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FPL's Response to Staff's Sixth Interrogatories No. 124-133.

(including attachments for No. 128)

QUESTION:
Natural Gas Upgrades

Pease refer to the direct testimony of FPL witness Sim, page 12, lines 8 – 11. What is the expected completion date for the Lansing Smith upgrade?

RESPONSE:
The Lansing Smith combined cycle unit upgrades were completed in 2020.

QUESTION:
Natural Gas Upgrades

Please refer to the direct testimony of FPL witness Broad, page 24, lines 9-12 for the following questions.

a. What is being done to upgrade these units? As part of your response, provide the amount of capacity increase (in MW) and/or heat rate improvement for each unit in the table below.

b. What is the actual or estimated completion date for each of the natural gas unit upgrades? As part of your response, identify each unit upgraded and if the upgrades take place prior, during, or after the test years in this docket in the table below.

c. Explain how the estimated economic benefits were calculated.

d. Will any of the upgrades have any effect on any contracts or warranties associated with the units? If so, please explain.

Unit Name	Capacity Increase (MW)	Heat Rate Improvement	Upgrade Date	Prior / During / After Test Year(s)

RESPONSE:
a. Upgrade Projects – Scope of Work summary overview is as follows:

- The General Electric (GE) Upgrades consisted of:
    - GE's new Dry Low NOx (DLN) 2.6+ combustion system including new combustor and turbine rotor hardware, and improved bucket materials, allowing increased combustion turbine (CT) firing temperatures, and implemented in conjunction with CT planned maintenance outages for all six combined cycle units.
    - New, and modifications to existing, steam turbine equipment hardware for the Fort Myers and Sanford Plant combined cycle units.
    - Various upgrades to balance of plant equipment for all six combined cycle units to accommodate the combustion turbine and steam turbine upgrades and enable the incremental improvements in summer peak load capacity and heat rates.

- The Mitsubishi Hitachi CT Upgrades consisted of new, and modifications to existing, combustion turbine equipment hardware implemented in conjunction with planned Turbine Inspection maintenance outages. These were implemented at three combined cycle units.

  As requested, refer to the following table for each unit's full incremental capacity and heat rate improvements as completed by their respective upgrade dates, with the completion timing summarized for each Original Equipment Manufacturer (OEM) project set in subpart (b) below:

Unit Name	Capacity Increase (MW) [Summer Peak Load]	Heat Rate Improvement [%]	Upgrade Date	Prior / During / After Test Year(s)
Fort Myers Unit 2	318	2.9%	2020	Prior to TY
Martin Unit 8	73	0.7%	2020	Prior to TY
Manatee Unit 3	88	0.9%	2019	Prior to TY
Sanford Unit 4	183	2.9%	2020	Prior to TY
Sanford Unit 5	190	2.9%	2020	Prior to TY
Turkey Point Unit 5	66	1.0%	2019	Prior to TY
West County Unit 1	75	1.2%	2018	Prior to TY
West County Unit 2	41	1.5%	2019	Prior to TY
West County Unit 3	61	1.1%	2020	Prior to TY

b. OEM upgrade project timing summarized from the Table above:

   - The GE Upgrades at six FPL combined cycle units (at Ft. Myers, Martin, Manatee, Sanford, and Turkey Point) were completed during years 2019 and 2020.

   - The Mitsubishi Hitachi Upgrades at three FPL combined cycle units (West County 1, 2, & 3) were completed during years 2018 thru 2020.

c. The economic benefits of the each of the specific upgrades were projected by the comparison of two resource plans. One resource plan included the specific upgrade and the other resource plan did not include that upgrade. The two plans were developed using FPL's resource planning optimization model. The projected CPVRR costs of the two resource plans were then compared and the CPVRR cost difference between the two resource plans represented the benefits of the upgrade project. Cost projections for the upgrade projects were subsequently developed and compared to the projected benefits.

d. No, the upgrades will not affect existing contracts or warranties associated with the units and the upgrade projects were also implemented by contracts with warranty obligations.

QUESTION:
Retirement

Please refer to the direct testimony of FPL witness Forrest, page 21 lines 1 – 6. Specify the amount JEA owed in bonds related to Scherer Unit 4 at the time of negotiations and whether FPL paid what JEA owed in full. If not, provide the remaining amount which JEA would have been responsible for.

RESPONSE:
At the time of negotiations, JEA's total debt payable on the Scherer Unit 4-related bonds was $100.7 million. This was the amount that was outstanding as of their last fiscal year ended September 30, 2019. A portion of this debt would have been paid as part of required debt service payments prior to the retirement of the unit, and the FPL payment is expected to cover the full remaining debt service owed by JEA at the time of retirement.

QUESTION:
Retirement

Please refer to the direct testimony of FPL witness Forrest, page 22 lines 3 - 6. Specify the amount FPL and JEA will be obligated to pay annually in common facility cost after Scherer Unit 4 is retired.

a. Will FPL be paying for part or all of JEA's common facility cost after Scherer Unit 4 is retired? If so, specify the annual amount.

RESPONSE:
FPL will pay its share of the ongoing common facility cost obligations for Scherer Unit 4, which includes facility projects and regular maintenance for the overall common site as well as Units 3&4. FPL's share of the common base rate facility costs for 2022 are $25.5M and $24.2M in 2023. FPL is obligated to pay these costs whether the unit is operational or not.

a. No. FPL is only obligated to pay its Unit 4 ownership share of the common facilities cost. JEA remains responsible for covering its portion of those costs.

QUESTION:
Solar Additions

Please refer to the direct testimony of FPL witness Broad, page 22, line 17 through page 23, line 6.

a. For all solar site additions from 2020 to 2022, please fill out the following table.

In-Service Date	Site Name	FPSC Approval Status	Cost Recovery Mechanism

b. Are any of the solar projects identified in this proceeding currently the subject of any land-use dispute (i.e., court challenge) with a city, county, or state governing authority? If so, please identify the project(s) and provide a detailed explanation regarding the dispute and its current status.

RESPONSE:

a. Please see Attachment No. 1 for this response.

b. None of the listed sites are subject to any ongoing land-use dispute or court challenge with a city, county, or state governing authority.

QUESTION:
Please refer to FPL witness Valle's direct testimony, Exhibit MV-5. For each site with an in-service date after December 2021, please provide the status of land acquisition.

RESPONSE:
Every site referenced in MV-5 is owned in fee by FPL or Gulf Power.

QUESTION:
Please refer to FPL witness Bores' direct testimony, page 24, line 18 -20 and FPL witness Valle's direct testimony, page 14, lines 2 – 3. Please clarify the discrepancy in the total cost of the 2022 projects.

RESPONSE:
The $540 million of incremental capital expenditures associated with the installation of six 74.5 MW solar facilities that are projected to enter service during January 2022 in FPL witness Bores' direct testimony excludes land costs, as the costs are included in plant held for future use until such time as the facilities enter commercial operation. The $560 million of capital expenditures reflected in FPL witness Valle's direct testimony includes $32 million in land costs as well as updated construction cost assumptions as of December 2020, while FPL witness Bores' direct testimony is based on the cost assumptions at the time the forecast was prepared during FPL's 2021 planning process.

QUESTION:
Please refer to witness Sim testimony, Page 74, Lines 17 – 20. Please explain why FPL believes the proposed 2022 and 2023 solar additions should be analyzed under the same restrictions as those contained in the 2016 Settlement Agreement's SoBRA provisions

RESPONSE:
The amount of solar nameplate MW planned to be added in 2022 and 2023 (447 MW in 2022 and 745 MW in 2023) was originally analyzed through optimization runs using the AURORA model. These analyses developed and compared resource plans in which solar could be selected as a resource option in all years from 2022 through 2030 in annual amounts ranging from 0 MW to an annual limit of approximately 1,200 MW/year. These optimization analyses were conducted in the 3rd Quarter of 2020. At that time, decisions needed to be made regarding solar amounts and costs in 2022 and 2023 for rate case planning work, specifically for developing the Minimum Filing Requirements (MFR) documents. Once a decision had been reached on these solar MW for 2022 and 2023, these solar amounts were "locked down" in subsequent optimization analyses that occurred later in 2020 and in early 2021.

In the months following that decision, various forecasts (such as for load and fuel cost) were updated and accounted for in subsequent optimization analyses. In order to demonstrate that the previously determined 2022 and 2023 solar MW amounts were still cost-effective with the new forecasts, FPL utilized the SoBRA approach as discussed in FPL witness Sim's testimony. This approach is a familiar and understandable way with which to evaluate whether the next increment of solar is projected to be cost-effective.

QUESTION:
Please refer to FPL witness Sim's direct testimony, Page 77, Lines 9 – 12. Please explain why FPL believes it is reasonable to assume no other solar additions except in 2022 and 2023 for its economic analysis. As part of your explanation, please explain whether a similar methodology is used for other types of generating units, such as natural gas-fired generation, and whether the timing of units is considered.

RESPONSE:
Please see FPL's response to Staff's Sixth Set of Interrogatories No. 131 which explains that the decision regarding the 2022 and 2023 solar amounts was actually based on optimization runs using the AURORA model in which solar could be selected in annual amounts from 0 MW up to the annual limits of approximately 1,200 MW/year in all years from 2022 through 2030. This optimization approach is the same one that is typically used for all resource options including natural gas-fueled generation options.

QUESTION:
Please refer to FPL witness Barrett's direct testimony, Exhibit REB-12, paragraph 2. Why shouldn't the Commission require FPL to demonstrate that generation additions are the most cost-effective alternative available, rather than only showing that they lower system cumulative present value revenue requirements?

RESPONSE:
This exhibit to FPL witness Barrett's direct testimony refers to FPL's planned solar additions for the years 2024 and 2025. These planned additions, 894 MW in 2024 and another 894 MW in 2025, were determined as a result of optimization analyses using the AURORA model in which solar options could be selected in any amount from 0 MW up to the annual limits of approximately 1,200 MW/year in all years from 2022 through 2030. These analyses were performed in December 2020 as part of developing FPL/Gulf's 2021 Ten-Year Site Plan, which ultimately led to the proposed "SoBRA" solar additions for 2024 and 2025 in FPL's base rate case filing. FPL's plan is to demonstrate in the 2024-to-2025 timeframe that these solar amounts are still cost-effective at that time using a SoBRA-type approach, an approach approved and applied by the Commission for FPL and other investor-owned utilities in Florida, which will incorporate the latest forecasts and assumptions.