



Florida Municipal Power Agency

Michele A. Jackson, P.E.
System Planning Manager

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FPSC - COMMISSION CLERK

Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Ten-Year Site Plan Supplemental Data Request #1 – FMPA Responses

May 9, 2017

Dear Sir/Madam:

Pursuant to the Commission's 2017 Data Request #1, dated March 3, 2017, FMPA is hereby filing one electronic copy of its written Response.

Under separate cover, via FedEx, FMPA will submit a copy of the Excel files requested by the Commission as part of this Data Request #1.

If you have any questions, please do not hesitate to contact me at (321) 239-1013.

Sincerely,

A handwritten signature in blue ink that reads 'Michele A. Jackson'.

Michele A. Jackson, P.E.
System Planning Manager

Enc.

cc. File

General Items

1. Please provide an electronic copy of the Company's 2017 Ten-Year Site Plan Schedules 1 through 10 (in Excel format).

The requested information was provided in hard copy and electronically as "Revised FMPA 2017 TYSP Final" and "FMPA TYSP Schedules" on March 30, 2017.

2. Please provide all data requested in the attached forms labeled "Appendix A." If any of the requested data is already included in the Company's Ten-Year Site Plan, state so on the appropriate form.

Data in Appendix A will be provided as requested.

Load & Demand Forecasting

3. **[Investor-owned Utilities Only]** Please provide, on a system-wide basis, the hourly system load for the period January 1, 2016, through December 31, 2016, in Microsoft Excel format.

FMPA is not an Investor-owned Utility.

4. Please provide the actual monthly peak demand experienced in the period 2014 through 2016, including the actual peak demand experienced, the amount of demand response activated during peak, and the estimated total peak if demand response had not been activated. Please also provide the date, hour, and system-average temperature at the time of each monthly peak.

Historic Peak Demand Timing & Temperature

Year	Month	Actual Peak Demand	Demand Response Activated	Estimated Peak Demand	Date	Hour	System-Average Temperature
		(MW)	(MW)	(MW)			(Degrees F)
2016	1	1,015	0	1,015	1/25/2016	8	50
	2	1,019	0	1,019	2/11/2016	8	50
	3	921	0	921	3/16/2016	17	76
	4	1,045	0	1,045	4/29/2016	17	77
	5	1,091	0	1,091	5/31/2016	16	80
	6	1,242	0	1,242	6/14/2016	17	85
	7	1,296	0	1,296	7/6/2016	17	86
	8	1,275	0	1,275	8/22/2016	17	86
	9	1,136	0	1,136	9/9/2016	17	82
	10	1,010	0	1,010	10/5/2016	16	80
	11	859	0	859	11/2/2016	16	74
	12	843	0	843	12/5/2016	19	73
2015	1	879	0	879	1/8/2015	9	38
	2	1,161	0	1,161	2/20/2015	8	33
	3	878	0	878	3/17/2015	17	87
	4	978	0	978	4/10/2015	17	90
	5	1,133	0	1,133	5/21/2015	17	93
	6	1,227	0	1,227	6/22/2016	16	96
	7	1,176	0	1,176	7/10/2015	16	94
	8	1,203	0	1,203	8/25/2015	17	96
	9	1,167	0	1,167	9/11/2015	17	94
	10	1,055	0	1,055	10/1/2015	16	91
	11	1,028	0	1,028	11/3/2015	15	90
	12	874	0	874	12/30/2015	16	87
2014	1	1028	0	1028	1/23/2014	8	37
	2	874	0	874	2/14/2014	8	37
	3	726	0	726	3/4/2014	20	81
	4	1025	0	1025	4/28/2014	17	93
	5	1083	0	1083	5/23/2014	17	94
	6	1138	0	1138	6/26/2014	17	95
	7	1157	0	1157	7/28/2014	17	93
	8	1218	0	1218	8/21/2014	17	97
	9	1123	0	1123	9/3/2014	16	91
	10	1041	0	1041	10/3/2014	16	91
	11	853	0	853	11/20/2014	8	46
	12	820	0	820	12/11/2014	8	41

Notes
 1. System-Average Temperature is the temperature at the Orlando International Airport at the time of the ARP coincident peak.
 2. Actual Peak Demand is at the Generation level and includes transmission losses. This is the peak demand at the Generation level of the All Requirements Project including the scheduled sale to the City of Quincy at the time of the peak demand (as applicable).

5. Please identify the weather station(s) used for calculation of the system-wide temperature for the utility's service territory. If more than one weather station is utilized, please describe how a system-wide average is calculated.

FMPA is a wholesale electric utility which provides all requirements service to 13 municipal electric utilities within the state, referred to herein as the All-Requirements Project (ARP) Participants. The Cities of Vero Beach and Lake Worth are also ARP Participants, but no longer purchase capacity and energy from the ARP. FMPA supplies all of the 13 ARP Participants' electric power and energy, transmission and associated services, unless limited by a contract rate of delivery, except for certain excluded resources. The 13 FMPA ARP participants that purchase capacity and energy from FMPA range in location from Gadsden County in the Big Bend to Monroe County, including Key West. As a power supply project, the ARP does not have a service territory. FMPA used the temperature at the Orlando International Airport as a statewide average in responding to Question 4, but in the development of the forecast, various weather stations within or near our participants' service territories are used.

For purposes of analyzing and forecasting ARP energy requirements, monthly weather data from the following weather stations are utilized:

- *Ft. Pierce-St. Lucie County Int'l Airport*
- *Gainesville Regional Airport*
- *Jacksonville Beach*
- *Key West Int'l Airport*
- *Orlando Int'l Airport*
- *Tallahassee Airport*
- *Tampa Airport*
- *West Palm Beach*

For purposes of analyzing ARP peak demand data, daily weather data from the following weather stations are utilized:

- *Gainesville Regional Airport*
- *Orlando Int'l Airport*
- *West Palm Beach*

6. Please explain how the Company's load and demand forecasting used in its 2017 Ten Year Site Plan was developed. In your response please include the following information: methodology, assumptions, data sources, third-party consultant(s) involved, any difference/improvement made compared with the load and demand forecasting used in the company's 2017 Ten Year Site Plan.

- a. *Third Party Consultants: FMPA contracted with Leidos Engineering to prepare the load forecast.*
- b. *Methodology: FMPA bases its forecast of demand and energy for the ARP on econometric models that have been developed over the years to correlate each of FMPA's All Requirement Project (ARP) Participant's historical energy requirements with demographic and economic variables associated with each ARP Participant's service territory, while also reflecting local issues and trends. These models, when supplied with economic and demographic data forecasts as input, produce a forecast of monthly energy usage by ARP Participant. FMPA then adds the anticipated losses across the relevant transmission systems used by FMPA to deliver capacity and energy to its All-Requirements Customers to the energy monthly usage by ARP Participant to produce a Net Energy for Load at the generation level.*
- c. *Data Sources and assumptions:*
 - i. *Historical Participant retail sales, customer accounts, electric sales, revenues are gathered and analyzed. Within this process, data on the estimated impact of the ARP Conservation Program for each Participant are collected and tracked. Similarly, the level of activity and estimated impacts of the ARP Net Metering Program are tracked and projected. Estimated Conservation and Net Metering Program impacts are compared to a planning threshold for potential incorporation of such impacts explicitly into the forecast.*
 - ii. *Historical and projected economic and demographic data were also provided by IHS Global Insight and Woods & Poole (both nationally recognized providers of such data).*
 - iii. *Weather data was provided by the National Oceanic and Atmospheric Administration (NOAA) for a variety of weather stations in close proximity to the ARP Participants and was used to produce the forecast on a weather-normalized basis. That is, we assume that weather conditions in the future will be the same as the 30-year normal weather, which is similar to average weather conditions over the latest 30 year period (1981-2010) as reported by the NOAA.¹ For purposes of comparing actual data to forecast data, we weather-normalize (i.e., mathematically adjust) actual energy usage data to estimate energy requirements had the weather been normal.*

¹ The primary weather determinants used in the forecast are heating and cooling degree days, which measure differences in daily average temperature from 65 degrees Fahrenheit (dF). Cooling degree days are the summation of positive differences in daily average temperature from 65 dF; heating degree days are the summation of the absolute value of negative differences.

iv. *Real Electricity Price Data was derived from the information gathered in item i (above).*

d. *General assumptions:*

- i. *The future influence on energy sales of the economic, demographic, and weather factors, on which the econometric models are based, was assumed to be similar to the estimated influence of such factors generally over the period 1992 through 2015.*
- ii. *Although the econometric models implicitly account for the historical relationships between energy usage and the following factors to the extent they have occurred in the past, the 2016 Load Forecast does not explicitly reflect extraordinary potential future effects of: (a) increases in appliance design efficiency or building insulation standards; (b) significant conservation efforts, including those funded by the ARP, the state of Florida, and the federal government, that are not a function of changes in electricity or natural gas prices; (c) development of substitute energy sources, or demand-side generation; (d) consumers switching to traditional or new types of electrical appliances from other alternatives (e.g., electric vehicles); (e) consumers switching from electrical appliances to other alternatives; or (f) variations in load that might result from legal, legislative, regulatory, or policy actions.*
- iii. *The recent average historical relationships between annual summer and winter non-coincident demands and annual NEL and between monthly NCP demands and annual winter and summer NCP demands were assumed to represent reasonable approximations of future load relationships between demands and energy requirements.*
- iv. *The Contract Rate of Demand ("CROD") for Vero Beach and for Lake Worth is zero. The CROD for Ft. Meade, effective January 1, 2015, and an estimate of the CROD for Green Cove Springs, effective January 1, 2020, have been reflected herein.*
- v. *Data regarding the historical impacts of load management resources operated by the Participants and reported to FMPA are assumed to be accurate (note: Participants' peak load management activities have ceased, effective September 30, 2015).*
- vi. *The data regarding the ARP Conservation Program, including historical participation and marginal impacts, are assumed to be accurate. Leidos has independently reviewed and assisted in the development of the marginal impact estimates of the programs and believes them to be reasonable. As discussed previously, Leidos has prepared, with FMPA's assistance, simplified projections of Conservation Program activity and load impacts, which reflect that projected load impacts will not exceed FMPA's threshold for explicit inclusion in the Load Forecast of 0.5 percent of load over the 20-year planning horizon. To the extent the Conservation Program expands in a significant way relative to these projections, the future impacts may have a*

significant impact on future loads to be served by the ARP not captured herein.

- vii. *Data regarding installed distributed generation as part of FMPA's Net Metering Program are assumed to be accurate and represent all distributed generation (other than certain generation resources utilized by the Participants for emergency purposes). As discussed previously, Leidos has prepared, with FMPA's assistance, a simplified projection of impacts from FMPA's Net Metering Program, which reflect that load impacts will not exceed FMPA's threshold for explicit inclusion in the Load Forecast of 0.5 percent of load over the 20-year planning horizon. To the extent activity in the Net Metering Program expands in a significant way relative to these projections, the future impacts may have a significant impact on future loads to be served by the ARP not captured herein.*

7. Please identify all closed and opened FPSC dockets and all non-docketed FPSC matters which were/are based on the same load forecast used in the Company's 2017-2026 Ten Year Site Plan (2017 TYSP).

FMPA does not have any open or closed FPSC dockets, or non-docketed FPSC matters currently based on the load forecast used in the 2017 TYSP.

8. **[Investor-owned Utilities Only]** Does your company review the accuracy of its customer, load and demand forecasts presented in its TYSP by comparing the actual data for a given year to the data forecasted one, two, three, four or five years prior?

FMPA is not an Investor-owned Utility.

- a. If the response is affirmative, please explain the method used in such review.
- b. If the response is affirmative, please provide the results of such review for each forecast presented in TYSPs filed, or to be filed, to the Commission from 2001 to 2017 with supporting workpapers in Excel format.
- c. If the response is negative, please explain why not.

9. Please explain any recent and forecasted trends in customer growth, by customer type (residential, commercial, industrial) and as a whole.

FMPA recently conducted an aggregated analysis of ARP Participants' customer growth by retail class over the last 5 fiscal years, starting in fiscal year 2011 and ending in fiscal year 2015. Over that period, ARP Participants have experienced positive growth in both residential and non-residential customer counts (in aggregate).

10. Please explain any recent and forecasted trends in electricity use per customer, by customer type (residential, commercial, industrial) and as a whole.

FMPA recently conducted an aggregated analysis of ARP Participants' customers' usage per meter over the last 5 fiscal years, starting in fiscal year 2011 and ending fiscal year 2015. The analysis computed weather-normalized growth in usage per meter, taking into account specific weather at each of the All Requirements Project Member locations. The results of this analysis indicated that, in aggregate, usage has been flat to declining in both the residential and non-residential sectors after controlling for weather variation from normal conditions. There are countervailing factors that influence usage. In general, declines in electricity prices, improvements in the employment situation, increased average income, and reductions in vacancy rates and under-occupied accounts have a small upward impact on usage. Concurrently, the lingering effects of the recent recession in terms of reduced propensity to spend, a continued orientation to conservation, and continued improvement in energy efficiency, driven primarily from technological advances, equipment standards, and building codes, places downward pressure on average usage. FMPA continually monitors usage trends across our Members as part of our load forecasting process.

11. Please explain any recent and forecasted trends in peak demand by the sources of peak demand appearing in Schedule 3.1 of the Ten Year Site Plan.

As mentioned above, the ARP provides wholesale service to 13 municipals spread throughout the state. We have seen a similar turn-around in summer peak demand as discussed above. Many of the same influences discussed above are no doubt impacting peak demand. However, given the more granular time-specific factors and weather conditions impacting peak demand, it is more difficult to separate out these influences. This is particularly challenging given the disaggregated nature of the retail service areas of the 13 municipals served at wholesale by the ARP.

12. **[Investor-owned utilities only]** If not included in the Company's 2017 Ten Year Site Plan to be filed by April 1, 2017, please provide load forecast sensitivities (high band, low band) to account for the uncertainty inherent in the base case forecasts in the following Ten Year Site Plan schedules: *FMPA is not an Investor-owned Utility.*

- a. Schedule 2.1 – History and Forecast of Energy Consumption and Number of Customers by Customer Class
- b. Schedule 2.2 - History and Forecast of Energy Consumption and Number of Customers by Customer Class
- c. Schedule 2.3 - History and Forecast of Energy Consumption and Number of Customers by Customer Class
- d. Schedule 3.1 - History and Forecast of Summer Peak Demand
- e. Schedule 3.2 - History and Forecast of Winter Peak Demand
- f. Schedule 3.3 - History and Forecast of Annual Net Energy for Load
- g. Schedule 4 - Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month.

13. **[Investor-owned utilities only]** If not included in the Company's 2017 Ten Year Site Plan to be filed April 1, 2017, please provide the methodology used to prepare load forecast sensitivities (high band, low band) to account for the uncertainty in the base case forecasts in the following Ten Year Site Plan schedules: *FMPA is not an Investor-owned Utility.*

- a. Schedule 2.1 – History and Forecast of Energy Consumption and Number of Customers by Customer Class
- b. Schedule 2.2 - History and Forecast of Energy Consumption and Number of Customers by Customer Class

- c. Schedule 2.3 - History and Forecast of Energy Consumption and Number of Customers by Customer Class
- d. Schedule 3.1 - History and Forecast of Summer Peak Demand
- e. Schedule 3.2 - History and Forecast of Winter Peak Demand
- f. Schedule 3.3 - History and Forecast of Annual Net Energy for Load
- g. Schedule 4 - Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month.

14. Please discuss whether the Company included plug-in electric vehicle loads in its demand and energy forecasts for the 2017 Ten-Year Site Plan.

As part of our on-going load forecast process for the ARP, FMPA inquires about load characteristics, new customers and new initiatives associated with demand and energy for load in the ARP Participants' territories. We will continue to monitor the plug-in electric vehicle load potential as part of our on-going load forecasting process. As Participants become aware of plug-in electric vehicle market saturation in their service territories, FMPA will incorporate these estimations into the load forecast for the ARP.

15. Please discuss the methodology and the assumptions (or, if applicable, the source(s) of the data) used to estimate the number of vehicles operating in the Company's service territory and the methodology used to estimate the cumulative impact on system demand and energy consumption.

The All-Requirements Project is a wholesale power supply project and as such, does not have a service territory. As Participants become aware of significant plug-in electric vehicle market saturation in their service territories, FMPA will incorporate these estimations in the demand and energy forecasts for the Ten-Year Site Plan.

16. Please include the following information within the utility's service territory: an estimate of the number of electric vehicles, an estimate of the number of public EV charging stations, and the estimated demand and energy impacts of the electric vehicles by year.

The All-Requirements Project is a wholesale power supply project and as such, does not have a service territory. FMPA does not collect this information on behalf of the ARP Participants.

Electric Vehicle Charging Impacts

Year	Number of Electric Vehicles	Number of Public EV Charging Stations	Cumulative Impact of Electric Vehicles		
			Summer Demand	Winter Demand	Annual Energy
	(-)	(-)	(MW)	(MW)	(GWh)
2016					
2017					
2018					
2019					
2020					
2021					
2022					
2023					
2024					
2025					
2026					
Notes					
<i>The All-Requirements Project is a wholesale power supply project and as such, does not have a service territory. FMPA does not collect this information on behalf of the ARP Participants.</i>					

17. Please describe any company programs or tariffs currently offered to customers relating to plug-in electric vehicles, and describe whether any new or additional programs or tariffs relating to plug-in electric vehicles will be offered to customers within the ten-year period.

The All-Requirements Project is a wholesale power supply project and as such, does not have programs or tariffs for retail customers.

18. Please describe how the Company monitors the installation of public charging stations in its service area? Please provide the number of “quick-charge” electric vehicle charging stations (i.e., charging stations requiring a service drop greater than 240 volts and/or using three-phase power) currently installed in the service area.

The All-Requirements Project is a wholesale power supply project and as such, does not have a service territory. FMPA does not collect this information on behalf of the ARP Participants.

21. **[FEECA Utilities Only]** For each source of demand response, use the table below to provide the information listed on an annual basis in seasonal peak demand and number of affected customers. Please also provide a summary of all demand response using the chart below. As part of this response, please provide an electronic version of the table below in Excel format with your response. *FMPA is not a FEECA Utility.*

[Demand Response Source or All Demand Response Sources]										
Year	Summer					Winter				
	# of Events	Average Event Size		Maximum Event Size		# of Events	Average Event Size		Maximum Event Size	
	(MW)	(MW)	# of Customers	(MW)	# of Customers	(MW)	(MW)	# of Customers	(MW)	# of Customers
2007										
2008										
2009										
2010										
2011										
2012										
2013										
2014										
2015										
2016										

22. **[FEECA Utilities Only]** For each source of demand response, use the table below to provide the information listed on an annual basis for seasonal peak activations. Please also provide a summary of all demand response using the chart below. As part of this response, please provide an electronic version of the table below in Excel format with your response.

FMPA is not a FEECA Utility.

[Demand Response Source or All Demand Response Sources]							
Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak?	# of Customers Activated	Capacity Activated	Activated During Peak?	# of Customers Activated	Capacity Activated
		(Y/N)	(MW)	(MW)	(Y/N)	(MW)	(MW)
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							

Generation & Transmission

23. Please identify and describe each existing utility-owned renewable resource as of December 31, 2016, that delivered energy during the year. Please include the facility’s name, unit type, fuel type, its installed capacity (AC-rating for PV systems), its net firm capacity or contribution during peak demand (if any), capacity factor for 2015 based off of the installed capacity, and its in-service date. For multiple small distributed renewable resources (< 250 kW per installation), such as rooftop solar panels, please include a combined entry for the resources that share the same unit & fuel type.

Existing Utility-Owned Renewable Resources

Facility Name	Unit Type	Fuel Type	Installed Capacity (MW)		Net Firm Capacity (MW)		Capacity Factor (%)	In-Service Date (MM/YYYY)
			Sum	Win	Sum	Win		
<i>Orange County Landfill [1]</i>	<i>ST</i>	<i>LFG - Methane gas is used as a supplemental fuel source at the Stanton Energy Center</i>	<i>[1]</i>	<i>[1]</i>	<i>0</i>	<i>0</i>	<i>[1]</i>	<i>04/1998</i>
<i>NOAA Eco-Discovery Center [2]</i>	<i>PV</i>	<i>SUN</i>	<i>0.03</i>	<i>0.03</i>	<i>0</i>	<i>0</i>	<i>18</i>	<i>12/2009</i>
Notes								
<p><i>[1] OUC’s Stanton Energy Project receives landfill gas from the Orange County Landfill. FMPA’s ARP is a joint owner in OUC’s Stanton Energy Project Units 1 and 2. (The ARP and ARP Participants are entitled to 23.6% of the energy output of Unit 1 and 19.3% of the energy output of Unit 2). These units burn landfill gas as only a supplemental fuel and on an “As Available” basis and there is no additional capacity as a result from this fuel resource.</i></p> <p><i>[2] The NOAA Discovery Center is a joint partnership between the National Oceanic and Atmospheric Administration (NOAA) and FMPA. FMPA receives 62% of the energy generated from the solar PV System.</i></p>								

24. Please identify and describe each planned utility-owned renewable resource for the period 2017 through 2026. Please include each proposed facility’s name, unit type, fuel type, its installed capacity (AC-rating for PV systems), its net firm capacity or anticipated contribution during peak demand (if any), anticipated typical capacity factor, and projected in-service date. For multiple small distributed renewable resources (< 250 kW per installation), such as rooftop solar panels, please include a combined entry for the resources that share the same unit & fuel type.

FMPA currently has no plans for additional utility-owned renewable resources for the period 2017 through 2026.

Planned Utility-Owned Renewable Resources

Facility Name	Unit Type	Fuel Type	Installed Capacity (MW)		Net Firm Capacity (MW)		Capacity Factor (%)	In-Service Date (MM/YYYY)
			Sum	Win	Sum	Win		
-	-	-						
<i>None</i>								
Notes								
<i>FMPA currently has no plans for additional utility-owned renewable resources for the period 2017 through 2026.</i>								

25. Please refer to the list of planned utility-owned renewable resources for the period 2017 through 2026 above. Discuss the current status of each project.

FMPA currently has no plans for additional utility-owned renewable resources for the period 2017 through 2026. Not applicable.

26. Please list and discuss any planned utility-owned renewable resources within the past year that were cancelled, delayed, or reduced in scope. What was the primary reason for the changes? What, if any, were the secondary reasons?

There have been no changes during the past year to FMPA’s plans for additional utility-owned renewable resources for the period 2017 through 2026.

27. Please identify and describe each purchased power agreement with a renewable generator that delivered energy during 2016. Provide the name of the seller, the name of the generation facility associated with the contract, the unit type of the facility, the fuel type, the facility’s installed capacity (AC-rating for PV systems), the amount of contracted firm capacity (if any), and the start and end dates of the purchased power agreement.

Existing Renewable Purchased Power Agreements

Seller Name	Facility Name	Unit Type	Fuel Type	Installed Capacity (MW)		Contracted Firm Capacity (MW)		In-Service Date (MM/YY)	Contract Term (MM/YY)	
				Sum	Win	Sum	Win		Start	End
	-	-	-							
<i>US Sugar</i>	<i>US Sugar</i>	<i>ST</i>	<i>AB</i>	<i>48 [1]</i>	<i>48 [1]</i>	<i>0</i>	<i>0</i>	<i>09/2004</i>	<i>04/1990</i>	<i>On-going with 90 days cancellation notice</i>
Notes										
<i>[1] US Sugar has 3 generators. The first generator was installed in September 2004 (14 MW), the second, in November 2006 (20 MW) and the third in 2007 (14 MW) for a total of 48 MW on-site generation. The facility uses 45MW in-house which leaves 3MW available for the market on-peak. There is a 20 MW transformer at the site which limits the total amount of generation available to sell to the grid to a maximum of 20 MW at any time. This biomass facility is a non-firm resource and energy is received on an "As Available" basis. The contract is on-going but may be terminated with a 90 day cancellation notice.</i>										

28. Please identify and describe each purchased power agreement with a renewable generator that is anticipated to begin delivering renewable energy to the Company during the period 2017 and 2026. Provide the name of the seller, the name of the generation facility associated with the contract, the unit type of the facility, the fuel type, the facility’s installed capacity (AC-rating for PV systems), the amount of contracted firm capacity (if any), and the start and end dates of the purchased power agreement.

Renewable Purchased Power Agreements

Seller Name	Facility Name	Unit Type	Fuel Type	Installed Capacity (MW)		Contracted Firm Capacity (MW)		In-Service Date (MM/YY)	Contract Term (MM/YY)	
				Sum	Win	Sum	Win		Start	End
	-	-	-							
<i>None</i>										
Notes										
<i>FMPA currently has no plans for additional PPAs with renewable generators for the period 2017 through 2026, but continually evaluates renewable proposals it receives.</i>										

29. Please refer to the list of renewable purchased power agreements that are anticipated to begin delivering capacity and/or energy to the Company during the period 2017 through 2026. Discuss the current status of each project.

FMPA currently has no plans for additional PPAs with renewable generators for the period 2017 through 2026. Not applicable.

30. Please list and discuss any renewable purchased power agreements within the past year that were cancelled, expired, delayed, or modified. What was the primary reason for the changes? What, if any, were the secondary reasons?

There have been no changes during the past year to FMPA's PPAs with renewable generators.

31. Please provide the actual and projected annual output for all renewable resources on the Company’s system, including utility-owned resources (firm, non-firm, and co-firing), purchases (firm, non-firm, and co-firing), and customer-owned generation, for the period 2016 through 2026.

The resources listed below are those that the ARP uses to serve Project Participants, and does not include net metered, customer-owned resources on individual Project Participants' distribution systems.

Renewable Generation by Source

Renewable Source	Annual Renewable Generation (GWh)										
	Actual	Projected									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Utility - Firm											
Utility - Non-Firm	13.7	10.5	8.5	10.6	12.6	13.5	16.0	17.1	17.4	17.4	18.3
Utility - Co-Firing											
Purchase - Firm											
Purchase - Non-Firm	20.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
Purchase - Co-Firing											
Customer-Owned											
Total											
Notes											
1] Utility - Non-Firm renewable source is two part: 1) FMPA's share of generation from landfill gas that is combusted in the Stanton Units 1 and 2; and 2) Energy from FMPA's share of the PV system on the roof of the NOAA Eco-Discovery Center. 2] Purchase - Non-Firm source is generation from bagasse combusted by US Sugar and sold to FMPA.											

32. Please complete the table below, providing a list of all of the Company’s plant sites that are potential candidates for utility-scale (>2 MW) solar installations. As part of this response, please provide the plant site’s name, approximate land area available for solar installations, potential installed capacity rating of a PV installation, and a description of any major obstacles that could affect utility-scale solar installations at any of these sites, such as land devoted to other uses or other requirements.

Candidate Sites - Solar

Plant Name	Land Available (Acres)	Installed Capacity (MW)	Potential Issues
<i>At this time, FMPA has not considered any of our plant sites as potential candidates for utility scale solar installations.</i>			

33. Please complete the table below, providing a list of all of the Company’s plant sites that are potential candidates for utility-scale wind installations. As part of this response, please provide the plant site’s name, approximate land area available for wind installations, potential installed capacity rating of a wind farm installation, and a description of any major obstacles that could affect utility-scale wind installations at any of these sites, such as land devoted to other uses or other requirements.

Candidate Sites – Wind

Plant Name	Land Available (Acres)	Installed Capacity (MW)	Potential Issues
<i>At this time, FMPA has not considered any of our plant sites as potential candidates for utility scale wind installations.</i>			

34. Please complete the table below, providing a list of all of the Company’s steam units that are potential candidates for repowering to operation with biomass fuel. As part of this response, please provide the unit’s current fuel type, summer capacity rating, in-service date, and what potential conversion (either co-firing biomass, biomass as a primary fuel, or other type). Also include a description of any major obstacles that could affect repowering efforts at any of these sites, such as unit age, land availability, or other requirements.

Repowering Candidate Units –Biomass

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date	Potential Conversion	Potential Issues
Notes					
<i>FMPA has no steam units in our wholly owned and/or assigned generating fleet. FMPA has a minority ownership interest in OUC’s Stanton Units 1 and 2; for those units, FMPA defers to the response submitted by OUC as the Majority Owner and Operator.</i>					

35. Please describe any actions the Company engages in to encourage production of renewable energy within its service territory.

The All-Requirements Project is a wholesale power supply project and as such, does not have a service territory or retail customers. FMPA has developed net metering and feed-in tariff policies to support the programs of the ARP Participants.

36. Please discuss whether the Company has been approached by renewable energy generators during 2016 regarding constructing new renewable energy resources. If so, please provide a description of the number and type of renewable generation represented.

FMPA is routinely approached by renewable energy generators and we view discussions with these entities as a way to stay on top of market developments. During 2016, we met face to face or had conference calls with ten developers. Most of the developers were focused on promoting solar photovoltaic technology projects with one case focusing on solar with battery backup. Two developers also approached FMPA with wind energy generation opportunities.

37. Does the Company consider solar PV to contribute to one or both seasonal peaks for reliability purposes? If so, please provide the percentage contribution and explain how the Company developed the value.

Currently, FMPA does not have any significant solar PV resources and has not developed a percentage contribution for solar PV resources to our seasonal peaks for reliability purposes. We've observed data from the NOAA Eco-Discovery Center's 30 kW dc PV system (in which FMPA has a 62% ownership share) that reveals that the system does produce some energy during the All-Requirements Projects summer peaks, and that the contribution is less during the winter peaks.

38. **[Investor-owned Utilities Only]** Provide, on a system-wide basis, the historical annual average as-available energy rate in the Company's service territory for the period 2007 through 2016. If the Company uses multiple areas for as-available energy rates, please provide a system-average rate as well. Also, provide the forecasted annual average as-available energy rate in the Company's service territory for the period 2017 through 2026.

FMPA is not an Investor-owned Utility.

As-Available Energy Rates

Year		As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)
Actual	2007			
	2008			
	2009			
	2010			
	2011			
	2012			
	2013			
	2014			
	2015			
	2016			
Projected	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
Notes				
<i>FMPA is not an Investor-owned Utility.</i>				

39. Please complete the following table detailing planned unit additions, including information on capacity and in-service dates. Please include only planned conventional units with an in-service date past January 1, 2017. For each planned unit, provide the date of the Commission’s Determination of Need and Power Plant Siting Act certification (if applicable), and the anticipated in-service date.

Planned Unit Additions

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
<i>None</i>				
Notes				
<i>Notes: FMPA currently has no planned unit additions for the period 2017 through 2026. FMPA will need to acquire 22 MW in 2024, 40 MW in 2025, and 58 MW in 2026 to maintain a summer reserve margin of 18%. FMPA may look at purchasing the additional capacity for the summer from an undetermined source, or exercise the existing Stanton A PPA extension option with Southern Company.</i>				

40. For each of the planned generating units contained in the Company's Ten-Year Site Plan, please discuss the "drop dead" date for a decision on whether or not to construct each unit. Provide a time line for the construction of each unit, including regulatory approval, and final decision point.

FMPA currently has no planned unit additions for the period 2017 through 2026. FMPA will need to acquire 22 MW in 2024, 40 MW in 2025 and 58 MW in 2026 to maintain a summer reserve margin of 18%. This need will likely be met by extension of the existing Stanton A PPA or a new, as yet undetermined seasonal purchase.

41. Please provide an estimate of the revenue requirements of the Company based upon the Ten-Year Site Plan's planned generating units.

FMPA currently has no planned generating units identified in the Ten-Year Site Plan.

42. For each of the planned generating units contained in the Company's Ten-Year Site Plan, please identify the next best alternative that was rejected for each unit. Provide information similar to Schedule 9 regarding each of the next best alternative unit(s). As part of this response, please also provide the additional revenue requirement that would have been associated with the next best alternative compared to the planned unit.

FMPA currently has no planned generating units identified in the Ten-Year Site Plan.

43. For each existing and planned unit on the Company's system, provide the following data based upon historic data from 2016 and forecasted capacity factor values for the period 2017 through 2026. Please complete the tables below and provide an electronic copy (in Excel).

Projected Unit Information – Capacity Factor (%)

Plant	Unit #	Unit Type	Fuel Type	Actual	Projected [5]									
				2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Cane Island	1	GT	NG	1.0	2.7	2.4	1.8	1.6	3.4	3.3	5.1	6.9	7.0	9.2
Cane Island	2	CC	NG	31.9	18.0	14.6	6.3	4.6	11.0	9.9	13.6	18.1	17.3	21.1
Cane Island	3	CC	NG	71.6	58.4	63.0	47.1	41.9	45.9	34.7	38.4	44.2	45.9	48.4
Cane Island	4	CC	NG	72.1	59.2	66.4	64.6	56.9	54.6	51.6	52.0	56.6	58.1	56.9
Stock Island	CT 1	GT	DFO	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1
Stock Island	CT 2	GT	DFO	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1
Stock Island	CT 3	GT	DFO	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1
Stock Island	GT 4	GT	DFO	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1
Stock Island	MSD1	IC	DFO	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1
Stock Island	MSD2	IC	DFO	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1
Stock Island	EP2	IC	DFO	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Treasure Coast	1	CC	NG	67.1	66.3	66.9	63.1	58.2	60.5	55.8	56.3	63.2	64.2	61.5
St. Lucie	2	NP	UR	[1]	99.0	99.2	97.0	90.0	90.2	97.0	90.1	90.2	97.0	90.0
Indian River	CT A	GT	NG	[2]	0.2	0.1	0.3	0.0	0.2	0.2	0.1	0.1	0.4	0.4
Indian River	CT B	GT	NG	[2]	0.2	0.1	0.3	0.0	0.2	0.2	0.1	0.1	0.3	0.4
Indian River	CT C	GT	NG	[2]	0.9	0.4	0.6	0.1	0.7	0.5	0.6	1.3	1.5	2.8
Indian River	CT D	GT	NG	[2]	0.9	0.4	0.5	0.0	0.6	0.4	0.5	0.8	1.0	1.8
Stanton Energy Center	1	ST	BIT	[2]	37.6	24.7	35.3	47.3	51.7	64.1	68.8	70.2	70.3	73.6
Stanton Energy Center	2	ST	BIT	[2]	44.7	42.5	47.7	52.7	55.4	62.3	65.7	65.8	66.4	69.8
Stanton Energy Center	A	CC	NG	[3]	63.2	68.8	68.4	69.0	69.7	68.7	69.7	69.4	69.8	68.0
Oleander	OGS	GT	NG	[4]	0.3	0.3	0.8	0.4	1.5	1.3	2.2	3.5	3.2	3.6
Notes														
[1] Historical operating data for this unit is available from Florida Power and Light.														
[2] Historical operating data for this unit is available from Orlando Utilities Commission.														
[3] Historical operating data for this unit is available from Southern Company.														
[4] FMPA has a PPA with Southern Company for Oleander Unit 5. Historical operating data for the unit is available from Southern Company.														
[5] Projected capacity factors are based on production modeling using assumptions suitable for long-term planning purposes.														

44. For each existing unit on the Company’s system, please provide the planned retirement date. If the Company has does not have a planned retirement date for a unit, please provide an estimated lifespan for units of that type and a non-binding estimate of the retirement date for the unit.

Plant	Unit #	Unit Type	Fuel Type	Commercial In-Service Date MM/YY	Estimated Lifespan	Possible Retirement Date based on Lifespan
Cane Island	1	GT	NG	01/95	[1]	[1]
Cane Island	2	CC	NG	06/95	[1]	[1]
Cane Island	3	CC	NG	01/02	[1]	[1]
Cane Island	4	CC	NG	08/11	[1]	[1]
Stock Island	CT 1	GT	DFO	11/78	[1]	[1]
Stock Island	CT 2	GT	DFO	06/99	[1]	[1]
Stock Island	CT 3	GT	DFO	06/99	[1]	[1]
Stock Island	GT 4	GT	DFO	06/06	[1]	[1]
Stock Island	MSD1	IC	DFO	06/91	[1]	[1]
Stock Island	MSD2	IC	DFO	06/91	[1]	[1]
Stock Island	EP2	IC	DFO	07/12	[1]	[1]
Treasure Coast	1	CC	NG	05/08	[1]	[1]
St. Lucie	2	NP	UR	08/83	[2]	[2]
Indian River	CT A	GT	NG	06/89	[3]	[3]
Indian River	CT B	GT	NG	07/89	[3]	[3]
Indian River	CT C	GT	NG	08/92	[3]	[3]
Indian River	CT D	GT	NG	10/92	[3]	[3]
Stanton Energy Center	1	ST	BIT	07/87	[3]	[3]
Stanton Energy Center	2	ST	BIT	06/96	[3]	[3]
Stanton Energy Center	A	CC	NG	10/03	[4]	[4]

[1] FMPA does not currently have planned retirement dates for any unit on FMPA’s system, and no estimate of lifespan can be given at this time. Any estimates that FMPA would provide in response to this Supplemental Data Request #1 would not be based on any policy decision, practice, or book-life data used by FMPA.

[2] FMPA defers to FPL for a response

[3] FMPA defers to OUC for a response.

[4] FMPA defers to Southern Company for a response.

45. Please complete the table below, providing a list of all of the Company’s steam units that are potential candidates for repowering to operation as Combined Cycle units.. As part of this response, please provide the unit’s current fuel type, summer capacity rating, in-service date, and what potential conversion, fuel-switching, or repowering would be most applicable.

Also include a description of any major obstacles that could affect repowering efforts at any of these sites, such as unit age, land availability, or other requirements.

Repowering Candidate Units - Steam

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date	Potential Conversion	Potential Issues
<i>None</i>					
Notes					
<i>FMPA has no steam units in our wholly owned and/or assigned generating fleet. FMPA has a minority ownership interest in OUC's Stanton Units 1 and 2; for those units, FMPA defers to the response submitted by OUC as the Majority Owner and Operator.</i>					

46. Please identify each of the Company’s existing (as of December 31, 2016) and planned (between 2017 through 2026) power purchase contracts, including firm capacity imports reflected in Schedule 7 of the Company’s Ten-Year Site Plan. Provide the seller, the term of the contract, amount of seasonal capacity purchased, the primary fuel (if applicable, such as with a unit purchase), whether it is included in the utility’s firm peak capacity, and a description of the source of the purchase (such as the name of the unit in a unit purchase).

FMPA currently has no plans for additional long-term Purchase Power contracts for the period 2017 through 2026. FMPA has the need to obtain another 22MW in 2024, 40 MW in 2025, and 58MW in 2026 in capacity to maintain a summer reserve margin of 18%. FMPA may look at purchasing capacity for the summer from an undetermined source, or exercise the existing Stanton A PPA extension option with Southern Company.

Existing Purchased Power Agreements

Seller	Contract Term		Contract Capacity (MW)		Capacity Factor (%)	Primary Fuel (if any)	Firm Capacity	Description
	Begins	Ends	Summer	Winter				
<i>Southern Company Florida, LLC</i>	<i>3/1/2017</i>	<i>9/30/2023</i>	<i>79</i>	<i>84</i>	<i>33.31%</i>	<i>NG (Primary)</i>	<i>Yes</i>	<i>Unit contingent purchase from the Stanton Energy Center CC Unit A</i>
<i>Oleander Power Project, LP</i>	<i>2/6/2017</i>	<i>12/15/2027</i>	<i>162</i>	<i>180</i>	<i>1.80%</i>	<i>NG (Primary)</i>	<i>Yes</i>	<i>Unit contingent purchase from the Oleander Power Plant CT 5</i>
Notes								

Planned Purchased Power Agreements

Seller	Contract Term		Contract Capacity (MW)		Capacity Factor [2]	Primary Fuel (if any)	Firm Capacity	Description
	Begins	Ends	Summer	Winter	(%)			
[1]	5/1/2024	9/30/2024	22	0	n/a	Gas	22	Purchase
[1]	5/1/2025	9/30/2025	40	0	n/a	Gas	40	Purchase
[1]	5/1/2026	9/30/2026	58	0	n/a	Gas	58	Purchase
Notes								
[1] FMPA has the need to obtain an additional 22 MW in 2024, 40 MW in 2025, and 58 MW in 2026 in capacity to maintain a summer reserve margin of 18%. FMPA may consider a purchase of summer capacity from an undetermined source, or exercise the existing Stanton A PPA extension option with Southern Company.								
[2] These planned purchases will be seasonal, for the purpose of maintaining the summer reserve margin requirement of 18%. Capacity factor is not applicable for these purchases.								

47. Please identify each of the Company’s existing (as of December 31, 2016) and planned (between 2017 through 2026) power sales, including firm capacity exports reflected in Schedule 7 of the Company’s Ten-Year Site Plan. Provide the purchaser, the term of the contract, amount of seasonal capacity sold, the primary fuel (if applicable, such as with a unit purchase), whether it is included in the utility’s firm peak demand, and a description of the sale (such as the name of the unit in a unit purchase).

FMPA has no existing or planned power sales during the period 2017 through 2026.

Existing Power Sales

Purchaser	Contract Term		Contract Capacity (MW)		Primary Fuel (if any)	Firm Demand	Description
	Begins	Ends	Summer	Winter			
<i>None</i>							

Planned Power Sales

Purchaser	Contract Term		Contract Capacity (MW)		Primary Fuel (if any)	Firm Demand	Description
	Begins	Ends	Summer	Winter			
<i>None</i>							

48. Please list and discuss any long-term power sale or purchase agreements within the past year that were cancelled, expired, or modified.

There have been no long-term power sales or purchase agreements that have expired or have been cancelled or modified within the past year.

49. Please provide a list of all proposed transmission lines in the planning period that require certification under the Transmission Line Siting Act. Please also include those that have been approved, but are not yet in-service, when completing the table below.

Transmission Projects Requiring TLISA Approval

Transmission Line	Line Length	Nominal Voltage	Date Need Approved	Date TLISA Certified	In-Service Date
	(Miles)	(kV)			
<i>None</i>					
Notes					

Environmental

50. Provide a narrative explaining the impact of any existing environmental regulations relating to air emissions and water quality or waste issues on the Company’s system during the 2016 period. As part of your narrative, please discuss the potential for existing environmental regulations to impact unit dispatch, curtailments or retirements during the 2017 through 2026 period.

During the 2016 period, FMPA has been able to manage our fleet operations and capital and O&M expenditures in a manner that avoids negative impacts such as curtailments or unplanned retirements. FMPA fully anticipates that existing environmental regulations will not have any negative impacts on unit dispatch, curtailments or retirements during the 2017 through 2026 period.

51. Please provide the amount of regulated air pollutants and carbon dioxide emitted, on an annual and per megawatt-hour basis, by the Company’s generation fleet during the period 2007 through 2026. Please complete the table below and provide an electronic copy (in Excel).

Emissions of Registered Air Pollutants & CO2

Year	SOX		NOX		Mercury		Particulates		CO2		
	lb/MWh	Tons	lb/MWh	Tons	lb/MWh	Tons	lb/MWh	Tons	lb/MWh	Tons	
Actual	2007	0.018	11	0.38	220	NA		NA		1,210	699,784
	2008	0.008	9	0.22	235					992	1,061,258
	2009	0.012	18	0.11	161					890	1,348,638
	2010	0.006	9	0.1	160					893	1,423,306
	2011	0.005	9	0.07	142					839	1,662,110
	2012	0.004	10	0.08	179					863	2,023,064
	2013	0.004	11	0.05	136					844	2,100,794
	2014	0.004	12	0.06	163					845	2,302,486
	2015	0.004	12	0.06	175					848	2,296,518
	2016	0.004	12	0.06	156					853	2,341,057
Projected	2017	0.005	11	0.07	179					873	2,098,109
	2018	0.005	12	0.07	171					870	2,207,398
	2019	0.005	10	0.08	173					864	1,945,907
	2020	0.004	9	0.06	125					863	1,745,839
	2021	0.005	10	0.07	148					870	1,822,194
	2022	0.005	8	0.07	128					868	1,619,659
	2023	0.005	9	0.08	153					873	1,692,092
	2024	0.005	10	0.08	169					875	1,912,596
	2025	0.005	10	0.08	186					875	1,948,859
	2026	0.005	10	0.09	198					879	1,956,972

Notes

1) Emissions are from units that the ARP either wholly owns or has operational responsibility for. This excludes Stanton 1, Stanton 2, Stanton A, Oleander 5 and Indian River Units A-D (Units owned (thru majority positions) and operated by other utilities).

2) SO2 and NOx Emissions Data Sources for Actual emissions are 40 CFR 75 EDR emissions data as submitted to EPA for all units reporting under this program, and Annual Operating Report emissions data submitted to FDEP for all other units.

CO2 Emissions Data Sources for Actual emissions are 40 CFR 75 EDR emissions data as submitted to EPA for all units reporting under this program and GHG emissions calculated using 40 CFR 98 methods for all other units. As necessary, emissions have been converted from CO2e to CO2 using 40 CFR 98 calculations.

Emissions are reported in US Short Tons.

3) MWhs used to develop reported emissions rates are net of plant auxiliary loads as measured at the high side of the unit Generator Step-Up transformer (GSU).

4) Projected emissions (2016 and beyond) are based on production modeling using assumptions suitable for long-term planning.

52. For the U.S. Environmental Protection Agency’s (EPA’s) Mercury and Air Toxics Standards (MATS) Rule:

FMPA has a minority ownership interest in OUC’s Stanton Units 1 and 2, and OUC is the sole operator for the facilities and has all compliance responsibility on behalf of itself and as agent for FMPA. FMPA has no other coal-fired generating units.

- a. Will your company be materially affected by the rule?
- b. What compliance strategy does the company anticipate employing for the rule?
- c. If the strategy has not been completed, what is the company’s timeline for completing the compliance strategy?
- d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
- e. Does the company anticipate asking for cost recovery for any expenses related to this rule? Please complete the following chart regarding MATS-related costs:

Year	Estimated Cost of Mercury and Air Toxics Standards (MATS) Rule Impacts (2017 \$ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
Notes				
N/A				

If the answer to any of the above questions is not available, please explain why that is so.

53. For the U.S. EPA’s Cross-State Air Pollution Rule (CSAPR) Rule:

In September 2016, EPA finalized the Interstate Transport Rule for the 2008 ozone NAAQS (“CSAPR Update”). The CSAPR Update, based on the 2008 ozone NAAQS standard of 75 ppb, excludes the state of Florida, effective in 2017, due to the modeled results which show we have no impact on ozone noncompliance in downwind states. If future CSAPR modeling of the 2015 standard (70 ppb) demonstrates that Florida is impacting downwind states, Florida may be subject to NOx reductions in CSAPR again.

- a. Will your company be materially affected by the rule?
- b. What compliance strategy does the company anticipate employing for the rule?
- c. If the strategy has not been completed, what is the company’s timeline for completing the compliance strategy?
- d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
- e. Does the company anticipate asking for cost recovery for any expenses related to this rule? Please complete the following chart regarding CSAPR-related costs:

Year	Estimated Cross-State Air Pollution Rule (CSAPR) Rule Impacts (2017 \$ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
Notes				
N/A				

If the answer to any of the above questions is not available, please explain why that is so.

54. For the U.S. EPA’s Cooling Water Intake Structures Rule (CWIS) Rule:

FMPA has a minority ownership interest in FPL’s St. Lucie Unit 2, and FPL is the sole operator for the facility, and has all compliance responsibility on behalf of itself and FMPA. FMPA will defer to FPL’s compliance strategy for the CWIS Rule. The CWIS rule does not affect any other FMPA units.

- a. Will your company be materially affected by the rule?
- b. What compliance strategy does the company anticipate employing for the rule?
- c. If the strategy has not been completed, what is the company’s timeline for completing the compliance strategy?
- d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
- e. Does the company anticipate asking for cost recovery for any expenses related to this rule? Please complete the following chart regarding CWIS-related costs:

Year	Estimated Cost of Cooling Water Intake Structures Rule (CWIS) Rule Impacts (2017 \$ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
Notes				
N/A				

If the answer to any of the above questions is not available, please explain why that is so.

55. For the U.S. EPA’s Coal Combustion Residuals Rule (CCR), both for classification of coal ash as a “Non-Hazardous Waste” and as a “Special Waste”:

FMPA has a minority ownership interest in OUC’s Stanton Units 1 and 2, and OUC is the sole operator for the facilities and has all compliance responsibility on behalf of itself and as agent for FMPA. FMPA has no other coal-fired generating units.

- a. Will your company be materially affected by the rule?
- b. What compliance strategy does the company anticipate employing for the rule?
- c. If the strategy has not been completed, what is the company’s timeline for completing the compliance strategy?
- d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
- e. Does the company anticipate asking for cost recovery for any expenses related to this rule? Please complete the following chart regarding CCR-related costs:

Year	Estimated Coal Combustion Residuals Rule (CCR) Impacts (2017 \$ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
Notes				
(Include Notes Here)				

If the answer to any of the above questions is not available, please explain why that is so.

56. For the U.S. EPA’s Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units Rule:

Pursuant to President Trump’s Executive Order on March 28, 2017, titled Promoting Energy Independence and Economic Growth, the EPA will be reviewing the Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources. Further, since FMPA has no immediate plans to develop, modify or reconstruct any units, this rule is not currently applicable to FMPA.

- a. Will your company be materially affected by the rule?
- b. What compliance strategy does the company anticipate employing for the rule?
- c. If the strategy has not been completed, what is the company’s timeline for completing the compliance strategy?
- d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
- e. Does the company anticipate asking for cost recovery for any expenses related to this rule? Please complete the following chart regarding costs:

Year	Estimated Cost of Standards of Performance for Greenhouse Gas Emissions Rule for New Sources Impacts (2017 \$ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
Notes				
N/A				

If the answer to any of the above questions is not available, please explain why that is so.

57. Please identify, for each unit affected by one or more of EPA’s rules, what the impact is for each Rule, including; unit retirement, curtailment, installation of additional emissions controls, fuel switching, or other impacts identified by the Company. As part of this response, please also indicate the unit’s name, type, fuel type, and net summer generating capacity. Please complete the table below and provide an electronic copy (in Excel).

Estimated Impacts of EPA’s Rules on Generating Units

Unit	Unit Type	Fuel Type	Net Sum Capacity (MW)	Type of New and Proposed EPA Rule Impacts					Anticipated Impacts
				MATS	CSAPR/CAIR	CWIS	CCR		
							Non-Hazardous Waste	Special Waste	
Cane Island 1	GT	NG	35		X				[2]
Cane Island 2	CC	NG	109		X				[2]
Cane Island 3	CC	NG	240		X				[2]
Cane Island 4	CC	NG	300		X				[2]
Stock Island CT1	GT	DFO	18						
Stock Island CT2	GT	DFO	16						
Stock Island CT3	GT	DFO	14						
Stock Island CT4	GT	DFO	46		X				[2]
Stock Island MS1	JC	DFO	8						
Stock Island MS2	JC	DFO	8		X				
TCEC	CC	NG	300		X				[2]
Indian River CTA (minority)	GT	NG	19		X				[2]
Indian River CTB (minority)	GT	NG	19		X				[2]
Indian River CTC (minority)	FT	NG	22		X				[2]
Indian River CTD (minority)	GT	NG	22		X				[2]
Stanton 1 (minority)	ST	BIT	92	X	X		X	X	[2] [3]
Stanton 2 (minority)	ST	BIT	85	X	X		X	X	[2] [3]
Stanton A (minority)	CC	NG	43		X				[2]
St. Lucie 2 (minority)	NP	UR	35			X			[4]
Notes									
[1] The units listed in the table for Question 57 include only the generation units that FMPA, as agent for the FMPA's All-Requirements Power Supply Project ("ARP") directly owns, in whole or in part through ownership shares and entitlements, as well as those generation units for which FMPA does not own but has been assigned operational (including environmental) responsibility from individual Participants. FMPA's answers to all of the questions in this Environmental Issues Section (Questions 50 through 62) of the 2017 Ten Year Site Plan Supplemental Data Request are based on this list of units. However, FMPA's responses to the 2017 Ten Year Site Plan and other sections of this Supplemental Data Request may be based on the larger set of resources used by FMPA to serve the ARP, which includes purchased power resources, and resources owned and operated by individual ARP participants that have been contractually dedicated to serve the combined ARP load.									
[2] As discussed in FMPA's response to Question #53, the state of Florida is excluded from the CSAPR Update. If future CSAPR modeling demonstrates that Florida is impacting downwind states, these units will continue to operate within prescribed limits of permits and CSAPR allowances, as assigned and purchased.									
[3] As discussed in FMPA's response to Questions #52 and #55, FMPA has a minority ownership in Stanton Units 1 and 2, which are affected by the MATS and CCR Rules. Other FMPA units are not impacted by these rules. FMPA will defer to OUC's compliance strategy for these units, and FMPA will be responsible for a percentage share of the costs for compliance.									
[4] As discussed in FMPA's response to Question #54, FMPA has a minority ownership in St. Lucie 2, which will be affected by the CWIS rule. Other FMPA units are not impacted by the CWIS rule. FPL has all compliance responsibility and FMPA will be responsible for a percentage share of all capital additions and O&M costs.									

58. Please identify, for each unit impacted by one or more of the EPA’s rules, what the estimated cost is for implementing each Rule over the course of the planning period. As part of this response, please indicate the unit’s name, type, fuel type, and net summer generating capacity. Please complete the table below and provide an electronic copy (in Excel).

Estimated Unit Cost of EPA’s Rules

Unit	Unit Type	Fuel Type	Net Sum Capacity (MW)	Estimated Cost of New or Proposed EPA Rules Impacts (2017 \$ millions)					
				MATS	CSAPR/CAIR [1]	CWIS	CCR Non-Hazardous Waste	CCR Special Waste	Total Cost
Cane Island 1	GT	NG	35						
Cane Island 2	CC	NG	109						
Cane Island 3	CC	NG	240						
Cane Island 4	CC	NG	300						
Stock Island CT1	GT	DFO	19						
Stock Island CT2	GT	DFO	16						
Stock Island CT3	GT	DFO	14						
Stock Island CT4	GT	DFO	46						
Stock Island MS1	IC	DFO	8						
Stock Island MS2	IC	DFO	8						
TCEC	CC	NG	300						
Indian River CTA (minority)	GT	NG	16						
Indian River CTB (minority)	GT	NG	16						
Indian River CTC (minority)	FT	NG	22						
Indian River CTD (minority)	GT	NG	22						
Stanton 1 (minority)	ST	BIT	92	[2]	[2]		[2]		
Stanton 2 (minority)	ST	BIT	85	[2]	[2]		[2]		
Stanton A (minority)	CC	NG	43						
St. Lucie 2 (minority)	NP	UR	35			[3]			
Notes									
[1] As discussed in FMPA's response to Question #53, the state of Florida is excluded from the CSAPR Update. If future CSAPR modeling demonstrates that Florida is impacting downwind states, these units will continue to operate within prescribed limits of permits and CSAPR allowances, as assigned and purchased; if allowances continue to be readily available, FMPA does not anticipate any substantial increase in costs due to CSAPR for our wholly owned and/or assigned generating units.									
[2] As discussed in FMPA's response to Questions #52 and #55, FMPA has a minority ownership in Stanton Units 1 and 2, which will be affected by the CSAPR, MATS and the CCR Rules. FMPA will be responsible for a percentage share of all required capital additions and additional O&M costs.									
[3] As discussed in FMPA's response to Question #54, FMPA has a minority ownership in St. Lucie 2, which will be affected by the CWIS rule. Other FMPA units are not impacted by the CWIS rule. FPL has all compliance responsibility and FMPA will be responsible for a percentage share of all required capital additions and additional O&M costs.									

59. Please identify, for each unit impacted by one or more of EPA’s rules, when and for what duration units would be required to be offline due to retirements, curtailments, installation of additional controls, or additional maintenance related to emission controls. Include important dates relating to each rule. Please complete the table below and provide an electronic copy (in Excel).

FMPA does not anticipate that, under current planning assumptions, ARP’s wholly owned units and ARP Participants’ wholly owned units for which FMPA has been assigned operational responsibility will be required to be offline due to retirements, curtailments, installation of additional emissions controls, or additional maintenance related to emissions control.

For the impacted units in which FMPA has a minority ownership interest, including the Stanton, Indian River and St. Lucie units, FMPA defers to the responses submitted by OUC and FPL as the Majority Owners and Operators of these facilities.

Estimated Timing of Unit Impacts of EPA’s Rules

Unit	Unit Type	Fuel Type	Net Sum Capacity (MW)	Estimated Timing of EPA Rule Impacts (Month/Year - Duration)				
				MATS	CSAPR/CAIR	CWIS	CCR	
							Non-Hazardous Waste	Special Waste
Notes								
<i>See the above explanation in response to Question 59</i>								

60. Explain any expected reliability impacts resulting from each of the EPA Rules listed below.

As part of your explanation, please discuss the impacts of transmission constraints and units not modified by the Rule, that may be required to maintain reliability if unit retirements, curtailments, additional emissions control upgrades, or longer outage times due to each of these EPA Rules.

- a. Mercury and Air Toxics Standards (MATS) Rule.
- b. Cross-State Air Pollution Rule (CSAPR).
- c. Cooling Water Intake Structures Rule (CWIS).
- d. Coal Combustion Residuals Rule (CCR).
- e. Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units.

FMPA actively participates on the FRCC Planning Committee and other committees and sub-committees, and contributes to statewide reliability planning activities. It is still unknown to what extent the full impact of the EPA's rules will have on the long range reliability to FMPA and within the FRCC Region. FMPA does not anticipate that, under current planning assumptions, ARP's wholly owned units and ARP Participants' wholly owned units for which FMPA has been assigned operational responsibility will be required to be offline due to retirements, curtailments, installation of additional emissions controls, or additional maintenance related to emissions control. Therefore, FMPA operations should not contribute to any potential transmission constraints resulting from the EPA's rules.

61. If applicable, identify any currently approved costs for environmental compliance investments made by your Company, including but not limited to renewable energy or energy efficiency measures, which would mitigate the need for future investments to comply with recently finalized or proposed EPA regulations. Briefly describe the nature of these investments and identify which rule(s) they are intended to address.

There are no currently approved capital investments being made by FMPA at its wholly owned units or units for which FMPA has operational responsibility for environmental compliance associated with recently finalized or proposed EPA regulations.

For the units in which FMPA has a minority ownership interest, including the Stanton, Indian River and St. Lucie units, FMPA defers to the responses submitted by OUC and FPL as the Majority Owners and Operators of these facilities. FMPA will be responsible for a percentage share of all capital addition and O&M costs.

62. What steps has your Company taken, is currently taking, or is planning to take to address curbing carbon dioxide emissions for existing sources? How has your Company addressed the ruling by the U.S. Supreme Court that carbon dioxide is a pollutant under the Clean Air Act? How does your Company plan on addressing carbon dioxide emissions from existing sources during the ten-year site planning period?

The Clean Power Plan is currently under review by the EPA. While the outcome of the rule is uncertain, FMPA's compliance strategy will be to operate within prescribed limits, potentially shifting generation from coal to natural gas and/or zero-emitting generators (such as renewables and nuclear) and/or purchasing Emission Reduction Credits or Allowances on the market, as necessary.

Fuel Supply & Transportation

63. Please provide, on a system-wide basis, the actual annual fuel usage (in GWh) and average fuel price (in nominal \$/MMBTU) for each fuel type utilized by the Company in the period 2007 through 2016. Also, provide the forecasted annual fuel usage (in GWh) and forecasted annual average fuel price (in nominal \$/MMBTU) for each fuel type forecasted to be used by the Company in the period 2017 through 2026. As part of this response, please complete the table below.

Average Fuel Price Comparison

Year	Uranium		Coal		Natural Gas		Residual Oil		Distillate Oil		
	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	
Actual	2007	601	[2]	1,558	[3]	2,068	\$7.32			19	\$17.37
	2008	694	[2]	1,444	[3]	2,199	\$9.13			8	\$17.58
	2009	644	[2]	1,499	[3]	2,964	\$3.98			8	\$20.88
	2010	538	[2]	1,181	[3]	3,648	\$4.42			10	\$15.57
	2011	538	[2]	1,181	[3]	3,648	\$4.05			10	\$25.77
	2012	505	[2]	638	[3]	5,136	\$2.93			1	\$31.37
	2013	618	[2]	734	[3]	4,527	\$3.78			2	\$20.32
	2014	286	[2]	837	[3]	4,554	\$4.35			3	\$21.95
	2015	273	[2]	710	[3]	5,007	\$2.87			5	\$17.43
	2016	281	[2]	790	[3]	4,925	\$2.48	N/A	N/A	1	\$10.22
Projected	2017	299	\$0.80	579	\$3.11	5,113	\$3.71	N/A	N/A	1	\$10.78
	2018	288	\$0.77	470	\$3.14	5,308	\$3.72	N/A	N/A	0	\$12.04
	2019	299	\$0.79	582	\$3.26	5,257	\$4.25	N/A	N/A	1	\$14.64
	2020	291	\$0.81	693	\$3.44	5,222	\$4.66	N/A	N/A	0	\$16.70
	2021	280	\$0.83	742	\$3.53	5,259	\$4.83	N/A	N/A	1	\$18.54
	2022	290	\$0.86	882	\$3.59	5,184	\$5.12	N/A	N/A	0	\$19.66
	2023	291	\$0.88	942	\$3.66	5,198	\$5.32	N/A	N/A	1	\$20.55
	2024	282	\$0.90	956	\$3.76	5,271	\$5.47	N/A	N/A	0	\$21.35
	2025	291	\$0.92	957	\$3.86	5,328	\$5.62	N/A	N/A	1	\$22.27
	2026	291	\$0.94	1,004	\$3.93	5,353	\$5.84	N/A	N/A	1	\$23.37

Notes

- [1] Historical natural gas values are the annual average of daily spot market prices for Gas Daily FGT Zone 3. Transportation and other charges would be in addition to these spot prices.
- [2] Historical Uranium pricing is available from FPL and Duke Energy Florida.
- [3] Historical coal pricing is available from OUC.
- [4] Historical Distillate Oil values (\$/MMBTu) reflect the value of inventory as it was taken from the fuel oil tanks.
- [5] Projected fuel values (\$/MMBTu) represent FMPA's projection of delivered fuel prices.

64. Please discuss how the Company compares its fuel price forecasts to recognized, authoritative independent forecasts.

FMPA's fuel price forecast data is obtained from authoritative, independent consultants. These forecasts are then compared to information received from other utilities, suppliers, market exchanges, and trade literature. FMPA staff evaluates the reasonableness of the data contained in any fuel price forecast and works with its independent consultants as is deemed appropriate.

65. Please identify and discuss expected industry trends and factors for each fuel type (coal, natural gas, nuclear fuel, oil, etc.) that will affect the Company during the period 2017 through 2026.

- a. Coal *FMPA has a minority ownership interest in OUC's Stanton Units 1 and 2, and OUC is the sole operator for the facility. FMPA will defer to OUC's responses for this issue.*
- b. Natural Gas *Please see the responses in the following questions 66 and 67.*
- c. Nuclear (if applicable) *FMPA has a minority ownership interest in FPL's St. Lucie Unit 2, and FPL is the sole operator for the facility. FMPA will defer to FPL's responses for this issue.*
- d. Fuel Oil *The dual fuel capable resources of the ARP are designed predominantly to use distillate fuel oil. Except for ARP generation resources in Key West, this service capability is for back-up purposes only for those instances when natural gas supply is restricted or unavailable. Consumed volumes of fuel oil are replaced at market pricing to maintain defined inventory levels based upon risk mitigation criteria. Given the limited circumstance when FMPA operates certain ARP resources on fuel oil, changing market trends have little impact upon the ARP and its operations.*
- e. Other (please specify each, if any)

66. Please identify and discuss steps that the Company has taken to ensure natural gas supply availability and transportation over the 2017 through 2026 planning period.

FMPA continually explores opportunities to diversify its natural gas supply portfolio and reviews industry trends as production sources change over time. FMPA also continues to evaluate its gas transportation capacity requirements to ensure an optimal amount of firm transportation capacity is reserved to ensure reliable delivery of natural gas to its generating units as they are optimally dispatched. At this time, over the planning period FMPA has firm

capacity contracts which exceed the expected need and does not expect supply constraints to exceed contracted natural gas storage daily delivery volume.

67. Please identify and discuss any existing or planned natural gas pipeline expansion project, including new pipelines and those outside of the State of Florida, that would affect the Company for the period 2017 through 2026.

Sabal Trail Transmission, LLC has commenced construction of an interstate natural gas pipeline into the state of Florida. Our additional electric demand through the planning period does not justify contracting for additional firm natural gas pipeline capacity; however, FMPA will consider connection to this Sabal Trail pipeline due to its proximity to the Cane Island Power Park site. A potential connection to the new pipeline will further support our efforts to increase reliability and reduce costs for our customers.

68. Please identify and discuss expected liquefied natural gas (LNG) industry factors and trends that will impact the Company, including the potential impact on the price and availability of natural gas, for the period 2017 through 2026.

Prior to the extremely successful and prolific development of unconventional production (shale), LNG was viewed as a necessity in meeting the supply requirements for natural gas in the US. This view is no longer the case. Currently, all LNG facility development in the US is focused upon exporting natural gas to countries around the globe. FMPA believes this additional export demand has played a role in mitigating market price declines. Current, LNG exports account for 6 bcf/d and additional facilities have been proposed and approved. The actual number of facilities to go online will create a higher price floor. FMPA is not expected to be significantly impacted by the increasing LNG exports. The State of Florida will soon be served by four pipelines and we do not expect the reliability of natural gas as a fuel source to be negatively impacted by LNG facilities.

As to availability and pricing of natural gas as a result of the exportation out of the US, it is very difficult to predict. There are many factors affecting these considerations. Currently, due to the success of unconventional production development, the country is experiencing a supply surplus that has significantly reduced price. With the recent concurrent reduction in global oil pricing, additional development of unconventional production has experienced a marked reduction. Further, the current low price of natural gas as well as recent environmental regulation, the use of natural gas has increased substantially for power generation. This fuel switching to natural gas for power generation is expected to continue. The combination of these factors will most likely result in a natural gas supply deficiency and an increase in price for a period of time. The duration and scale of this period will be

governed by how quickly the further development of unconventional production can occur and bring additional supply to market.

69. Please identify and discuss the Company's plans for the use of firm natural gas storage for the period 2017 through 2026.

FMPA currently maintains a minimum inventory balance of approximately five (5) days of natural gas fuel requirements during time periods with the greatest potential of supply interruption (hurricane season). Currently, FMPA has 1 Bcf of capacity with a firm withdrawal delivery capacity of 100,000 MMBtu/day.

70. Please identify and discuss expected coal transportation industry trends and factors, for transportation by both rail and water, that will impact the Company during the period 2017 through 2026. Please include a discussion of actions taken by the Company to promote competition among coal transportation modes, as well as expected changes to terminals and port facilities that could affect coal transportation.

FMPA is a joint owner in the coal-fired steam units Stanton Units 1 and 2, which are operated by OUC. OUC is the majority owner of these facilities and is responsible for all coal supply and transportation related arrangements for these units.

71. Please identify and discuss any expected changes in coal handling, blending, unloading, and storage for any planned changes and construction projects at coal generating units for the period 2017 through 2026.

OUC is the majority owner of these facilities and is responsible for all coal supply and transportation related arrangements for these units.

72. [DEF & FPL Only] Please identify and discuss the Company's plans for the storage and disposal of spent nuclear fuel for the period 2017 through 2026. As part of this discussion, please include the Company's expectation regarding short-term and long-term storage, dry cask storage, litigation involving spent nuclear fuel, and any relevant legislation.
73. [DEF & FPL Only] Please identify and discuss expected uranium production industry trends and factors that will affect the Company during the period 2017 through 2026.