

### FILED 5/2/2022 DOCUMENT NO. 02734-2022 FPSC - COMMISSION CLERK

Navid Nowakhtar
Business Development and Resource Planner

Florida Public Service Commission Donald Phillips and Takira Thompson Division of Engineering 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850

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Re: Ten-Year Site Plan Supplemental Data Request #2 - FMPA Response

May 2, 2022

Dear Donald and Takira:

Pursuant to the Commission's 2022 Ten-Year Site Plan Supplemental Data Request #2, dated April 11, 2022, FMPA is hereby filing one electronic copy of its Response.

Please do not hesitate to contact me at (321) 239-1028 if you have any questions.

Sincerely,

Navid Nowakhtar

1D5F5710E3CE1B425A2E80BB7197467A readysign

Navid Nowakhtar Resource and Strategic Planning Manager

Enc.

cc. File

Staff's Data Request #2

1. Please refer to NERC's Level 2 Alert, issued August 18, 2021, titled Cold Weather Preparations for Extreme Weather Events. Please indicate what changes, if any, the Utility has implemented or intends to implement to address the recommendations contained within the alert.

FMPA's All-Requirements Project load falls within the FMPP BA. FMPA coordinates with FMPP on operational and situational awareness that aligns with the referenced NERC Alert from August 18th, 2021, Recommendations #1-#5.

With respect to "changes [FMPA] has implemented or plans to implement", FMPA has allocated a budget for expenditures needed to complete weatherization on our natural gas units as deemed necessary. This includes items such as heat tracing, insulating critical fuel and water piping, and protections for certain measurement equipment. FMPA intends to continue to maintain dual fuel capabilities and natural gas reserves into the future to support reliable operations. As noted in our response to PSC Supplemental Data Request #1 for the 2022 TYSP Question #93, FMPA has conducted sensitivity cases designed to stress the generation stack with a number of different scenarios, so that we can study fleet response. This process provides insight into what different supply side and demand side factors could limit our production, so that proactive preparations can be made ahead of any extreme event.

Additionally, FMPP is considering increasing the frequency with which desktop load shed training exercises are conducted to continue to support situational awareness and communication protocols to minimize the duration and unintended consequences of such potential events.

2. Please refer to FERC Order Approving Cold Weather Reliability Standards, issued August 24, 2021. Please indicate what changes, if any, the Utility has implemented or intends to implement to address the revisions to the NERC Reliability Standards that become effective April 2023.

Please refer to our response to Question #1. FMPA will work with the FMPP BA, our internal Regulatory Compliance team, our generation operating Members, and all relevant parties to ensure continual compliance with all NERC Reliability Standards.

3. Please refer to NERC's Project 2021-07: Extreme Cold Weather Grid Operations, Preparedness, and Coordination. Is the Utility a participant in this project? If so, please explain what way.

FMPA monitors all ongoing NERC efforts as part of our internal Regulatory Compliance function. FMPA is not a direct participant in this project, but we are monitoring the process in anticipation of any additional impacts late in 2022 and into 2023.

4. Please refer to the FERC, NERC, and Regional Entity Staff Report: The February 2021 Cold Weather Outages in Texas and the South Central United States (2021 Cold Weather Report), issued November 2021. Please indicate what changes, if any, the Utility has implemented or intends to implement to address the recommended revisions listed below to the NERC Reliability Standards identified in the 2021 Cold Weather Report.

Please refer to our responses to Questions #1-#3 above.

- a. Identify and protect cold-weather critical components.
- b. Build all new and retrofit existing units to operate during extreme weather conditions, which include the impact of wind and precipitation.
- c. Perform annual training on winterization plans. If already incorporated, please provide the most recent winterization plan.
- d. Develop Corrective Action Plans for any affected generating units.
- e. Provide the balancing authority the percentage of generating capacity that can be relied upon during forecasted cold weather.
- f. Account for wind and precipitation when providing temperature data to the balancing authority.
- 5. Will the Utility's current capacity shortage plan require updating following the revisions to the NERC Reliability Standards that will go into effect April 2023 or the recommended revisions from the 2021 Cold Weather Report? If so, please identify the changes.
  - FMPA does not currently expect any changes will be needed to its capacity shortage plan. As noted above in our response to Question #2, FMPA will work with the FMPP BA, our internal Regulatory Compliance team, our generation operating Members, and all relevant parties to ensure continual compliance with all NERC Reliability Standards.
- 6. For your generating units, please and provide the following information:

With respect to generating units where FMPA holds a minority ownership interest as described in our response to Question #9 below, we defer to the majority owner as noted in each case for a response.

With respect to FMPA's wholly owned generation, please see responses by item below.

- a. Identify any generating unit that has been winterized and describe the winterization activities that have been completed for each. FMPA has included winterization activities in our All-Requirements Project budget for specific units as described in item b below.
- b. Identify any generating unit that still requires winterization and describe the winterization activities to be completed for each. FMPA plans to refurbish existing heat tracing for Cane Island units 1-3. Cane Island 4 and Treasure Coast will need a full heat tracing system installed. Cane Island Unit 2 is slated for a Hot Gas Path inspection in February of 2023.

- c. Identify any generating units the Utility does not intend to winterize and explain why. FMPA has not made any definitive determinations in this regard pending the review of all applicable and potentially forthcoming NERC Reliability Standards.
- 7. Please list and describe all winterization activities the Utility has completed or intends to complete for its natural gas infrastructure. If none, please explain why.

The All-Requirements Project holds firm natural gas transportation capacity to support reliable gas delivery to our wholly owned generating plants. However, FMPA as agent for the All-Requirements Project does not control or direct winterization activities related to gas pipelines or laterals that may be used to transport gas to our facilities. We defer to the owners of such infrastructure for this response.

8. Please identify any generating units that have experienced forced outages or derates due to cold weather conditions within the last ten-year period.

FMPA has not experienced any forced outages or derates due to cold weather conditions within the last ten-year period.

- a. Please explain if these generating units have had corrective action plans developed for the identified equipment. If so, what has been done to evaluate whether the corrective action plan applies to similar equipment for other generating units in the Utility's generating fleet.
- 9. Please identify each of the Utility's generating units that have dual fuel capabilities. As part of this response, please provide the following for each applicable generating unit.

Data for parts a, b, and d (with the exception of location) can be found in Schedule 1 of FMPA's 2022 TYSP as filed. FMPA's ARP fleet that would be relevant to dual fuel or back-up resource capabilities is located in either (i) Orlando (OUC Stanton Energy Center), (ii) Ft. Pierce (Treasure Coast Energy Center), (iii) Kissimmee (Cane Island Power Park), or (iv) Key West, FL. We also have power purchase agreements for solar resources across portions of north FL as well as a partial ownership share of the St. Lucie #2 nuclear facility, neither of which are relevant to dual fuel capability.

FMPA's dual fuel capability is partially housed within generators for which we have a minority interest as operated by OUC, or for which we have a power purchase agreement with Nextera. We defer to the primary operators of such resources with respect to responses for those generating units.

With respect to FMPA's wholly owned resources, natural gas is the primary fuel in all cases and fuel oil is the secondary fuel in all cases. We do not assume any derates for alternative fuels. Based on current inventory levels, we estimate that the dual-fuel fleet could run at full load as follows: at Cane Island, utilizing units 1 and 2, we have

approximately 4.5 days. At TCEC, there is 1.5 days of inventory. As part of the winterization plan, the fuel inventory will be increased and be able to achieve 2.7 days, with switching capability, from gas to fuel oil, being accomplished within minutes. This assumes no replenishment of fuel oil, which could extend run times. FMPA also maintains an inventory of fuel oil at Stock Island to support emergency or reserve period run requirements.

- a. Generating unit name and location.
- b. Net capacity by seasonal peak (Summer/Winter).
- c. Whether fuel switching derates/uprates the unit (and if so, by what amount).
- d. Primary and secondary fuel type and sources.
- e. Number of days the generating unit could operate at full load using the secondary fuel source.
- f. Amount of time required to switch to secondary fuel.
- 10. Please identify how many alerts and advisories, due to cold weather, have been issued within the last ten-year period, and describe each event that lead to the issuance of each alert/advisory.
  - a. As part of this response, please indicate whether interruptible/curtailable customers were interrupted during each event, and if so, the duration of the interruption.

FMPA is not aware of any cold weather advisories within the FMPP BA over the period in question.

11. Please identify the number of times the Utility has had to perform rolling blackouts within the last ten-year period. As part of this response, please provide the reason for each rolling blackout, how many megawatts were impacted, and the duration of each rolling blackout.

There have been no such instances in the last ten-year period.

12. Please identify the total number of megawatts that can be controlled during rolling blackouts. As part of this response, please describe how this amount was determined, the priorities for interrupting firm load, and provide the anticipated duration between rolling blackouts.

The FMPP BA load shed schemes are predicated on a combination of (i) individual load-serving entities within the BA that have the capability to shed firm load and (ii) a load ratio share of shedding for BA Members that would occur under EEA BA conditions on an incremental basis, after all other relevant activities to avoid a load shed event have been exhausted and the FRCC RC has called the appropriate EEA event on behalf of the BA. The FMPP BA does not have access to demand response that is currently assumed to be under the BA's control as a mitigant to such activities.

The duration between load shed events is a function of the underlying grid constraint or constraints that drove the need to institute load shed and is highly variable in nature. It is not possible to provide a specific duration cap without first defining the initial conditions (e.g., forced outage, significant disruption to power infrastructure, extreme weather that may persist). FMPP has developed desktop load shed schemes that attempt to reduce negative externalities associated with curtailments.

13. Please explain how the Utility coordinates with cogenerators, qualifying facilities, and other non-utility generators during cold weather events to maximize generating capacity. As part of this response, please explain how the Utility determines as-available energy prices if all available Utility assets are already dispatched.

FMPA and the FMPP BA do not plan for such generation as firm to grid capacity under any conditions. Certain qualifying facilities that may generate in such conditions would be treated in accordance with all relevant regulatory requirements (e.g., PURPA).

14. Please list each form of communication (such as phone calls, text, utility website, social media, etc.) the Utility uses to inform customers of anticipated cold weather events. As part of this response, please provide a sample of such communications.

FMPA's ARP is a wholesale power supply project, and as such, FMPA does not communicate directly with retail customers in this context.

15. Please refer to the Florida cold weather event from January 29-31, 2022, and provide the following for each day during the event.

The table below summarizes items a-c by day for the FMPP Balancing Authority, which includes the combined generation and load obligations of FMPA, Lakeland Electric, and Orlando Utilities Commission. Items d-f do not apply/were not experienced.

Date	Projected Peak (MW)	Projected Op. Reserve	Actual Peak (MW)	Actual Op. Reserve
		(MW)		(MW)
1/29/22	3,085	1,232	2,685	1,632
1/30/22	3,475	884	3,138	1,221
1/31/22	3,260	1,043	3,163	1,140

- a. Anticipated load forecast.
- b. Anticipated operating reserve (with and without demand response).
- c. Actual load, and if available, actual operating reserve.
- d. Amount of customer outages due to cold weather that occurred, if any.

- e. Amount of generating capacity derated or forced offline due to cold weather, if any. If forced outages occurred, identify each generating unit derated or forced offline, and the cause of the derating or forced outage, if known.
- f. Whether demand response and/or interruptible/curtailable assets were activated. If so, please identify which programs, the number of customers interrupted, the amount of capacity interrupted, and the frequency of interruptions.
- 16. Please refer to the Florida cold weather event from January 29-31, 2022. Please explain if any winterization plans were enacted during this time. If so, please describe what activities were involved.

In January 2022, cold temperatures necessitated significant coordination and preparation across the BA. Winter loads and temperatures were projected to be at or potentially above the 99th percentile of historical occurrences. The external market was also very tight, with only one offer available to the BA from out of state. FMPA worked with FMPP to effectuate the following actions as would be typical of any such situation:

- o Members implemented Cold Weather Plans.
- o Transmission teams restored / postponed outages where possible.
- o Unit cycling was minimized to lower freezing / restart risk. Stock Island's emergency generation was staffed Saturday through Monday morning.
- o Teams reviewed readiness, risks, and worst-case scenarios
  - Scenarios included load at +10% of forecast, large coal-fired unit trip, and large combined cycle trip. These scenarios helped to manage mitigation, primarily around fuels, to the extent such a scenario occurred.
- Coordination calls took take place each day across the weekend with additional staffing in place. The BA's forecasting team also engaged in monitoring and reforecasting and/or recommitting as needed.
- 17. Please refer to the NERC 2021-2022 Winter Reliability Assessment, issued November 2021, for the following questions. Please provide load forecast and generation availability data provided to your regional entity for use in NERC's winter reliability assessment. As part of your response, explain how the data was derived and what assumptions were used.

Based on our understanding of the regional entity procedure deployed in preparation of the 2021-2022 Winter Reliability Assessment, the data leveraged would be consistent with FMPA's 2021 Load and Resource Database entries, as filed with the FRCC. This filing would be consistent with the data supporting the 2021 Ten-Year Site Plan as filed in April 2021. As appended herein, we have included as part of our PDF Response the extracted data warehouse of that vintage that is consistent with the Load and Resource Database. See Appendix A.

18. **[TECO & FPL Only]** Please identify and describe any actions undertaken to encourage adoption of natural gas heating over electric resistance (strip) heating. If no actions have been taken, please explain why.

This question does not apply to FMPA.

Staff's Data Request #2

Appendix A

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2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 1.0

Existing Generating Facilities
As of December 31, 2020

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25)

				i																				
		lel Identifi				•						ary Fuel	_	ate Fuel	Alt. Fuel	Comm'l	Retirement		Gross Capa	bility (MW)	Net Capal	bility (MW)		
Model		EIA Plant		Owning Entity	Operating	Plant Name	Unit	Location	Unit	Owner-	Fuel	Transp.	Fuel		Storage (Days	In-service	Date	Capability	Summer	Winter	Summer	Winter		Notes
Bus No	Unit No	Code	Gen Code	,	Entity		No	(County)	Type	ship	Type	Method		Method	Burn)	Mo / Year	Mo / Year	(MW)					Unit Statu	s
5412	1	7238	1	FMPA	KUA	CANE ISLAND		OSCEOLA	GT	J	NG	PL	DFO	TK	0	11/1994		21	17.5	19	17.5	19	OP	
5413	1	7238	2	FMPA	KUA	CANE ISLAND	2CT	OSCEOLA	CT	J	NG	PL	DFO	TK	0	6/1995		38	35.5	37.5	34.5	36.5	OP	
5420	1	7238	2A	FMPA	KUA	CANE ISLAND	2CW	OSCEOLA	CA	J	WH	NA	DFO	NA	0	6/1995		22	22	22	20	20	OP	
5414	1	7238	3	FMPA	KUA	CANE ISLAND	3CT	OSCEOLA	CT	J	NG	PL			0	1/2002		78.1	77	81	75	79	OP	
5421	1	7238	3A	FMPA	KUA	CANE ISLAND	3CW	OSCEOLA	CA	J	WH	NA	DFO	NA	0	1/2002		46.9	47.5	48.5	45	46	OP	
5415	1	7238	4	FMPA	FMPA	CANE ISLAND	4CT	OSCEOLA	CT	U	NG	PL			0	7/2011		186.7	154	159	150	155	OP	
5422	1	7238	4A	FMPA	FMPA	CANE ISLAND	4CW	OSCEOLA	CA	U	WH	NA			0	7/2011		163	153	158	150	155	OP	
																								Net and Gross Capacity
																								decreased by 4.5/6, already
																								counted by KUA - updated by
5535	1	683	Α	FMPA	OUC	INDIAN RIVER	Α	BREVARD	GT	J	NG	PL	DFO	TK	0	7/1989		17.1	14.2	18	12.2	14.1	OP	FRCC 5/8/14
5548	1	683	В	FMPA	OUC	INDIAN RIVER	В	BREVARD	GT	J	NG	PL	DFO	TK	0	7/1989		17.2	14.2	18	12.2	14.1	OP	
5536	1	683	C	FMPA	OUC	INDIAN RIVER	C	BREVARD	GT	J	NG	PL	DFO	TK	0	8/1992		27.5	22.3	26.2	21.6	23	OP	
5549	1	683	D	FMPA	OUC	INDIAN RIVER	D	BREVARD	GT	J	NG	PL	DFO	TK	0	8/1992		27.5	22.3	26.2	21.6	23	OP	
200	1	6045	2	FMPA	FPL	ST. LUCIE	2	ST. LUCIE	ST	J	NUC	TK	NA	NA	0	6/1983		94.4	86.2	89.6	86.2	89.6	OP	
5534	1	564	1	FMPA	OUC	STANTON	1	ORANGE	ST	J	BIT	RR	NA	NA	0	7/1987		122.7	121.1	121.1	120	120	OP	
5537	1	564	2	FMPA	OUC	STANTON	2	ORANGE	ST	J	BIT	RR	NA	NA	0	6/1996		131.5	129.9	129.9	128.7	128.7	OP	
5539	1	564	CC1	FMPA	OUC	STANTON A	CT	ORANGE	CT	J	NG	PL	DFO	TK	3	10/2003		12.6	11.6	13.1	11.6	13.1	OP	
5538	1	564	CC1	FMPA	OUC	STANTON A	ST	ORANGE	CA	J	WH	PL	DFO	TK	3	10/2003		11.2	10.3	10.4	10.3	10.4	OP	
																								Winter value adjusted to 15
																								to match FMPP values and
5344	1	6584	GT2	FMPA	KEY	STOCK ISLAND	CT2	MONROE	GT	U	DFO	WA			0	9/1999		19.7	15.9	15.9	15.9	15.9	OP	TYSP
5345	1	6584	GT3	FMPA	KEY	STOCK ISLAND	CT3	MONROE	GT	U	DFO	WA			0	9/1999		19.7	14.1	14.1	14.1	14.1	OP	
5347	1	6584	GT4	FMPA	KEY	STOCK ISLAND	CT4	MONROE	GT	U	DFO	WA	NA	NA	0	6/2006		61.2	46	46	46	46	OP	
4060	1	56400	1	FMPA	FMPA	TREASURE COAST ENERGY CTR	1	ST. LUCIE	CT	U	NG	PL	DFO	TK	0	6/2008		186.7	154	159	150	155	OP	
4061	1	56400	1A	FMPA	FMPA	TREASURE COAST ENERGY CTR	1	ST. LUCIE	CA	U	WH	NA	DFO	RR	0	6/2008		163	153	158	150	155	OP	
																					1292.4	1332.5		

(7)

(9)

(10) (11) (12)

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(26)

(28)

2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 1.0a & 1.1

Planned and Prospective Generating Facilities Additions and Changes

(13)

(14)

January 1, 2021 through December 31, 2030

Load Flow Model Identification Primary Fuel Altenate Fuel Alt. Fuel Nameplate Gross Capability (MW) Net Capability (MW) Construct. Effective Model Model EIA Plant EIA Op Owning Operating Unit Location Unit Owner Fuel Transp. Transp. Storage Start Date Change Capability Unit Change Plant Name Fuel Type Winter Winter Bus No Unit No Gen Code Entity Entity No (County) Type ship Туре Method (Days Burn) Mo / Year Mo / Year (MW) Status Type 1 ST LUCIE 4060 1 56400 1 ΕΜΡΔ FMPA TREASURE COAST ENERGY CTR CT Ш NG PL DFO TK 0 1/2022 0 7.5 7.5 7.5 7.5 OP OT 2022 21/22 4061 56400 1A FMPA FMPA TREASURE COAST ENERGY CTR 1 ST LUCIE CA U WH NA DFO RR 0 1/2022 0 7.5 7.5 7.5 7.5 OP OT 2022 21/22 Conversion from coal 5537 564 2 FMPA OUC STANTON 2 ORANGE CT NG PL NA NA 0 1/2024 0 0 0 0 OP FC 2024 23/24 to natural gas. 5415 1 7238 4 FMPA FMPA CANE ISLAND 4CT OSCEOLA CT U NG PL NA NA 0 1/2026 0 7.5 7.5 7.5 7.5 OP OT 2026 25/26 5422 4A FMPA CANE ISLAND 4CW OSCEOLA CA 1/2026 7.5 7.5 OP OT 2026 25/26 1 7238 FMPA U WH NA NA NA 0 0 7.5 7.5 Expected conversion from coal to natural 0 1/2026 FC 5534 564 1 FMPA OUC STANTON 1 ORANGE CT NG PL NA NA 0 0 0 0 0 OP 2026 25/26 gas. 200 6045 2 FMPA FPL ST. LUCIE 2 ST LUCIE ST - 1 NUC TK NA NA 0 10/2027 0 -0.3 -0.3 -0.3 -0.3 OP OT 2028 27/28 Ownership Change 1 2 ST LUCIE ST TK NA 10/2029 OP ОТ 2030 29/30 Ownership change 200 6045 2 FMPA FPI ST. LUCIE J NUC NA 0 0 -1.5 -1.6 -1.5 -1.6

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2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 2.0

Jointly Owned Generator Units As of December 31, 2020

Total Gross Cap (MW) Total Net Cap (MW) Primary Op Entity Entity 3 Total Unit No Owner-ship % Name Owner-ship % Plant Name Name Name Name Name Winter Summer Winter Name Name Name Name Name Ownership % Page 12 of 33

2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 3.0

Existing Non-Utility, QF, and Self Service Generation Facilities As of December 31, 2020

Loa	d Flow Mod	del Identific	ation								Fuel	Туре	Comm'l	Retirement	Nameplate	Gross Capa	bility (MW)	Net Capa	bility (MW)	Potential Ex	port to Grid	d at Time of	Peak (MW	)		
Model	Model	EIA Plant	EIA Op	Owning	Operating	Plant Name	Unit	Location	Unit	Owner-	Pri	ΛI÷	In-service	Date	Capability	Summer	Winter	Summer	Winter	Firm	Firm	Uncomm	Uncomm	Unit	Contract	Notos
Bus No	Unit No	Code	Gen Code	Entity	Entity	Flant Name	No	(County)	Type	ship	FII	Ait	Mo / Year	Mo / Year	(MW)	Julilliei	willer	Julilliei	Wille	Summer	Winter	Summer	Winter	Status	Status	Notes
				FMPA		CUTRALE		LAKE	CC	COG	NG		12/1987			4.6	4.6	4.6	4.6	0	0	0	0		NC	
				FMPA		US SUGAR CORPORATION		HENDRY	OT	SPP	OBS		2/1984			26.5	26.5	26.5	26.5	0	0	0	0		NC	

Review of the 2022 Ten-Year Site Plans for Florida's Electric Utilities Staff's Data Request #2

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2021 Load and Resource Database Florida Municipal Power Agency

Planned and Prospective Non-Utility, QF, and Self Service Generation Facilities

January 1, 2021 through December 31, 2030

(8) (9) (10) (11) (12) (13) (14) (27)

Load Flow Model Identification		Fuel Type	Effective	Retirement	Nameplate	Gross Capa	ability (MW)	Net Capal	oility (MW)	Potential	Export to G	rid at Time of F	Peak (MW)				
Model Model EIA Plant EIA Op Gen Owning Operating Plant Name Unit Location Unit	t Owner-	Pri Al	Change Date	Date	Capability	Summor	Winter	Summer	Winter	Firm	Firm	Uncomm	Uncomm	Unit	Contract	Summer	Winter
Bus No Unit No Code Code Entity Entity No (County) Typ	e ship	PII AI	Mo / Year	Mo / Year	(MW)	Julilliei	willter	Julilliei	willei	Summer	Winter	Summer	Winter	Status	Status	Applied Yr	Applied Yr

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### 2021 Load and Resource Database Florida Municipal Power Agency

## FRCC Form 4.0 History and Forecast of Energy Consumption and Number of Customer by Customer Class As of January 1, 2021

(1) (4) (7) (10) (11) (12) (13) (16) (17) (18) (14) (15)

			RURAL & RESI	DENTIAL		COMMERC	CIAL		INDUST	RIAL				Wholesale	Wholesale		
			Average	Average		Average	Average		Average	Average	Street &	Other	Total	Purchases for	Sales for Resale	Utility Use &	Net Energy
Year	Population	GWh	Number of	<b>Consumption Per</b>	GWh	Number of	Consumption Per	GWh	Number of	<b>Consumption Per</b>	Highway	Sales	Sales	Resale	Sales for Resale	Losses	for Load
			Customers	Customer (kWh)		Customers	Customer (kWh)		Customers	Customer (kWh)	GWh	GWh	GWh	GWh	GWh	GWh	GWh
2011	0	2,850	222,304	12,820	2,252	39,127	57,556	542	1,010	536,634	68	102	5,814	0	105	208	6,127
2012	0	2,724	224,779	12,119	2,778	40,185	69,130	3	1	3,000,000	60	104	5,669	0	96	295	6,060
2013	0	2,755	226,862	12,144	2,771	40,403	68,584	2	1	2,000,000	60	101	5,689	0	92	309	6,090
2014	0	2,614	207,883	12,574	2,574	37,780	68,131	3	1	3,000,000	55	107	5,353	0	91	334	5,778
2015	0	2,771	210,984	13,134	2,680	38,337	69,906	2	1	2,000,000	55	109	5,617	0	88	337	6,042
2016	0	2,844	214,417	13,264	2,711	39,010	69,495	2	1	2,000,000	55	109	5,721	0	0	318	6,039
2017	0	2,791	218,399	12,779	2,675	39,300	68,066	2	1	2,000,000	56	106	5,630	0	0	354	5,984
2018	0	2,899	221,799	13,070	2,707	39,347	68,798	1	1	1,000,000	56	107	5,770	0	12	357	6,139
2019	0	2,965	226,405	13,096	2,721	39,695	68,548	2	1	2,000,000	56	98	5,842	0	100	348	6,290
2020	0	3,100	230,855	13,428	2,626	40,262	65,223	1	1	1,000,000	56	94	5,877	0	389	372	6,638
2021	0	3,075	234,696	13,102	2,672	40,668	65,703	1	1	1,000,000	56	95	5,899	0	797	347	7,043
2022	0	3,115	237,955	13,091	2,718	41,019	66,262	1	1	1,000,000	56	95	5,985	0	733	346	7,064
2023	0	3,138	241,094	13,016	2,770	41,351	66,987	1	1	1,000,000	56	95	6,060	0	740	343	7,143
2024	0	3,159	244,170	12,938	2,827	41,673	67,838	1	1	1,000,000	56	96	6,139	0	371	355	6,865
2025	0	3,188	247,199	12,896	2,871	41,989	68,375	1	1	1,000,000	56	97	6,213	0	460	333	7,006
2026	0	3,220	250,137	12,873	2,904	42,299	68,654	1	1	1,000,000	56	98	6,279	0	463	324	7,066
2027	0	3,256	253,000	12,870	2,932	42,602	68,823	1	1	1,000,000	56	98	6,343	0	379	311	7,033
2028	0	3,296	255,849	12,883	2,958	42,899	68,953	1	1	1,000,000	56	99	6,410	0	0	308	6,718
2029	0	3,337	258,672	12,901	2,984	43,192	69,087	1	1	1,000,000	56	99	6,477	0	0	270	6,747
2030	0	3,381	261,468	12,931	3,009	43,481	69,203	1	1	1,000,000	56	100	6,547	0	0	224	6,771

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#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 5.0

# History and Forecast of SUMMER Peak Demand (MW) As of January 1, 2021

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	SUMMER		DEMAND REDUCTION		Self-Served		CONSE	RVATION	
Year	Net Firm Peak	Interruptible Load	Res Load	Comm/Ind Load	Generation	Incren	nental	Cumu	lative
	Demand	interruptible Load	Management	Management	Generation	Residential	Comm/Ind	Residential	Comm/Ind
2019	1,349	0	0	0	0	0	0	0	0
2020	1,463	0	0	0	0	0	0	0	0
2021	1,481	0	0	0	0	0	0	0	0
2022	1,500	0	0	0	0	0	0	0	0
2023	1,517	0	0	0	0	0	0	0	0
2024	1,459	0	0	0	0	0	0	0	0
2025	1,483	0	0	0	0	0	0	0	0
2026	1,496	0	0	0	0	0	0	0	0
2027	1,495	0	0	0	0	0	0	0	0
2028	1,412	0	0	0	0	0	0	0	0
2029	1,424	0	0	0	0	0	0	0	0
2030	1,428	0	0	0	0	0	0	0	0

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## 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 5.1

# Summer Net Firm Peak Demand and its Components (MW) SUPPLYING ENTITY As of January 1, 2021

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Year	SUMMER Net Firm Peak	SUMMER Net Firm Retail Peak	FUL	L OR PARTIAL REQ	UIREMENT	WHOL	ESALE	DELIVE	RY CUS	TOMER	S	
	Demand	Demand	HST	TEC								
2019	1,349	1,349	0	0								
2020	1,463	1,374	15	74								
2021	1,481	1,468	13	0								
2022	1,500	1,487	13	0								
2023	1,517	1,504	13	0								
2024	1,459	1,446	13	0								
2025	1,483	1,470	13	0								
2026	1,496	1,483	13	0								
2027	1,495	1,495	0	0								
2028	1,412	1,412	0	0								
2029	1,424	1,424	0	0								
2030	1,428	1,428	0	0								

### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 5.2

# Summer Net Firm Peak Demand and its Components (MW) PURCHASING ENTITY As of January 1, 2021

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Year	SUMMER Net Firm Peak	SUMMER Net Firm Retail Peak	FU	LL OR PAR	TIAL REQU	IREMENT V	VHOLESAL	E DELIVER	CUSTOM	ERS	
	Demand	Demand									
2019	1,349	1,349									
2020	1,463	1,463									
2021	1,481	1,481									
2022	1,500	1,500									
2023	1,517	1,517									
2024	1,459	1,459									
2025	1,483	1,483									
2026	1,496	1,496									
2027	1,495	1,495									
2028	1,412	1,412									
2029	1,424	1,424									
2030	1,428	1,428									

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#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 6.0

# History and Forecast of WINTER Peak Demand (MW) As of January 1, 2021

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	WINTER		DEMAND REDUCTION		Self-Served		CONSEI	RVATION	
Year	Net Firm Peak	Interruptible Load	Res Load	Comm/Ind Load	Generation	Increr	nental	Cumu	lative
	Demand	interruptible Load	Management	Management	Generation	Residential	Comm/Ind	Residential	Comm/Ind
2019/20	1,165	0	0	0	0	0	0	0	0
2020/21	1,351	0	0	0	0	0	0	0	0
2021/22	1,292	0	0	0	0	0	0	0	0
2022/23	1,308	0	0	0	0	0	0	0	0
2023/24	1,262	0	0	0	0	0	0	0	0
2024/25	1,287	0	0	0	0	0	0	0	0
2025/26	1,301	0	0	0	0	0	0	0	0
2026/27	1,301	0	0	0	0	0	0	0	0
2027/28	1,226	0	0	0	0	0	0	0	0
2028/29	1,239	0	0	0	0	0	0	0	0
2029/30	1,243	0	0	0	0	0	0	0	0
2030/31	1,256	0	0	0	0	0	0	0	0

### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 6.1

# Winter Net Firm Peak Demand and its Components (MW) SUPPLYING ENTITY As of January 1, 2021

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Year	WINTER Net Firm Peak	WINTER Net Firm Retail Peak		FULL OR PARTI	AL REQUIRI	EMENT W	HOLESA	LE DELIVE	RY CUSTO	OMERS	
	Demand	Demand	HST	TEC							
2019/20	1,165	1,096	2	67							
2020/21	1,351	1,196	5	150							
2021/22	1,292	1,279	13	0							
2022/23	1,308	1,295	13	0							
2023/24	1,262	1,249	13	0							
2024/25	1,287	1,274	13	0							
2025/26	1,301	1,288	13	0							
2026/27	1,301	1,288	13	0							
2027/28	1,226	1,226	0	0							
2028/29	1,239	1,239	0	0							
2029/30	1,243	1,243	0	0							
2030/31	1,256	1,256	0	0							

## 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 6.2

# Winter Net Firm Peak Demand and its Components (MW) PURCHASING ENTITY As of January 1, 2021

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2024/25

2025/26

2026/27

2027/28

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2030/31

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1,287

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1,301

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		WINTER	WINTER	ELL	II OP D/	ADTIAL E	DEOLIIDE	N/ENIT \	WHO! ES	ALE DEL	IVEDV C	USTOMI	EDC
Y	ear	Net Firm Peak	Net Firm Retail Peak	Į	LL OK PA	ANTIAL I	KLQOIKL	.IVILIVI V	WHOLLS	ALL DLL	IVERT	O3 I OIVII	LNJ
		Demand	Demand										
201	19/20	1,165	1,165										
202	20/21	1,351	1,351										
202	21/22	1,292	1,292										
202	22/23	1,308	1,308										
202	23/24	1,262	1,262										

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#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 7.0

## History and Forecast of Annual Net Energy For Load (GWh) As of January 1, 2021

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			DEMAND REDUCTION		Self-Served		CONSEI	RVATION	
Year	Net Energy for Load	Interruptible Load	Res Load	Comm/Ind Load	Generation	Incren	nental	Cumu	lative
		interruptible Load	Management	Management	Generation	Residential	Comm/Ind	Residential	Comm/Ind
2019	6,290	0	0	0	0	0	0	0	0
2020	6,637	0	0	0	0	0	0	0	0
2021	7,043	0	0	0	0	0	0	0	0
2022	7,064	0	0	0	0	0	0	0	0
2023	7,144	0	0	0	0	0	0	0	0
2024	6,866	0	0	0	0	0	0	0	0
2025	7,006	0	0	0	0	0	0	0	0
2026	7,065	0	0	0	0	0	0	0	0
2027	7,033	0	0	0	0	0	0	0	0
2028	6,719	0	0	0	0	0	0	0	0
2029	6,747	0	0	0	0	0	0	0	0
2030	6,771	0	0	0	0	0	0	0	0

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### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 7.1

# Net Energy for Load and its Components (GWh) SUPPLYING ENTITY As of January 1, 2021

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Year	Net Energy for Load	Net Retail Energy for		FULL OR PAR	TIAL REQUI	REMENT W	/HOLESAL	E DELIVE	RY CUSTO	MERS		
		Load	HST	TEC								
2019	6,290	6,290	0	0		•					•	
2020	6,637	6,538	79	20								
2021	7,043	6,884	88	71								
2022	7,064	6,976	88	0								
2023	7,144	7,056	88	0								
2024	6,866	6,778	88	0								
2025	7,006	6,918	88	0								
2026	7,065	6,977	88	0								
2027	7,033	7,033	0	0								
2028	6,719	6,719	0	0								
2029	6,747	6,747	0	0								
2030	6,771	6,771	0	0								

## 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 7.2

# Net Energy for Load and its Components (GWh) PURCHASING ENTITY As of January 1, 2021

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Year	Net Energy for Load	Net Retail Energy for Load	 FUL	L OR PART	TAL REQU	IREMENT \	WHOLESAL	E DELIVER	Y CUSTON	IERS	
		Loau									
2019	6,290	6,290									
2020	6,637	6,637									
2021	7,043	7,043									
2022	7,064	7,064									
2023	7,144	7,144									
2024	6,866	6,866									
2025	7,006	7,006									
2026	7,065	7,065									
2027	7,033	7,033									
2028	6,719	6,719									
2029	6,747	6,747									
2030	6,771	6,771									

#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 8.0

#### Peak Demand (MW) and Net Energy For Load (GWh) by Month As of January 1, 2021

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17)

Prior Year/Reporting Year						2020	Actual						Peaks &
ACTUAL Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	<b>Annual NEL</b>
(1a) Total Peak Hour Demand (MW)	1,165	957	1,112	1,106	1,244	1,399	1,380	1,406	1,463	1,232	966	1,129	1,463
(2a) Interruptible Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(3a) Residential Load Management Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(4a) Comm/Ind Load Management Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(5a) QF Load Served by QF Gen at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(6a) Actual Peak Hour Demand (MW)	1,165	957	1,112	1,106	1,244	1,399	1,380	1,406	1,463	1,232	966	1,129	1,463
(6a1) Date of Peak (mm/dd)	1/22	2/13	3/30	4/13	5/22	6/29	7/16	8/4	9/4	10/8	11/1	12/26	9/4
(6a2) Time of Peak (Hour Ending)	8:00	17:00	17:00	16:00	17:00	16:00	17:00	16:00	16:00	16:00	14:00	9:00	16:00
(7a) Actual Net Energy for Load (GWh)	463	438	506	488	550	631	683	693	630	593	475	488	6,638

	2021	Actual
EL	Jan	Feb
	1,020	1,351
	0	0
	0	0
	0	0
	0	0
	1,020	1,351
	1/19	2/4
	8:00	8:00
	493	483

														2021
	Reporting Year						2021 F	orecast						Peaks &
	Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	<b>Annual NEL</b>
(1b)	Total Peak Hour Demand (MW)	1,420	1,315	1,060	1,190	1,347	1,437	1,435	1,481	1,390	1,278	1,045	1,000	1,481
(2b)	Interruptible Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(3b)	Residential Load Management Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(4b)	Comm/Ind Load Management Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(5b)	QF Load Served by QF Gen at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(6b)	Peak Hour Demand (MW)	1,420	1,315	1,060	1,190	1,347	1,437	1,435	1,481	1,390	1,278	1,045	1,000	1,481
(7b)	Net Energy for Load (GWh)	567	499	501	517	613	665	718	722	660	586	482	511	7,041

													2022
Year 1						2022 F	orecast						Peaks &
Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	<b>Annual NEL</b>
(1c) Total Peak Hour Demand (MW)	1,29	1,185	1,077	1,205	1,364	1,455	1,452	1,500	1,407	1,295	1,057	1,012	1,500
(2c) Interruptible Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(3c) Residential Load Management Implemented at Peak	( <b>MW</b> ) 0	0	0	0	0	0	0	0	0	0	0	0	0
(4c) Comm/Ind Load Management Implemented at Peak	(MW) 0	0	0	0	0	0	0	0	0	0	0	0	0
(5c) QF Load Served by QF Gen at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(6c) Peak Hour Demand (MW)	1,29	1,185	1,077	1,205	1,364	1,455	1,452	1,500	1,407	1,295	1,057	1,012	1,500
(7c) Net Energy for Load (GWh)	538	473	510	524	621	673	726	731	668	593	487	518	7,062

														2023
	Year 2						2023 F	orecast						Peaks &
	Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	<b>Annual NEL</b>
(1d)	Total Peak Hour Demand (MW)	1,308	1,199	1,090	1,219	1,381	1,471	1,469	1,517	1,423	1,310	1,070	1,025	1,517
(2d)	Interruptible Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(3d)	Residential Load Management Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(4d)	Comm/Ind Load Management Implemented at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(5d)	QF Load Served by QF Gen at Peak (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(6d)	Peak Hour Demand (MW)	1,308	1,199	1,090	1,219	1,381	1,471	1,469	1,517	1,423	1,310	1,070	1,025	1,517
(7d)	Net Energy for Load (GWh)	544	479	515	529	628	681	735	740	676	600	493	524	7,144

#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 8.1

# Peak Demand (MW) and Net Energy For Load (GWh) by Month - SUPPLYING ENTITY As of January 1, 2021

#### **SOLD TO: HOMESTEAD ENERGY SERVICES**

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17)

Prior Year/Reporting Year						2020 /	Actual						Peaks &
ACTUAL Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1a) Actual Peak Hour Demand (MW)	2	2	10	10	15	15	15	15	15	15	15	5	15
(2a) Actual Wholesale Energy Sales (GWh)	1	1	4	5	7	10	10	10	10	10	6	5	79

Jan Feb								
Jan	Feb							
5	5							
4	3							

													2021
Reporting Year					:	2021 F	orecast	t					Peaks &
Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1b) Peak Hour Demand (MW)	13	13	13	13	13	13	13	13	13	13	13	13	13
(2b) Wholesale Energy Sales (GWh)	7	7	7	7	7	7	9	9	7	7	7	7	88

	Year 1					2	2022 F	orecast	t					Peaks &
1	Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1c) <b>P</b> 6	eak Hour Demand (MW)	13	13	13	13	13	13	13	13	13	13	13	13	13
(2c) <b>W</b>	/holesale Energy Sales (GWh)	7	7	7	7	7	7	9	9	7	7	7	7	88

														2023
	Year 2					:	2023 F	orecas	t					Peaks &
	Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1d)	Peak Hour Demand (MW)	13	13	13	13	13	13	13	13	13	13	13	13	13
(2d)	Wholesale Energy Sales (GWh)	7	7	7	7	7	7	9	9	7	7	7	7	88

#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 8.1

# Peak Demand (MW) and Net Energy For Load (GWh) by Month - SUPPLYING ENTITY As of January 1,

#### SOLD TO: TAMPA ELECTRIC COMPANY

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17)

													2020
Prior Year/Reporting Year						2020	Actual						Peaks &
ACTUAL Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1a) Actual Peak Hour Demand (MW)	67	0	0	0	0	0	74	74	74	0	0	150	150
(2a) Actual Wholesale Energy Sales (GWh)	1	2	0	0	0	0	4	1	1	0	0	11	20

2021	Actual
Jan	Feb
0	150
2	21

													2021
Reporting Year					- 2	2021 Fo	recast	;					Peaks &
Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1b) Peak Hour Demand (MW)	150	150	0	0	0	0	0	0	0	0	0	0	150
(2b) Wholesale Energy Sales (GWh)	37	34	0	0	0	0	0	0	0	0	0	0	71

													2022
Year 1						2022 F	orecas	t					Peaks &
Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1c) Peak Hour Demand (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(2c) Wholesale Energy Sales (GWh)	0	0	0	0	0	0	0	0	0	0	0	0	0

													2023
Year 2					- 2	2023 F	orecast	t					Peaks &
Forecasted Peak Demand & NEL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual NEL
(1d) Peak Hour Demand (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0
(2d) Wholesale Energy Sales (GWh)	0	0	0	0	0	0	0	0	0	0	0	0	0

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## 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 9.0

### **Fuel Requirements** As of January 1, 2021

(4) (1) (2) (3) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15)

	Fuel Deguirements	Unite	Actual										
	Fuel Requirements	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
(1)	NUCLEAR	TRILLION BTU	5	4	4	4	4	4	4	4	4	4	4
(2)	COAL	1000 TON	434	315	314	288	144	136	0	0	0	0	0
	RESIDUAL												
(3)	STEAM	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(4)	CC	1000 BBL	0	0 0	)	0	0	0	0	0	0	0	0
(5)	СТ	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(6)	TOTAL:	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
	DISTILLATE												
(7)	STEAM	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(8)	CC	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(9)	СТ	1000 BBL	7	0	0	1	1	2	1	2	1	3	4
(10)	TOTAL:	1000 BBL	7	0	0	1	1	2	1	2	1	3	4
	NATURAL GAS												
(11)	STEAM	1000 MCF	1,081	430	429	393	2,270	1,969	4,315	4,522	4,436	4,523	4,576
(12)	CC	1000 MCF	39,194	42,708	42,571	43,842	38,019	39,248	40,569	40,236	38,035	38,120	38,358
(13)	СТ	1000 MCF	544	161	221	208	199	226	243	354	237	303	393
(14)	TOTAL:	1000 MCF	40,819	43,299	43,221	44,443	40,488	41,443	45,127	45,112	42,708	42,946	43,327
(15)	OTHER (SPECIFY)		578	387	386	377	355	348	336	339	337	339	340

#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 9.1

Energy Sources (GWh)
As of January 1, 2021

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15)

			Actual										
	Energy Sources	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
(1)	ANNUAL FIRM INTER-REGION INTERCHANG	GWH	0	0	0	0	0	0	0	0	0	0	0
(2)	NUCLEAR	GWH	413	390	405	405	392	405	405	389	404	399	376
(3)	COAL	GWH	924	726	720	651	306	285	0	0	0	0	0
	RESIDUAL												
(4)	STEAM	GWH	0	0	0	0	0	0	0	0	0	0	0
(5)	CC	GWH	0	0	0	0	0	0	0	0	0	0	0
(6)	СТ	GWH	0	0	0	0	0	0	0	0	0	0	0
(7)	TOTAL:	GWH	0	0	0	0	0	0	0	0	0	0	0
	DISTILLATE												
(8)	STEAM	GWH	0	0	0	0	0	0	0	0	0	0	0
(9)	CC	GWH	0	0	0	0	0	0	0	0	0	0	0
(10)	СТ	GWH	3	0	0	1	0	1	0	1	0	1	1
(11)	TOTAL:	GWH	3	0	0	1	0	1	0	1	0	1	1
	NATURAL GAS												
(12)	STEAM	GWH	105	43	42	38	199	171	375	393	385	394	402
(13)	CC	GWH	5,034	5,714	5,722	5,877	5,468	5,647	5,788	5,745	5,435	5,454	5,488
(14)	СТ	GWH	50	14	19	17	17	18	20	28	19	24	31
(15)	TOTAL:	GWH	5,189	5,771	5,783	5,932	5,684	5,836	6,183	6,166	5,839	5,872	5,921
(16)	NUG	GWH	0	0	0	0	0	0	0	0	0	0	0
	RENEWABLES												
(17)	BIOFUELS	GWH	39	27	27	27	27	27	27	27	27	27	27
(18)	BIOMASS	GWH	0	0	0	0	0	0	0	0	0	0	0
(19)	GEOTHERMAL	GWH	0	0	0	0	0	0	0	0	0	0	0
(20)	HYDRO	GWH	0	0	0	0	0	0	0	0	0	0	0
(21)	LANDFILL GAS	GWH	18	11	11	10	7	7	5	6	6	6	6
(22)	MSW	GWH	0	0	0	0	0	0	0	0	0	0	0
(23)	SOLAR	GWH	51	118	118	117	450	447	445	444	443	443	440
(24)	WIND	GWH	0	0	0	0	0	0	0	0	0	0	0
(25)	OTHER RENEWABLE	GWH	0	0	0	0	0	0	0	0	0	0	0
	TOTAL:	GWH	108	156	156	154	484	481	477	477	476	476	473
(26)	OTHER (SPECIFY)	GWH	0	0	0	0	0	0	0	0	0	0	0
(27)	NET ENERGY FOR LOAD	GWH	6,637	7,043	7,064	7,143	6,866	7,008	7,065	7,033	6,719	6,748	6,771

#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 9.2

Energy Sources (GWh)
As of January 1, 2021

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15)

			Actual										
	Energy Sources	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
(1)	ANNUAL FIRM INTER-REGION INTERCHANG	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(2)	NUCLEAR	%	6.22%	5.54%	5.73%	5.67%	5.71%	5.78%	5.73%	5.53%	6.01%	5.91%	5.55%
(3)	COAL	%	13.92%	10.31%	10.19%	9.11%	4.46%	4.07%	0.00%	0.00%	0.00%	0.00%	0.00%
	RESIDUAL												
(4)	STEAM	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(5)	CC	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(6)	CT	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(7)	TOTAL:	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
. ,													
	DISTILLATE												
(8)	STEAM	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(9)	CC	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(10)	CT	%	0.05%	0.00%	0.00%	0.01%	0.00%	0.01%	0.00%	0.01%	0.00%	0.01%	0.01%
(11)	TOTAL:	%	0.05%	0.00%	0.00%	0.01%	0.00%	0.01%	0.00%	0.01%	0.00%	0.01%	0.01%
	NATURAL GAS												
(12)	STEAM	%	1.58%	0.61%	0.59%	0.53%	2.90%	2.44%	5.31%	5.59%	5.73%	5.84%	5.94%
(13)	CC	%	75.85%	81.13%	81.00%	82.28%	79.64%	80.58%	81.92%	81.69%	80.89%	80.82%	81.05%
(14)	СТ	%	0.75%	0.20%	0.27%	0.24%	0.25%	0.26%	0.28%	0.40%	0.28%	0.36%	0.46%
(15)	TOTAL:	%	78.18%	81.94%	81.87%	83.05%	82.78%	83.28%	87.52%	87.67%	86.90%	87.02%	87.45%
(16)	NUG	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	RENEWABLES												
(17)	BIOFUELS	%	0.59%	0.38%	0.38%	0.38%	0.39%	0.39%	0.38%	0.38%	0.40%	0.40%	0.40%
(18)	BIOMASS	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(19)	GEOTHERMAL	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(20)	HYDRO	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(21)	LANDFILL GAS	%	0.27%	0.16%	0.16%	0.14%	0.10%	0.10%	0.07%	0.09%	0.09%	0.09%	0.09%
(22)	MSW	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(23)	SOLAR	%	0.77%	1.68%	1.67%	1.64%	6.55%	6.38%	6.30%	6.31%	6.59%	6.56%	6.50%
(24)	WIND	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(25)	OTHER RENEWABLE	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	TOTAL:	%	1.63%	2.21%	2.21%	2.16%	7.05%	6.86%	6.75%	6.78%	7.08%	7.05%	6.99%
(26)	OTHER (SPECIFY)	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(27)	NET ENERGY FOR LOAD	%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

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#### 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 10

## Forecast of Capacity, Demand, and Reserve Margin At Time of SUMMER Peak

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13)

Year	Installed Capacity (MW)	Firm Imports (MW)	Firm Exports (MW)	Firm NUGs (MW)	Firm Contracts (MW)	Total Avail Capacity (MW)	Total Peak Demand (MW)	•	Exercising I/INT	Net Firm Peak Demand	•	Exercising 1/INT
	(IVIVV)	(IVIVV)	(IVIVV)	(IVIVV)	(IVIVV)	(IVIVV)	(IVIVV)	(MW)	% of Peak	(MW)	(MW)	% of Peak
2021	1,292	0	0	0	455	1,747	1,481	266	18.0%	1,481	266	18.0%
2022	1,307	0	0	0	455	1,762	1,500	262	17.5%	1,500	262	17.5%
2023	1,307	0	0	0	455	1,762	1,517	245	16.2%	1,517	245	16.2%
2024	1,307	0	0	0	419	1,726	1,459	267	18.3%	1,459	267	18.3%
2025	1,307	0	0	0	419	1,726	1,483	243	16.4%	1,483	243	16.4%
2026	1,322	0	0	0	419	1,741	1,496	245	16.4%	1,496	245	16.4%
2027	1,322	0	0	0	418	1,741	1,495	246	16.4%	1,495	246	16.4%
2028	1,322	0	0	0	303	1,625	1,412	213	15.1%	1,412	213	15.1%
2029	1,322	0	0	0	317	1,639	1,424	215	15.1%	1,424	215	15.1%
2030	1,321	0	0	0	323	1,643	1,428	215	15.1%	1,428	215	15.1%

# Forecast of Capacity, Demand, and Reserve Margin At Time of WINTER Peak

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13)

Year	Installed Capacity (MW)	Firm Imports (MW)	Firm Exports (MW)	Firm NUGs (MW)	Firm Contracts (MW)	Total Avail Capacity (MW)	Total Peak Demand (MW)	•	Exercising I/INT	Net Firm Peak Demand	•	Exercising /INT
	(10100)	(10100)	(10100)	(10100)	(10100)	(10100)	(10100)	(MW)	% of Peak	(MW)	(MW)	% of Peak
2021/22	1,348	0	0	0	473	1,820	1,292	528	40.9%	1,292	528	40.9%
2022/23	1,348	0	0	0	473	1,820	1,308	512	39.2%	1,308	512	39.2%
2023/24	1,348	0	0	0	386	1,733	1,262	471	37.4%	1,262	471	37.4%
2024/25	1,348	0	0	0	386	1,733	1,287	446	34.7%	1,287	446	34.7%
2025/26	1,363	0	0	0	386	1,748	1,301	447	34.4%	1,301	447	34.4%
2026/27	1,363	0	0	0	386	1,748	1,301	447	34.4%	1,301	447	34.4%
2027/28	1,362	0	0	0	206	1,568	1,226	342	27.9%	1,226	342	27.9%
2028/29	1,362	0	0	0	206	1,568	1,239	329	26.6%	1,239	329	26.6%
2029/30	1,361	0	0	0	206	1,566	1,243	323	26.0%	1,243	323	26.0%
2030/31	1,361	0	0	0	206	1,566	1,256	310	24.7%	1,256	310	24.7%

## 2021 Load and Resource Database Florida Municipal Power Agency

#### FRCC Form 11

# Contracted Firm Imports and Firm Exports From/To Outside the FRCC Region at Time of Peak (MW) As of January 1, 2021

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14)

	S	UMMER Imports/Export	s	
Year	Suppliers (Imports)	Total	Purchasers (Exports)	Total
Teal		Imports		Exports
2021		0		0
2022		0		0
2023		0		0
2024		0		0
2025		0		0
2026		0		0
2027		0		0
2028		0		0
2029		0		0
2030		0		0

SUMMER
Net
Interchange
0
0
0
0
0
0
0
0
0
0

WINTER Imports/ Exports						
Year	Suppliers (Imports)	Total	Purchasers (Exports)	Total		
Teal		Imports		Exports		
2021/22		0		0		
2022/23		0		0		
2023/24		0		0		
2024/25		0		0		
2025/26		0		0		
2026/27		0		0		
2027/28		0		0		
2028/29		0		0		
2029/30		0		0		
2030/31		0		0		

	MANAGER				
	WINTER				
Net					
Interchange					
	0				
	0				
	0				
	0				
	0				
	0				
	0				
	0				
	0				
	0				

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2021 Load and Resource Database Florida Municipal Power Agency

#### As of December 31, 2020

(11) (12) (15) (16) (17) (18) (20) (21) (22) (23) (24) Load Flow Model ID (if applicable) Fuel Type lameplat Net Capability (MW) Firm Cap (MW) Counted as Counted as Counted as Submitting Contract Term EIA Op an Export in Description Entity EIA Model **EIA Plant** Capabilit a NUG in an Import in From Winter Pri Δlt **Bus No** Unit No Code Gen Code Entity Entity Contract Name m/dd/yyyy) (MW) Form 3? Form 11? Form 11? Code Type mm/dd/yyyy) 200 ALACHUA FMPA ST LUCIE 2 ST NUC 08/14/1983 01/01/2099 Λ 0.4 0.4 0.4 0.4 Entitlement Share of St. Lucie Project (St. Lucie #2) 6567 Entitlement Share of St. Lucie Project (St. Lucie #2). This contract will not be published in the LRP, only 6567 200 ALACHUA FMPA ST 08/14/1983 01/01/2099 -0.4 -0.4 used for FMPA RM Calculation FMPA KFY ОТ DFO 04/01/1998 12/31/2032 0 36.5 36.5 36.5 36.5 All KEYS owned capacity is used by FMPA to serve the ARP 6567 FMPA All KUA owned capacity is used by FMPA to serve the ARP 6567 Ω 0 Ω KUA OT NG 01/01/2014 01/01/2099 Ω 243.3 254.6 243 255 Firm Solar from Phase I PPA Λ Ω ΕΜΡΔ Nevtera ΩT SHIN 06/01/2021 09/30/2021 Ω 16.2 Λ 16.2 Ω 6567 Ω **FMPA** Nextera OT SUN 06/01/2022 09/30/2022 0 16.2 16.2 Firm Solar from Phase I PPA 6567 FMPA Nextera ОТ SUN 06/01/2023 09/30/2023 16.1 16.1 Firm Solar from Phase I PPA 6567 Firm Solar from Phase I PPA **FMPA** ОТ 06/01/2024 09/30/2024 23.1 23.1 6567 Nextera FMPA ОТ 09/30/2025 Firm Solar from Phase I PPA 6567 0 SUN 06/01/2025 0 23 0 23 Nextera 0 **FMPA** Nextera OT SUN 06/01/2026 09/30/2026 0 22.9 0 22.9 0 Firm Solar from Phase I PPA 6567 Ω ΕΜΡΔ Nevtera ОТ SHIN 06/01/2027 09/30/2027 Λ 22.8 Λ 22 R Ω Firm Solar from Phase I PPA 6567 EVIDV Nextera OT SUN 06/01/2028 09/30/2028 0 22.8 0 22.8 0 Firm Solar from Phase I PPA 6567 **FMPA** OT SUN 06/01/2029 09/30/2029 22.7 22.7 Firm Solar from Phase I PPA 6567 **FMPA** OT ОТН 06/01/2030 09/30/2030 0 22.6 0 22.6 0 Firm Solar from Phase I PPA 6567 Nextera ОТ Firm Solar from Phase II PPA 6567 **FMPA** Origis SUN 06/01/2024 09/30/2024 38.5 38.5 Firm Solar from Phase II PPA 0 **FMPA** Origis OT SUN 06/01/2025 09/30/2025 0 38.4 0 38.4 0 6567 Ω **FMPA** Origis OT SUN 06/01/2026 09/30/2026 0 38.3 Ω 38.3 Ω Firm Solar from Phase II PPA 6567 FMPA Origis ОТ SUN 06/01/2027 09/30/2027 38.2 38.2 Firm Solar from Phase II PPA 6567 FMPA Firm Solar from Phase II PPA 6567 Origis ОТ SUN 06/01/2028 09/30/2028 38 38 FMPA ОТ SUN 06/01/2029 09/30/2029 37.9 37.9 Firm Solar from Phase II PPA 6567 Origis 6567 0 **FMPA** Origis OT OTH 06/01/2030 09/30/2030 0 37.8 0 37.8 Ω Firm Solar from Phase II PPA Λ Ω ΕΜΡΔ SOLL **ΣΤΔΝΤΩΝ Δ** CC NG 10/01/2003 09/30/2023 Ω 81.4 87 1 81 4 87 1 PPA with SOU (Stanton A) 6567 9564 0 **FMPA** SOU OLEANDER 5 GT NG 12/16/2007 12/16/2027 198.8 162 180 162 180 PPA with SOU (Oleander 5) 6567 ΕΜΡΔ TRD ОТ ОТН 06/01/2028 09/30/2028 0 47 0 47 0 Placeholder for meeting Summer loads plus reserve margin. 6567 0 Λ 0 **FMPA** ОТ ОТН 06/01/2029 09/30/2029 0 61 Placeholder for meeting Summer loads plus reserve margin 6567 FMPA TBD 67 0 OT OTH 06/01/2030 09/30/2030 0 67 0 0 Placeholder for meeting Summer loads plus reserve margin. 6567 Entitlement Share in St. Lucie Project (St. Lucie #2). This contract will not be published in the LRP, only 6567 200 0 HST FMPA STIUCIE 2 ST NUC 08/14/1983 01/01/2099 0 -7 -7.3 -7 -7.3 used for FMPA RM Calculation Entitlement Share in Stanton Project (Stanton 1). This contract will not be published in the LRP, only 6567 5534 HST FMPA STANTON 1 ST BIT 07/01/1987 01/01/2099 -7.7 -7.7 -7.7 -7.7 used for FMPA RM Calculation Entitlement Share in Tri-City Project (Stanton 1). This contract will not be published in the LRP, only 6567 HST used for FMPA RM Calculation FMPA STANTON 1 ST BIT BIT 07/01/1987 01/01/2099 -5.1 -5.1 5534 Ω -5.1 -5.1 Entitlement Share in Stanton II Project (Stanton 2), This contract will not be published in the LRP, only 6567 5537 HST FMPA STANTON 2 ST BIT 06/01/1996 01/01/2099 0 -8.3 -8.3 -8.3 -8.3 used for FMPA RM Calculation Entitlement Share in St. Lucie Project (St. Lucie #2). This contract will not be published in the LRP, only 6567 LWBU ST LUCIE 2 NUC 08/14/1983 01/01/2046 -21.6 -22.41 -21.6 -22.41 used for FMPA RM Calculation 0 Entitlement Share in Stanton Project (Stanton 1). This contract will not be published in the LRP, only 6567 0 LWBU FMPA STANTON 1 ST BIT 07/01/1987 01/01/2046 0 -10.4 -10.4 -10.4 -10.4 used for FMPA RM Calculation Entitlement Share in St. Lucie Project (St. Lucie #2). This contract will not be published in the LRP, only МН FMPA ST. LUCIE 2 ST NUC 08/14/1983 01/01/2099 0 -0.3 -0.3 -0.3 -0.3 used for EMPA RM Calculation Entitlement Share in St. Lucie Project (St. Lucie #2). This contract will not be published in the LRP, only 6567 FMPA ST. LUCIE 2 NUC 08/14/1983 01/01/2099 0.3 0.3 0.3 0.3 used for FMPA RM Calculation Entitlement Share in St. Lucie Project (St. Lucie #2). This contract will not be published in the LRP, only 6567 0 NSB FMPA ST. LUCIE 2 ST NUC 08/14/1983 01/01/2099 0 -8.6 -8.9 -8.6 -8.9 used for FMPA RM Calculation Entitlement Share in Stanton II Project (Stanton 2). This contract will not be published in the LRP, only 6567 STC FMPA STANTON 2 ST BIT 06/01/1996 01/01/2046 -15.1 -15.1 -15.1 used for FMPA RM Calculation -15.1 200 HST FMPA ST LUCIE 2 ST NUC 08/14/1983 01/01/2099 7.3 7.3 Entitlement Share in St. Lucie Project (St. Lucie #2) 8795 HST FMPA STANTON 1 ST BIT 07/01/1987 01/01/2099 7.7 7.7 7.7 Entitlement Share in Stanton Project (Stanton 1) 8795 5534 7.7 0 Entitlement Share in Tri-City Project (Stanton 1) 8795 5534 1 HST FMPΔ STANTON 1 ST RIT RIT 07/01/1987 01/01/2099 Ω 5.1 5.1 5.1 5.1 5537 HST FMPA STANTON 2 ST BIT 06/01/1996 01/01/2099 0 8.3 8.3 8.3 8.3 Entitlement Share in Stanton II Project (Stanton 2) 8795 0 HST ΕΜΡΔ ST ΔR 01/01/2020 12/31/2026 15 15 15 15 8795 LWBU FMPA ST LUCIE 2 ST NUC 01/01/2046 21.6 22.41 21.6 22.41 Entitlement Share in St. Lucie Project (St. Lucie #2) 10620 08/14/1983 FMPA STANTON 1 ST BIT Entitlement Share in Stanton Project (Stanton 1) 10620 LWBU 07/01/1987 01/01/2046 10.4 10.4 10.4 10.4 0 0 0 0 NSB FMPA ST. LUCIE 2 ST NUC 08/14/1983 01/01/2099 0 10 10 10 10 Entitlement Share in St. Lucie Project (St. Lucie #2) 13485 0 RCI FMPA UNK NA NA 01/01/2019 06/30/2021 0 53 53 53 53 Firm base load purchase 15776 RCI FMPA UNK NA NA 07/01/2021 12/31/2023 53 53 53 53 Firm base load purchase 15776 STC FMPA STANTON 2 ST BIT 06/01/1996 01/01/2046 0 15.1 15.1 15.1 15.1 Entitlement Share in Stanton II Project (Stanton 2) 17867 Winter 2020 (Dec 2020 - Feb 2021) 18454 0 TEC FMPA UNK NA NA 12/01/2020 02/28/2021 0 150 0 150

Review of the 2022 Ten-Year Site Plans for Florida's Electric Utilities Staff's Data Request #2

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2021 Load and Resource Database Florida Municipal Power Agency

Summary and Specifications of Proposed Transmission Lines

As of January 1, 2021

(5) (10) (11) (12) (13) (17) (18) (19) (22) (25) (26) (27) Rebuild/ Bundling Circuits Per Circuits Per Pole/Tower Commerical Project Name | Construction | Reconductor w Line Ckt Operating Design Capacity Primary Conductor Stucture Structure Tie Line Pole/Tower Structure In Service (%) (optional) Scope Ckt Miles Miles Voltage (kV) Voltage (kV) (mVA) Driver Material Present Ultimate (Y/N) Material (Mo/Yr)

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## 2021 Load and Resource Database Florida Municipal Power Agency FRCC Form 13.1

# Summary of Circuit Miles of Existing Transmission Lines As of December 31, 2020

(1) (2) (3)

Voltage Class	Inside FRCC Region	Outside FRCC Region	Total Circuit Miles
500 kV	0	0	0
230 kV	11	0	11
138 kV	0	0	0
115 kV	0	0	0
69 kV	0	0	0