



2023 Integrated Resource Plan Update

October 2023

Georgia Power Company's 2023 Integrated Resource Plan Update Docket No. 55378

- Application for Certification of the Power Purchase Agreement Between Georgia Power Company and Mississippi Power Company
- Application for Certification of the Power Purchase Agreement Between Georgia Power Company and Santa Rosa Energy Center LLC
- Application for Amended Certification of the Residential Thermostat Demand Response Demand Side Management Program

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Table of Contents

Executive Summary.....	1
Background	5
Georgia’s Extraordinary Economic Growth	6
Updated Load Forecast	8
Updated Capacity Needs.....	10
Resource Plan to Meet Capacity Needs	13
2022 IRP Implementation	13
McGrau Ford BESS.....	13
Distributed Energy Resource Customer Program Pilot	14
2022 IRP Approved RFPs	14
2023 IRP Update	15
Purchase of Capacity & Energy from Mississippi Power	17
Purchase of Capacity & Energy from Santa Rosa Energy Center	17
Potential Acquisition of an Additional Ownership Interest in an Existing Generating Asset	18
Proposed Company-Owned Resources	18
Proposed DER and Demand Response Programs	22
Flex Capacity	23
Commission Approval of Proposed Resources.....	24
Request Summary and Economic Analyses.....	25
2025 IRP Actions	26
Renewable Expansion Plan	26
Plant Bowen Units 1-2.....	26
Plant Scherer Unit 3 and Plant Gaston Units 1-4 and A.....	27
Transmission Plan.....	28
Summary	28
Attachment A – Application for the Certification of the Power Purchase Agreement Between Georgia Power Company and Mississippi Power Company	30
Attachment B – Application for the Certification of the Power Purchase Agreement Between Georgia Power Company and Santa Rosa Energy Center LLC.....	32
Attachment C – Application for Amended Certification of the Residential Thermostat Demand Response Demand Side Management Program.....	34

Technical Appendix Contents

- Power Purchase Agreement Between Georgia Power Company and Mississippi Power Company
- Power Purchase Agreement Between Georgia Power Company and Santa Rosa Energy Center LLC
- Technical Information Supporting the Potential Acquisition of an Additional Ownership Interest in an Existing Generating Asset
- Technical Information Supporting the Proposal to Develop 178 MW of Battery Energy Storage Systems at Robins and Moody Air Force Bases
- Technical Information Supporting the Proposal to Develop 200 MW of Battery Energy Storage Systems Co-located with 200 MW of New Solar
- Technical Information Supporting the Proposal to Develop up to 1,400 MW from Three Simple Cycle Combustion Turbines at Plant Yates
- Load and Energy Forecast
- Resource Mix Study
- Economic Analysis of Capacity Resources
- Transmission Screening Analyses

Executive Summary

Georgia continues to be one of the fastest growing states in the country. Over the last decade, the state's economy has continued to thrive, and today, Georgia's economic development pipeline is more robust than ever, with record growth as companies are looking to locate or expand within the state. This growth has produced tremendous benefits for the state. Since the approval of Georgia Power Company's ("Georgia Power" or the "Company") 2022 Integrated Resource Plan ("IRP") in Docket No. 44160, Georgia's successful economic development efforts have added more than \$24 billion in capital investment in communities and more than 38,000 jobs to what was already a healthy pipeline of activity.¹ Georgia's rapid economic expansion has brought with it a historic increase in the demand for energy to the state. This trend of economic growth has been driven in large part by Georgia's recognition as one of the best places in the country in which to do business, and the state is attracting strong customer growth across residential, commercial, and industrial classes.

Georgia's continued ability to attract and retain businesses – ranging from manufacturing and small business to the technology industry – is supported by the constructive regulatory environment fostered by the Georgia Public Service Commission (the "Commission"). This constructive regulation enables Georgia Power to provide customers with clean, safe, reliable, and affordable energy, and gives businesses and residents the confidence to locate in Georgia because they know the state can meet their energy needs.

One result of the extraordinary economic growth taking place in Georgia is that the state's energy needs have significantly increased. Many of the businesses coming to Georgia are now bringing electrical loads at a scale and pace that require the Company to acquire additional capacity to ensure it can meet the energy needs of its customers. To put the magnitude of this growth in context, based on the economic data available during the 2022 IRP, the Company anticipated less than 400 MW of growth between the winter of 2023/2024 and the winter of 2030/2031.² In contrast, because of the rapid pace of economic development in Georgia since January 2022, the Company's current projections reflect load growth of 6,600 MW through the winter of 2030/2031, which is approximately 17 times greater than that previously forecasted.

Considering both the significant increase in the state's projected energy needs and the expedited timeframe in which the energy will be needed, Georgia Power must act on an accelerated timeline to meet Georgia's energy needs. Georgia Power will continue to utilize a well-balanced, diversified, and economic approach to procure new capacity resources to meet the energy needs of its customers. To address this extraordinary load growth, the Company must procure resources to support capacity needs beginning in the winter of 2025/2026 – a full three years earlier than projected in the 2022 IRP. While the All-Source request for proposals ("RFP") approved in the 2022 IRP will help Georgia Power address increasing capacity needs between 2029 and 2031,³ the timing to complete the All-Source RFP is such that it cannot reliably address the need for capacity by the end of 2025. Therefore, the Company must act now to procure and develop the resources needed to address Georgia's accelerated capacity need, while continuing to pursue

¹ Based on the state of Georgia's Fiscal Year 2023 (July 2022 – June 2023) economic development data, retrieved here: <https://www.georgia.org/press-release/georgia-breaks-economic-development-records-third-year-row>

² For purposes of this filing, the winter of two years that are listed together refers to the period from December of the first year through February of the following year. For example, the winter of 2030/2031 refers to the period from December 2030 through February 2031.

³ 2022 IRP Final Order at Paragraph 20.

previously approved actions through the All-Source RFP. Acquiring these critical resources is essential to meeting the energy needs of Georgia Power’s customers and the growing state.



To address this pressing need for capacity and the Company’s obligation to ensure the reliability of the electric system on behalf of its customers, the Company files this 2023 IRP Update pursuant to the planning process established by the Integrated Resource Planning Act of 1991 (the “IRP Act”)⁴ and overseen by the Commission. The Commission’s rules require the Company to submit an amendment to the IRP if it anticipates submitting an application for a certificate to construct or purchase a supply-side or demand-side capacity resource, which was not previously approved as part of the IRP, or it finds that other conditions such as an increase in its projected load forecast warrant an amendment.⁵

The 2023 IRP Update follows Georgia’s constructive regulatory process, with Commission guidance and oversight, and sets forth the actions that are necessary to meet customers’ energy needs. As such, this IRP Update (i) describes the magnitude and speed of the extraordinary economic growth occurring in Georgia, (ii) explains the changes to the Company’s load forecast caused by this rapid economic growth, (iii) identifies the capacity needs resulting from this growth and the advancement of this capacity need by three years (i.e., from the winter of 2028/2029 to the winter of 2025/2026), and (iv) presents a flexible, comprehensive plan to address the state’s rapidly growing energy needs. Specific elements of the plan include:

- Execute a power purchase agreement (“PPA”) with Mississippi Power Company (“Mississippi Power”) to procure power from generating assets that are owned, maintained, and operated by Mississippi Power.
- Execute a PPA with Santa Rosa Energy Center LLC for capacity and energy from a natural gas-fired combined cycle (“CC”) generating asset located in Pace, Florida.
- Pursue potential acquisition of an additional ownership interest in an existing generating asset within the Southern Company footprint.
- Expand the Company’s implementation of battery energy storage systems (“BESS”) by leveraging transmission interconnection resources at existing solar facilities, such as Company-owned facilities at military bases.
- Invest in a new BESS co-located with a new solar facility at a site with existing transmission interconnection facilities.
- Build simple-cycle combustion turbines (“CTs”) to leverage the reliable and economical nature of this technology to meet peak capacity needs; in addition, the Company proposes to locate the CTs at an existing generation site to leverage current infrastructure and operational efficiencies.

⁴ O.C.G.A. § 46-3A-1 et seq.

⁵ Commission Rule 515-3-4-.06(5).

- Add and expand distributed energy resource (“DER”) and demand response (“DR”) programs to quickly meet and offset growing capacity needs.
- Establish a framework within which the Company can procure additional capacity (“Flex Capacity”) ahead of the 2025 IRP filing in the event there are additional capacity needs resulting from an update to the 2023 IRP Update load forecast.

If approved, this plan will enable the Company to acquire the critical resources that are necessary to meet the state’s near-term energy needs, support Georgia’s continued economic growth, and provide clean, safe, reliable, and affordable power for Georgia Power customers in the coming years.

When considering Georgia Power’s expectations for load growth, costs, and competitive pricing and subsequent market pricing for new large commercial and industrial customers, the Company expects both existing and new customers to recognize economic benefits from the Company serving this economic growth. As Georgia Power addresses the increased electric service requirements associated with the state’s robust economic growth, the Company will continue to follow its long-standing process of requiring that new economic development projects have projected net benefits to Georgia Power customers. Georgia Power’s rates and policies are designed to help ensure that the benefits of this economic growth are seen by *all* customers. To that end, each new large customer must pass financial and economic screening requirements, including the Ratepayer Impact Measure (“RIM”) test. These screening requirements compare the projected new revenues that will result from the customer projects with the estimated new costs to serve those projects, resulting in projected net benefits to customers. These positive net benefits and additional revenues are expected to help offset and balance the costs associated with the investments needed to serve the state’s growing energy needs addressed by the 2023 IRP Update, in addition to the broader economic benefits these projects bring to Georgia. All else being equal, the Company expects benefits from the addition of new large load customers to more than offset the expected costs of serving that load.

As a part of its ongoing planning process, and consistent with the 2022 IRP, Georgia Power’s 2023 IRP Update continues the Company’s commitment to responsibly transitioning its generation fleet to more cost-effective natural gas and zero-carbon resources. As a vertically integrated utility with an obligation to serve its customers, Georgia Power is subject to the jurisdiction and oversight of the Commission and is required to appropriately invest in and operate a reliable and economical electric system. With this IRP Update, the Company continues to demonstrate the prioritization of a flexible economic fleet transition through a well-balanced and diversified approach that aligns with the needs of customers, the necessity of maintaining a reliable electric system, and the timing and availability of advancements in the technology of generation resources.

This 2023 IRP Update presents solutions for capacity needs through the winter of 2027/2028, and the All-Source RFP approved in the 2022 IRP Update will provide solutions for needs through 2031. Georgia Power expects Georgia’s capacity needs to continue to increase through the mid-2030s and will work constructively with the Commission through the 2025 IRP and beyond to address customers’ energy needs and to continue the transition of its generation fleet.

Customers are at the center of everything Georgia Power does, and the Company is unwavering in its commitment to meet the energy needs of its customers and the communities it is privileged to serve. With this 2023 IRP Update, the Company seeks to continue its investment in Georgia’s energy future and provide

economical energy solutions that benefit customers and Georgia's communities now and for future generations. Georgia Power respectfully asks the Commission to approve the 2023 IRP Update and each of the following specific requests:

1. Authorization to procure the resources described in items 2-6 and 9 below in accordance with Commission Rules through the exceptions to the Commission's RFP process set forth in Commission Rules 515-3-4-.04(3)(f)(3), 515-3-4-.04(3)(f)(6), and 515-3-4-.04(3)(f)(7).
2. A certificate of public convenience and necessity for the PPA Between Georgia Power Company and Mississippi Power Company as described in Attachment A and the Technical Appendix.
 - a. Regulatory asset treatment to defer the capacity and non-fuel energy payments made under the PPA, including additional sum, net of the wholesale capacity and non-fuel revenues from any remarketed capacity sales from January 1, 2024, through December 31, 2025, including an executed system sale to a regional electrical service provider during that time, for recovery in the next base rate case.
3. A certificate of public convenience and necessity for the PPA Between Georgia Power Company and Santa Rosa Energy Center LLC as described in Attachment B and the Technical Appendix.
 - a. Regulatory asset treatment to defer the capacity and non-fuel energy payments made under the PPA, including additional sum, net of any wholesale capacity and non-fuel revenues from any remarketed capacity sales from January 1, 2024, through December 31, 2025, for recovery in the next base rate case.
4. Authority to develop, own, and operate up to 1,000 MW of BESS at various sites as described in this IRP Update and the Technical Appendix.
 - a. Approval that any development costs not useful or transferable to other projects be deferred to a regulatory asset for recovery in the next base rate case in the event this request is denied.
5. Authority to develop, own, and operate up to 1,400 MW from three simple cycle CT resources at Plant Yates as described in this IRP Update and the Technical Appendix.
 - a. Approval that any development costs not useful or transferable to other projects be deferred to a regulatory asset for recovery in the next base rate case in the event this request is denied.
6. Approval of two new customer-sited DER programs as described in this IRP Update.
7. Approval of one new tariff-based demand response program as described in this IRP Update.
8. Approval of an amended certificate for one existing demand response demand-side management ("DSM") program as described in this IRP Update and Attachment C.
9. Approval of the Flex Capacity framework as described in the Flex Capacity section.
 - a. Regulatory asset treatment to defer any developmental costs for such activities that would otherwise be expensed for recovery in the next base rate case.
10. Expansion of the transmission system to accommodate the above-requested resources and the Company's Load and Energy Forecast as described in the Technical Appendix.

Background

The state of Georgia benefits from a robust IRP process that is overseen by the Commission. The IRP process includes extensive stakeholder engagement and provides a framework that enables Georgia Power to meet the energy needs of its customers and communities it serves. Since its inception, the IRP process has been a platform for constructive regulation that supports high reliability and high customer satisfaction as well as the Company's long-standing mission of keeping the customer at the center of everything it does.

The most recent example of the constructive outcomes that can be achieved through the IRP process is the 2022 IRP, which included, among other results:

- Acknowledgement of the continued use of a 26% system winter target planning reserve margin ("TRM") that recognizes the challenges posed in meeting winter demand.
- Approval of PPAs with more than 2,300 MW of capacity to replace retiring coal assets.
- Approval to conduct an All-Source RFP for capacity needed in the years 2029 through 2031.
- Approval to procure energy from an additional 2,100 MW of utility scale and 200 MW of distributed generation ("DG") renewable resources as part of a long-term plan to add 6,000 MW of new renewable resources by 2035, more than doubling the previous Commission-approved portfolio of renewable resources.
- Approval to procure 500 MW of energy storage systems ("ESS") to improve the Company's ability to reliably integrate additional renewable resources as identified in the 2022 IRP.
- Approval to develop the Company-owned 265 MW McGrau Ford BESS facility to improve the Company's ability to reliably integrate additional renewable resources as identified in the 2022 IRP.
- Continuation of the DSM Program Planning Approach, allowing for the further realization of energy and demand savings.

The Company is currently implementing the actions approved in the 2022 IRP. In the coming years, this implementation will remain a top priority for the Company, as the continued reliable and economical transition of the Company's generation fleet will be critical to ensuring Georgia remains one of the best states in which to live and do business.

As approved in the 2022 IRP and proposed in this request, the ongoing economic transition of the Company's generating fleet will continue to be driven by optimizing costs and mitigating risks to customers through a diverse resource mix. Georgia Power recognizes that the feasibility of continued progress toward a low-carbon future, including a net-zero future, is highly dependent on the continued use of natural gas and continued technology advancements that will facilitate a reliable and economical low-carbon electricity supply. As the Company's generation fleet has evolved, Georgia Power's outstanding track record for maintaining high reliability and economical choices has been supported by the state's constructive regulatory framework, which has successfully brought about numerous cost-effective, reliable, and low-carbon resource decisions, including the 2022 IRP outcomes described above. The resources and customer programs proposed in the 2023 IRP Update provide a well-balanced, diversified, and economical mix of resources that provide substantial benefit to customers.

As a vertically integrated, regulated utility, Georgia Power is wholly responsible for ensuring its customers have a reliable supply of electricity. This includes providing reliable service during periods of peak energy demand, such as on December 24, 2022, during Winter Storm Elliott, when Southern Company's peak load reached approximately 37,500 MW. Determining and using the appropriate TRM helps ensure the electric

system has the resources available to balance the unique and dynamic nature of winter weather events to maintain customer reliability. As demonstrated in Winter Storm Elliott, Georgia's robust IRP process and this planning approach allowed the Company's system to successfully retain sufficient operating reserves that enable it to serve customers during critical weather events. Georgia Power must now increase its generating capacity so that it can serve the state's increasing load and continue to maintain the appropriate TRM to ensure customers continue to receive the reliable electric service they expect and deserve.

Georgia's Extraordinary Economic Growth

Georgia's state-led, robust, and thriving economic development process provides numerous benefits for Georgia's citizens, including bringing jobs to the state and improving the quality of life for all Georgians. Georgia Power is proud to actively support the state's economic development efforts and the benefits they bring to Georgians. In August 2023, Georgia announced record-breaking economic development results for the third year in a row, with "total investments in facility expansions and new locations totaling more than \$24 billion, resulting in 38,400 new jobs through 426 projects" between July 1, 2022, and June 30, 2023 ("Fiscal Year 2023").⁶ New and expanding economic development projects in Georgia have moved faster and been exponentially larger than those seen in the state's historical economic growth, with new industries like electric transportation ("ET") manufacturing and its supplier base emerging since 2021. Substantial increases in economic growth during Fiscal Year 2023 as compared to Fiscal Year 2021⁷ were seen across various industries, including increases in job creation in the automotive industry by 324% and the agricultural industry by 29%, and increases in investments by more than 1,000% in the aerospace industry.⁸ At the end of the second quarter of 2023, the manufacturing sector was leading growth in Georgia for 2023, representing 67% of job creation and 81% of the capital investment taking place in Georgia.⁹ In February 2023, it was announced that the state of Georgia had its second consecutive record-breaking year for trade exports, "breaking the previous record by nearly \$5 billion and recording an 11 percent increase compared to 2021."¹⁰ These statistics demonstrate the rapid and substantial economic development growth taking place in Georgia during the past two years. Figure 1 shows the economic development trends of job creation and capital investment by Fiscal Year.¹¹

⁶ See Footnote 1.

⁷ Fiscal Year for the state of Georgia represents July of the previous year through June of the current year.

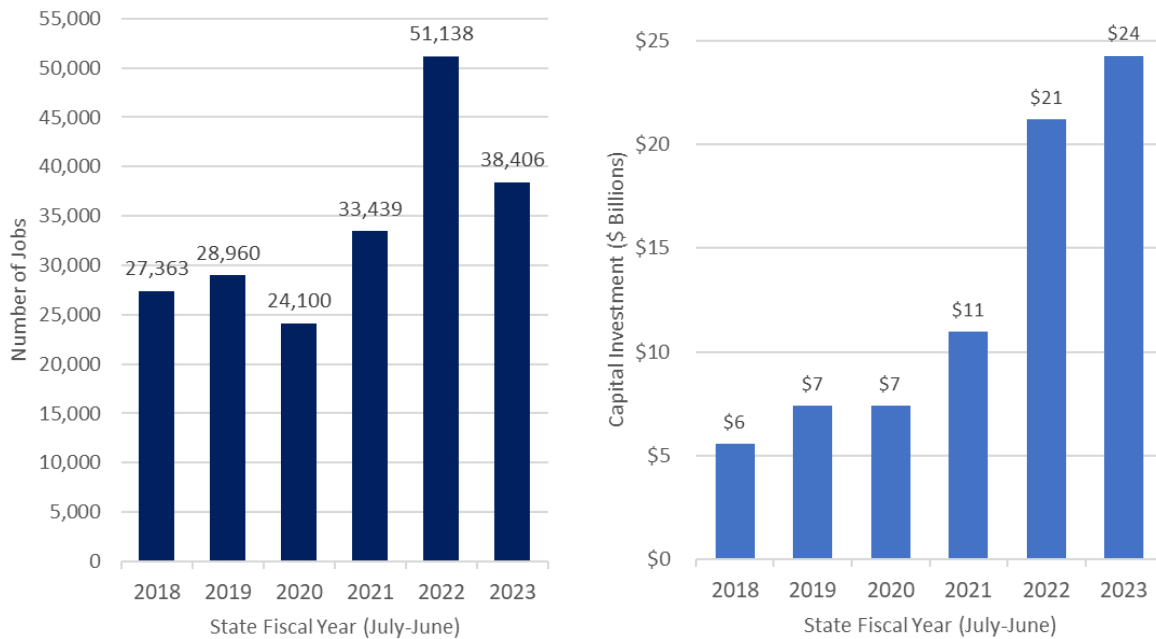
⁸ See Footnote 1.

⁹ <https://www.selectgeorgia.com/news-and-updates/locations-and-expansions/georgia-2Q23-growth/>

¹⁰ <https://www.georgia.org/press-release/governor-kemp-announces-second-consecutive-record-breaking-year-georgia-trade>

¹¹ Fiscal Year 2020-2022 data accessed from Georgia Department of Economic Development Year in Review reports: <https://www.georgia.org/about-us/gdecdd-anual-report>; see Footnote 1 for Fiscal Year 2023 data.

Figure 1: State of Georgia Economic Development Historical Trends



Georgia has consistently been recognized as one of the top states for business. In October 2023, Governor Kemp and the Georgia Department of Economic Development announced that *Area Development* magazine had named Georgia the Top State for Business for the tenth consecutive year.^{12,13} The announcement stated that “Georgia placed in the top 10 for all 14 categories, earning the No. 1 spot in seven classifications,” including the Energy Availability & Costs, Cooperative & Responsive State Government, and Workforce Training Programs categories.¹⁴ In July 2023, CNBC ranked Georgia as the #1 State for Infrastructure with an A+ 2023 Infrastructure score, considering roads, bridges, railroads, ports, airports, and utilities.¹⁵

Throughout its long history, Georgia Power has been a trusted partner in Georgia’s economic development efforts. In February 2023, Georgia Power was named as a 2023 Top Utility for Economic Development by *Business Facilities* magazine, and in September 2023, *Site Selection* magazine named Georgia Power a Top Utility for Economic Development for the 25th consecutive year.^{16,17} Georgia Power partners with the Georgia Department of Economic Development to support these efforts, which include the largest economic development win in Georgia history with the announcement of the Hyundai Motor Group Electric Vehicle (“EV”) facility. In May 2023, *Site Selection* magazine named Georgia in its “Top Deals in North America” report for 2022; specifically, Hyundai Motor Group’s project in Bryan County – which created 8,100 jobs and generated more than \$5.5 billion in investment in Georgia – was recognized as the

¹² <https://www.areadevelopment.com/Top-States-for-Doing-Business/Q3-2023/2023-top-states-for-doing-business-meet-the-needs-of-site-selectors.shtml>

¹³ <https://www.georgia.org/press-release/georgia-no-1-state-business-10th-consecutive-year>

¹⁴ See Footnotes 12 & 13.

¹⁵ <https://www.cnbc.com/2023/07/18/these-are-americas-best-states-for-infrastructure.html>

¹⁶ <https://businessfacilities.com/top-utilities-2023-powering-business-site-selection/>

¹⁷ https://siterelection.com/issues/2023/sep/this-years-top-utilities-know-when-to-move-and-how-fast.cfm?utm_source=Sidebar&utm_medium=Web&utm_campaign=Optimize&utm_content=RA

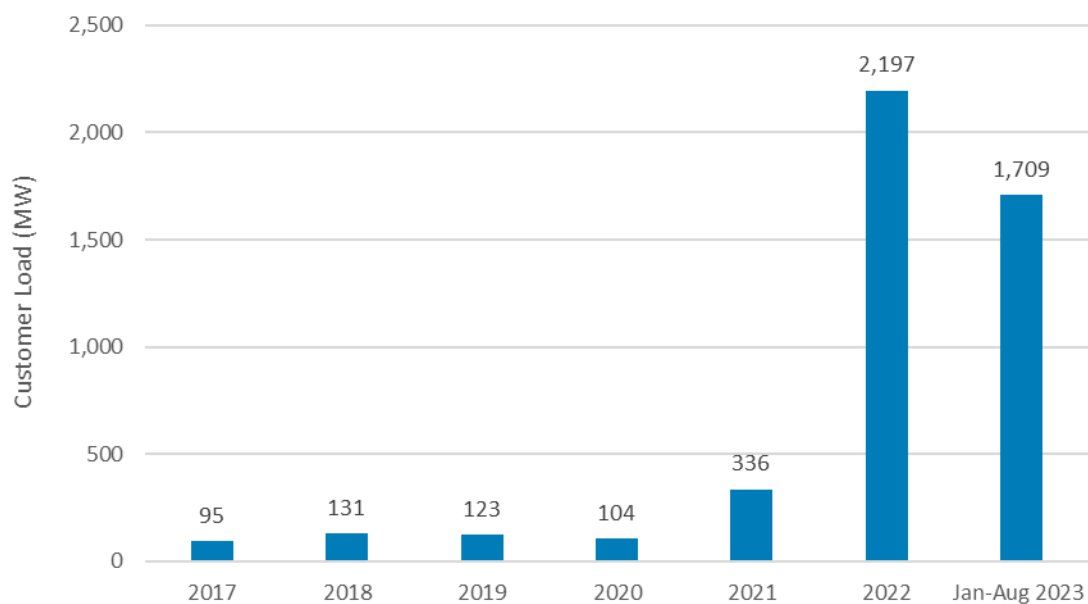
second largest project reported, and Hyundai Motor Group/SK Innovation's project in Bartow County, which created 3,500 jobs and resulted in \$4 billion in investment, was in fifth place.¹⁸ As a result of the Commission's constructive regulation, Georgia Power has been able to consistently serve the state of Georgia with clean, safe, reliable, and affordable energy. With this 2023 IRP Update, the Company seeks to continue working with the Commission to ensure it can meet the energy needs of its customers and the state during this period of extraordinary economic growth.

Updated Load Forecast

Georgia Power's 2023 IRP Update load forecast, completed in September 2023, projects extraordinary customer load growth stemming from the rapid economic development taking place in Georgia. The demand projected in the Company's 2023 IRP Update load forecast far exceeds the demand projected in the 2022 IRP. Based on the information and economic activity at the time of the 2022 IRP, the Company anticipated less than 400 MW of growth between the winter of 2023/2024 and the winter of 2030/2031. In contrast, current projections reflect load growth of 6,600 MW through the winter of 2030/2031, which is approximately 17 times greater than previously forecasted.

The significant increase in the projected demand for energy since the 2022 IRP reflects the extraordinary growth associated with the numerous new large load projects Georgia Power has been selected to serve, as well as a considerable pipeline of potential future projects. Figure 2 contextualizes the growth of these projects by comparing large load selections from 2017 through 2023. Prior to 2021, on average, the Company was selected to serve approximately 100 MW of large load projects per year. In 2021, the Company was selected to serve 336 MW, which is three times this historical average. In 2022, the Company was selected to serve 2,197 MW, or *twenty-two times the historical average*. Through August 2023, the Company has already been selected to serve more than 1,700 MW of large projects.

Figure 2: New Large Load Customers Selecting Georgia Power by Year



¹⁸ <https://siterelection.com/issues/2023/may/top-deals-2023.cfm>

These large load projects correspond to the robust economic growth and influx of new businesses coming to Georgia, as illustrated in Figure 1 above, which includes manufacturers, the ET industry, data centers, and other businesses. The size of many of these projects far exceeds historical annual norms, with some individual projects surpassing 1,000 MW. In addition to the size of the large load presented by these new projects, many of the projects reflect a higher load factor and around-the-clock operations, which requires a substantial amount of generation and consistent energy delivery throughout the day and night as opposed to only during specific times.

The Company's 2022 IRP Load Forecast was appropriately informed by data available at the time, which included load forecast projections based on historical trends and foreseeable economic growth. However, the forecast could not project load additions for industries without historical data, nor could it have captured the extraordinary economic growth and associated load increases that have taken place since the 2022 IRP. To account for the recent growth and the influx of projected load, the Company has made certain external adjustments to the load forecast for this IRP Update. For example, while Figure 2 shows historical loads Georgia Power was selected to serve by year, it does not capture the time over which the loads will be introduced to the electric system. The Company's adjusted load forecast appropriately incorporates the projected load ramps by month and year for these load additions and for the pipeline of potential projects that may bring additional new load.

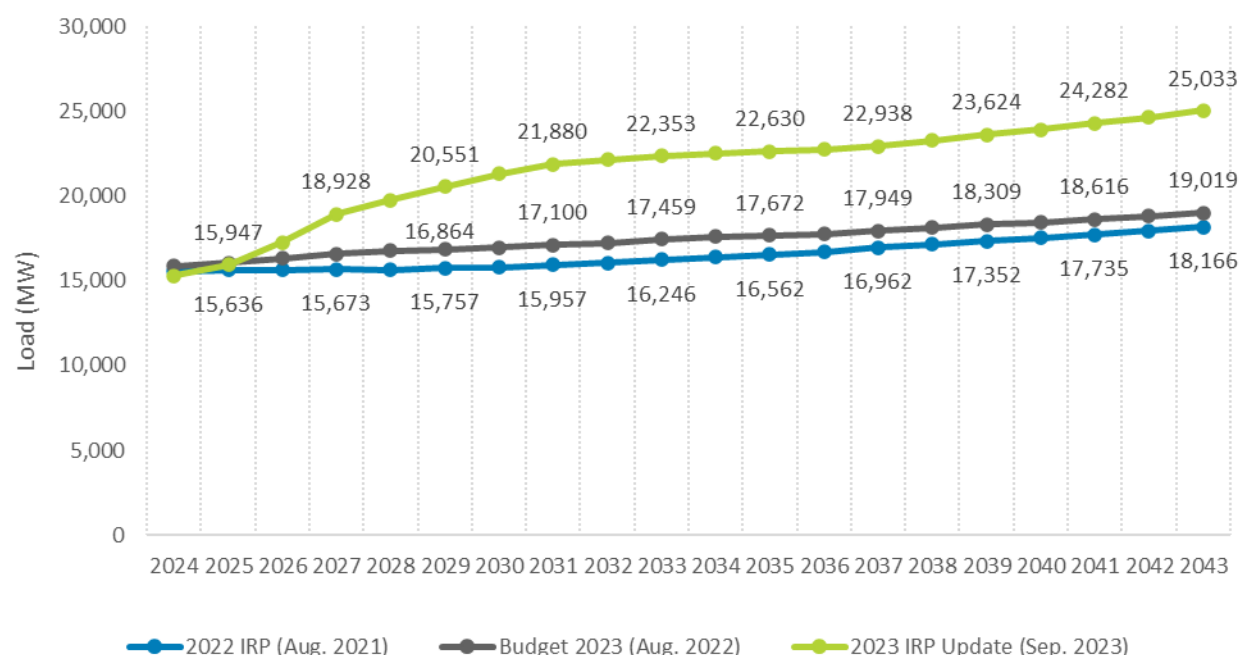
As adjusted, the load forecast accounts for uncertainties related to new large projects, including state selection, electric provider selection, project delays, and the materialization of load. The Company conducted hundreds of thousands of simulations using different combinations of these uncertainties to produce probability distributions that were then utilized to develop the external adjustments in the 2023 IRP Update load forecast. Additional details regarding the external adjustment methodology and the Load and Energy Forecast are contained in the Technical Appendix.

Georgia Power identified an increase in projected load when it created its Budget 2023 load forecast in August 2022 as part of its annual planning process. Based on then-current data, this forecast identified an expected load increase of 1,100 MW through the winter of 2030/2031, as compared to the 2022 IRP filing.¹⁹ In January 2023, following the significant increase in economic development projects during 2022, the Company developed a forecasting model to capture the uncertainties related to such projects. The Company then utilized this model to produce load forecast sensitivities with greater frequency than the annual load forecast and to further inform its resource planning decisions. Throughout this period of time, the winter of 2028/2029 remained as the Company's capacity need year, consistent with the capacity need year projected in the 2022 IRP. The load forecast sensitivities developed in late June 2023 identified considerable increases in projected load and the corresponding capacity need by the end of 2026 for the winter of 2026/2027. The magnitude and timing of the Company's capacity needs reflected in the summer 2023 load forecast sensitivities are the drivers for this 2023 IRP Update, which is based on the 2023 IRP Update load forecast the Company produced in September 2023. Figure 3 below provides a comparison of projected winter peak demands as presented in the 2022 IRP, the Budget 2023 load forecast, and the

¹⁹ The Budget 2023 load forecast produced in August 2022 projected a load of 17,100 MW through the winter of 2030/2031, whereas the Budget 2022 load forecast produced in August 2021 for the 2022 IRP projected a load of 15,957 MW for the same period.

2023 IRP Update load forecast for the 20-year period spanning the winter of 2023/2024 through the winter of 2042/2043.²⁰

Figure 3: Georgia Power Projected Winter Peak Demand



Updated Capacity Needs

The increase in the projected demand for energy driven by Georgia’s economic growth has significantly impacted both the timing and magnitude of the Company’s projected capacity needs. The Company has a capacity need when its existing, committed, and planned capacity is less than its projected seasonal, weather normal load forecast plus the seasonal planning target reserve margin. Based on the load levels in the 2023 IRP Update, Georgia Power has a projected capacity need in the winter of 2025/2026. In addition, the projected capacity need through the winter of 2030/2031 has increased from approximately 3,700 MW, based on projections in the 2022 IRP, to as much as 8,500 MW, based on the 2023 IRP Update load forecast. Figure 4 below shows the progression of Georgia Power’s projected winter capacity needs from the 2022 IRP filing to the Budget 2023 load forecast and then to the 2023 IRP Update load forecast. Figure 5 below provides a similar table corresponding to the Company’s summer capacity needs. As shown in the table, winter is Georgia Power’s constraining season for capacity planning purposes, meaning that is when additional capacity resources are first needed. To ensure it can meet the needs of a growing Georgia and continue to reliably serve customers, the Company plans to meet its winter capacity needs through the winter of 2030/2031 with a combination of the following: (i) resources that will be selected through the All-Source and ESS RFPs approved in the 2022 IRP, which will address capacity needs starting in the winter of 2028/2029; and (ii) resources being requested in this 2023 IRP Update, which will address capacity needs starting in the winter of 2025/2026.

²⁰ The Company denotes the winter of 2023/2024 as 2024 and applies this treatment to future seasons and years in Figure 3. This is because the Company’s projected peak winter demand is in January of each year.

Figure 4: Georgia Power Winter Capacity Needs

Year	(1) 2022 IRP	(2) Budget 2023	(3) 2023 IRP Update
2023/2024	(974)	(801)	(964)
2024/2025	(1,608)	(1,297)	(1,352)
2025/2026	(1,651)	(953)	175
2026/2027	(1,740)	(1,141)	1,875
2027/2028	(570)	(1,201)	2,601
2028/2029	1,034	1,972	4,807
2029/2030	1,467	2,102	5,774
2030/2031	3,723	4,329	8,487
2031/2032	3,847	4,803	8,776
2032/2033	4,140	5,093	9,059
2033/2034	4,332	5,236	9,228
2034/2035	6,941	7,758	11,340
2035/2036	9,462	10,307	15,643
2036/2037	9,801	10,596	15,924
2037/2038	10,409	10,991	16,624
2038/2039	11,097	11,667	17,083
2039/2040	12,037	12,573	17,820
2040/2041	12,513	12,999	18,285
2041/2042	12,770	13,246	18,739
2042/2043	13,057	13,509	19,229

Notes:

- “Winter” includes December, January, and February. Therefore, the timing of a winter need splits two calendar years, which is why the Year column in the needs chart references two calendar years. For example, the reference to 2026/2027 includes December 2026 and January and February 2027.
- Negative values in black text indicate capacity *above* target reserve margin; positive values in red text indicate a need to add capacity; units are MW.
- In addition to other changes, the three columns above differ with regard to their Plant Bowen Units 1-2 retirement assumptions. Specifically, column (1) assumes retirement at the end of 2027, column (2) the end of 2028, and column (3) the end of 2035.
- Columns (2&3) account for the approved capacity resources and procurements from the 2022 IRP, except the capacity equivalence of battery energy storage from the 500 MW ESS RFP has been removed from (2&3) and the All-Source RFP is not included in order to show total capacity procurement needs.

Figure 5: Georgia Power Summer Capacity Needs

Year	(1) 2022 IRP	(2) Budget 2023	(3) 2023 IRP Update
2024	(673)	(1,022)	(623)
2025	(2,380)	(3,464)	(1,975)
2026	(2,422)	(3,285)	(482)
2027	(2,482)	(3,832)	600
2028	(966)	(3,600)	1,647
2029	290	(1,403)	3,001
2030	2,580	710	5,940
2031	2,775	523	6,337
2032	2,907	617	6,366
2033	3,216	548	6,386
2034	3,419	349	6,317
2035	6,383	2,931	8,562
2036	8,462	4,963	12,235
2037	8,891	5,326	12,649
2038	9,805	6,190	13,147
2039	10,089	6,403	13,413
2040	10,920	7,178	13,978
2041	11,398	7,697	14,484
2042	11,662	7,937	14,916
2043	11,941	8,183	15,358

Notes:

- “Summer” includes the months June, July, August, and September of the given calendar year.
- Negative values in black text indicate capacity *above* target reserve margin; positive values in red text indicate a need to add capacity; units are MW.
- In addition to other changes, the three columns above differ with regard to their Plant Bowen Units 1-2 retirement assumptions. Specifically, column (1) assumes retirement at the end of 2027, column (2) the end of 2028, and column (3) the end of 2035.
- Columns (2&3) account for the approved capacity resources and procurements from the 2022 IRP, except the capacity equivalence of battery energy storage from the 500 MW ESS RFP has been removed from (2&3) and the All-Source RFP is not included in order to show total capacity procurement needs. Adoption of Economic Load Carrying Capability (“ELCC”) for capacity equivalence increased renewable planning capacity from the 2022 IRP to Budget 2023.

Resource Plan to Meet Capacity Needs

Georgia's constructive regulatory environment, along with Georgia Power's longstanding commitment to serving the energy needs of its customers and the state, provide the foundation necessary to address Georgia's growing capacity needs. This 2023 IRP Update presents a flexible, comprehensive plan to address both the magnitude and the accelerated timing of the Company's capacity needs. It also reinforces the Company's continued commitment to renewables and the reliable and economical transition of its generating fleet. While the Company introduced a long-term renewable expansion plan in the 2022 IRP that called for the addition of 6,000 MW of new renewable resources by 2035, updated modeling for the 2023 IRP Update now indicates adding up to approximately 10,000 MW of new renewable resources can provide economic benefits for customers. The proposed resource plan in this 2023 IRP Update:

- secures existing capacity within the Southern Company system that would otherwise have been retired or remarketed outside of system reserve sharing,
- pursues the potential acquisition of an additional ownership interest in an existing generating asset within the Southern Company footprint,
- leverages existing transmission interconnection facilities to install new energy storage resources co-located at existing solar sites,
- invests in new solar resources to be paired with energy storage at a site with existing transmission interconnection facilities,
- increases dispatchable generation with operational flexibility necessary to support renewable integration and fleet transition,
- establishes new DER and demand response programs that allow the Company to further engage with its customers, and
- provides for future capacity in response to further projected load updates.

These actions are in accordance with Commission rules²¹ and will help ensure the continued reliability of the Company's electric system through the winter of 2027/2028. The RFPs approved in the 2022 IRP will address the Company's longer-range capacity needs for the winter of 2028/2029 through the winter of 2030/2031.²² Even with the resources proposed in this 2023 IRP Update and those that will be acquired through the RFPs approved in the 2022 IRP, the Company still projects substantial capacity needs for the winter of 2031/2032 and beyond, which will be addressed in the Company's 2025 IRP.

The following sections of this document provide updates on the implementation of the 2022 IRP, specific details related to the actions proposed in the Company's 2023 IRP Update, and potential actions to be addressed in the 2025 IRP.

2022 IRP Implementation

McGrau Ford BESS

In the 2022 IRP, the Commission provisionally authorized the Company to develop, own, and operate the 265 MW McGrau Ford BESS project. The Company continues to pursue the development of this facility consistent with the Commission's order and expects commercial operation to be reached by the end of

²¹ Commission Rules 515-3-4-.04(3)(f)(6) and 515-3-4-.04(3)(f)(7), and 2001 IRP Final Order.

²² The 2023 IRP Update capacity needs in Figure 4 and Figure 5 already account for the approved capacity resources and procurements from the 2022 IRP, except the capacity equivalence of battery energy storage from 500 MW ESS RFP has been removed and the All-Source RFP is not included in order to show total capacity procurement needs.

2026. The capacity to be delivered by this project is accounted for in the 2023 IRP Update capacity needs beginning in the winter of 2026/2027. The Company is actively engaged in project development, including activities such as developing grading plans, project layouts, and a detailed design for the main power transformer. In addition, the Company is currently evaluating the responses it received from potential suppliers for competitive pricing for battery supply and inverters. By the end of 2024, the Company anticipates filing one or more Engineering, Procurement, and Construction (“EPC”) agreements along with a battery supply agreement for Commission review and approval.

Distributed Energy Resource Customer Program Pilot

Following the 2022 IRP proceeding, the Company worked with Commission Staff and intervenors to develop and finalize the Resiliency Asset Service (“RAS-1”) and Demand Response Credit (“DRC-1”) tariffs that underpin the DER Customer Program Pilot. These tariffs were approved in January 2023. Following the Commission’s approval, Georgia Power engaged with interested customers and presented its first customer proposal in February 2023. The Company is currently pursuing more than two dozen project leads, including large-scale customer opportunities. If successful, these opportunities could provide capacity up to the 250 MW program limit.

Resources associated with customers who subscribe to both the RAS-1 tariff and the DRC-1 tariff will contribute capacity value. Based on current interest in both tariffs, Georgia Power assumes that the pilot will provide approximately 150 MW of capacity in the capacity plan by the end of 2027.

2022 IRP Approved RFPs

The Company is actively implementing the RFPs approved in the 2022 IRP and provides a status update on each RFP below.

- **DG Renewable RFPs:** The 2023 DG RFP was approved by the Commission on August 15, 2023, and bids were received in September 2023. This RFP targets the procurement of 193 MW, which includes 93 MW of rollover from the 2020 DG RFP and REDI CS II approved through the 2019 IRP. The 2024 DG RFP is scheduled to be issued in the fourth quarter of 2024 and will target the procurement of energy from 100 MW of solar resources. The DG Renewable RFPs provide winter planning capacity of approximately 15 MW by the winter of 2025/2026.²³
- **Utility Scale Renewable RFPs:** The CARES 2023 Utility Scale RFP will procure energy from a portion of the 2,100 MW of renewable resources approved in the 2022 IRP, as well as 1,030 unprocured MW rolled forward from the 2023/2024 Utility Scale Renewable RFP. The CARES 2023 Utility Scale RFP is scheduled to be released in the fourth quarter of 2023 with commercial operation dates no later than 2028. The Company expects to issue the CARES 2025 Utility Scale RFP in 2025, targeting the remaining unfilled Utility Scale resources, with commercial operation dates no later than 2029. The Utility Scale RFPs are expected to provide winter planning capacity of approximately 168 MW by the winter of 2028/2029.²⁴
- **140 MW Biomass RFP:** The Company is currently evaluating bids received in July 2023 and selected a Competitive Tier of bids on September 11, 2023. Contract execution is expected by May 31,

²³ Note that Georgia Power assumes a 5% winter capacity equivalence for these solar resources.

²⁴ See Footnote 23.

2024, and filing for certification of these resources will follow. Georgia Power projects that the 140 MW of biomass resources will be online by the end of 2028.

- **500 MW ESS RFP:** The Company plans to issue this RFP in 2024 and certify the selected resources in early 2026. Georgia Power expects that the full 500 MW will be online by the end of 2028.²⁵
- **All-Source RFP:** In the 2022 IRP, the Commission approved an All-Source RFP to meet the Company's capacity needs for the 2029 through 2031 timeframe. The Company plans to initiate this RFP process in early 2024 and to petition the Commission for certification of resources in the second half of 2025, following completion of the 2025 IRP. This schedule allows new and existing ESS, ESS with a renewable resource, and gas/oil-fired resources to be available to address capacity needs for the winter of 2028/2029 through the winter of 2030/2031.

2023 IRP Update

The need for Georgia Power's requests in this 2023 IRP Update is primarily driven by three factors: (i) an increased and accelerated demand for electricity; (ii) a decrease in the amount of uncontracted, existing generation resources in the wholesale market; and (iii) the time required to build or buy energy from new resources to meet capacity needs arising as early as the winter of 2025/2026.

The first factor, the increased and accelerated demand for electricity, particularly as it relates to economic growth in Georgia, is the primary driver behind the 2023 IRP Update. As previously described in this filing, the projections in the Company's load forecast have significantly changed since the conclusion of the 2022 IRP, with new capacity required to meet the Company's needs in the winter of 2025/2026.

The second factor, the decreased supply of electricity uncontracted, is related to the limited amount of existing electric generating capacity available in the wholesale market. Actions taken by several utilities, including Georgia Power, have contributed to this limited supply. For example, the six long-term PPAs executed by Georgia Power through its 2022-2028 RFP and approved in its 2022 IRP already secured more than 2,300 MW of capacity from the wholesale electric market for several years, with some of that capacity beginning to serve Georgia Power customers as early as 2024. Following the Company's procurement of these resources, other utilities, such as Cobb EMC, Santee Cooper, the Tennessee Valley Authority ("TVA"), and Alabama Power, also either recently concluded an RFP process or are actively conducting RFPs that are seeking to purchase additional near-term electric capacity from wholesale assets in the region, thus reducing the opportunity to obtain any remaining assets for the Company's capacity needs. Additionally, Oglethorpe Power Company has acquired more than 1,300 MW of wholesale generation assets since 2021 to serve the customers of its electric membership cooperatives.²⁶ As part of utilizing a well-balanced and diversified approach to evaluate a wide range of potential resource options for the benefit of customers,

²⁵ Note that Georgia Power assumes a 95% winter capacity equivalence and a 100% summer capacity equivalence for energy storage from the 500 MW ESS RFP, resulting in 475 MW of winter capacity and 500 MW of summer capacity.

²⁶ Effingham CC: <https://opc.com/2021/03/02/oglethorpe-power-corporation-seeks-to-acquire-natural-gas-fired-combined-cycle-generating-facility-from-the-carlyle-group/>; Washington Co CT: <https://opc.com/2022/10/24/washington-county-power-acquisition/>; Baconton CT: <https://opc.com/2023/05/25/oglethorpe-power-acquires-natural-gas-fired-combustion-turbine-generation-unit/>; Walton CTs: <https://www.marketscreener.com/quote/stock/THE-CARLYLE-GROUP-INC-10531255/news/Oglethorpe-Power-Corporation-entered-into-an-agreement-to-acquire-465-MW-Walton-County-CTs-from-The-44684357/>

in September 2023, Georgia Power proactively issued a Request for Information (“RFI”) to gather market information regarding the availability of existing capacity resources for the capacity need identified for years 2026 through 2028 and for years 2029 through 2031, which are to be addressed in the Company’s All-Source RFP. The Company plans to share results of this RFI with the Commission by making a supplemental filing for this 2023 IRP Update in November.

The third factor influencing the Company’s 2023 IRP Update requests is the limited time available to procure or construct the resources needed to meet capacity need by the winter of 2025/2026. From start to finish, Georgia’s RFP process to identify, evaluate, and select capacity resources typically takes two to two and a half years from the selection of an independent evaluator to the certification of resources. Even if an RFP were issued immediately and concluded within two years (e.g., by November 2025), only PPAs for existing wholesale generation assets with existing transmission capability and any needed firm fuel transportation would be able to meet capacity needs in the winter of 2025/2026, all assuming such capacity was available, an economic choice in the market, and continued to remain available throughout the RFP process. If new-build resources were selected through such an RFP, generation and transmission assets would need to be constructed within one year to meet capacity needs for the winter of 2026/2027, and a one-year timeline is not feasible for those types of construction projects. Consequently, several actions needed to meet the Company’s near-term capacity needs require approval pursuant to one of the exceptions to the RFP process that are established under the Commission’s Rules.

In light of the aforementioned three factors, in order for the Company to address its capacity needs, the Company proposes to utilize a well-balanced and diversified approach to:

- leverage existing capacity available on the Southern Company system and from the market,
- potentially acquire an additional ownership interest in an existing generation asset,
- utilize existing transmission interconnections for newly proposed BESS resources,
- construct new supply-side assets, and
- create or modify demand-side programs that can mitigate quick load ramps associated with economic development load.

Each of these proposals is described more fully below.

Purchase of Capacity & Energy from Mississippi Power

On October 11, 2023, Georgia Power and Mississippi Power executed a PPA for the sale of 750 MW of capacity and energy from Mississippi Power to Georgia Power for the term of January 1, 2024, through December 31, 2028. Per Docket No. 2018-AD-145, Mississippi Power is ordered to retire approximately 950 MW of capacity by the end of 2027 or show with detailed evidence why continued operation of the resources is in the best interests of its customers.²⁷ While this capacity is available for Georgia Power customers today in times of need due to participation in the Southern Company pool through system reserve sharing, Mississippi Power planned to retire some of that capacity by the end of 2023 and was actively remarketing the other capacity to be sold outside the Southern Company system. These actions would have removed this capacity from the Southern Company pool and prevented its availability to serve Georgia Power customers. By purchasing 750 MW from Mississippi Power through this PPA, Georgia Power ensures that these resources not only remain in the Southern Company pool but also provide dedicated, reliable, market-priced capacity and energy to Georgia Power's customers to meet its burgeoning short-term demand. The PPA obligations can be met by any resources available to Mississippi Power.

For the benefit of customers, Southern Wholesale Energy ("SWE"), on behalf of Georgia Power, will attempt to remarket capacity for the years prior to the winter of 2025/2026. The Company has already contracted for the sale of 500 MW to a regional electrical service provider for January 1, 2024, through September 30, 2025, thereby recovering costs from a third party in a period before the capacity is needed to serve Georgia Power retail customers. The Company requests regulatory asset treatment to defer the capacity and non-fuel energy payments under the PPA with Mississippi Power, including additional sum, net of the wholesale capacity and non-fuel revenues from any remarketed capacity sales from January 1, 2024, through December 31, 2025, including the resulting customer benefit of the executed system sale to a regional electrical service provider during that time. A certification application for the PPA between Georgia Power and Mississippi Power is found in Attachment A, and the executed PPA is provided in the Technical Appendix.

Purchase of Capacity & Energy from Santa Rosa Energy Center

On October 22, 2023, Georgia Power and Santa Rosa Energy Center LLC executed a PPA for the sale of up to 230 MW of capacity and energy from Santa Rosa Energy Center, a CC resource located in Pace, Florida. Capacity and energy will be available beginning on the first of the month following Commission approval and will continue through December 31, 2028. As described above, this agreement allows Georgia Power to leverage the flexibility of the near-term availability of this asset within the context of the high demand for the limited amount of existing electric generating capacity available in the wholesale market. The short-term nature of this PPA also allows the Company to bridge capacity needs until the All-Source RFP procures longer term resources for winter 2028/2029 and beyond.

For the benefit of customers, SWE, on behalf of Georgia Power, will attempt to remarket capacity for years prior to the winter of 2025/2026. For the period from January 1, 2024, through December 31, 2025, the Company requests regulatory asset treatment to defer the capacity and non-fuel energy payments made under the PPA, including additional sum, net of any wholesale capacity and non-fuel revenues from remarketed capacity sales during this period. A certification application for the PPA between Georgia

²⁷ https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=655509.

Power and Santa Rosa Energy Center LLC is found in Attachment B, and the executed PPA is provided in the Technical Appendix.

Potential Acquisition of an Additional Ownership Interest in an Existing Generating Asset

Georgia Power is exploring the option to acquire an additional ownership interest in an existing generating asset within the Southern Company footprint, and negotiations are ongoing. The potential availability of this asset provides necessary capacity within the near-term need years that can also act as a bridge resource during Georgia Power's fleet transition. The Company anticipates that an agreement can be reached while this proceeding is pending. If successful, the Company plans to file a supplement to this filing at that time to request certification of the Agreement. Additional details are provided in the Technical Appendix.

Proposed Company-Owned Resources

Georgia Power is obligated to provide its customers with reliable electric service and, as such, cannot solely rely on existing or new market resources from independent power producers to provide the capacity needed to reliably serve its customers. The selection of market resources through the Commission's competitive RFP process can benefit customers, and the Company is supportive of this process. However, the market is neither obligated to serve the Company's customers, nor is it positioned to fully address the accelerated timing and magnitude of the Company's emerging capacity needs. As discussed previously, there is limited time available to procure or construct the resources needed to meet capacity needs as early as the winter of 2025/2026, which is not a feasible timeline for new-build resources to be selected through such an RFP process. To ensure Georgia Power can continue to reliably serve its customers in the face of increased and accelerated projected generation capacity needs, the Company must take steps now to develop new resources in accordance with Commission Rules through RFP exceptions in the Commission Rules in addition to resources to be procured through the RFP process, as previously described in the 2022 IRP Implementation section.

Additionally, long-standing Commission policy requires Georgia Power to own at least 70% of its supply-side resources to help ensure that the Company can reliably serve customers and that the Commission maintains sufficient oversight of the Company's obligation to reliably serve customers.²⁸ If Georgia Power were to contract for the entirety of the capacity needed to serve customers through the winter of 2030/2031 via PPAs, it could not maintain the minimum 70% ownership of total supply-side resources that is required by Commission policy. The percentage would fall below 70% as early as the winter of 2026/2027 and would decrease to approximately 55% by the winter of 2030/2031. This percentage continues to decline in later years due to the projected retirement of Company-owned resources. To illustrate this point, Figure 6 depicts Company-owned resources as a percentage of total supply-side resources for the winter of 2023/2024 through the winter of 2042/2043. For this analysis, the percentage of ownership is calculated based on the assumption that capacity needs would be met exclusively with PPAs. The planning capacity,

²⁸ See Commission Rule 515-3-4-.04(3)(f)(7); see also, Final Order, Georgia Power Company Application for Approval of an Integrated Resource Plan, Georgia Public Service Commission, Docket No. 13305 at 21 (July 17, 2001) ("2001 IRP Final Order") providing that "consistent with the Order issued July 5, 2001, the Commission will limit the amount of supply-side capacity provided through purchased power contracts to 30 percent of total supply-side resources. When the limit is reached the utility will meet its next capacity need through a traditional self-build project to be placed in rate base."

rather than nameplate capacity, of renewable resources was utilized for this analysis. Figure 6 also shows the amount of incremental Company-owned capacity required to maintain at least 70% ownership.

Figure 6: Additional Company-Owned Resources for Minimum 70% Ownership

Year	2023 IRP Update Ownership (%)	Additional Owned Capacity to Maintain 70% Ownership Minimum (MW)
2023/2024	77%	(1,257)
2024/2025	75%	(991)
2025/2026	74%	(814)
2026/2027	69%	325
2027/2028	66%	1,012
2028/2029	59%	2,756
2029/2030	57%	3,432
2030/2031	55%	3,918
2031/2032	55%	4,146
2032/2033	54%	4,332
2033/2034	54%	4,474
2034/2035	51%	5,264
2035/2036	38%	8,926
2036/2037	37%	9,094
2037/2038	37%	9,332
2038/2039	36%	9,654
2039/2040	36%	9,918
2040/2041	35%	10,229
2041/2042	35%	10,545
2042/2043	34%	10,887

In this 2023 IRP Update, the Company is notifying the Commission that its self-owned capacity levels are close to falling below the minimum percentage of self-owned resources and will fall below that minimum percentage if the Company's updated capacity need is met only through PPAs.²⁹

Therefore, due to the accelerated need for generating capacity, the limited availability of market resources, the time required to complete the RFP process and build new transmission and generation assets, and the Commission policy regarding Company ownership of at least 70% of generating resources to serve customers, the Company requests Commission approval of the following self-owned resources to meet the capacity needs shown in this filing:

1. Authority to develop, own, and operate up to 1,000 MW of BESS as described below and in the Technical Appendix.
2. Authority to develop, own, and operate up to 1,400 MW from three simple cycle CT resources at Plant Yates as described below and in the Technical Appendix.

²⁹ In the 2022 IRP filing, the Company previously provided notice in the Application for Certification of the six PPAs from the 2022-2028 Capacity RFP that the Company would surpass the 30% purchase power limit for supply-side resources in 2029 and 2030 in compliance with Commission Rule 515-3-4-.04(3)(f)7.

BESS

Georgia Power is proposing new BESS projects to provide capacity as early as the winter of 2026/2027. Specifically, the Company proposes to add 178 MW of 4-hour duration lithium-ion BESS to existing Company-owned solar facilities at Robins and Moody Air Force Bases and 200 MW of BESS co-located with 200 MW of new solar at a site with existing transmission interconnection facilities.

The Robins and Moody Air Force Base projects will leverage existing interconnection facilities and will be primarily charged by the existing solar resources at each site. As such, these projects save time and avoid additional capital investment that would otherwise be required to construct interconnection facilities and transmission system upgrades to charge and discharge the BESS. The proposed BESS resources will also optimize energy savings by shifting the energy output of the solar facilities from hours with a relatively low system marginal cost to hours with a relatively high system marginal cost. The BESS will also firm up the winter planning capacity of the existing solar facilities at both sites by storing energy that can then be dispatched by system operators to benefit the grid. Without BESS, the winter planning capacity for the solar resources at each site is 10% of the nameplate capacity of each facility. With the BESS, each facility can provide 100% of the solar nameplate capacity to meet winter capacity needs, thus maximizing the utilization and benefit of the existing solar resources.

The proposed BESS co-located with a new solar project will be comprised of 200 MW of BESS co-located with 200 MW of new solar. It is projected to be online by the winter of 2026/2027. The BESS will be primarily charged by the accompanying solar resource but may have opportunities to be charged by the grid depending on available transmission capacity. Additional details regarding the specific proposed BESS projects and the estimated cost of each resource are found in the Technical Appendix.

The Company is also pursuing additional BESS opportunities at facilities that may have transmission capacity available as early as the winter of 2026/2027. This includes standalone BESS, BESS added to existing solar facilities, and additional BESS co-located with new charging solar. Since the availability of additional transmission capacity could limit the timeframe in which the Company can deploy new resources, the Company requests the flexibility to add up to 1,000 MW total of BESS resources, including the proposed Robins and Moody projects and the BESS co-located with new solar project, to be online by the end of 2027. This added flexibility will allow the Company to utilize resources that provide the best value to Georgia Power customers.

Notably, the Company's Resource Mix Study, provided in the Technical Appendix, selects BESS as an economically optimal resource beginning in the winter of 2026/2027 and selects solar as an economically optimal resource beginning in the winter of 2027/2028. The proposed Company-owned BESS would contribute to the significant amount of capacity required to maintain at least 70% utility ownership of resources serving Georgia Power's customers. The Company will pursue available tax credits through the IRA for all proposed BESS projects and pass those benefits through to customers. If these BESS requests are denied by the Commission, the Company requests any development costs not useful or transferable to other projects to be deferred to a regulatory asset with the amortization period of the recovery to be determined in the next base rate case.

Combustion Turbines

To preserve system reliability and resilience for all customers during all hours, Georgia Power needs a diverse portfolio of dispatchable resources. While energy storage resources continue to grow as a percentage of Georgia Power's portfolio and to support renewable integration, the Company cannot overly rely on short-duration storage to fully meet its capacity needs. Energy storage resources do not generate energy and must be charged either from the grid or another resource, and because of the necessity to be charged, at times, energy storage resources act as additional load to the Company's system. When dispatched, currently economical energy storage is limited to two or four hours of full discharge output. To serve customer load, the Company needs dispatchable resources that are not inherently limited by the specified discharge duration of the resource or a need to charge. While energy storage resources do have high levels of capacity equivalence because they can help to serve load during peak periods, they do have some limitations and need to be supported by other resources. This is reflected in the Company's Resource Mix Study, which selects not only BESS and solar but also CTs and CCs as economically optimal additions to meet system capacity needs. Specifically, CTs are selected beginning in the winter of 2026/2027.³⁰

To ensure its customers can benefit from these economic and reliable resources, Georgia Power proposes to construct three advanced class, dual-fuel CTs at Plant Yates. CTs provide the operational flexibility that is needed to support the integration of renewable resources and also complement non-generating battery storage resources, while providing dispatchable peaking power when needed. Advanced gas turbines also allow for the incorporation of catalyst control systems to lower emissions significantly compared to previous generations of the technology. To leverage current infrastructure and operational efficiencies, the Company proposes to locate the CTs at Plant Yates.

The three advanced gas turbines proposed at Plant Yates would provide between 1,000 to 1,400 MW of capacity, depending on the fuel source being utilized, providing higher output and greater efficiency than previous generations of simple cycle CT designs. When gas is available, the units would provide up to approximately 1,400 MW of capacity. If gas is unavailable, the units could run on oil and provide approximately 1,000 MW to 1,100 MW of capacity, with on-site oil storage capability to provide reliability and resiliency benefits to the electric system.

CTs can be constructed in the short time frame needed to ensure new generation is operational to help address the Company's capacity needs identified in this 2023 IRP Update. To support the ability to bring two of the CTs online by the end of 2026 and another one online in the second quarter of 2027, the Company must begin development activities immediately. The Company-owned CTs would contribute to the significant amount of capacity required to maintain at least 70% utility ownership of resources serving Georgia Power's customers.

Additional details regarding the proposed dual-fuel simple cycle CT resources and estimated costs are found in the Technical Appendix. If this request is denied by the Commission, the Company requests any development costs not useful or transferable to other projects be deferred to a

³⁰ The Company is proposing the Plant Yates CTs to be online as early as the winter of 2026/2027, consistent with the selection of generic CTs in the Resource Mix Study in the Technical Appendix.

regulatory asset with the amortization period of the recovery to be determined in the next base rate case.

Proposed DER and Demand Response Programs

Georgia Power is proposing to increase its DER and demand response offerings to customers and leverage the benefits of these resources for all customers. These programs will more fully leverage resources that customers are already seeking for onsite resiliency to also support system reliability for the benefit of all customers. Given the lead time needed to enroll customers in the programs and construct program resources, the Company is seeking approval now to maximize the ability of these programs to help address future capacity needs. The Company's proposal includes (i) two new customer-sited DER programs, known as the DER Colocation and the DER Customer Owned programs; (ii) a new Curtailable Load program for commercial and industrial customers; and (iii) an expansion of the Residential Thermostat Demand Response DSM Program. In connection with this proposal, Georgia Power plans to introduce three new tariffs as described below.

DER Colocation Program, DCL-1

The DER Colocation program, as implemented through proposed tariff DCL-1, will be an optional tariff available to qualifying commercial and industrial customers. Through DCL-1, Georgia Power will own, operate, maintain, and control dispatchable DER at customer premises, and economically dispatch the resources to provide energy and capacity benefits to all customers. The DER will be connected to the electric system, thus allowing the Company to transmit the energy they produce to the electric grid. During times of electric service outage, the DER will be used to provide participating customers with electric energy to support their operations. The DER generation will not impact the participating customer's billed retail electric service while participating in DCL-1. In exchange for the resiliency benefits provided by the DER, participating customers will make payments such that the resulting rate base value of the DER is below the system value realized over its asset life, thus benefiting all customers. DER technology that may be utilized under DCL-1 includes, but is not limited to, natural gas generators, diesel generators, and other technologies with firm fuel supply. Customers participating under the DCL-1 tariff will also be required to enter into a program agreement with Georgia Power that will further establish the terms and conditions of participation.

DER Customer Owned Program, DCO-1

The DER Customer Owned Program, as implemented through the DCO-1 tariff, is an optional program available to qualifying commercial and industrial customers and will operate much like the DER Colocation program, but with a few key differences. Through DCO-1, Georgia Power will operate and control *customer-owned*, new dispatchable DER located at customer premises and economically dispatch the resources to provide energy and capacity benefits to all customers. Like with DCL-1, interconnection of the DER with the Company's electric system will allow the energy produced by the DER to be transmitted to the electric grid. During times of electric service outage, the DER will provide participating customers with electric energy to support their operations. The DER generation will not impact the participating customer's billed retail electric service while participating in DCO-1. Under this program, Georgia Power will provide participating customers with a credit on their electric bills in exchange for the Company's use of the customer's DER for economic dispatch. The DCO-1 credit will be based on the capacity and energy value of the participating customer's DER over the period during which they subscribe to the DCO-1 program.

As a condition of participation, participating customers will be required to enter a program agreement with Georgia Power that will further establish the terms and conditions of participation.

Curtailable Load Program, CL-1

The Curtailable Load program, as implemented through the CL-1 tariff, will enable additional demand response participation from commercial and industrial customers and provide corresponding system capacity and reliability benefits to all customers. This optional tariff will be available to qualifying commercial and industrial customers for long-term commitments to reduce their load during extreme supply and demand conditions. This program will differ from the Company's existing Demand Plus Energy Credit (DPEC) demand response program in several ways. First, it will require longer-term contracts than DPEC to better ensure resource availability. In exchange, Georgia Power will provide participating customers a credit on their electric bills reflecting the capacity value associated with their participation over the contract term, thus increasing the value of participation. Second, CL-1 provides increased options for customers to realize benefits from enabling demand response. By compensating the load reduction commensurate to the value it provides the system, CL-1 will enable greater benefits and participation. CL-1 provides a long-term demand response contract option so that customers can select an option that best suits their operations.

Residential Thermostat Program Expansion

The Company proposes expanding customer enrollment in the Residential Thermostat Demand Response DSM program due to its significant demand response value, robust customer participation, and improved program economics. Expanding the program cap from 25,000 to 50,000 customers will help maximize the potential of this program, thus delivering further value to the electric grid and the Company's customers. In addition, the program now reflects positive Total Resource Cost ("TRC") results for the evaluation life of the program and, therefore, no longer requires a waiver of the TRC requirement within Commission Rule 515-3-4-.04(4)(a)(3) as was approved in the 2022 IRP. Additional details regarding the Company's request to amend the certificate for the Residential Demand Response program can be found in Attachment C.

Flex Capacity

Given the significant increases in load forecast sensitivities throughout 2023 and the rapid pace of economic development in Georgia, the Company must be able to quickly respond to additional increases in its load forecast prior to the 2025 IRP. Georgia Power plans to continue to identify supplemental or "Flex Capacity" resource options that could help meet potential additional capacity needs prior to the winter of 2028/2029. For example, Georgia Power may identify BESS capacity opportunities in excess of the 1,000 MW proposed in this 2023 IRP Update. Additionally, the Company is exploring the possibility of additional PPA options associated with limited market resources, which may be informed by the Company's RFI issued in September.

Under its proposed Flex Capacity framework, the Company would be authorized to undertake preliminary development activities in connection with the development, operation, and ownership of new capacity resources and would also continue to explore PPA or acquisition options that could be presented for Commission approval and certification prior to filing the 2025 IRP, provided the following criteria are met:

1. An update to the 2023 IRP Update load forecast which results in a 500 MW or greater capacity need prior to the winter of 2028/2029; and
2. The Company submits the proposed resource(s) for certification with an updated capacity needs chart and associated load forecast update.

In addition, the Company would be approved to defer any developmental costs for such activities that would otherwise be expensed into a regulatory asset with the amortization period to be determined in the Company's next base rate case. Once resources are identified under this framework, the Company will seek expedited certification for such resources. If approved by the Commission, the Flex Capacity framework would help Georgia Power address rapid increases in load prior to the Company filing its 2025 IRP and support continued economic growth in Georgia.

Commission Approval of Proposed Resources

To enable Georgia Power to continue to reliably serve its customers, the Company is requesting Commission approval to develop, procure, or purchase the capacity and energy from the new supply-side capacity resources identified within this 2023 IRP Update. To accomplish this, the Company is following Commission rules for identification and selection of capacity resources under Commission Rule 515-3-4-.04. To meet the schedule required to meet capacity needs, the Company is requesting Commission approval under one or more of the seven exceptions to the RFP process set forth under Commission Rule 515-3-4-.04(3)(f). Authorizing the Company to procure resources pursuant to one or more of these exceptions will allow for the timely deployment of necessary supply-side resources, while mitigating the risks that the market either cannot provide enough capacity or will not offer enough firm and dispatchable resources to reliably serve customers.

Within the Commission Rules, three of the exceptions to the Commission's RFP requirement apply to the resources identified in the 2023 IRP Update. First, there is an exception for supply-side capacity resources of extraordinary advantage that require immediate action.³¹ Second, the Commission has the authority during an IRP proceeding to exclude from the RFP process any new supply-side resources.³² Third, when the Company nears or finds that it would fall below the minimum percentage of self-owned capacity (70%), the Commission rules require the Company to inform the Commission of this eventuality in advance of the RFP Process, at which time the Commission may suspend the RFP requirements and provide guidance to the Company on how to proceed.³³

As previously discussed, time is of the essence and an RFP cannot be conducted fast enough for the Company to develop, procure, or purchase energy and capacity to meet its increased and accelerated capacity needs. An RFP conducted in accordance with the Commission's RFP Rule typically takes two to two and a half years from the selection of an independent evaluator to the certification of resources. Even if an RFP were issued immediately and concluded within two years (e.g., by November 2025), only PPAs for existing wholesale generation assets with transmission capability and firm fuel as needed would be able to meet capacity needs in the winter of 2025/2026, assuming such capacity was available in the market and continued to remain available throughout the RFP process. Based on recent market activity and the number of other utilities with active or planned capacity RFPs, the Company does not believe

³¹ Commission Rule 515-3-4-.04(3)(f)(3).

³² Commission Rule 515-3-4-.04(3)(f)(6).

³³ Commission Rule 515-3-4-.04(3)(f)(7).

there is enough existing wholesale capacity in the market to meet its short-term needs. Further, given the long lead timelines to construct new resources and any additional transmission assets needed to accommodate such a resource, procuring resources through an RFP would take too long to meet the Company's resource needs before winter 2028/2029.

Figure 7 below identifies one or more of the Commission's RFP Rule exceptions applicable to each of the Company's requests:

Figure 7: RFP Exceptions Applicable to the Company's 2023 IRP Update Resource Requests

Request	Applicable RFP Exception
Certify PPA between Georgia Power and Mississippi Power	515-3-4-.04(3)(f)(3) 515-3-4-.04(3)(f)(6)
Certify PPA between Georgia Power and Santa Rosa Energy Center LLC	515-3-4-.04(3)(f)(3) 515-3-4-.04(3)(f)(6)
Authority to develop, own, and operate up to 1,000 MW of BESS at various sites	515-3-4-.04(3)(f)(6) 515-3-4-.04(3)(f)(7)
Authority to develop, own, and operate up to 1,400 MW from three simple cycle CTs at Plant Yates	515-3-4-.04(3)(f)(6) 515-3-4-.04(3)(f)(7)
Approval of two new customer-sited DER programs	515-3-4-.04(3)(f)(6) 515-3-4-.04(3)(f)(7)

The Company requests Commission authorization to procure the resources described above through one or more of the exceptions to the Commission's RFP process set forth in Commission Rules 515-3-4-.04(3)(f)(3), 515-3-4-.04(3)(f)(6), and 515-3-4-.04(3)(f)(7), as deemed appropriate and applicable by the Commission.

Request Summary and Economic Analyses

Figure 8 below summarizes the approval and certification requests proposed in the 2023 IRP Update. For resources for which certification will be requested at a later date, such certification requests will be filed after execution of EPC agreements, in the case of proposed Company-owned resources, or other binding agreements in the case of other resources. The economic analyses for select resources below are provided in the Economic Analysis of Capacity Resources document in the Technical Appendix.

Figure 8: Certification and Approval Request Summary

Resource	Approve	Tariff	Certify
Mississippi Power PPA	IRP Update	N/A	IRP Update
Santa Rosa PPA	IRP Update	N/A	IRP Update
Potential Acquisition of Additional Ownership in Existing Generating Asset	Later date ³⁴	N/A	Later date
Robins & Moody BESS	IRP Update	N/A	Later date
BESS co-located with new Solar	IRP Update	N/A	Later date
Other BESS	IRP Update	N/A	Later date
Yates CTs	IRP Update	N/A	Later date
DER Colocation Program	IRP Update	IRP Update	Later date
DER Customer Owned Program	IRP Update	IRP Update	Later date
Curtaillable Load DR Program	IRP Update	IRP Update	N/A
Thermostat DR Program	IRP Update	N/A	IRP Update
Flex Capacity	IRP Update	N/A	Later date

2025 IRP Actions

Renewable Expansion Plan

As described in its 2022 IRP, Georgia Power's supply-side strategy incorporates a long-term renewable expansion plan that provides for the addition of cost-effective generation resources and supports system reliability requirements. The least-cost expansion plan provided in the Technical Appendix of this 2023 IRP Update selects approximately 4,000 MW of additional new renewable resources by 2035. This selection is in addition to the planned 6,000 MW of new renewable resources incorporated into the long-term plan from the Company's 2022 IRP and would result in more than 15,000 MW of total projected renewable resources by 2035. Georgia Power will continue to propose to add renewable resources through its steady and regular procurements and will evaluate and update the long-term procurement strategy for the economically optimal amount of renewable resource additions in future IRPs, including the 2025 IRP.

Plant Bowen Units 1-2

In the 2022 IRP Final Order, the Commission ordered that the retirement of Plant Bowen Units 1-2 would be reassessed in the 2025 IRP. With continuing increases to the Company's projected load forecast and corresponding capacity needs in 2028 and beyond, for planning purposes, the 2023 IRP Update capacity needs assume a retirement date at the end of 2035 for Plant Bowen Units 1-2. The Company will submit

³⁴ "Later date" may include during the 2023 IRP Update proceeding.

unit retirement studies related to Plant Bowen Units 1-2 in the 2025 IRP and will make a formal recommendation at that time regarding the retirement or continued operation of the units.

Plant Scherer Unit 3 and Plant Gaston Units 1-4 and A

In the 2022 IRP Final Order, the Commission approved the retirement and decertification of Plant Scherer Unit 3 and Plant Gaston Units 1-4 and Unit A by December 31, 2028. With continuing increases to the projected load forecast and capacity needs following 2028, the Company will likely evaluate extending the operation of certain units, particularly Plant Scherer Unit 3, beyond 2028. This evaluation will include updated unit retirement studies for these units in the 2025 IRP and may recommend extending their operation. In the 2025 IRP, the Company will make a formal recommendation at that time regarding the retirement or extended operation of the units. Figure 9 depicts the Company's capacity needs in a scenario in which Plant Scherer Unit 3 and Plant Gaston Units 1-4 and Unit A continue operating through 2035.

*Figure 9: Georgia Power Winter Capacity Needs – Potential Extension through 2035
of Plant Scherer Unit 3 and Plant Gaston Units 1-4 and Unit A*

Year	(3) 2023 IRP Update	(4) 2023 IRP Update with Scherer 3 & Gaston 1-4, A extensions
2023/2024	(964)	(964)
2024/2025	(1,352)	(1,352)
2025/2026	175	175
2026/2027	1,875	1,875
2027/2028	2,601	2,601
2028/2029	4,807	3,796
2029/2030	5,774	4,763
2030/2031	8,487	7,532
2031/2032	8,776	7,845
2032/2033	9,059	8,128
2033/2034	9,228	8,298
2034/2035	11,340	10,410
2035/2036	15,643	15,643
2036/2037	15,924	15,924
2037/2038	16,624	16,624
2038/2039	17,083	17,083
2039/2040	17,820	17,820
2040/2041	18,285	18,285
2041/2042	18,739	18,739
2042/2043	19,229	19,229

Notes:

- "Winter" includes December, January, and February. Therefore, the timing of a winter need splits two calendar years, which is why the Year column in the needs chart reference two calendar years. For example, the reference to 2026/2027 includes December 2026 and January and February 2027.
- Negative values in black text indicate capacity above target reserve margin; positive values in red text indicate a need to add capacity; units are MW.

- Plant Bowen Units 1-2 retirement assumptions: (3&4) end of 2035.
- Plant Scherer 3 and Plant Gaston 1-4 and Unit A retirement assumptions: (3) end of 2028; (4) end of 2035.
- Columns (3&4) account for the approved capacity resources and procurements from the 2022 IRP, except the capacity equivalence of battery energy storage from the 500 MW ESS RFP has been removed and the All-Source RFP is not included in order to show total capacity procurement needs.

Transmission Plan

The Company requests approval of the transmission investments necessary to accommodate the proposed resources and the Load and Energy Forecast in the 2023 IRP Update. Transmission studies are currently being performed. See the Technical Appendix for the preliminary transmission screening analyses supporting the resource requests in this 2023 IRP Update. Additional transmission studies and documentation are planned to be available in January 2024 and will be filed by the Company as a supplement to this 2023 IRP Update.

Summary

Since the approval of the 2022 IRP, Georgia's economy has continued to thrive, bringing rapid economic expansion and an unprecedented increase in the demand for energy to the state, along with an accelerated capacity need. To address these challenges through a well-balanced and diversified approach, Georgia Power's 2023 IRP Update provides a strategic plan that is consistent with Georgia's IRP framework and demonstrates the Company's long-standing commitment to providing its customers and the communities it serves with clean, safe, reliable, and affordable electric service. The forward-looking strategy and innovative solutions presented in this 2023 IRP Update position the Company to meet the exceptional load growth and rapidly growing energy needs of customers and to support the state as it continues to grow.

If approved, the 2023 IRP Update will ensure the continued reliability of the electric system in Georgia and provide the generation resources and transmission infrastructure necessary for sustained economic growth in the state. Georgia Power expects existing and new customers to recognize substantial economic benefits from this energy usage growth, which helps offset and balance the cost of investments needed to serve Georgia's growing energy needs.

Accordingly, the Company seeks approval of its 2023 IRP Update including the following:

1. Authorization to procure the resources described in items 2-6 and 9 below in accordance with Commission Rules through the exceptions to the Commission's RFP process set forth in Commission Rules 515-3-4-.04(3)(f)(3), 515-3-4-.04(3)(f)(6), and 515-3-4-.04(3)(f)(7).
2. A certificate of public convenience and necessity for the PPA Between Georgia Power Company and Mississippi Power Company as described in Attachment A and the Technical Appendix.
 - a. Regulatory asset treatment to defer the capacity and non-fuel energy payments made under the PPA, including additional sum, net of the wholesale capacity and non-fuel revenues from any remarketed capacity sales from January 1, 2024, through December 31, 2025, including an executed system sale to a regional electrical service provider during that time, for recovery in the next base rate case.
3. A certificate of public convenience and necessity for the PPA Between Georgia Power Company and Santa Rosa Energy Center LLC as described in Attachment B and the Technical Appendix.

- a. Regulatory asset treatment to defer the capacity and non-fuel energy payments made under the PPA, including additional sum, net of any wholesale capacity and non-fuel revenues from any remarketed capacity sales from January 1, 2024, through December 31, 2025, for recovery in the next base rate case.
4. Authority to develop, own, and operate up to 1,000 MW of BESS at various sites as described in this IRP Update and the Technical Appendix.
 - a. Approval that any development costs not useful or transferable to other projects be deferred to a regulatory asset for recovery in the next base rate case in the event this request is denied.
5. Authority to develop, own, and operate up to 1,400 MW from three simple cycle CT resources at Plant Yates as described in this IRP Update and the Technical Appendix.
 - a. Approval that any development costs not useful or transferable to other projects be deferred to a regulatory asset for recovery in the next base rate case in the event this request is denied.
6. Approval of two new customer-sited DER programs as described in this IRP Update.
7. Approval of one new tariff-based demand response program as described in this IRP Update.
8. Approval of an amended certificate for one existing demand response DSM program as described in this IRP Update and Attachment C.
9. Approval of the Flex Capacity framework as described in the Flex Capacity section.
 - a. Regulatory asset treatment to defer any developmental costs for such activities that would otherwise be expensed for recovery in the next base rate case.
10. Expansion of the transmission system to accommodate the above-requested resources and the Company's Load and Energy Forecast as described in the Technical Appendix.

Attachment A – Application for the Certification of the Power Purchase Agreement Between Georgia Power Company and Mississippi Power Company

Introduction

Pursuant to O.C.G.A. § 46-3A-4, Georgia Power seeks to certify a power purchase agreement (“PPA”) that will be utilized to support an economical and reliable supply of capacity and energy for the Company’s retail customers. Specifically, the Company seeks to certify:

- A five-year PPA with Mississippi Power Company that will provide 750 MW of nominal capacity, equivalent to 750 MW of winter capacity, and associated energy from January 1, 2024, through December 31, 2028 (“MPC PPA”).
- Georgia Power and Mississippi Power are affiliates and retail electric operating companies of Southern Company.

Certification Process

Terms of Purchase

The terms of purchase for the MPC PPA are found in the accompanying PPA included in the Technical Appendix to the 2023 IRP Update.

Cost of Purchase

The cost of the MPC PPA is found in the accompanying PPA included in the Technical Appendix to the 2023 IRP Update. See the Economic Analysis of Capacity Resources document provided in the Technical Appendix for cost-benefit analysis associated with this resource.

Proposed Ratemaking Treatment

Georgia Power proposes to recover the costs associated with the MPC PPA in its retail cost of service, consistent with other PPAs certified by the Commission and the requirements of O.C.G.A. § 46-3A-8.

Additional Sum

The IRP statute, O.C.G.A. § 46-3A-8, specifies that the Company is entitled to an additional sum for purchased power resources. When calculating an additional sum, the statute requires that lost revenues, changed risks, and an equitable sharing of benefits between the utility and its retail customers be considered.

The Company is requesting an additional sum of \$3/kW-year for the MPC PPA.

Analysis of Transmission Impacts

There are no transmission facilities added, modified, or avoided as a result of this certification request. See the Transmission Screening Analyses document provided in the Technical Appendix for the preliminary transmission screening analyses supporting the resource request.

Impact on 2023 IRP Update

The capacity offered in the MPC PPA is not reflected in the various analyses presented in the 2023 IRP Update. The addition of 750 MW of capacity in years 2024 through 2028 from the MPC PPA would assist Georgia Power in meeting the near-term capacity needs as outlined in the 2023 IRP Update. The Company will actively remarket the 750 MW of capacity for years 2024 and 2025 in the wholesale power market for the benefit of customers.

Company-Owned Assets

Pursuant to Commission Rule 515-3-4-.04(3)(f)7, it is the Commission's policy that investor-owned electric utilities under its regulation shall maintain a minimum percentage of their capacity as "self-owned" rate-based assets. This percentage is set by Commission order and may be changed from time to time. In situations in which the soliciting utility is nearing or finds that it would fall below this minimum percentage, the soliciting utility shall inform the Commission of this eventuality in advance of the RFP Process at which time the Commission, in its discretion, may suspend these rules and provide guidance to the soliciting utility as to how it should proceed.

In the 2001 IRP Final Order, the Commission set the limit of supply-side capacity provided through purchased power contracts to 30 percent of total supply-side resources and stated that when the limit is reached, the utility will meet its next capacity need through a traditional self-build project to be placed in rate base. Certification of the MPC PPA contributes to the Company surpassing the 30 percent limit in the winter of 2026/2027, and other actions proposed in the 2023 IRP Update serve to remedy the imbalance.

Commission Rule Exception to the RFP Requirement

Commission Rule 515-3-4-.04(3)(f)(3) provides an exception to the Commission's requirement that the Company procure supply-side resources through an RFP process when a resource provides an extraordinary advantage and requires immediate action. The MPC PPA is immediately available, without construction delay or transmission restrictions, and represents a supply-side resource of extraordinary advantage that requires immediate action to help address the Company's accelerated capacity need identified in the 2023 IRP Update.

In the alternative, Commission Rule 515-3-4-.04(3)(f)(6) allows the Commission to consider and make a determination in each IRP to exclude from the RFP process any new supply side resources identified in the Company's IRP Plan. As the MPC PPA is presented as part of the Company's 2023 IRP Update, the Commission may determine that it should be excluded from the RFP Process to help address the Company's accelerated capacity need.

Conclusion

As set forth in the Company's 2023 IRP Update, Georgia Power's current supply-side and demand-side plans as outlined in the 2023 IRP Update, and which include this MPC PPA, are sufficient to provide cost-effective and reliable sources of capacity and energy for customers. The request in this Certification Application is in the public interest and complies with the relevant Commission rules. Therefore, the Company requests that the Commission approve this PPA and grant the cost recovery as described above.

Attachment B – Application for the Certification of the Power Purchase Agreement Between Georgia Power Company and Santa Rosa Energy Center LLC

Introduction

Pursuant to O.C.G.A. § 46-3A-4, Georgia Power seeks to certify a power purchase agreement (“PPA”) that will be utilized to support an economical and reliable supply of capacity and energy for the Company’s retail customers. Specifically, the Company seeks to certify:

- A PPA with Santa Rosa Energy Center LLC that will provide 215 MW of nominal capacity – equivalent to 230 MW of capacity for November through April of each year and 215 MW of capacity for May through October of each year – and associated energy from January 1, 2024, through December 31, 2028, from Santa Rosa Energy Center located in Pace, Florida (“Santa Rosa PPA”).

Certification Process

Terms of Purchase

The terms of purchase for the Santa Rosa PPA are found in the accompanying PPA included in the Technical Appendix to the 2023 IRP Update.

Cost of Purchase

The cost of the Santa Rosa PPA is found in the accompanying PPA included in the Technical Appendix to the 2023 IRP Update. See the Economic Analysis of Capacity Resources document provided in the Technical Appendix for cost-benefit analysis associated with this resource.

Proposed Ratemaking Treatment

Georgia Power proposes to recover the costs associated with the Santa Rosa PPA in its retail cost of service, consistent with other PPAs certified by the Commission and the requirements of O.C.G.A. § 46-3A-8.

Additional Sum

The IRP statute, O.C.G.A. § 46-3A-8, specifies that the Company is entitled to an additional sum for purchased power resources. When calculating an additional sum, the statute requires that lost revenues, changed risks, and an equitable sharing of benefits between the utility and its retail customers be considered.

The Company is requesting an additional sum of \$3/kW-year for the Santa Rosa PPA.

Analysis of Transmission Impacts

There are no transmission facilities added, modified, or avoided as a result of this certification request. See the Transmission Screening Analyses document provided in the Technical Appendix for the preliminary transmission screening analyses supporting the resource request.

Impact on 2023 IRP Update

The capacity offered in the Santa Rosa PPA is not reflected in the various analyses presented in the 2023 IRP Update. The addition of 230 MW of winter capacity from January 1, 2024, through December 31, 2028, from the Santa Rosa PPA would assist Georgia Power in meeting the near-term capacity needs as outlined in the 2023 IRP Update. The Company will actively remarket the capacity for years 2024 and 2025 in the wholesale power market for the benefit of customers.

Company-Owned Assets

Pursuant to Commission Rule 515-3-4-.04(3)(f)7, it is the Commission's policy that investor-owned electric utilities under its regulation shall maintain a minimum percentage of their capacity as "self-owned" rate-based assets. This percentage is set by Commission order and may be changed from time to time. In situations in which the soliciting utility is nearing or finds that it would fall below this minimum percentage, the soliciting utility shall inform the Commission of this eventuality in advance of the RFP Process at which time the Commission, in its discretion, may suspend these rules and provide guidance to the soliciting utility as to how it should proceed.

In the 2001 IRP Final Order, the Commission set the limit of supply-side capacity provided through purchased power contracts to 30 percent of total supply-side resources and stated that when the limit is reached, the utility will meet its next capacity need through a traditional self-build project to be placed in rate base. Certification of the Santa Rosa PPA contributes to the Company surpassing the 30 percent limit in the winter of 2026/2027, and other actions proposed in the 2023 IRP Update serve to remedy the imbalance.

Commission Rule Exception to the RFP Requirement

Commission Rule 515-3-4-.04(3)(f)(3) provides an exception to the Commission's requirement that the Company procure supply-side resources through an RFP process when a resource provides an extraordinary advantage and requires immediate action. The Santa Rosa PPA is immediately available, without construction delay or transmission restrictions, and represents a supply-side resource of extraordinary advantage that requires immediate action to help address the Company's accelerated capacity need identified in the 2023 IRP Update.

In the alternative, Commission Rule 515-3-4-.04(3)(f)(6) allows the Commission to consider and make a determination in each IRP to exclude from the RFP process any new supply side resources identified in the Company's IRP Plan. As the Santa Rosa PPA is presented as part of the Company's 2023 IRP Update, the Commission may determine that it should be excluded from the RFP Process to help address the Company's accelerate capacity need.

Conclusion

As set forth in the Company's 2023 IRP Update, Georgia Power's current supply-side and demand-side plans as outlined in the 2023 IRP Update, and which include this Santa Rosa PPA, are sufficient to provide cost-effective and reliable sources of capacity and energy for customers. The request in this Certification Application is in the public interest and complies with the relevant Commission rules. Therefore, the Company requests that the Commission approve this PPA and grant the cost recovery as described above.

Attachment C – Application for Amended Certification of the Residential Thermostat Demand Response Demand Side Management Program

Georgia Power Company (“Georgia Power” or the “Company”) submits this Application to Amend its Certificate of Public Convenience and Necessity for the Residential Thermostat Demand Response Demand Side Management (“DSM”) Program (“Application”) for consideration by the Georgia Public Service Commission (the “Commission”). Pursuant to O.C.G.A. § 46-3A-6 and Commission Rule 515-3-4-.10, Georgia Power respectfully requests that the Commission amend the Company’s current Certificate of Public Convenience and Necessity (“Certificate”) as discussed below. Georgia Power requests to amend its Certificate to expand the enrollment in the Residential Thermostat Demand Response DSM Program (“Residential Thermostat Program”) to 50,000 participants.

Introduction

Pursuant to O.C.G.A. § 46-3A-4 and Commission Rule 515-3-4-.09, Georgia Power previously obtained a Certificate for its Residential Thermostat Program in Docket No. 44161. Under this Program, Georgia Power sought to promote the shifting of electricity usage during peak demand periods by providing education and financial incentives for customers with a qualifying existing smart thermostat who are willing to help reduce energy during periods of peak demand through demand response events called by Georgia Power. Under O.C.G.A. § 46-3A-6 and Commission Rule 515-3-4-.10, the Commission may amend a certificate for public convenience and necessity. Recognizing the significant demand response value and improved program economics, Georgia Power is requesting to amend its Certificate to expand the program’s enrollment cap from 25,000 to 50,000 participants.

Discussion

As part of this application, Georgia Power shows the following with respect to the Certificate requirements found in Commission Rule 515-3-4-.10(1):

(a) A statement of how the proposed application is consistent with the most-currently approved Integrated Resource Plan (“IRP”). If a revised IRP is available, it shall be filed;

- As described in its 2023 IRP Update, Georgia Power seeks to substantially increase its Demand Response offerings to customers and fully realize the benefits that these resources can bring to the electric grid and its customers. This application expands program participation by 25,000 participants, thereby substantially increasing this Demand Response offering and helping Georgia Power fully realize the program’s benefits.

(b) A copy of the originally approved certificate, as well as any already approved amendments;

- The Commission certified the program as part of the 2022 Demand-Side Management Plan in Docket No. 44161.

(c) A narrative explanation of the circumstances requiring amendment of the certificate;

- The Company is seeking to expand the enrollment of in the Residential Thermostat Demand Response DSM program in light of its significant demand-response value and improved economics. Expanding the program cap to 50,000 customers will enable the Company to fully realize the

potential of this technology in residential households to deliver value to the grid. Additionally, the program now reflects positive Total Resource Costs (“TRC”) results for the evaluation life; accordingly, the program no longer requires a waiver of the TRC requirement contained within Commission Rule 515-3-4-.04(4)(a)(3), which was previously approved in the 2022 IRP.

(d) Updated information, as applicable, regarding the demand-side resource, as required by Rule 515-3-4-.09;

- The updated program plan is included in DSM Exhibit A.

(e) Updated information, as applicable, regarding the progress of construction or implementation, as required by Rule 515-3-4-.09(3)(e)(5); and

- The updated information is included in DSM Exhibit A.

(f) A cost-benefit analysis covering the estimated useful life of the amended demand-side resource as well as the useful life of the energy efficiency and energy management measures which comprise the demand-side resource, along with a summary comparison of the benefits and costs of other alternatives considered in the preparation of the applicant's IRP, sufficient to demonstrate that the amended resource is economic and reliable.

- The cost-benefit analysis is included in DSM Exhibit A.

Conclusion

Based on the foregoing, Georgia Power respectfully requests that the Commission grant this Application for Amended Certificate of Public Convenience and Necessity for the Residential Thermostat Demand Response Demand Side Management Program.

DSM Exhibit A- Residential Thermostat Demand Response DSM Program

1.1 Program Summary

The Residential Thermostat Demand Response (“TSTAT DR”) program promotes shifting of electricity usage during peak demand periods. This could include hot summer days, cold winter days, or whenever there is a system capacity need. Georgia Power, or its representative, can manage the load from participants' electrically heated and cooled homes by adjusting thermostat settings. Demand response programs, in general, help Georgia Power minimize the use of higher cost peaking plants during periods of high system loads. The TSTAT DR program provides education and financial incentives for customers with a qualifying existing smart thermostat that are willing to help reduce energy during periods of peak demand through demand response events called by Georgia Power. In addition to the incentives offered, the program includes customer education and awareness campaigns.

The 2024-2025 program offering is an expansion of the existing Georgia Power TSTAT DR program, which was certified by the Commission as part of Georgia Power’s 2022 DSM Application filing in Docket No. 44161.

The goals of Georgia Power’s Residential TSTAT DR program include:

- Achieving peak demand savings in homes;
- Raising the awareness by cross promoting energy efficiency practices and services among Georgia Power’s customers to ensure the sustainability of the program’s energy efficiency efforts; and
- Increasing customer engagement with Georgia Power and increase overall customer satisfaction with services provided by Georgia Power.

Program performance and progress towards achieving established goals will be tracked on a continual basis. The Company contracted with an independent, third-party evaluator through an RFP process in order to conduct comprehensive program evaluations, barring no health or safety issues that increase risk to the employees of the Company or its representative or customers, at regular intervals. The evaluations will include market, process, and impact evaluations to review the program’s operations, evaluations of the program’s influence on the local market, and verifications of the energy and demand savings produced by the program, barring no health or safety issues that increase risk to the employees of the company or its representative or customers.

The program design or implementation plan may be modified during the two-year period (2024-2025) as needed to respond to unanticipated market barriers, implementation challenges, initial program evaluation findings, or other factors in order to improve the performance of the program or otherwise achieve the stated goals. The Company will evaluate potential changes with the same cost-effectiveness criteria as used to design the program, with notification or approval by Commission Staff, as required.

1.2 Program Structure

1.2.1 Participant Eligibility

The program is available to Georgia Power residential customers in both single-family and multifamily homes with central HVAC systems. Eligibility for customers receiving an incentive will be verified based on customer data and Georgia Power account number provided on the application. Georgia Power residential

customers occupying single-family or multifamily homes with an individual electric meter and electrically heated and cooled homes are eligible to participate.

1.2.2 Eligible Measures & Incentives

Georgia Power's TSTAT DR program offers:

- Existing enrolled customers up to an annual \$25 incentive to continue program participation;
- New customers with their own smart thermostat already installed (Bring Your Own Thermostat ("BYOT") option) will receive a one-time \$50 incentive to enroll in the program;
- A potential option for customers to enroll during the purchase of a smart thermostat on an online Georgia Power marketplace; and
- Additional enrollment options and incentives may be offered if deemed necessary by the Company and its program implementer(s).

As new emerging energy-efficient technologies that align with the goals and objectives of the program emerge, new measures may be added, with notification or approval provided to Commission Staff, as required.

1.3 Program Implementation

1.3.1 Marketing & Outreach

Georgia Power's Residential TSTAT DR program works with customers to encourage enrollment so that their HVAC equipment can be called in demand response events through their smart thermostats. The primary market barriers for customers to participate in the program include:

- Lack of awareness of the energy and costs of consuming energy during periods of high peak demand;
- Lack of knowledge that their smart thermostats are equipped to provide this option; and
- Lack of understanding of the program or its benefits.

To address these common market barriers, the focus of the marketing campaign may be to:

- Increase customer awareness of the program, including specific demand savings tips; and
- Educate customers on the benefits of participating in the program, including financial incentives, and helping to minimize the use of higher cost peaking plants, keeping costs lower for everyone.

The marketing campaign will involve Georgia Power program staff and potential selected program implementer(s) to promote energy efficiency outreach, and education to increase the adoption of energy-efficient technologies. The program implementer(s) will have primary responsibility for identifying and recruiting customers to the program and will work jointly with Georgia Power on program marketing and outreach to customers. The marketing campaign to customers may include, but is not limited to, the following materials and activities, which have proven to be cost-effective methods of attracting participants in other utility-sponsored residential programs:

- Customer emails;
- Digital advertising;
- Customer newsletters;
- Program fact sheets/flyers;
- Social media marketing;
- Communication through thermostat(s) and applicable manufacturers' app;
- Customer bill inserts; and
- Targeted direct-mail campaigns and promotions.

In addition to the efforts mentioned above, there will be strategic cross-marketing of various resources and programs to expand the delivery of Georgia Power's marketing message on energy efficiency, including the following initiatives:

- Program marketing and outreach strategies will also include identifying opportunities for cross-program coordination to raise awareness of all of Georgia Power's programs and offerings; and
- Collaboration with external partners to cross-promote and leverage other energy efficiency initiatives that will help promote Georgia Power's programs, as well as raise overall awareness of energy efficiency in Georgia Power's service territory.

1.4 Program Operation

1.4.1 Customer Participation Process

Customer participation may have a BYOT path or the option of purchasing a qualifying thermostat. BYOT customers need to complete a program application form and provide the necessary network information for their smart thermostat to establish a secure connection with Georgia Power's TSTAT DR program. Customers in Georgia Power service areas purchasing qualifying thermostats may receive demand response program enrollment information through their thermostat's manufacturer app. They can also enroll through the Georgia Power website. Georgia Power, the implementer(s), and thermostat manufacturers will send marketing communications, using propensity models, when possible, to identify all-electric heat pump customers. If customers have any questions regarding the application process, they can contact Georgia Power or its representative's customer service.

When Georgia Power experiences high peak demand and anticipates the need for additional capacity, a demand response event may be initiated. The program is designed, such that, during a demand response event, customers may not even notice any changes in their heating or cooling as their thermostat settings are adjusted. Temperature changes inside the house should vary by no more than a few degrees from their original pre-event set point. As soon as the demand response event is finished, participant's smart thermostat(s) will resume their original settings.

Customers may notify Georgia Power if they no longer wish to participate in the program and will be subsequently removed from the program. If customers have any questions regarding the application process, they can contact Georgia Power or its representative's customer service.

1.4.2 Program Administrative Procedures

Georgia Power's Residential TSTAT DR program will be administered by the Company or a qualified third-party implementer(s) with the appropriate technical resources to accurately schedule and coordinate demand response events and analyze customer billing data to develop saving estimates for participating customers.

Georgia Power and their selected program implementer(s) will collaborate to ensure that the participants are informed ahead of scheduled demand response events. The program will have minimal impacts on participating customers (i.e., temperature adjustments will stay within a limited range), and the program data is accurate.

1.5 Program Evaluation

1.5.1 Performance Metrics

Georgia Power has developed the following energy and demand savings objectives for planning purposes only. Actual implementation levels may vary.

Measure	Unit	Gross Energy Savings (kWh)/Unit	Gross Demand Savings (kW)/Unit	Program Participation	
				2024	2025
Thermostat DR	New - BYOT Thermostat	0	0.74	28,650	7,485
Thermostat DR	New - Rebated Thermostats	0	0.74	100	100
Thermostat DR	Existing Thermostats	0	0.74	21,250	42,415

Savings Type	2024	2025
Net Incremental kW Savings	37,000	37,000

Estimated annual program costs to achieve the performance goals include:

Cost Type	2024	2025
Incentives	\$1,968,750	\$1,439,625
Program Admin/Mgmt	\$213,180	\$217,444
Contracting Costs	\$1,498,800	\$1,498,800
Program Marketing	\$15,420	\$20,560
Program Evaluation	\$93,819	\$8,523
Total Cost Excluding Incentives	\$1,821,219	\$1,745,326
Overall Total Cost	\$3,789,969	\$3,184,951

Program cost-effectiveness results include:

	Net Benefits		Ratio	
	2024	2025	2024	2025
TRC	\$366,218	\$143,568	1.20	1.08
RIM	-\$1,602,532	-\$1,296,057	0.58	0.59
Program Administrator	-\$1,602,532	-\$1,296,057	0.58	0.59
Participants Test	\$1,968,750	\$1,439,625	N/A	N/A
Societal Test	\$366,218	\$143,568	1.20	1.08

*Participants Test set to “N/A” since there are no incremental customer costs for the program.

1.5.2 Evaluation Plan

Program performance indicators will be developed to monitor annual program progress. These indicators and evaluation activities include:

- Number of households enrolled in the program;
- Demand savings achieved as determined by the program implementer(s);
- Customer satisfaction;
- Cost versus budget comparisons; and
- Evaluation of progress towards achieving program goals.

In addition, the program plan will include a comprehensive third-party, independent program evaluation once every three-year regulatory cycle. This will include:

- Market evaluations assessing customer awareness, providing insights into the success rate of program marketing, and outlining outreach and partnership efforts;
- Customer satisfaction measurements, including opinions of the program;
- Process evaluations assessing the program design and implementation, determining effectiveness of administrative processes, reviewing program partner activities, and making recommendations on any identified modifications based on observations, customer feedback, and national best practices; and
- Impact evaluations to determine the impacts produced by the program, as well as the costs of acquiring those impacts. Actual demand savings occurring at the customer site (barring no health or safety issues that increase risk to the employees of the company or its representative or customers) will be calculated or verified through detailed review of a sample of completed projects. Results will be compared with reported savings to determine a program realization rate, which will be used to adjust total program impacts. Program cost-effectiveness analysis will include a comparison of verified program impacts and costs as defined by industry-standard economic tests. Free-ridership and participant spillover will be calculated as part of the impact evaluation.

DSM EXHIBIT B: SUMMARY OF DSM PROGRAM PARTICIPATION

# Installed Measures	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Residential													
Thermostat DR	25,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	575,000

DSM EXHIBIT C: SUMMARY OF DSM PROGRAM BUDGETS

Incentives Paid	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Residential													
Thermostat DR	\$625,000	\$1,968,750	\$1,439,625	\$1,439,625	\$1,437,500	\$1,437,500	\$1,437,500	\$1,437,500	\$1,437,500	\$1,437,500	\$1,437,500	\$1,437,500	\$16,973,000
Program Costs (Delivery/ Admin/ Marketing/ Evaluation)													
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Residential													
Thermostat DR	\$1,245,050	\$1,821,219	\$1,745,326	\$1,845,399	\$1,928,437	\$1,890,197	\$1,996,281	\$2,084,750	\$2,047,239	\$2,159,794	\$2,254,122	\$2,217,480	\$23,235,294

DSM EXHIBIT D-1: SUMMARY OF DSM PROGRAM IMPACTS (INCREMENTAL)

Incremental Energy Savings (MWh)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Residential													
Thermostat DR	0	0	0	0	0	0	0	0	0	0	0	0	0

Incremental Demand Savings (MW)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Residential													
Thermostat DR	18.50	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	425.50

DSM EXHIBIT D-2: SUMMARY OF DSM PROGRAM IMPACTS (CUMULATIVE)

Cumulative Energy Savings (MWh)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential Programs												
Thermostat DR	0	0	0	0	0	0	0	0	0	0	0	0

Cumulative Demand Savings (MW)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Residential Programs												
Thermostat DR	18.50	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00	37.00