



## Review of the South Carolina Public Service Authority 2024 Request for Rate Adjustment

South Carolina  
Office of Regulatory Staff

September 6, 2024

**Review of the South Carolina Public Service Authority 2024 Request for Rate Adjustment**

Pursuant to Section 58-31-730(B), South Carolina Code of Laws

**September 6, 2024**

Prepared by the South Carolina Office of Regulatory Staff

and

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## I. Executive Summary

On June 20, 2023, the Board of Directors of the South Carolina Public Service Authority (“Santee Cooper”) approved a management recommendation to conduct a comprehensive rate study, which includes a Cost of Service Study (“COSS”) and an updated rate design. The COSS, prepared in May 2024, proposed a total retail revenue requirement increase of 4.9%, with the residential class assigned an increase of 8.7%, the commercial class assigned a 4.1% increase, and the industrial class assigned an increase of 2.8%. The additional revenue is proposed to be collected through updated retail rates and tariffs. If approved, the new rates will take effect April 1, 2025. The change in retail rates will be the first for Santee Cooper since 2017.

The South Carolina Office of Regulatory Staff (“ORS”) reviewed the Santee Cooper Proposal for rate adjustments (“Proposal”) submitted pursuant to S.C. Code Ann. § 58-31-730(B)(1) which states:

the Office of Regulatory Staff must review any rate adjustments proposed to the Authority's board of directors under this article including conducting an inspection, audit, and examination of the proposed rate schedule, revenue requirements, cost-of-service analysis, and rate/tariff design. In accomplishing its responsibilities under this article, the Office of Regulatory Staff must use the authority granted to it pursuant to Section 58-31-225. The Office of Regulatory Staff must treat as confidential or proprietary the information provided by the Authority pursuant to this subsection that is identified by the Authority as such unless or until the Authority agrees that such information is no longer confidential or proprietary. The South Carolina Public Service Commission must resolve any disputes concerning whether such information is subject to protection;

As part of the review, ORS inspected, audited, and examined the supporting documentation provided by Santee Cooper which included, but was not limited to, the proposal presented to the Santee Cooper Board of Directors (“BOD”) for rate adjustments, the COSS analysis, the rate design study, the current and proposed rate schedules, the revenue requirements, the 2025 budget, and the generation, distribution, and transmission operations of Santee Cooper.

ORS retained the consulting services of Energy and Environmental Economics, Inc. (“E3”) to assist ORS in its review and analysis of the Santee Cooper COSS, proposed rate design, and proposed rate schedule.

Santee Cooper was cooperative and quick to reply to ORS issued requests for information. ORS appreciates Santee Cooper’s cooperation in this process.

## A. Summary of ORS Comments and Observations

In compliance with S.C. Code Ann. § 58-31-730(B), in this Report ORS provides findings from its review on the following aspects of the Proposal:

- Santee Cooper conducted the COSS and the rate design to achieve the required revenue requirements generally aligns with electric utility industry practices.
- The Total System Revenue Requirements proposed by Santee Cooper do not include the fuel cost adjustments or the collection of approved costs incurred during the rate freeze as detailed in the *Jessica S. Cook et al. v. South Carolina Public Service Authority et al.* Settlement Agreement and Release (“Cook Settlement”).
- The amounts budgeted by Santee Cooper for non-fuel operations and maintenance (“NFOM”), projected capital investments, and future debt service align with what ORS would expect from a similarly situated public power entity.
- The demand charges for residential customers should be closely monitored after implementation to ensure monthly electric usage trends are transparent and accessible to customers.
- Santee Cooper is providing a number of outreach opportunities including three in-person dates and one virtual date for public comments, electronic and physical mailers, and valuable tools on its website to educate customers about the proposed demand charges, opportunities for customers to adjust their energy use patterns to minimize bill increases, and the proposed changes to the monthly Santee Cooper electric bill.
- ORS verified the Total System Revenue Requirement is mathematically accurate.



## II. Background

On May 22, 2019, Governor Henry McMaster signed 2019 Act No. 95 (“Act 95”) into law. In November 2019, as part of the Act 95 process, the BOD adopted a resolution that approved the Reform Plan, which was then submitted to the South Carolina Department of Administration. The Reform Plan included governance reform, an updated generation plan, and a revised financial plan, among other initiatives. As part of the governance and oversight reforms Santee Cooper proposed revised “Pricing Principles and Metrics.”

As part of the Reform Plan, consistent with the requirements of S.C. Code Ann. § 58-31-710, the BOD adopted the following Pricing Principles:

Mission: Limit price increases to less than inflation.

Equity: Allocate costs to specific customer classes in a reasonable, equitable and defensible manner.

Efficiency: Design prices so that conservation savings are shared with the customers.

Adequacy: Provide sufficient revenue to preserve the financial integrity of Santee Cooper.

Notice: Ensure customer notice and engagement in rate proceedings.

Protection: Allow reasonable relief mechanisms for financially distressed customers.

Transparency: Require openness in annual review of compliance with Pricing Principles.

Santee Cooper’s most recent retail rate adjustment was effective April 1, 2017. As a condition of the Cook Settlement, Santee Cooper agreed to freeze retail customer rates beginning in August 2020 and continuing through December 2024.

On June 15, 2021, Governor Henry McMaster signed 2021 Act No. 90 (“Act 90”) into law. Act 90 added and revised the statutes governing Santee Cooper, including requiring any retail rate adjustments proposed to the Santee Cooper BOD to be reviewed by the ORS. The relevant statutory sections for the review are as follows:

S.C. Code Ann. § 58-31-730(B) states, in part:

The Office of Regulatory Staff must review any rate adjustments proposed to the Authority’s board of directors under this article including conducting an inspection, audit, and examination of the proposed rate schedule, revenue requirements, cost-of-service analysis, and rate/tariff design. In accomplishing its responsibilities under this article, the Office of Regulatory Staff must use the authority granted to it pursuant to Section 58-31-225.

ORS shall have the opportunity, in advance of the BOD's consideration and determination of rates, to review the proposed rate schedules and written findings and analysis of employees and consultants retained by the Authority that support the proposed rate adjustments.

ORS will make a submission of written comments and supporting documents in the same manner as customers and opportunity for the ORS to provide comments to, and answer questions from, the BOD.

S.C. Code Ann. § 58-31-225 states, in part:

The Office of Regulatory Staff is vested with the authority and jurisdiction to make inspections, audits, and examinations of the Public Service Authority relating to the electric rates established by the Authority. Upon Completion, the ORS Staff must report its findings to the management and board of the PSA and attempt to resolve with the management and board any issues that are identified.

Santee Cooper management presented revised rates to the BOD on June 10, 2024. The presentation of revised rates to the BOD initiated the processes required by Act 90 for Santee Cooper to adjust retail customer rates.

### **III. ORS Review of Operations**

Santee Cooper provides electric generation, transmission, and distribution services. The generation mix is primarily composed of coal, natural gas, oil, hydroelectric, renewables, and nuclear. Santee Cooper purchases additional capacity and energy from bulk electric suppliers, including the U.S. Army Corps of Engineers and Southeastern Power Administration (“SEPA”), to meet customer energy and capacity demand.

In developing its future budget to support the proposed retail rate changes, Santee Cooper projected approximately \$575 million in the 2025 budget for NFOM costs of \$713 million for system investments. The Santee Cooper budget included funds for preventative, predictive, and proactive maintenance of current generating facilities, investments into efficient and innovative equipment and components, increased emphasis on environmental regulations and improvements, expansion of new transmission lines and substations, replacement of outdated or damaged transmission and distribution lines, vegetation management, and measures to improve safety, reliability, and environmental impacts.

ORS reviewed information provided by Santee Cooper including reports, analyses, documents, and procedures relating to the current operations, systems, and capabilities as well as the plans and support for future system management, operations, and maintenance activities. To aid in ORS’s review, ORS conducted multiple rounds of discovery, in-person and virtual meetings with Santee Cooper, and a review of various Santee Cooper presentations and BOD meetings.

#### **A. Generation, Transmission, and Distribution**

Currently, Santee Cooper directly serves approximately 215,000 retail customers including 27 large industrial customers while indirectly serving approximately 1.8 million customers via wholesale contracts including Central Electric Power Cooperative, Inc. (“Central”).<sup>1</sup>

To serve its customers, Santee Cooper owns and operates over 40 miles of dams and dikes, several large generating facilities, a high-voltage transmission network, and over 3,000 miles of distribution lines and associated facilities.<sup>2</sup>

##### **1. Generation**

Santee Cooper owns and operates two coal plants, four natural gas and oil facilities, two hydro facilities, five landfill to methane gas units, and three solar facilities. Santee Cooper also has a one-third ownership in the V.C. Summer Nuclear facility as a shared resource

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<sup>1</sup> Generation, Transmission, and Distribution Report to Santee Cooper Board of Directors, May 24, 2024, p. 2.

<sup>2</sup> *Id.*

with Dominion Energy South Carolina, Inc (“DESC”).<sup>3</sup> The generation may provide peak capacity of 5,388 megawatts (“MW”) during the winter and peak capacity of 5,158<sup>4</sup> MW during the summer. Additionally, Santee Cooper contracts for approximately 662 MW of firm capacity during the summer and 712 MW in the winter.<sup>5</sup>

**Table 1. Santee Cooper Generating Units**

Generating Station	Unit Number	Service Date	Fuel Type	Winter Rating (MW)
Cross	1	1995	Coal	585
	2	1983	Coal	570
	3	2007	Coal	580
	4	2008	Coal	595
Winyah	1	1975	Coal	280
	2	1977	Coal	290
	3	1980	Coal	290
	4	1981	Coal	290
Rainey	1	2002	NG	520
	2A, 2B, 3-5	2002-2004	NG	630
Cherokee	1	1998	NG	98
VC Summer	1	1983	Nuclear	322
Jefferies	1-4, 6	1942	Water	140
Spillway	N/A	1950	Water	2
Landfill Gas	N/A	2001-2011	LFG	26
Myrtle Beach	1 to 5	1962-1976	Oil/NG	65
Hilton Head	1 to 3	1973-1979	Oil	100
Solar				5

## 2. Transmission and Distribution

Santee Cooper operates an integrated transmission system to include overhead and underground lines, transmission substations, switching stations, distribution stations, and delivery points. The system includes approximately 5,225 miles of lines primarily rated between 69 kilovolts (“kV”) and 230 kV. The transmission system also includes 93 transmission substations and switching stations that serve the delivery point substations for Santee Cooper and Central.<sup>6</sup>

The Santee Cooper distribution system which serves approximately 215,000 residential, commercial, and industrial retail customers consists of over 3,100 miles of 12 kV and 34 kV primary lines and over 3,400 miles of secondary lines. Additionally, the distribution system includes thousands of poles, transformers, switches, fuse protective devices,

<sup>3</sup> *Id.*

<sup>4</sup> *See id.* at Table 1, p. 3.

<sup>5</sup> *Id.* at 4.

<sup>6</sup> *Id.*

underground enclosures, mesh network devices, advanced metering infrastructure (“AMI”) meters, and over 800 regulators and 400 distribution line capacitors.<sup>7</sup>

## B. Investments

ORS’s review of the \$713 million budget for capital investments and debt service<sup>8</sup> listed in the Santee Cooper 2025 Budget consisted of reviewing documentation, analysis, and studies of Santee Cooper's plans for improving the reliability of service to meet current customers' needs and plans for meeting the forecasted growth in electric demand. According to Santee Cooper, the proposed capital investment budget does not include the projected costs to add future generation. However, the proposed capital investment budget, does include estimated costs for capital maintenance and generation upgrades to reduce the frequency of plant outages and improve system reliability. The budgeted capital investments also include additional 230 kV lines, 230 kV switching stations, and rebuilding 115 kV facilities to improve and expand transmission capabilities to serve the growing number of residential, commercial, and industrial retail customers in Santee Cooper’s service territory.<sup>9</sup>

**Table 2. Examples of Budgeted Investments<sup>10</sup>**

Type	Years	Project	Location	Costs (\$Millions)
Generation	2024-2028	Wastewater system environmental compliance projects	Cross/Winyah	\$ 257
	2024-2028	Closure of landfills and ash ponds	Multiple	\$ 163
	2024-2028	Closure of solid waste landfill	Cross	\$ 13
Transmission	2024-2029	Marion to Conway 230 kV Line	Marion to Conway	\$ 86
	2024-2029	230 kV Switching Station	Conway	\$ 26

<sup>7</sup> *Id.* at 5.

<sup>8</sup> *Id.* at 14.

<sup>9</sup> *Id.* at 16-17.

<sup>10</sup> *Id.* at 15-16.

## **IV. ORS Audit of Revenue Requirements**

ORS completed an examination and audit of the 2025 Total System Revenue Requirements Santee Cooper management presented to the Santee Cooper BOD as part of the requested proposal for a change in rates and rate structure.

To complete the examination of the Total System Revenue Requirements, ORS met with Santee Cooper's management, and reviewed supporting documents, spreadsheets, and schedules to understand the Santee Cooper budget process and to verify how Santee Cooper calculated the information reflected in the 2025 Total System Revenue Requirements.

### **A. Total Retail Revenue Requirements**

Santee Cooper's budgeted total Cost of Service ("COS") for 2025 of \$843,613,000 is greater than the COS revenues anticipated under current rates established in April 2017 in the amount of \$803,910,000, which produces a revenue deficiency of approximately \$40 million, or (4.9%). Table 3 below replicates Table ES-1 included by Santee Cooper in the Executive Summary presented by Santee Cooper's management to the Santee Cooper BOD on June 10, 2024, illustrating the Total System Revenue Requirements derived from the Santee Cooper 2025 Budget.

**Table 3. 2025 Total System Revenue Requirements from Table ES-1<sup>11</sup>**

<b>Table ES-1</b>	
<b>Total System Costs (\$000) <sup>(1)</sup></b>	
<b>Total System Revenue Requirements</b>	<b>2025</b>
<b>Operations &amp; Maintenance Expenses</b>	
Fuel Expenses	\$687,589
Purchased Power	\$245,497
Other Production O&M Expenses	\$312,698
<b>Total Production Expenses</b>	<b>\$1,245,784</b>
Transmission Expenses	\$73,934
Distribution Expenses	\$21,253
Customer Acct. & Information Exp.	\$17,772
Sales Expenses	\$3,147
Administration & General Expenses	\$134,020
<b>Total Operations &amp; Maintenance Expenses</b>	<b>\$1,495,910</b>
Payment in Lieu of Taxes	\$28,368
Debt Service	\$505,695
Working Capital Requirement	\$13,534
<b>Total Revenue Requirement Before CIF <sup>(2)</sup></b>	<b>\$2,043,507</b>
CIF Requirement	\$202,255
<b>Gross Revenue Requirements</b>	<b>\$2,245,762</b>
Less: Interest and Miscellaneous Income	(\$4,230)
Less: Other Operating Revenues <sup>(3)</sup>	(\$22,292)
Less: Off-System Sales	(\$38,650)
<b>Total System Revenue Requirements</b>	<b>\$2,180,590</b>
Less: Wholesale Power Sales <sup>(4)</sup>	(\$1,336,977)
<b>Total Cost of Service</b>	<b>\$843,613</b>
Less: Revenues Under Existing Rates <sup>(5)</sup>	\$803,910
<b>Estimated Revenue Surplus (Deficiency)</b>	<b>(\$39,703)</b>
<b>% Rev. Surplus (Deficiency) Under Current Rates</b>	<b>(4.9%)</b>

(1) Numbers may not add due to rounding.

(2) Capital Improvement Fund.

(3) Includes economic development revenues.

(4) Includes Central and Municipal revenues at proposed rates.

(5) Includes industrial non-firm revenue.

<sup>11</sup> NewGen Strategies & Solutions, 2024 Electric System Cost of Service and Rate Design Study, Executive Summary, p. 82.

ORS reviewed the supporting schedules Santee Cooper used to calculate Table ES-1 as follows:

- Each line item in Table ES-1 was verified to Santee Cooper workpapers showing functional cost accumulations which included detailed budgeted expenses by budget year including adjustments;
- Calculations within the supporting workpapers were recalculated, as applicable. Budgeted expense line items were verified to Santee Cooper's schedules of expenses by Federal Energy Regulatory Commission ("FERC") account number;
- Where applicable, Santee Cooper's reconciliations between supporting workpapers and Table ES-1 were examined, including Santee Cooper's explanations for reconciling items;
- For operations and maintenance ("O&M") budgeted expenses included in Table ES-1, Santee Cooper provided a summary schedule created from the detail budget application system. The budget system is the basis for the 2025 budgeted expense information included in the supporting workpapers. ORS verified the summary O&M schedule from the budget system agreed to the amounts included in Table ES-1; and,
- ORS examined Santee Cooper's explanations for variances in certain general expenses.

## **B. Total Operations and Maintenance Expenses**

Santee Cooper's year-end 2025 functional area budgeted expense totals for Production, Transmission, Distribution, Customer Account & Information Expense, Sales Expense, and Administration & General Expenses were compared by ORS to year-end 2024 totals in order to identify year over year variances. ORS requested Santee Cooper to provide explanations for the largest variances. ORS reviewed Santee Cooper's responses and found them to be reasonable.

## **C. Other Revenue Requirements**

The 2025 Santee Cooper Budget contains other revenue requirement categories required by South Carolina law or Santee Cooper's Master Revenue Obligation Resolution. The cost categories are:

- **Sums in Lieu of Taxes and Other:** Santee Cooper pays certain sums in lieu of taxes to local authorities and to the State. Payments consist of Sums in Lieu of Property Taxes, Additional Sums – Special Reserve, Land Rental Taxes, kilowatt-hour ("kWh") Sales tax, Generation tax, and Payment to State. The budget for total sums in lieu of taxes and other for 2025 is \$28,368,000. ORS verified Santee Cooper applied the correct percentage rates specified by South Carolina law provided in S.C. Code Ann. §§ 58-31-80, 58-31-90, and 58-31-100 to calculate



sums in lieu of taxes and other. Once the percentage rates were identified, ORS confirmed the rates to Santee Cooper's schedules and calculations. Each type of payment and tax required was recalculated by ORS. Santee Cooper's calculation of sums in lieu of taxes and other was accurate.

- **Debt Service:** The total amount forecasted for 2025 is \$505,694,761. ORS confirmed the Santee Cooper debt service schedules were mathematically accurate. Further, ORS confirmed Santee Cooper provided a comprehensive review of its rate structure and rates, consistent with provisions of Chapter 31, Title 58 and its bond covenants as required by S.C. Code Ann. § 58-31-730(B)(2).
- **Working Capital Requirement:** The annual working capital allowance computed by Santee Cooper is based on total working capital to cover 45 days (1/8 of 365 days) of O&M expenses less purchased power, nuclear fuel, and lease payments. The annual gross revenue requirement reflects the year-over-year change in the total working capital need. If the working capital calculation for a test year yields a negative adjustment, the working capital requirement is excluded from gross revenue requirements.

ORS examined the components in Santee Cooper's working capital calculation and verified the components to supporting documentation, reports, and schedules. ORS also performed a recalculation of the working capital requirement to verify the working capital requirement included in the 2025 Total System Revenue Requirements is mathematically accurate.

In ORS's experience reviewing Investor-Owned Utilities ("IOUs"), the most accepted method to determine the appropriate working capital allowance is the lead-lag study method, rather than the 1/8 method, particularly for large utilities. The lead-lag study method determines the specific number of days between the payment of the utility's bills compared to when revenue is received from the customers.

- **Capital Improvement Fund ("CIF"):** Santee Cooper budgeted an allowance for capital improvements in the CIF requirement. The CIF is not funded by debt. The Company's Master Revenue Obligation Resolution establishes the parameters of the CIF.

The CIF requirement for 2025 is \$202,255,357. Santee Cooper stated in its response to ORS Request No. 2-8, "[i]n order to have funds to make such described CIF transfers Santee Cooper's Gross Revenue Requirements include a CIF Requirements component. To maintain Santee Cooper's financial health and metrics, customer rates have historically reflected a capital improvement fund

requirement greater than the 8% minimum to meet such financial objectives. Santee Cooper's current and proposed rates include a CIF requirement of 9% of the annual revenue requirements for the Test Year."

ORS reviewed the schedules and documentation supporting the forecasted CIF requirement for mathematical accuracy and verified the \$202,255,357 has been included in the 2025 Total System Revenue Requirements.

#### **D. ORS Review of Additional Expenses**

In ORS's experience reviewing IOUs, certain expenses incurred by an electric utility may not directly contribute to the provision of high quality, reliable service to customers and are often removed for ratemaking purposes by the Public Service Commission of South Carolina ("Commission"). Below, ORS provides a general list of expenses that are often excluded from electric customer rates by the Commission. The list includes, but is not limited to the following, and is provided for informational purposes only:

- Contributions (charitable, civic, educational, political)
- Memberships in social and athletic clubs
- Employee awards and trophies
- Other employee awards
- Novelty or company image building items
- Recreational benefits
- Birthdays, anniversaries, baby showers, bereavement flowers, etc.
- Luncheons and Banquets
- Retiree Gift Cards
- Advertising
- Economic Development
- BOD Expenses
- Certain Legal claims
- Diversity, Equity, and Inclusion and Environmental, Social, and Governance related expenses

#### **E. ORS Examination and Audit Summary**

ORS verified the Total System Revenue Requirements as reflected on Schedule ES-1 were supported by workpapers, accurately stated, and mathematically correct.

## **V. Overview of the Cost of Service, Rate Design and Rate Schedules Proposed by Santee Cooper**

ORS retained E3 to conduct a comprehensive review of the COSS, rate schedules, and rate design for retail customers.

### **A. Existing Rate Schedules**

Currently, Santee Cooper offers various retail rate schedules to residential, commercial, lighting, and industrial customers. A residential customer can choose to enroll in a standard service schedule (RG-17) or Time-of-Use Rate (“TOU”) schedule (RT-17). Santee Cooper has two experimental Electric Vehicle (“EV”) power schedules (REV-22 and RG-22-EVO) which will be added to the permanent schedules for residential customers who reside in private residences, single-family dwelling units, and farms. Commercial customers can enroll in one of six available rates. Industrial customers must contract with Santee Cooper prior to receiving service. The commercial customer service agreement may be tailored for each customer based on various energy usage factors. Rates charged to Central and other wholesale customers are defined separately under the terms and conditions of specific contracts with Santee Cooper. All distribution tariffs are subject to final approval by the Santee Cooper BOD.

### **B. Attributes of the Proposed Rates and Cost of Service Study**

The COSS was conducted by Santee Cooper to align with FERC COSS guidelines. Santee Cooper provided sufficient explanations of the functionalization, classification, and allocation processes, which are essential for proper allocation of costs to each customer class and to ensure alignment between cost causation and cost recovery. Since a significant portion of Santee Cooper’s revenue comes from wholesale customers, Santee Cooper provided analysis to demonstrate the revenue from wholesale customers is calculated separately. Although the FERC guidelines offer general structure for conducting a COSS, the functionalization, classification, and allocation processes inherently include decisions by Santee Cooper to assign costs to categories and determine which class caused the cost to be incurred.

For the first time, Santee Cooper proposed a demand charge for the residential and small commercial customer rates. To support the proposed demand charge Santee Cooper provided qualitative descriptions and bill calculations. Through the proposed demand charge, Santee Cooper may provide a clear price signal to customers to encourage them to adjust their energy usage patterns to alleviate peak system demand. The demand charge induces new variability in customer rates based on customer behavior and may alter the distribution of customer bills under current load characteristics.

## 1. Overview of Santee Cooper's Total Retail Revenue Requirements Request

Santee Cooper's current retail rate schedule has been in effect since 2017, in part due to a mandatory rate freeze resulting from the 2020 Cook Settlement, which expires in December 2024. In 2024, Santee Cooper retained NewGen Strategies and Solutions, LLC ("NewGen") to conduct an electric system COSS and rate design study.<sup>12</sup> NewGen indicated Santee Cooper has been experiencing the upward cost pressure due to a significant increase in compliance with environmental regulations, increased transmission operations and maintenance expenses from regional system constraints, and inflation over the past several years.<sup>13</sup> NewGen indicated the COSS draws from ratemaking practices established by FERC and the National Association of Regulatory Utility Commissioners ("NARUC"), as well as the past and present policies of Santee Cooper and the applicable provisions of contracts between Santee Cooper and its customers.<sup>14</sup>

The COSS concluded Santee Cooper needs to raise additional revenue from each customer class to recoup its projected 2025 revenue requirement. In addition to existing cost pressures, the COSS projects energy demand and peak demand will continue to grow, which could necessitate the forthcoming expansion of Santee Cooper's generation and power purchases, transmission capacity, and distribution capacity to ensure uninterrupted service to customers.<sup>15</sup> Because of the proposed revenue requirement increase, Santee Cooper management proposed to increase retail rates accordingly.

Santee Cooper serves wholesale and retail customers. The expected revenues from wholesale customers are deducted from Santee Cooper's overall Total System Revenue Requirements to determine the portion of the COSS applicable to retail customers.

Based on current retail rates and anticipated sales to the retail classes, Santee Cooper projected the cost to serve the retail classes would exceed revenues by 4.9% (\$39,703,000) in the 2025 calendar year.<sup>16</sup> Throughout the 2024 COSS and Rate Design Report, retail customers are defined as direct-served residential, commercial, industrial, and lighting customers. Accordingly, Santee Cooper proposed a Total System Revenue Requirements increase to take effect April 1, 2025. According to Santee Cooper, the impact of this increase for calendar year 2025 varies among customer classes based on the projected difference between each class's COS and revenue under existing rates: the residential class experiences the highest projected increase at 8.7%, followed by lighting

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<sup>12</sup> 2024 Electric System Cost of Service and Rate Design Study, NewGen Strategies and Solutions, LLC, [https://www.santeecooper.com/Rates/Rate-Study/\\_pdfs/Final\\_Santee-Cooper-Electric-COS-Study-Report\\_05.24.24.pdf](https://www.santeecooper.com/Rates/Rate-Study/_pdfs/Final_Santee-Cooper-Electric-COS-Study-Report_05.24.24.pdf).

<sup>13</sup> *Id.* at Executive Summary, p. 1.

<sup>14</sup> *Id.* at 1-7.

<sup>15</sup> 2024 Request for Adjustment to Rate Schedules and Tariffs, p. 4.

<sup>16</sup> 2024 Electric System Cost of Service and Rate Design Study, Executive Summary, p. 5.

at 5.0%, commercial at 4.1%, and industrial at 2.8%.<sup>17</sup> The Santee Cooper proposed increases in revenue are shown in Table 4. The Santee Cooper methodology and details for the allocation of the Total System Revenue Requirements to each customer class are discussed in more detail in this Report.

**Table 4. Retail Cost of Service and Existing Firm Rate Revenue Projections<sup>18</sup>**

Service	Calendar Year 2025 (\$000)			
	Cost of Service <sup>(2)</sup>	Existing Rate Revenue	Difference	
			Amount	Percentage
Residential	\$266,508	\$245,108	\$21,400	8.7%
Commercial	\$188,875	\$181,522	\$7,354	4.1%
Lighting	\$16,541	\$15,756	\$785	5.0%
<b>Total Distribution</b>	<b>\$471,934</b>	<b>\$442,385</b>	<b>\$29,539</b>	<b>6.7%</b>
Industrial (Firm & Non-Firm)	\$371,689	\$361,524	\$10,164	2.8%
<b>Total</b>	<b>\$843,613</b>	<b>\$803,910</b>	<b>\$39,703</b>	<b>4.9%</b>

(1) Numbers may not add due to rounding.

(2) Includes policy adjustments related to cost allocation amongst retail customer classes.

The proposed increase in the revenue requirements results in multiple changes to rate components discussed further below. Santee Cooper stated the revised rate schedules reflect sufficient revenue collection to recoup the cost to serve based on the projected energy usage volume, energy usage patterns, and enrollment in each customer class.<sup>19</sup> The proposed rate changes impact retail customers in residential, commercial, and industrial segments and do not affect wholesale contract sales.

In ORS’s experience, traditionally, an electric rate schedule may consist of three components: a fixed customer charge (\$/month), an energy charge (¢/kWh), and a demand charge (\$/kW). The energy and demand charges may vary by season, time of day, or both. Based on the 2024 COS and Rate Design Study, changes to Santee Cooper’s rate schedule are summarized below:

- **Residential:** Residential schedules RG-25, REV-25 and RG-25-EVO are proposed to include a demand charge component and a reduced energy charge. The proposed fixed customer charge will increase approximately 2.6% for schedules RG-25 and REV-25, but will decrease by approximately 28.6% on schedule RT-25 with no change occurring on schedule RG-28-EVO.
- **Commercial:** Small commercial (schedule GA-25, defined as demand < 50 kW) rates change similarly to residential rates, with a demand charge, decreased energy charge, and a minor increase in the customer charge. For all other commercial rate schedules, which already include customer, energy, and demand charges, increases are proposed across all components. Santee Cooper proposed to increase the energy charge minimally, while the demand charge is expected to see a more significant increase.

<sup>17</sup> *Id.* at 4-9.

<sup>18</sup> *Id.*

<sup>19</sup> 2024 Request for Adjustment to Rate Schedules and Tariffs, p. 51.

- **Lighting and Industrial:** Due to the unique energy usage patterns and large energy use volumes per customer in these classes, a variety of rate schedules can be utilized depending on the customer's demand and usage patterns. Each rate schedule may include components such as the customer, energy, and demand charge. However Large Light and Power customers on schedule L-25 for firm customers will see an increase in the demand charges of around 9.4%, and an increase in customer charges and decrease in on-peak energy charges of approximately 6% and 13.6% respectively. Interruptible customers on schedule L-25-I will see a demand charge increase of approximately 1.3% and an on-peak energy charge decrease of approximately 13.6%.<sup>20</sup>

Santee Cooper proposed to update the definitions of peak hour windows and season (i.e., Summer or Winter). The methodology for designing the new rate schedule, the alignment with customer bills with the revenue requirements, and detailed changes in the rate schedules are further explained in Sections VII and VIII.

## 2. Findings

While the ratemaking process provided evidence supporting the Total System Revenue Requirements, Santee Cooper may consider conducting additional evaluations and monitoring in specific areas once the proposed rates are in effect, as well as in future ratemaking processes.

As the demand charge is a newly added component in the residential rates, Santee Cooper may want to closely monitor the demand charges after implementation, assess the impact on customers' monthly bills, and consider bill impact mitigation within the residential class. Additionally, Santee Cooper may want to monitor the potential for rate migration from the default demand charge rate to the optional TOU rate.

Similarly, Santee Cooper may want to consider providing additional outreach and education opportunities to its customers. This would help customers understand the implications of demand charges and how they can adjust their energy use patterns to minimize bill increases.

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<sup>20</sup> 2024 Electric System Cost of Service and Rate Design Study, pp. 6-4 and 6-5.

## VI. Examination of Santee Cooper's COSS

### A. The 2025 Revenue Requirements

The following sections provide an overview of the methods used by Santee Cooper to project its 2025 revenue requirements.

#### 1. Future Test Year

Santee Cooper’s COSS is based on a 2025 Test Year, representing a 12-month period ending December 31, 2025. Unlike the Historical Test Year (“HTY”) approach traditionally employed in COS studies, which relies on the actual operating expenses of the most recent 12 consecutive months and then adjusts for known and measurable future changes, Santee Cooper adopts a forward-looking approach or Future Test Year (“FTY”).<sup>21</sup> Santee Cooper’s approach relied upon the load forecast contained in the 2023 Integrated Resource Plan (“IRP”) approved by the Commission in Order No. 2024-171. In addition, Santee Cooper relied upon the 2024 Budget approved by the Santee Cooper BOD to develop the revenue requirements.

#### 2. Load Forecast

Santee Cooper utilized a load forecast, LF 23-03, which included the sales, fuel availability and cost forecast consistent with the development of the 2023 IRP.<sup>22</sup> The load forecast provided projections of electricity energy sales, customer, and customer usage characteristics for the FTY and reflects Santee Cooper’s current economic outlook under typical weather conditions. Forecast projections are shown in Table 5 and only projections through 2025 were used to determine the 2025 revenue requirements.

**Table 5. Residential and Commercial Load Growth Forecast (MWh)**

Year	Residential	Commercial	Electric Vehicles	Rooftop Solar	Total
2024	2,054,563	1,940,474	7,554	(1,290)	4,001,301
2025	2,072,482	1,940,827	13,570	(1,896)	4,024,983
2026	2,090,193	1,941,962	21,140	(2,508)	4,050,788
2027	2,115,448	1,946,050	29,570	(3,146)	4,087,921
2028	2,139,133	1,950,732	39,545	(3,793)	4,125,616

<sup>21</sup> 2024 Request for Adjustment to Rate Schedules and Tariffs, p. 25.

<sup>22</sup> Management Cost-of-Service Report, p. 6.

**Table 6. Industrial Load Growth Forecast (MWh)**

Year	Firm	Interruptible	Economy Power	Total
2024	2,365,826	3,470,831	503,559	6,340,217
2025	2,514,926	3,660,097	497,680	6,672,702
2026	2,561,754	3,779,244	497,131	6,838,128
2027	2,561,754	3,779,244	497,131	6,838,128
2028	2,561,754	3,779,244	497,131	6,838,128

The load forecast summaries in Tables 5 and 6 provided by Santee Cooper indicate from 2024 to 2028, the average annual load increases are approximately 1%, 0.13%, and 2% for residential, commercial, and industrial classes, respectively. These result in an average load increase of 1.4% across all direct-served retail customers or a 1.8% increase in total system energy sales. However, it is important to emphasize that load growth in megawatt-hours (“MWh”) does not directly translate to an increased revenue requirement, as various other factors also have an impact. Notably, winter peak demand, the key metric for Santee Cooper’s capacity planning<sup>23</sup>, is expected to increase by 1.1% per year.

As the wholesale load volume to Central accounts for approximately 60% of Santee Cooper’s total sales, Santee Cooper and Central jointly developed a specific forecast for Central, which is excluded from the forecasts depicted in Tables 5 and 6. Santee Cooper also employs load forecasts for its other non-retail customers, which are either jointly developed with or provided by each customer.

### 3. Financial Forecast and Revenue Requirements

The Financial Planning and Requirements Report (“Financial Report”), provided a comprehensive Financial Forecast and established the foundation for the revenue requirements. The Financial Report is based on the Commission-approved 2023 IRP. The stated intention of the Financial Forecast is to ensure Santee Cooper can consistently deliver reliable and affordable electricity while upholding its financial stability and high credit rating. Maintaining a high credit rating is crucial as it can enable Santee Cooper to secure favorable financing options when necessary, thereby reducing ratepayer costs.<sup>24</sup>

As discussed in Section IV. above, the projected gross revenue requirements are comprised of six major components, including:<sup>25</sup>

- Fuel Expense and Purchased Power: Direct costs of purchasing fuel for generation or purchased power.

<sup>23</sup> Management Load Forecast Report, p. 4.

<sup>24</sup> 2024 Request for Adjustment to Rate Schedules and Tariffs, p. 32.

<sup>25</sup> *Id.* at 14-20.



- NFOM expenses: Various O&M costs falling under production, transmission, distribution, customer accounting, sales, customer information, administrative, and general expenses. The cost accounting follows the FERC Uniform System of Accounts.
- Debt Service: costs of interest and principal payments on Santee Cooper's debt.
- Payments to the state of South Carolina ("PTS"): A payment to the State, assumed to be 1% of the total projected operating revenue. In the adjusted revenue requirement, this payment is then bundled into "in lieu of taxes."
- Sums in lieu of Taxes ("SIL"): Payments to local authorities and the State, as Santee Cooper is a nontaxable entity, as well as kWh sales taxes, generation taxes, and land rental taxes.
- CIF Requirements: A source of non-debt funding for renewals, replacements, and improvements to Santee Cooper's system. The existing and proposed CIF is 9% of the gross revenue requirement each year.
- Working Capital: Funding to cover timing differences between the payment of expenses and the receipt of revenues from customers. Traditionally, this allowance has been set at 1/8 of the change in O&M expenses (excluding purchased power and nuclear fuel expenses) from the prior year.

The amounts of each component are summarized in the tables below.

**Table 7. 2024-2026 Electric System Gross Revenue Requirement**

(\$Millions)	2024		2025		2026	
Fuel/Purchase Power	826	43%	923	41%	994	42%
Non-Fuel O&M	547	28%	575	25%	585	24%
Debt Service	434	22%	512	23%	558	23%
CIFR, <sup>9</sup> Payment to State, Sums in Lieu & Working Capital	152	8%	244	11%	251	11%
Cook Exception Deferral <sup>10,11</sup>	(27)	-1%	0	0%	0	0%
<b>Total Revenue Requirements</b>	<b>1,932</b>	<b>100%</b>	<b>2,253</b>	<b>100%</b>	<b>2,388</b>	<b>100%</b>

**Table 8. 2025 Calendar Year O&M Expenses**

Function	Planned Amount (\$Millions)
Fuel (Burned)	\$679
Purchased Power	\$244
Other	\$325
<b>Total Production</b>	<b>\$1,247</b>
Transmission	\$74
Distribution	\$21
Customer Accounts	\$12
Customer Service & Information	\$8
Sales Promotion	\$3
Administrative & General	\$132
<b>Total Other</b>	<b>\$250</b>
<b>Total O&amp;M</b>	<b>\$1,498</b>

**Table 9. 2024-2026 Breakdown of PTS, SIL, CIF Requirements and Working Capital**

(\$Millions)	2024		2025		2026	
CIFR	128	84%	201	82%	213	85%
Payment to State	19	13%	22	9%	24	9%
Sums in Lieu	5	3%	6	2%	6	2%
Working Capital	0	0%	15	6%	8	3%
<b>CIFR, Payment to State, Sums in Lieu &amp; Working Capital</b>	<b>152</b>	<b>100%</b>	<b>244</b>	<b>100%</b>	<b>251</b>	<b>100%</b>

**Table 10. Gross Revenue Requirement for Calendar Year and Test Year 2025 (\$'000)<sup>26</sup>**

	Calendar Year 2025	Test Year 2025	Test Year and Calendar Year Difference
Fuel and Purchased Power	\$ 923,000	\$ 933,086	1.09%
Other Operation and Maintenance	\$ 575,000	\$ 562,824	-2.12%
<b>Total Operation and Maintenance</b>	<b>\$ 1,498,000</b>	<b>\$ 1,495,910</b>	<b>-0.14%</b>
Payment in Lieu of Taxes	\$ 28,000	\$ 28,368	1.31%
Debt Service and Lease Payment	\$ 512,000	\$ 505,695	-1.23%
Working Capital	\$ 15,000	\$ 13,534	-9.77%
CIFR Requirement	\$ 201,000	\$ 202,255	0.62%
<b>Gross Revenue Requirement</b>	<b>\$ 2,254,000</b>	<b>\$ 2,245,762</b>	<b>-0.37%</b>

The net revenue requirement represents the amount of revenue required to be recovered through charges to retail customers. It is calculated by deducting the following from the gross revenue requirement:

- Miscellaneous income, including interest income, investment income, and unrestricted cash balances.
- Other operating revenue, such as invested funds, non-class sales, wheeling, sales of property, and forfeited discounts.
- Revenue received from Central, municipal, and off-system wholesale sales-

Table 11 displays the specific value of each line item for the Test Year 2025. By removing the miscellaneous income, other operating revenue, and wholesale revenues from the gross revenue requirement, the net revenue requirement is approximately 40% of the gross revenue, amounting to \$843,616,000.

The estimated net revenue under the existing rate is calculated by applying the current rates and surcharges to the projected billing determinants for the FTY period. This

<sup>26</sup> Calendar year values are rounded to the nearest 1,000; Values in Table 10 are reflected in the Board Presentation, Management Report, Financial Planning and Requirements, pp. 14-16 and 2024 Electric System Cost of Service and Rate Design Study, p. 8.

calculation reveals a \$39,703,000 deficiency, translating to a 4.9% shortfall under the current rates. This is the additional amount Santee Cooper proposed to recover from retail customers through the proposed Total System Revenue Requirements.

**Table 11. Total System Cost Test Year 2025 (\$000)**

Less: Interest and Miscellaneous Income	(\$4,230)
Less: Other Operating Revenues <sup>(3)</sup>	(\$22,292)
Less: Off-System Sales	(\$38,650)
<b>Total System Revenue Requirements</b>	<b>\$2,180,590</b>
Less: Wholesale Power Sales <sup>(4)</sup>	(\$1,336,977)
<b>Total Cost of Service</b>	<b>\$843,613</b>
Less: Revenues Under Existing Rates <sup>(5)</sup>	\$803,910
<b>Estimated Revenue Surplus (Deficiency)</b>	<b>(\$39,703)</b>
<b>% Rev. Surplus (Deficiency) Under Current Rates</b>	<b>(4.9%)</b>

## B. COSS Functionalization Methods

Santee Cooper primarily follows the FERC COS common practice and the FERC Uniform System of Accounts in functionalizing expenditures. Each expenditure in the revenue forecast is categorized into four functional groups: production, transmission, distribution, and customer and sales expenses. This process follows established rules by Santee Cooper to ensure costs are assigned to a group with the appropriate expenditure causation aligned with the FERC’s Uniform Systems of Accounts.

The detailed value under each functional group is listed in Table 12.

**Table 12. Functionalization of Test Year Retail Revenue Requirements (\$000)<sup>27</sup>**

	2025	% Total Revenue Requirement
<b>Production – Those costs associated with generating and purchasing power and delivering that power to the utility's bulk transmission system.</b>	\$ 635,350	75%
<b>Transmission – Those costs incurred in connection with the delivery of power over the bulk transmission system to the primary and secondary distribution system.</b>	\$103,102	12%
<b>Distribution – Those costs incurred in connection with the delivery of power through the primary and secondary distribution system to the utility's consumers.</b>	\$73,166	9%
<b>Customer and Sales Expense – Those costs incurred for billing accounts and providing various services and information for its customers.</b>	\$31,994	4%
<b>Total Functionalized Revenue Requirements</b>	<b>\$843,613</b>	<b>100%</b>

Over 75% of the total revenue requirements is functionalized as production cost, as all plant fuel purchases, labor, and operational costs are considered "Production" related. The remaining three categories include specific cost items that align with the definitions of each function group.

### **C. COSS Classification**

Once the costs are assigned among the four functional categories, they are further classified into demand (fixed) costs, energy (variable) costs, and customer costs. A summary of these classifications for each expenditure category is detailed in Table 13. Further information can be found in the Technical Appendix provided by Santee Cooper.

<sup>27</sup> 2024 Request for Adjustment to Rate Schedules and Tariffs, pp. 36-37.

**Table 13. Cost Classification Summary<sup>28</sup>**

Expenditure	Subgroup	Classification
Operation and Maintenance	Production	95% Cost of fuel and purchased power classified as energy related. 5% assigned to demand-related, which is estimated to keep certain generating units running. The % is the same as the previous Study. Other production expenses (i.e., expenses other than fuel and purchased power) are classified based on an account-by-account analysis of the nature of the costs involved
	Transmission	100% to demand related, as the transmission system is sized based on the demand on the system, which doesn't vary by energy usage.
	Distribution	Vary; meter expenses, customer installation expenses, certain maintenance expenses, and Cost of service to a particular customer or customer class classified as customer related; load dispatching, station expenses, line expenses classified as demand related;
	Customer Accounts	100% to customer related, as the costs incurred by Santee Cooper for billing accounts and providing various services and information for its customers.
	Administrative and General	Vary; property insurance costs classified based on the insured property; other personnel related are classified based on the wages and salaries
Payment in Lieu of Taxes		Most classified as demand related; a small portion classified to customer related
Debt Service and Lease Payment		Classified to the same group Santee Cooper's facilities
CIF Requirement		Classified to the same group Santee Cooper's facilities
Working Capital		Classified to the demand-, energy-, and customer-related components based on the classification of total operation and maintenance expenses other than nuclear fuel and purchased power expenses.
Other Income and Revenues		Classified as being either demand-, energy-, or customer-related based on an analysis of the source of such revenues

## D. COSS Allocation Factors

The cost allocation process establishes factors to distribute cost responsibility for each cost classification across the different customer classes. Santee Cooper stated the cost allocation methodology has minimal changes and remains consistent with their most recent COSS completed in 2024. Various data sources were utilized by Santee Cooper to calculate the cost allocation factors, including AMI records, peak demand and energy forecasts, historical billing records, and customer metadata. COS allocation factors only factor in the usage characteristics of customers enrolled in firm energy tariffs, and non-firm sales are excluded.

Allocation factors are developed for energy, demand, and customer-related costs, along with several other factors, to include:

- **Demand (Capacity) Allocation Factors:**<sup>29</sup> Allocate demand or capacity-related revenue to each customer class. This includes costs associated with demand-related production, distribution, debt service, transmission, and capital

<sup>28</sup> *Id.* at 37-39.

<sup>29</sup> *Id.* at 39.

improvements. Notably, industrial customers are exempt from distribution system costs as they do not utilize the distribution system. (See Table 14).

- **Production Demand costs:** Allocation factors for production demand costs are derived from historical AMI demand and energy data, as well as estimates of system coincident peak (“CP”) and non-coincident peak (“NCP”) for each customer class. The allocation considers the average of the CPs for two winter and two summer months (“4 CP”) to capture seasonal peak demands, as Santee Cooper’s system observes peaks in both summer and winter. In the current COSS, January and February are designated as winter months, a slight adjustment from previous COSS that used December and January. This change is to reflect the latest load forecast.
- **Transmission costs:** Allocation factors for transmission costs are based on the average of the 12 monthly coincident peaks (“12 CP”), following an industry-standard approach.
- **Distribution costs:** Allocation factors for distribution costs are based on the 12 monthly non-coincident peaks (“12 NCP”) for each rate class.
- **Energy Allocation Factors:**<sup>30</sup> Energy allocation factors are used to distribute energy-related revenue and are based on sales volumes. (See Table 15).
- **Customer Allocation Factors:**<sup>31</sup> Customer allocation factors are used to distribute customer-related revenue requirements and are determined by applying a weighting factor derived from an analysis of Santee Cooper’s customer-related costs. The generation of the weight factor is not provided in the data by Santee Cooper. It appears that a heavier weight is applied to customers with a higher load to account for the more complicated customer account setup process and ongoing maintenance relating to other non-electricity services (e.g., meter reading and billing). For example, the industrial (Firm) customer is assigned a weight factor of 40.51, whereas a residential customer only has a weight factor of 1. (See Table 16).
- **Other allocation factors and direct assignment:**
  - Administrative and general expenses are allocated based on wage and salary expenses with the exception of property insurance, which is allocated based on the plant in service.
  - Debt service payments are related to the existing plant and additions of utility plant on Santee Cooper’s system. Therefore, debt service is functionalized on the basis of net plant in service and allocated using an appropriate plant allocation factor.
  - Demand Side Management (“DSM”) and Energy Efficiency (“EE”) costs are assigned to residential and commercial classes directly based on the projected demand and energy savings of each of the classes.

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<sup>30</sup> *Id.* at 41.

<sup>31</sup> *Id.* at 43.

- Sales expenses are allocated to each customer class directly. For certain sales expenses that cannot be allocated to a single class, the allocation is accomplished via energy consumption. (See Table 17).

In general, the description of these supplementary allocation factors aligns with the intention of the associated cost components.

**Table 14. 2025 Summary Demand Allocation Factors<sup>32</sup>**

Customer Class	Production 4 CP		Transmission 12 CP		Distribution 12 NCP	
	MW	%	MW	%	MW	%
Residential	575,997	47.48%	500,508	44.93%	478,521	60.15%
Commercial	332,756	27.43%	310,830	27.90%	305,148	38.36%
Lighting	7,819	0.64%	6,789	0.61%	11,904	1.50%
<b>Total Distribution</b>	<b>916,571</b>	<b>75.55%</b>	<b>818,127</b>	<b>73.44%</b>	<b>795,574</b>	<b>100.00%</b>
Industrial (Firm)	296,558	24.45%	295,883	26.56%	N/A	N/A
<b>Total</b>	<b>1,213,129</b>	<b>100.00%</b>	<b>1,114,010</b>	<b>100.00%</b>	<b>795,574</b>	<b>100.00%</b>

**Table 15. Summary of Energy Allocation Factors<sup>33</sup>**

Customer Class	2025	
	GWh	%
Residential	2,071	31.77%
Commercial	1,873	28.73%
Lighting	61	0.94%
<b>Total Distribution</b>	<b>4,006</b>	<b>61.43%</b>
Industrial (Firm)	2,515	38.57%
<b>Total</b>	<b>6,521</b>	<b>100.00%</b>

<sup>32</sup> 2024 Electric System Cost of Service and Rate Design Study, p. 4-6.

<sup>33</sup> *Id.*

**Table 16. Summary of Customer Allocation Factors<sup>34</sup>**

Customer Class	Rate	Customer Delivery Points	%	Weight Factor	Weighted Customer	%
Residential	RG	182,940	84.90%	1.00	182,940	80.89%
Small General Service	GA, TP	27,762	12.88%	1.30	36,091	15.96%
General Service	GB, GV	2,050	0.95%	2.09	4,279	1.89%
Commercial Lg Demand	GL	38	0.02%	2.09	80	0.04%
Commercial Time of Use	GT	25	0.01%	2.09	52	0.02%
Commercial Traffic Light	TL	305	0.14%	1.00	305	0.13%
Lighting	MS, OL	2,314	1.07%	0.50	1,157	0.51%
<b>Total Distribution</b>		<b>215,435</b>	<b>99.99%</b>		<b>224,905</b>	<b>99.44%</b>
Industrial (Firm)		31	0.01%	40.51	1,256	0.56%
<b>Total Retail System</b>		<b>215,466</b>	<b>100.00%</b>		<b>226,160</b>	<b>100.00%</b>

**Table 17. Summary of Sale Expense Allocation Factors<sup>35</sup>**

Customer Class	2025 %
Residential	32.85%
Commercial	32.78%
Lighting	0.00%
<b>Total Distribution</b>	<b>65.62%</b>
Industrial	34.38%
<b>Total</b>	<b>100.00%</b>

<sup>34</sup> 2024 Electric System Cost of Service and Rate Design Study, p. 4-7.

<sup>35</sup> *Id.* at 4-8.

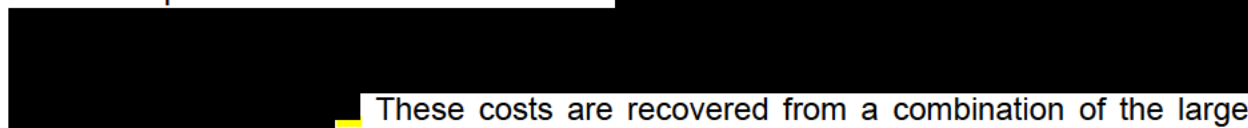


## E. Post-hoc Adjustments to the Revenue Requirement.

Santee Cooper applied a “test year adjustment” to the proposed rates to account for the proposed rates effective April 2025 (i.e., applied to the March bills onwards). This type of adjustment has not been seen by ORS while reviewing IOUs during rate proceedings.



Santee Cooper also implemented a “manual adjustment” to different rate classes, to reallocate portions of the demand costs.



These costs are recovered from a combination of the larger commercial and lighting customers. The COSS does not provide additional details on the manual adjustment; however, the Rate Design and Proposed Rates Report indicated Santee Cooper’s goal was to minimize rate impacts to the related classes and promote inter-class equity.<sup>38</sup>

The accounting for wholesale customers’ revenue requirements is calculated in separate COS models. Therefore, they are mostly isolated from the revenue requirement calculation for the retail customers. Santee Cooper indicates there is a provision for crediting or surcharging Central depending on whether their specific cost of service is over or under-recovered, via an annual true-up mechanism.<sup>39</sup> It does not appear the over/under-recovery from Central impacts the base rates of retail customers.<sup>40</sup> However, certain revenues (and potentially, costs) associated with demand-related off-system and wholesale economic development sales may be passed through to retail customers via

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<sup>36</sup> See Santee Cooper response to ORS Request No. 2-006, “COS Model FF24Budget 2024-2025 CONFIDENTIAL.xlsx, sheets “Time Lag New”.

<sup>37</sup> See Santee Cooper response to ORS Request No. 2-006, “COS Model FF24Budget 2024-2025 CONFIDENTIAL.xlsx, sheets “RD\_Residential”, “RD\_Commercial”, and “RD\_Industrial” The “Manual Adjustments” for 2025 are divided by the “Cost of Service Revenue” to get the percentages.

<sup>38</sup> See page 5 of the Rate Design and Proposed Rates Report.

<sup>39</sup> Santee Cooper response to ORS Request No. 2-010: “Following the end of that contract year, when actual costs, loads, and other data are available, Santee Cooper prepares a final, actual cost of service study for the contract year. All rates and charges are recalculated, and the difference between the originally billed charges and the actual charges are either charged or credited to Central, as appropriate.”

<sup>40</sup> *Id.* “Other than through the treatment of certain retail adjustment clauses, Santee Cooper’s rate study does not allow for an adjustment to retail rates based on variances in Central’s revenue or usage characteristics.”

monthly adjustments that are already in use by Santee Cooper(see Section IV.D). The projected revenues for 2025 via these clauses amount to approximately \$20 million, or a credit equivalent to 3.2% of the total retail cost of service.<sup>41</sup>

## **VII. Analysis of Santee Cooper's Proposed Rate Design**

### **A. Overview of Rate Design Principles**

The revenue allocated to each customer class is collected through customers' utility bills. Properly designed electricity retail rates may allow Santee Cooper to effectively collect revenue and provide high quality, reliable electricity to the customers.

ORS outlines Santee Cooper's rate design principles in Section II above. The remainder of the section describes and examines the proposed rates in light of these principles.

### **B. Billing Determinants and Rate Design Calculations**

Billing determinants are extensively used in the COSS allocation to determine the size of the revenue requirement and the allocation of costs to customer classes. In rate design, billing determinants are identified for each customer class/ rate schedule and are applied to calculate the mix of demand, energy, and customer charges needed by Santee Cooper to recover the cost of service from customers enrolled on the rate.<sup>42</sup> Billing determinants should be consistent with those used to develop the total cost of service to be collected by rates. The rate design is not necessarily tied to projected billing determinants for each class. For example, a desire to encourage conservation and emphasize simplicity in residential rate design means that demand-related revenues may be recovered through an energy charge rather than a demand charge.

### **C. Revised Rate Schedule**

Santee Cooper indicated the rate design criteria and pricing principles as stated in the above in Section II. remain consistent with electric utility rate criteria for service provided by publicly owned utilities and Principles set forth by the Santee Cooper BOD.<sup>43</sup> Notwithstanding, Santee Cooper made adjustments of varying significance to each rate class.

Santee Cooper stated the rate adjustments are intended to better align with the forecasted load profiles for each customer class, so it can provide more accurate pricing

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<sup>41</sup> See Santee Cooper response to ORS Request No. 2-006, "2.6b COS Model FF24Budget 2024-2025 CONFIDENTIAL.xlsx", sheet "COS – Class" row [REDACTED]

<sup>42</sup> This is a description based on the COS Model, as well as the classification section in the 2024 Request for Adjustment to Rate Schedules and Tariffs

<sup>43</sup> 2024 Electric System Cost of Service and Rate Design Study, p. 44.

signals to encourage customers to adjust their electricity usage based on the optimal time windows.<sup>44</sup>

### 1. Residential Rate Schedule

The Santee Cooper residential rate class includes four offered rates. Santee Cooper proposed to convert the two EV existing experimental rates into permanent offerings.

**Table 18. Residential Rate Schedule Descriptions and Applicability**

Rate Schedule	Description	Applicability
RG-25	Residential General Service	Default; Private residences, single-family, and farms
RT-25	Residential Time-of-Use Rate	Opt-in; Private residences, single-family, and farms
REV-25	Residential Whole Home Electric Vehicle Rate	Private residences, single-family, and farms with Electric Vehicle Supply Equipment (“EVSE”) installed; to record energy delivered for the sole purpose of charging EV
RG-25-EVO	Residential Separately Metered Electric Vehicle Rate	Customers already receiving residential electric service with EVSE installed; to record energy delivered for the sole purpose of charging EV

A significant change to Santee Cooper’s residential rates included the introduction of a \$10.03 per kilowatt (“kW”) demand charge component for schedules RG-25, REV-25, and RG-25-EVO. The proposed change shifts the residential rates from a two-part structure (customer and energy charges) to a three-part structure (customer, energy, and demand charges). The new demand charge will be applied during specific time windows to align with expected seasonal peak demand periods: from 3 PM to 6 PM for April to October, and from 6 AM to 9 AM for November to March. The energy charge has either decreased or remained unchanged from the current rates. According to Santee Cooper, the energy rate structure has been simplified and schedule RG-25 will no longer vary by season. As schedule RG-25 is the default residential rate with very high enrollment levels, the changes are expected to impact the majority of Santee Cooper’s residential customers.

For residential customers who prefer not to utilize a demand charge, schedule RT-25 maintains the existing structure. Schedule RT-25 is the only option for residential customers who wish to opt-out of the demand charge. The energy charges of schedule RT-25 have been adjusted similar to the changes proposed for schedule RG-25. Santee Cooper stated it expects few customers to switch from standard to TOU service.<sup>45</sup>

According to Santee Cooper, the key rationale for the proposed residential rate changes, is to better align the pricing structure with Santee Cooper’s load forecast for each rate class. Although the demand charge is a new rate design component, it is intended primarily to recover fixed costs that were previously embedded in the energy charge.<sup>46</sup>

<sup>44</sup> *Id.* at 45.

<sup>45</sup> *Id.*

<sup>46</sup> Santee Cooper Board of Directors Presentation Management Reports, Rate Design and Proposed Rates Report, p. 3.

Santee Cooper stated that such a rate change is more equitable and can better reflect the cost causation relative to the previous volume-centric structure, which did not value the time-varying marginal cost of energy. The demand charge is also intended to provide price signals that reduce peak demand and reduce costly capacity additions needed to meet load growth.<sup>47</sup> Similarly, the adjusted schedule RT-25 rates are designed to better align with the system's demand forecast and signal the customer to lower energy use during peak periods.<sup>48</sup>

A comparison of the key components for each residential rate schedule can be seen in Tables 19 and 20 below.

**Table 19. Proposed Residential Rate Schedule Summary**

Cost Component	RG-25	Cost Component	RT-25
Customer Charge (\$/Month)	\$ 20.00	Customer Charge (\$/Month)	\$ 20.00
Demand Charge (\$/kW)	\$10.03	On-Peak Summer Energy Charge (\$/kWh)	\$ 0.3139
Summer Energy Charge (\$/kWh)	\$ 0.0684	On-Peak Non-Summer Energy Charge (\$/kWh)	\$ 0.3139
Non-Summer Energy Charge (\$/kWh)	\$ 0.0684	Off-Peak Energy Charge (\$/kWh)	\$ 0.0684
Summer Peak Window	3:00–6:00pm; Apr – Oct	Summer On-Peak Energy	3:00–7:00pm; Apr – Oct
Winter Peak Window	6:00–9:00am; Nov – Mar	Non-Summer On-Peak Energy	5:00–9:00am; Nov – Mar

**Table 20. Proposed Residential EV-Only Rate Schedule Summary**

Cost Component	REV-25	RG-25-EVO
Customer Charge (\$/Month)	\$ 20.00	\$ 5.00
Demand Charge (\$/kW)	\$ 10.03	\$ 10.03
On-Peak Energy Charge (\$/kWh)	\$ 0.0745	\$ 0.1
Off-Peak Energy Charge (\$/kWh)	NA	NA
Super Off-Peak Energy Charge (\$/kWh)	\$ 0.0418	\$ 0.0418
Summer Peak Window	3:00–6:00pm; Apr – Oct	3:00–6:00pm; Apr – Oct
Winter Peak Window	6:00–9:00am; Nov – Mar	6:00–9:00am; Nov – Mar
Super Off-Peak Hours	11 pm to 5 am	9 pm to 5 am

## 2. Commercial Rates Schedule

Among all commercial rates schedules designed to accommodate varying levels of energy demand, the proposed small general service (GA-25) rate schedule includes significant changes. Previously, the GA-25 rate was optional for small commercial customers with a potential demand of less than 50 kW. Under the new rate design study all customers with less than 50 kW demand will be required to enroll in the GA-25 schedule. The proposed change is expected to shift approximately 1,500 customers currently on the medium commercial (GB-25) schedule to the GA-25 schedule, which is approximately 43% of customers.<sup>49</sup>

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> Calculated based on forecasted customer counts provided in the COS model.

The proposed schedule GA-25 will introduce a demand-charge component while reducing energy charges, following the same rationale as the proposed changes to residential rates. With the proposed adjustments, the schedule GA aligns with the schedule GB, with rate values being only marginally higher than the current schedule GB rates.

Santee Cooper proposed no changes to schedule GB-25 and large commercial (GL-25) rate design; however, the prices for each component will be adjusted to reflect the updated FTY revenue requirements. Notably, while the current energy charge of schedules GB-25 and GL-25 varies by season, the proposed changes will vary based on on-peak and off-peak periods only. Additionally, the proposed tariffs require enrollment in each rate schedule based on potential demand level, eliminating the option to choose between different rates.

A comparison of the key components for each commercial rate schedule can be seen in Table 21 below.

**Table 21. Key Commercial Rate Schedule Summary**

Cost Component	GA-25	GB-25	GL-25
Customer Charge (\$/Month)	\$ 26.00	\$ 28.00	\$ 28.00
Demand Charge (\$/kW)	\$ 17.08	\$ 24.95	\$ 25.73
On-Peak Energy Charge (\$/kWh)	\$ 0.0481	\$ 0.0501	\$ 0.0481
Off-Peak Energy Charge (\$/kWh)	\$ 0.0381	\$ 0.0401	\$ 0.0381
Demand Threshold (KW)	<50	50-300	>300
Summer Peak Window	3:00–7:00pm; Apr – Oct	3:00–7:00pm; Apr – Oct	3:00–7:00pm; Apr – Oct
Winter Peak Window	5:00–9:00am; Nov – Mar	5:00–9:00am; Nov – Mar	5:00–9:00am; Nov – Mar

As with the current rate schedule, all commercial customers will still have the option to choose the seasonal GV-25 or GT-25 schedules. These options maintain their existing structures, though with increased prices for each component.

- **Schedule GV-25:** The GV-25 schedule structure aligns with the GB-25 and GL-25 schedules, sharing the same definitions for on-peak and off-peak periods.
- **Schedule TOU GT-25:** The TOU GT-25 schedule is slightly more complex, incorporating both on-peak and off-peak demand charges. Customers on the GT-25 schedule will see two separate demand charges on their bills, one for on-peak demand and one for off-peak demand.

A comparison of the key components for each alternative commercial rate schedule can be seen in Table 22 below.

**Table 22. Alternative Commercial Rate Schedule Summary**

Cost Component	GV-25	GT-25
Customer Charge (\$/Month)	\$ 28.00	\$33.00
Demand Charge (\$/kW)	\$ 26.23	\$ 27.42(On-Peak) / \$ 14.92(Off-Peak)
On-Peak Energy Charge (\$/kWh)	\$ 0.0476	\$ 0.0501
Off-Peak Energy Charge (\$/kWh)	\$ 0.0376	\$ 0.0401
Demand Threshold (KW)	N/A	N/A
Summer Peak Window	3:00–7:00pm; Apr – Oct	3:00–7:00pm; Apr – Oct
Winter Peak Window	5:00–9:00am; Nov – Mar	5:00–9:00am; Nov – Mar

### 3. Outdoor Rental Light Program Rate Schedule

The outdoor rental light rate consists of two main components: energy costs and equipment rental costs, as detailed below. The outdoor rental light program rates constitute a small portion of Santee Cooper’s overall service portfolio, resulting in minimal impact on the total revenue requirement and the COSS. The current rate schedules include over 100 variations to accommodate different fixture and pole combinations. To simplify the complexity of the Outdoor Rental Light Program, Santee Cooper proposed a cost segmentation approach based on installation costs as the primary method for cost recovery.

### 4. Large Light and Power Rate Schedule

The customers who are eligible for industrial rates require potential capacity greater than 1,000 kW. Due to the unique energy usage patterns and large energy use volumes per customer in this class, the rate schedule is defined with greater complexity and is capable of customization.

Santee Cooper primarily offers an industrial rate large light & power (L-25) and various riders to count for different energy use and economic behavior. The key riders include Interruptible Rider (L-25-I), Economy Power Rider (L-25-EP), and a Demand Response Buy Back Rider (L-25-DRB).

- The L-25 rate schedule, which is a firm rate with components similar to commercial rates, includes several adjustments. The proposed changes slightly increase the price in both the customer charge and the demand charge. The on-peak energy hours are also proposed to be revised, including adding a peak hour window for winter months.
- The L-25-I rate schedule is designed to provide an interruptible credit calculated based on incremental combustion turbine generation unit in a simple cycle configuration that are avoided with Santee Cooper’s access to interruptible load.
- Santee Cooper proposed to modify the trigger for additional on-peak hours for the Economy Power (L-25-EP-O) rate linked to an energy price rather than the load forecast.

- Demand Response Buy Back (L-25-DRB) is available to customers meeting the availability requirements of Santee Cooper’s Large Light and Power Rate Schedule L-25.

A comparison of the key components for each residential rate schedule can be seen in Table 23 below.

**Table 23. Industrial Rate Schedule Summary**

Cost Component	L-25	L-25-I
Customer Charge (\$/Month)	\$ 3,605	N/A
Demand Charge (\$/kW)	\$ 21.08	\$ 10.44
On-Peak Energy Charge (\$/kWh)	\$ 0.0497	\$ 0.0497
Off-Peak Energy Charge (\$/kWh)	\$ 0.0375	\$ 0.0375
Summer Peak Demand Window	1:00–10:00pm; May – Sep	1:00–10:00pm; May - Sep
Winter Peak Demand Window	5:00–9:00am; 6:00 p.m. to 10:00 pm; Oct – Apr	5:00–9:00am; 6:00 p.m. to 10:00 pm; Oct – Apr
Summer Peak Energy Window	1:00–10:00pm; Jun – Aug	1:00–10:00pm; Jun - Aug
Winter Peak Energy Window	5:00–9:00am, Nov-Feb	5:00–9:00am, Nov-Feb

## D. Other Riders and Adjustment Clauses

Santee Cooper proposed a list of riders and adjustment clause revisions to include:

- Fuel Adjustment Clause (“FAC-25”): This clause applies to the majority of retail rates. The purpose is to true-up revenue collection to account for future variability in fuel costs. The FAC-25 is calculated for the per-kWh cost of fuel relative to an estimated cost calculated for a “base period” and only collects/credits additional revenues when costs deviate from the base cost.<sup>50</sup> The FAC-25 is substantial relative to the projected retail cost of service. For example, the fuel adjustment is projected to be a credit equal to about 8.2% of the total retail cost of service in 2025.<sup>51</sup> Uncertainty in future fuel costs may therefore impact a large portion of Santee Cooper’s revenue requirement, but such exposure to fuel price uncertainty is not unique to Santee Cooper. Santee Cooper proposed to revise the tariff language to explicitly include gypsum expenses and renewable PPA energy costs as part of fuel costs. No other changes to the clause are proposed.
- Santee Cooper proposed a Deferred Cost Recovery Adjustment Clause (“DCR-25”) to collect costs it previously deferred during the rate freeze period. As noted in the COSS, cost recovery under the Cook Settlement Rate Freeze Exceptions is not included in the 2024 Rate Study.
- The Demand Sales Adjustment Clause (“DSC-25”), Economic Development Sales Adjustment Clause (“EDA-25”), and Distributed Generation Rider (“DG-25”) are proposed to remain unchanged.

<sup>50</sup> See p. 270 of Appendix B to the COSS.

<sup>51</sup> See Santee Cooper response to ORS Request No. 2-006, “2.6b COS Model FF24Budget 2024-2025 CONFIDENTIAL.xlsx”, sheet “COS – Class,” rows [REDACTED]

- Santee Cooper proposed a special industrial rate for economic development customers, which included a discounted demand charge and an extended initial contract term.

## **E. Findings Regarding Santee Cooper's Proposed Rate Design**

In general, the rate design methodology is transparent and supported with workpapers provided in response to ORS discovery. However, there are several changes in the proposed rates as outlined below.

### **1. Demand Charges for Residential Customers**

The proposal to add demand charges to primary residential and general service rate schedules represents a significant change in Santee Cooper's rate design. According to Santee Cooper, the proposed changes aim to improve equity by accurately reflecting the causation of the revenue requirement. The impact of these demand charges will be allocation of higher costs to the customers who contribute more to Santee Cooper's system's peak demand.

The merits of a demand charge have been evaluated by various independent sources, such as the Regulatory Assistance Project ("RAP").<sup>52</sup> The conclusion is that investment in resource adequacy can be deferred if utilities manage to reduce customer demand during periods of high grid stress.<sup>53</sup> Because the proposed RT-25 rate schedule has a relatively steep 5:1 ratio between the on-peak and off-peak energy charges, a change in customer behavior would represent a relatively significant change to how customers are charged for energy usage.

Additionally, Santee Cooper's load forecast projects substantial EV adoption in the coming years with a projected increase of Electric Vehicles from 7,554 in 2024 to 39,545 in 2028 or 423%.<sup>54</sup> The proposed demand charges in EV charging rates may be necessary, as EVs may add more demand burden to the grid but are also more flexible than other household electric devices.

Despite their potential benefits, demand charges as part of residential rates are relatively new and are slowly emerging in rate design. A recent white paper by The Brattle Group stated the adoption of a demand charge will introduce monthly bill volatility to most customers.<sup>55</sup> Although demand charges are not as common in residential rates, demand

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<sup>52</sup> Use Great Caution in Design of Residential Demand Charges, Regulatory Assistance Project, <https://www.raponline.org/wp-content/uploads/2023/09/lazar-demandcharges-ngejournal-2015-dec.pdf>

<sup>53</sup> Rate Design for the Energy Transition, E3 published at Energy Systems Integration Group; <https://www.esig.energy/wp-content/uploads/2023/03/ESIG-Retail-Pricing-dynamic-rates-E3-wp-2023.pdf>

<sup>54</sup> Santee Cooper Board of Directors Presentation Management Reports, Load Forecast Report, p. 3.

<sup>55</sup> The distributional impacts of residential demand charges, The Brattle Group published at The Electricity Journal, <https://www.sciencedirect.com/science/article/pii/S1040619016300963>



charges are more common for customers who install Distributed Energy Resources (“DER”), to ensure that DER customers pay a fair share of the grid infrastructure costs.

The proposal to implement the demand charges should also be considered within the context of gradualism and offering sufficient protection from negative bill impacts. Some neighboring utilities offer optional residential rate schedules with a demand charge, such as DESC. However, they also offer multiple options to opt-out of demand charges. In Santee Cooper’s service territory, the only option for residential customers to opt-out of a demand charge is to adopt the RT-25 rate. The RT-25 rate is designed with the same intent as the demand charge: to provide pricing signals by varying energy charges throughout the day.

ORS and E3 identified that although demand-related cost encompasses costs from various function groups, only production related demand costs are ultimately attributed by Santee Cooper to the demand charge, and all other demand-related costs are either being assigned to the fixed monthly customer charge or energy charge. Santee Cooper’s COSS indicated production demand accounts for approximately 68% of the projected overall demand-related costs. Santee Cooper stated in a meeting on August 13, 2024, with ORS and E3 the intention of such an arrangement is to reflect gradualism, since the proposed rate will be the first time Santee Cooper proposed to include a residential demand charge.

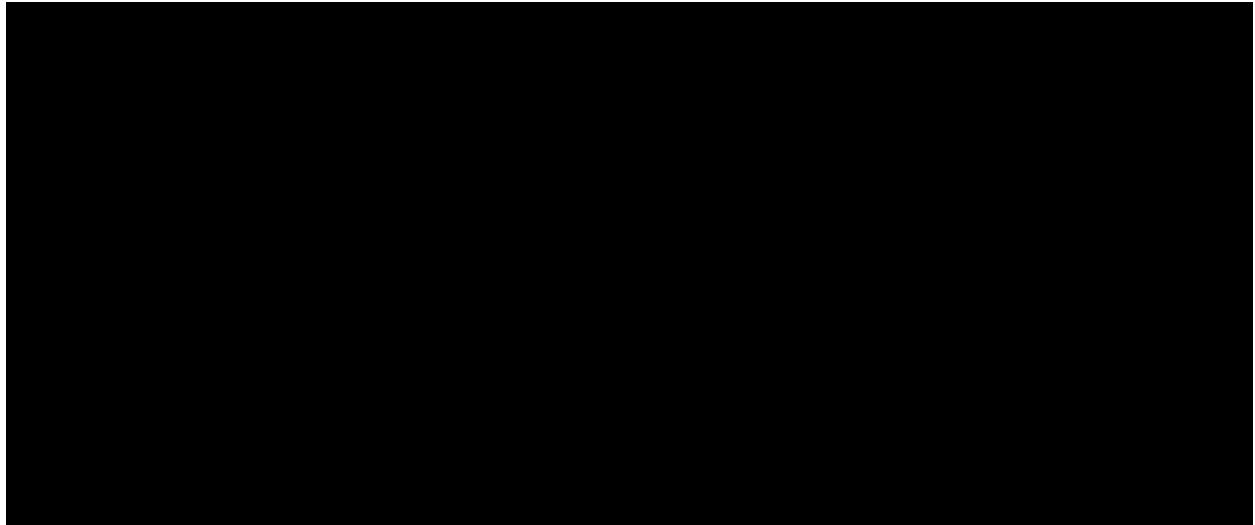
The results of the proposed residential rate design, which relies on historical AMI data, depend on customer response to pricing signals.

## **2. Alignment of Rate Peak Window and Load Profiles**

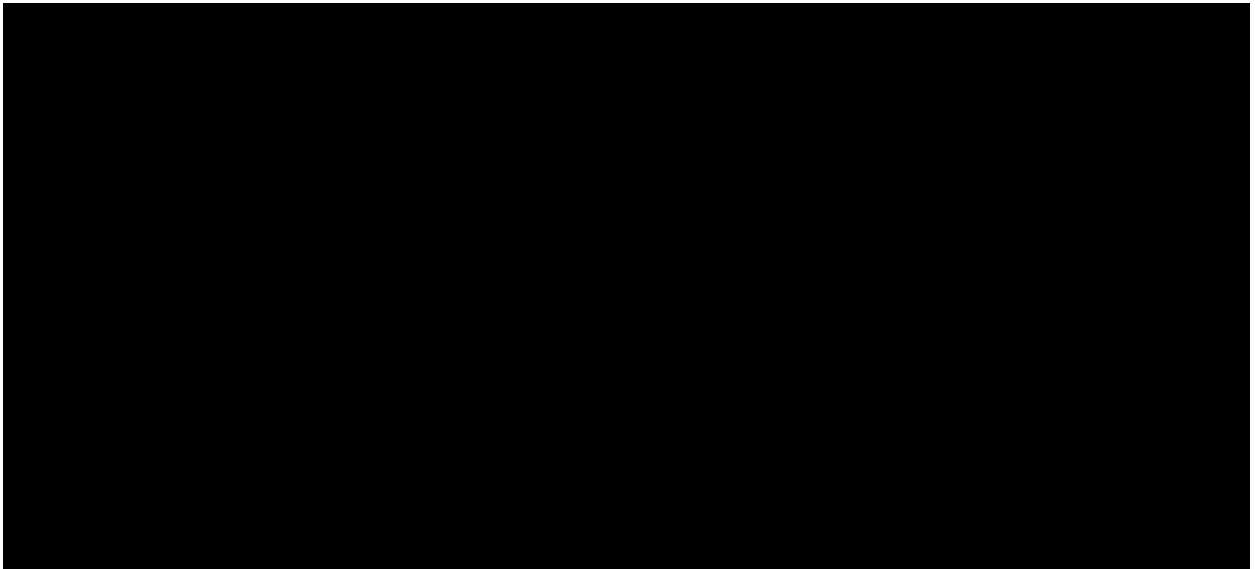
Generally, peak windows should be dictated by hours of high marginal cost of energy, and hours during which the transmission and distribution infrastructure is most stressed. Currently, the peak windows proposed by Santee Cooper align well with hours of high system load, the shape of which is driven primarily by the shape of commercial and residential loads since industrial loads are largely flat. In a system with more generators that have no variable cost such as wind and solar, high-energy-cost hours will depend on gross load minus the generation from these resources. However, the small fraction of intermittent resources on Santee Cooper’s system today indicates it is reasonable to look at peak windows through the lens of customer gross load.

The peak windows are identified for all rate classes to determine the peak demand or on-peak energy charges. Generally, these peak windows vary by season, with summer peaks occurring in the late afternoon to early evening and winter peaks occurring in the early morning. Santee Cooper provided 2023 historical hourly load data for the commercial and residential sectors combined, as well as for the industrial sector separately.

Figure 1 shows that the average system load profile roughly aligns with the peak windows defined for residential and commercial rate schedules. The rates' defined peak windows also align with those of neighboring utilities with similar climate conditions.



In the industrial customer sector, the historical load profiles do not exhibit clear seasonal or hourly variation. The peak periods for these customers cover a broader portion of the system's high-load hours, which largely align with overall system-wide usage.



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<sup>56</sup> Created from Santee Cooper response to ORS Request No. 6-003, "2023 Hourly CAIM Loads CONFIDENTIAL.xlsx"

<sup>57</sup> *Id.*

## VIII. Assessment of Customer Bill Impacts

In Appendix A of the COSS, Santee Cooper estimated bill impacts for customers of different classes, drawing from AMI data to derive archetypal customers of different load factors (i.e., the ratio of the customer's peak demand to their average demand). A key finding is some customers will have to drastically reduce their load factors to avoid steep bill increases.

### A. Bill Impacts by Customer Class

#### 1. Residential Bill Impacts

Page 1 of Appendix A in the COSS provided estimates of bill impacts for customers enrolled on schedule RG-25. The primary driver of the variation in percentage bill increase is the customer's load factor. Customers with a relatively low load factor have a high peak demand relative to their volumetric consumption. Therefore, relative to their current monthly Santee Cooper bill, residential customers would incur a substantially higher demand charge under the proposed RG-25 rate schedule, resulting in a higher overall percentage bill increase even when compared to other residential customers with the same volumetric usage. Among the archetypal customers shown in Appendix A of the COSS (those with 10<sup>th</sup>-90<sup>th</sup> percentile load factors), a typical customer on rate RG-25 will experience a 0 - 36%<sup>58</sup> increase in their typical monthly bill if they do not reduce their usage patterns or peak demand, provided their overall energy consumption does not change.

By contrast, archetypal customers enrolled on the RT-25 rate schedule are expected to experience a more uniform 11.7 - 14.9%<sup>59</sup> increase in their monthly bill. The reduced variability is because the proposed RT-25 rate schedule does not contain a demand charge. While RT-25 customers may reduce their bills and improve system efficiency by lowering consumption during peak periods, their load factor will not impact their bill like RG-25 customers. This is further illustrated in the Table below.

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<sup>58</sup> See Appendix A to the COSS, p. 4.

<sup>59</sup> See *id.* at 5.

**Table 24. Potential Residential Bill Impacts**

Residential						
Rate Schedule	Usage (kWh)	Demand (kW)	Current Cost (\$)	Proposed Cost (\$)	Difference (\$)	Difference (%)
RG-25	1,000	3.7	\$ 116.00	\$ 116.00	\$ -	0%
		7.5	\$ 116.00	\$ 154.00	\$ 38.00	33%
	2,000	7.4	\$ 212.00	\$ 212.00	\$ -	0%
		15.1	\$ 212.00	\$ 288.00	\$ 76.00	36%
RT-25	500	N/A	\$ 68.00	\$ 76.00	\$ 8.00	12%
	1,000	N/A	\$ 116.00	\$ 131.00	\$ 15.00	13%
	2,500	N/A	\$ 260.00	\$ 298.00	\$ 38.00	15%
	5,000	N/A	\$ 501.00	\$ 575.00	\$ 74.00	15%

Using historical AMI data provided by Santee Cooper, E3 found the residential revenue calculations of the projected 2025 residential COS to be accurate.

## 2. Commercial Bill Impacts

Appendix A of the COSS and other data provided by Santee Cooper, provide estimates of bill impacts for customers on each of the proposed commercial rates. The relative changes in monthly bills for commercial customers on schedule GA-25 are not dissimilar for those on rate RG-25, due to the introduced demand charge. Among the archetypal customers enrolled on schedule GA-25 shown in Appendix A of the COSS, bills are expected to change by -3.5% to 33.4%,<sup>60</sup> depending on the monthly usage and load factor. It is not evident what percentile customers the archetypes represent as provided in Appendix A. For the purposes of illustration, the COSS only showed bill impacts for customers with on-peak and off-peak energy consumption in line with typical historical usage patterns.

In contrast to the GA-25 rate schedule, archetypal customers on other commercial rates are estimated to incur more uniform increases regardless of their load behavior; 5.6 - 6.2%, 1.3 - 3.2%, and 5.3 - 7.3% for the GB-25, GV-25, and GL-25 rate schedules respectively.<sup>61</sup> This is primarily because these schedules already included substantial demand charges. This is further illustrated in the table below.

<sup>60</sup> See *id.* at 6.

<sup>61</sup> See *id.* at 5.

**Table 25. Potential Commercial Bill Impacts**

Commercial							
Rate Schedule	Demand (kW)	Usage (kWh)	Load Factor (%)	Current Cost (\$)	Proposed Cost (\$)	Difference (\$)	Difference (%)
GA-25	32	9,811	42%	\$ 899.00	\$ 868.00	\$ (31.00)	-3%
		6,074	26%	\$ 566.00	\$ 756.00	\$ 190.00	34%
GB-25	50	29,200	80%	\$ 2,093.00	\$ 2,211.00	\$ 118.00	5.6%
		7,300	20%	\$ 1,421.00	\$ 1,509.00	\$ 88.00	6.2%
	200	116,800	80%	\$ 8,293.00	\$ 8,760.00	\$ 467.00	5.6%
		29,200	20%	\$ 5,606.00	\$ 5,953.00	\$ 347.00	6.2%
GT-25	50	18,013	33%	\$ 2,188.00	\$ 2,355.00	\$ 167.00	7.6%
	100	36,026	33%	\$ 4,345.00	\$ 4,676.00	\$ 331.00	7.6%
	400	144,105	33%	\$ 17,286.00	\$ 18,606.00	\$ 1,320.00	7.6%
	500	180,131	33%	\$ 21,599.00	\$ 23,249.00	\$ 1,650.00	7.6%
GV-25	50	32,850	90%	\$ 2,286.00	\$ 2,317.00	\$ 31.00	1.4%
		10,950	30%	\$ 1,614.00	\$ 1,665.00	\$ 51.00	3.2%
	200	131,400	90%	\$ 9,065.00	\$ 9,183.00	\$ 118.00	1.3%
		43,800	30%	\$ 6,378.00	\$ 6,577.00	\$ 199.00	3.1%

**3. Large Light and Power Bill Impacts.**

Appendix A of the COSS provided estimates of bill impacts for customers on schedule L-25. Projected bill increases are expected to be relatively uniform across a wide range of usage and load factors, between 4.7-6%.<sup>62</sup> This stems from the overall rate structure remaining similar to the prior rate structure. Illustrated in the table below.

**Table 26. Potential Industrial Bill Impacts**

Industrial							
Rate Schedule	Demand (kW)	Usage (kWh)	Load Factor (%)	Current Cost (\$)	Proposed Cost (\$)	Difference (\$)	Difference (%)
L-25	1000	730,000	100%	\$ 47,102.00	\$ 49,441.00	\$ 2,339.00	5.0%
		438,000	60%	\$ 37,681.00	\$ 39,940.00	\$ 2,259.00	6.0%
	2000	1,460,000	100%	\$ 88,710.00	\$ 92,994.00	\$ 4,284.00	4.8%
		876,000	60%	\$ 69,868.00	\$ 73,991.00	\$ 4,123.00	5.9%
	5000	3,650,000	100%	\$ 213,534.00	\$ 223,653.00	\$ 10,119.00	4.7%
		2,190,000	60%	\$ 166,428.00	\$ 176,146.00	\$ 9,718.00	5.8%

Appendix A of the COSS did not include bill estimates for industrial customers or customers on the interruptible light rate. Providing generalizable estimates would likely be impractical due to the customizability of these tariffs.

**B. ORS Findings related to Customer Bill Impacts**

**1. Inter-class Differences**

The increase in residential rates will outpace those of other retail customer classes, which can be attributed to the expected near-term shift towards demand-related production costs. A comparison of the 2024 and 2025 revenue requirements as provided in Santee Cooper’s COS model indicated a substantial increase in production demand costs

<sup>62</sup> See *id.* at 12.

between the two years, with a proportional decrease in energy-related production costs in the retail revenue requirement.<sup>63</sup> Because the residential sector has substantially higher demand-related allocation factors than other classes, as shown in Table 27, this manifests as a proportionally higher increase in the residential rates relative to other classes. Directly stemming from this, the projected bill changes in Appendix A of the COSS indicate residential bills are projected to increase by a greater magnitude than other classes on average.

**Table 27. Coincident Peak and Non-Coincident Peak Summary (MW)**

Factor	Residential	Commercial	Light	Industrial
1CP	673,959	289,751	10,036	276,418
4CP	573,497	332,797	7,388	280,906
12CP	498,338	311,000	6,600	279,074
1NCP	673,959	394,032	15,440	N/A
12NCP	476,447	305,322	11,853	N/A

## 2. Revenue Requirement to Bill Impact Comparison

As discussed in Section V.B.1 and illustrated on Table 4 above, the 4.9% system revenue deficit for calendar year 2025 is the primary driver for the proposal for rate changes. Table 4 illustrates the percentage of difference for each class relative to the projected cost of service for that class. For example, the Residential Class has a deficit of 8.7%, Commercial, Lighting, and Industrial Classes have deficits of 4.1%, 5.0%, and 2.8% respectively with the total system average being 4.9%. However, the bill impacts of the proposed increase as illustrated in Tables 24-26 above are not designed to equal those class deficits. The proposed rates are designed to have the whole system recoup the 4.9% accumulated January through December 2025 with rates that will not be in effect until April 1, 2025. There are a wide range of potential bill impacts among the residential and small commercial customer classes. The distribution of bill impacts is valuable to understand how many customers will be impacted under their current consumption behaviors.

## 3. Behavior and Efficiency

The bill impacts discussed in the prior section, especially for rate schedules RG-25 and GA-25, are only relevant so long as Santee Cooper customers do not alter their energy usage behavior. Customers who can reduce their peak load and average demand will see less drastic bill increases and may even achieve bill savings. Unlike residential customers, small commercial customers will not be able to avoid a demand charge by migrating to a different rate and will have to modify their load behavior to reduce their bills. The reduction in peak demand will reduce revenue recovered from the customer via

<sup>63</sup> See Santee Cooper response to ORS Request No. 2-006, “2.6b COS Model FF24Budget 2024-2025 CONFIDENTIAL.xlsx,” sheet “COS – Class”, rows [REDACTED]

the demand charge but would also reduce the cost to serve them. Demand charges may promote the ratemaking principle of efficiency by discouraging wasteful usage and system investments.

Customers on schedule RT-25 will experience more uniform rate increases regardless of their load factor. It is possible that residential customers with the optionality of migrating to schedule RT-25 could thereby mitigate uncertainty in their bill impact.

## **IX. Conclusion**

This Report details the findings of ORS's review of Santee Cooper's 2024 Request for Rate Adjustment. Pursuant to S.C. Code Ann. § 58-31-730(B)(1), ORS conducted an inspection, audit, and examination of the proposed rate schedule, revenue requirements, cost-of-service analysis, and rate/tariff design.

ORS inspected and audited Future Test Year budget, expenses, and revenues with supporting workpapers and documents to verify that the Total System Revenue Requirements were supported, accurately stated, and mathematically correct.

ORS examined written reports and workpapers as well as compared FERC guidelines, and other similarly positioned utilities and confirmed that 1) The Santee Cooper proposed adjustments to rate schedules and tariffs follows the standard COSS ratemaking procedure as outlined by FERC. 2) Santee Cooper's COSS aligns with standard utility COSS procedures. The allocation of costs generally aligns with practices observed throughout the electric industry. The resulting increase to the revenue requirement for the residential customer class is consistent with Santee Cooper's classification of costs and the forecasts of rising demand-related costs. The cost allocation and rate design indicate the costs to serve wholesale customers are largely treated independently of retail customers, reducing concerns about cross-subsidization. 3) Santee Cooper established principles that align with electric industry standards to set the proposed rates for all retail customer classes. The introduction of demand charges across multiple rate schedules is relatively unique for Santee Cooper; however, supported by Santee Cooper's COSS.

To Conclude, ORS determined that Santee Cooper followed industry standards in the proposed rate schedule, revenue requirements, cost-of-service analysis, and rate/tariff design. ORS encourages Santee Cooper to continue educating customers on the proposed changes to the rate structure, and how usage behaviors can impact monthly bills.