WHITE PAPER ON THE IMPACT OF VOGTLE UNITS 3&4 ON GEORGIA POWER COMPANY RATES

In the context of the Georgia Power Company 2022 Rate Case

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GCES: Promoting Carbon Free Energy Solutions in Georgia

Summary

Georgia Power Company argues in its post-hearing brief[1] for the Georgia Power 2022 Rate Case that it requires a rate increase of $2.9 billion over the three-year period 2023-2025. Public Interest Advocacy (PIA) Staff also filed a post-hearing brief[2], as did intervenors, arguing for a much smaller rate increase. A decision is expected by December 20, 2022. What is absent from all these filings is analysis of the downward rate impacts from Vogtle Units 3&4, which can mitigate the impact of this Rate Case. There are three types of cost savings due to Vogtle Units 3&4—but not yet accounted for in this Rate Case—that sum to **$817 million** over the three-year period 2023-2025.

TYPE 1 COST SAVINGS: LOWER DISPATCH COSTS

When Vogtle Units 3&4 begin operations in 2023 and 2024, respectively, they will add low-dispatch-cost generation capacity that will push the Georgia Power Company supply stack rightward. A supply stack shows each generation resource lined up left-to-right from cheapest to most expensive. Dispatch costs include fuel, variable operations & maintenance, and environmental compliance costs. In a market, the marginal dispatch cost to serve system demand is where supply and demand intersect. All generators who clear the market receive the same marginal dispatch price. In Georgia, Georgia Power Company sets its own marginal cost where supply and demand intersect, and it recovers all the economic surplus above the supply stack and to the left of the marginal unit dispatched to meet system load. We can use public Georgia Power Company 2021 data[3] to estimate the economic benefit on dispatch cost savings from Vogtle Units 3&4, which shifts rightward their supply stack. Note: Total Company sales in 2021 = 86.1 million MWh, which gives an average system hourly demand of 9,829 MW.

When comparing the Company's generation supply stack in 2021 to the supply stack once Vogtle Units 3&4 are both operating, all else being equal and looking at averages,[4] the system dispatch cost declines by $155 million per year. Accounting for unit online dates, system costs are **$280 million lower** over the three-year period 2023-2025.

[1] Docket #44280 - Document #192376 - https://psc.ga.gov/search/facts-document/?documentId=192376
[2] Docket #44280 - Document #192379 - https://psc.ga.gov/search/facts-document/?documentId=192379
[3] https://www.georgiapower.com/company/about-us/facts-and-financials
[4] Also adjusting for each generation technology's average capacity factor

GPC's marginal system dispatch cost declines 6% from $28.10/MWh to $26.30/MWh. This is a conservative estimate. Note that this analysis is meant to be indicative and is a simplification. Rigorous production cost modeling is required. Note that solar is the least cost generation resource but continues to be a small fraction of the Company portfolio.

Figure 1 – GPC 2021 Supply Stack pre-Vogtle 3&4 (Installed Capacity) + SEEM Price

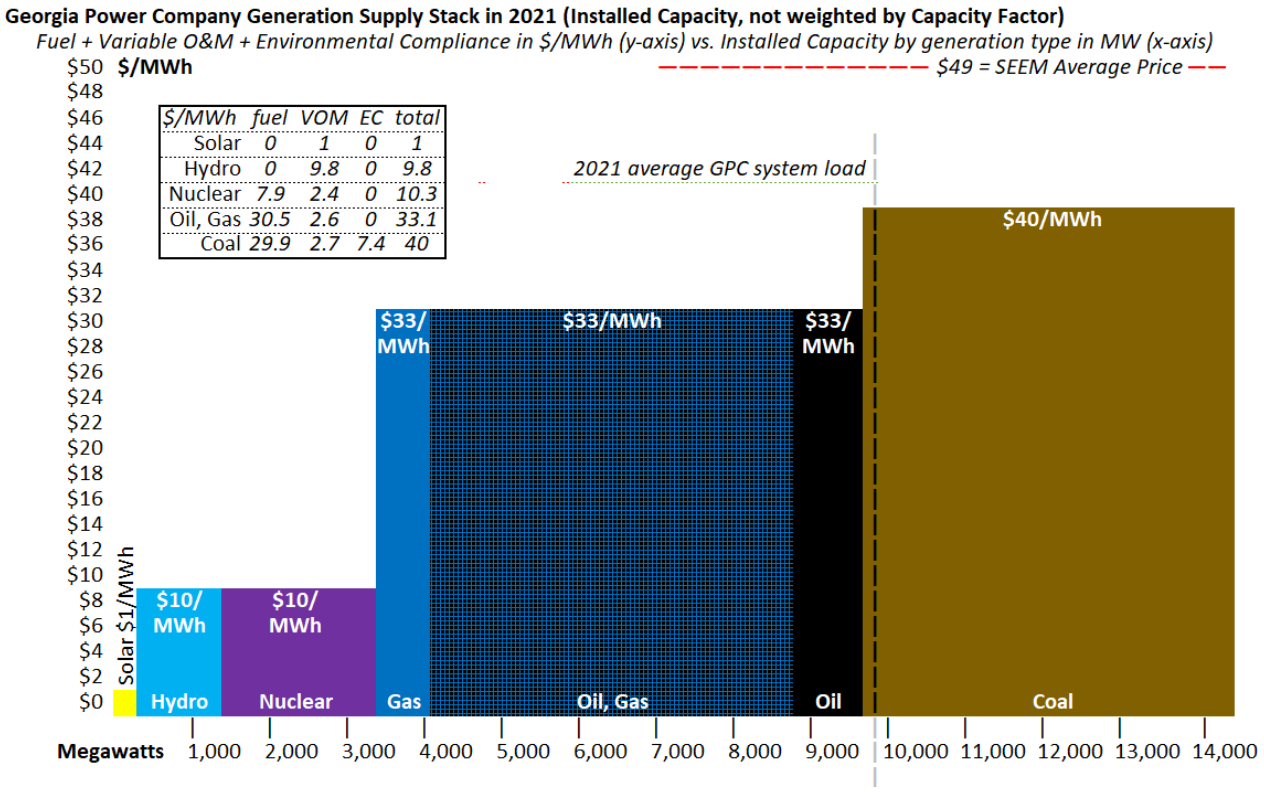
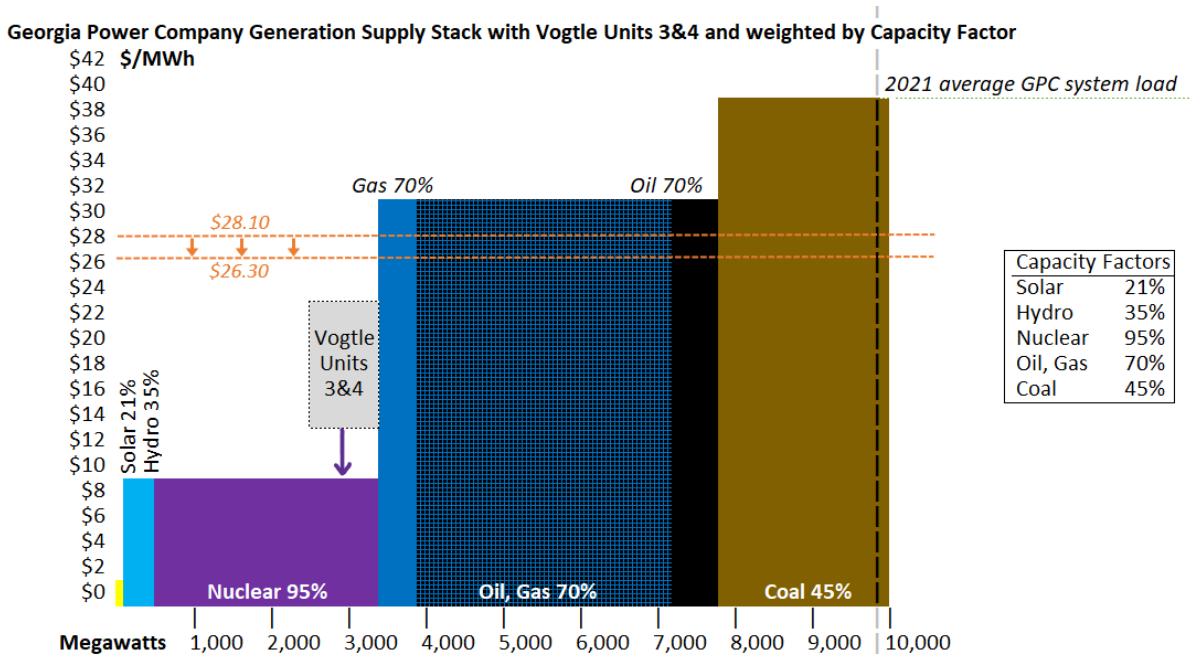


Figure 2 – GPC Supply Stack post-Vogtle 3&4 (Capacity weighted by Capacity Factor)



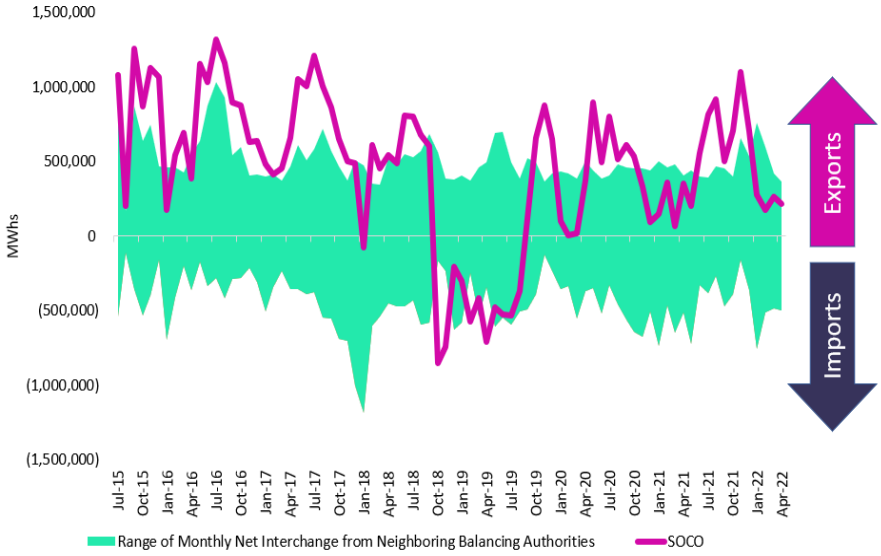
TYPE 2 COST SAVINGS: ZERO-EMISSION CREDITS

Vogtle Units 3&4 are likely to qualify for the zero-emission nuclear power production credit, established as part of the Inflation Reduction Act. This credit provides up to $15/MWh from 2024 through 2032 if labor and wage requirements are met. That's an expected **$217 million** in cost savings that Vogtle Units 3&4 will earn over the three-year period 2023-2025. Vogtle Units 1&2 (and Plant Hatch) are likely to qualify for the same zero-emission nuclear power production credit and they may also qualify for the Civil Nuclear Credit program, established by the Bipartisan Infrastructure Law, which provides subsidies to older nuclear units. These subsidies should be used to lower customer rates.

TYPE 3 COST SAVINGS: SEEM SALES

The Southeastern Energy Exchange Market (SEEM) began operations November 9, 2022. The average SEEM price in November was $49.24/MWh. There is no public data on Georgia Power Company's sales and purchases on SEEM. However, we do have data from EIA Form 930. We see that the holding company for Georgia Power Company—Southern Company—is a large net energy exporter. From this, we estimate that Georgia Power Company will earn **$320 million** in SEEM revenues over the three-year period 2023-2025.

Figure 3 – Southern Company exports far more energy than it imports (2015-2022)



Utility Balancing Authority	Average Monthly Interchange (GWh)	Capacity (GW)
Southern Company (SOCO)	458	43
Dominion Energy South Carolina	354	6
SC Public Service Authority	320	6
Florida Power and Light	295	28
MISO South (Z8-10)	262	36
Duke Energy Florida	128	11
City of Tallahassee	74	1
PowerSouth Energy Cooperative	-21	2
Southeastern Power Administration	-160	1
Duke Energy Carolinas	-257	20
Tennessee Valley Authority (TVA)	-390	38

Sources: EIA Form 930; company reports

CONCLUSION: COST REDUCTIONS SHOULD BE APPLIED TO REDUCE RATE INCREASE

When taken together, Vogtle Units 3&4 will create three types of cost savings that sum to **$817 million** over the three-year period 2023-2025. This is vital information to incorporate in the ratemaking process. Using the second proposed PIA Staff rate increase value of $1.2 billion reported in the Atlanta Journal Constitution on December 10, 2022, and then we discount that sum by the $280 million due to lower dispatch costs, $217 million due to zero-emission nuclear power production credits, and $320 million due to SEEM sales revenues, we find that a reasonable and prudent rate increase for authorization is **$383 million** over the three-year period 2023-2025.

Figure 4 – Cost Reductions to Apply to the 2022 Georgia Power Rate Increase Request