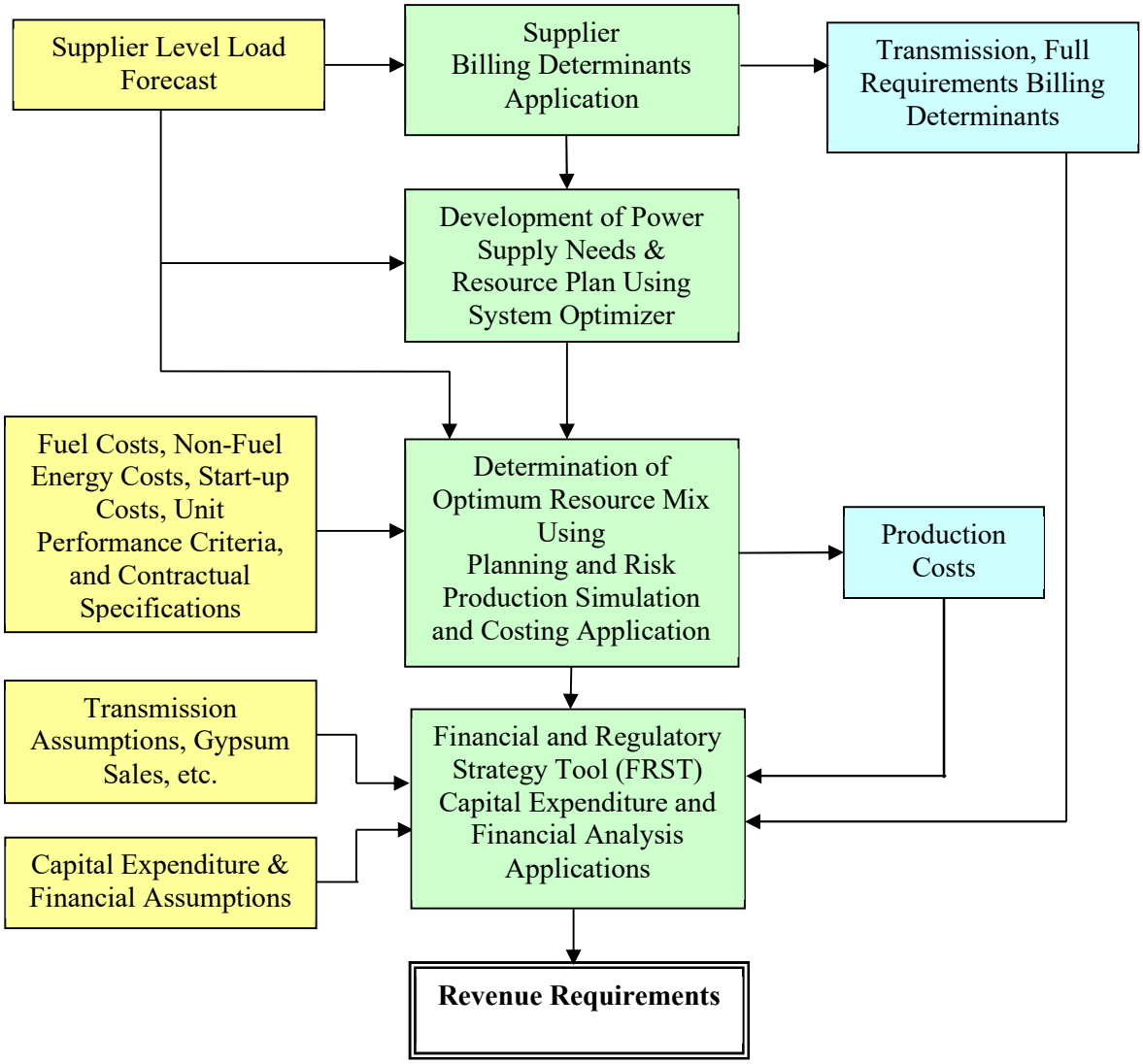
5.6 Financial Assumptions

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 resource 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 resource 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%, plus Seminole's Florida Reserve Sharing Group (FRSG) Contingency Reserve Allocation of approximately 200MW, during the peak winter and summer seasons which ensures that Seminole has adequate generating capacity to provide reliable service to its Members.

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 provides a coordinated load management demand reduction strategy and provides notifications to 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. Today Seminole has more than 7,000 thermostats available for control and is working with Member distribution cooperatives to increase program participation from consumers.

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. Seminole has applied for funding from the Federal Government to explore adding additional demand response programs, such as water heaters, pool pumps, commercial and residential batteries, and commercial and residential electric vehicle charging equipment.

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 does not have any transmission construction or upgrade plans in the planning horizon that require certification under the Transmission Line Siting Act (403.52 – 403.536, F.S.).

ENVIRONMENTAL AND LAND USE INFORMATION

6.1 Potential Sites

Seminole identifies two (2) Potential Sites under evaluation for the 2024 TYSP in accordance with Rules 25-22.070 and 25-22.072 F.A.C.

6.1.1 Gilchrist Site – Gilchrist County, Florida

Seminole currently owns approximately 520 acres of contiguous land in Gilchrist County that may support future photovoltaic solar generation coupled with battery energy storage systems.

A) U.S. Geological Survey (USGS) General Location:

See provided **Map 3**.

B) Existing Land Uses including Adjacent Areas:

Much of the site consists of longleaf and slash pine communities. Surrounding area land uses include pine plantations, row crops and other agricultural lands, mixed with low-density residential areas.

C) General Environmental Features of Site:

Few natural upland communities remain on the site with sparse isolated wetland areas within the eastern portion. Listed species representation is expected to include gopher tortoises (state threatened).

D) Water Usage Information:

Water usage expected to be limited to occasional photovoltaic panel cleaning.

E) Water Source Information:

Undetermined at this point of site evaluation.

6.1.2 Seminole Generating Station Site – Putnam County, Florida

Seminole's existing state certified generating site of approximately 1,981.5 acres in Putnam County, Florida may support future photovoltaic solar generation coupled with battery energy storage systems.

A) U.S. Geological Survey (USGS) General Location:

See provided **Map 4**

B) Existing Land Uses including Adjacent Areas:

Much of the site is developed and utilized for power generation including one retired coal generating unit, one active coal generating unit, and a two-on-one natural gas fired generating plant. To the extent photovoltaic generation and/or storage is deemed viable, it would likely be sited south of the current generating facilities. Adjoining land uses per Putnam County's Future Land Use Plan consist of "A2" Agricultural areas and an industrial site fronting Route 17 to the west of the site. Rural "RR" residential areas are located south of CR-209 to the south of the site.

C) General Environmental Features of Site:

Undeveloped areas include both forested uplands and wetland communities. Listed species representation is expected to include gopher tortoises (state threatened).

D) Water Usage Information:

Water usage expected to be limited to occasional photovoltaic panel cleaning.

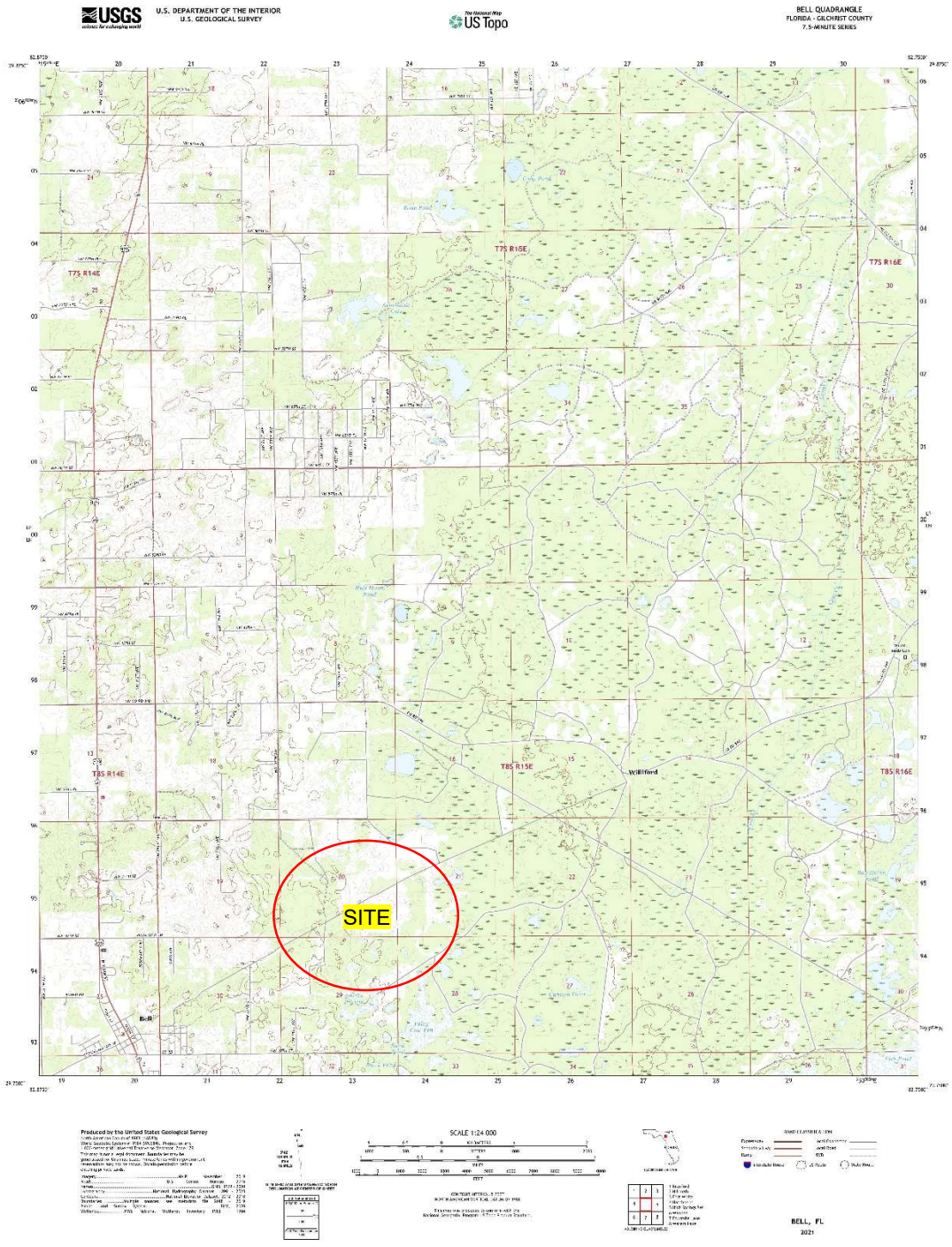
E) Water Source Information:

Undetermined at this point of site evaluation.

6.2 Preferred Sites

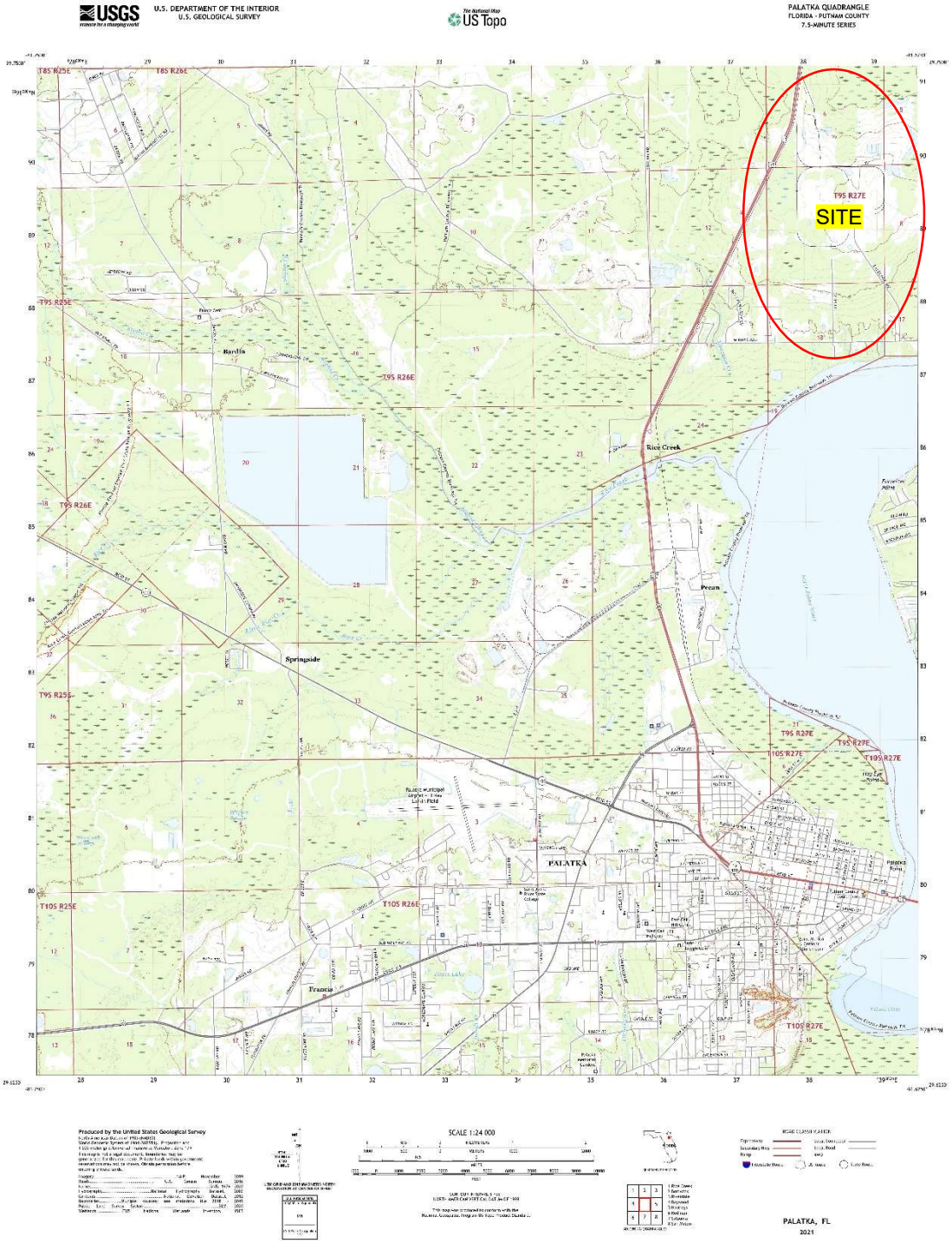
Seminole identifies zero (0) Preferred Sites under evaluation for the 2024 TYSP in accordance with Rules 25-22.070 and 25-22.072 F.A.C.

Map 3



Seminole Electric COOPERATIVE, INC.

Map 4



Seminole Electric COOPERATIVE, INC.