

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue)	
Implementation and Administration, and Consider)	
Further Development, of California Renewables)	Rulemaking 18-07-003
Portfolio Standard Program.)	
_____)	

**FINAL 2023 RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN OF
SONOMA CLEAN POWER AUTHORITY**

PUBLIC VERSION

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In accordance with the California Public Utilities Commission’s (“Commission”) December 21, 2023, *Decision on 2023 Renewables Portfolio Standard Procurement Plans* (“RPS Plans Decision”) and Sonoma Clean Power Authority (“SCPA”) hereby submits this Final 2023 Renewables Portfolio Standard Procurement Plan (“Final RPS Procurement Plan”). As directed by the RPS Plans Decision, this Final RPS Procurement Plan is responsive to Ruling Paragraph 36 ordering Community Choice Aggregators (“CCAs”) to file Final RPS Procurement Plans.

SCPA notes that certain issues and requests in the May 5, 2023 *Assigned Commissioner and Assigned Administrative Law Judges’ Ruling Identifying Issues and Schedule of Review for 2023 Renewables Portfolio Standard Procurement* (“ACR”) sections apply to the other retail sellers (electrical corporations and electric service providers), and do not extend to Community Choice Aggregators (“CCAs”). SCPA is nevertheless voluntarily responding to these ACR sections in the interest of transparency and in order to collaborate with the Commission. However, the submission of this Final RPS Procurement Plan pursuant to the ACR, should not be construed as a waiver of the right to assert that components of the 2015 Senate Bill (“SB”)

350 or Commission decisions and rulings on RPS Procurement Plan submittals do not extend to CCAs. SCPA reserves the right to challenge any such assertion of jurisdiction over these matters.

I. Major Changes to RPS Plan

This Section describes the most significant changes between SCPA's Final 2023 RPS Procurement Plan and its Draft 2023 RPS Procurement Plan. A redline of this Final 2023 RPS Plan against SCPA's Draft 2023 RPS Plan is included as Appendix A. The table below provides a list of key differences between the Draft 2023 and Final 2023 RPS Procurement Plans:

Plan Reference	Plan Section	Summary/Justification of Change
RENEWABLE NET SHORT TEMPLATE 2023, Forecast Failure Rate for Online Generation (%) and Forecast Failure Rate for RPS Facilities in Development (%)	Appendix B, Columns M, N, and P; Rows 14 and 16.	Unredacted value for the public version per instructions from the RPS Plans Decision.
RENEWABLE NET SHORT TEMPLATE 2023 FOR MMoP, Forecast Failure Rate for Online Generation (%) and Forecast Failure Rate for RPS Facilities in Development (%)	Appendix E, Columns M, N, and P; Rows 14 and 16.	Unredacted value for the public version per instructions from the RPS Plans Decision.

II. Executive Summary

SCPA has made significant progress in procuring long-term RPS resources in the last year that is reflected in this 2023 Final RPS Procurement Plan. Construction has started on SCPA's 70 megawatt ("MW") Proxima solar and storage project and is on track for commissioning in April 2024. Proxima successfully navigated supply chain risks that were described in last year's RPS Procurement Plan and upon startup will be a key RPS and reliability resource for SCPA and the grid. Meanwhile, SCPA has contracted in the last year with the new 60 MW Azalea solar and storage project with expected commissioning in 2025 and two new local projects: the new 5 MW Twin Pine Circle solar project and 4 MW Redemeyer solar and storage project. These resources largely replace the Tubbs Island project included in last year's project that has since been terminated. Progress is also being made on maturing SCPA's two new geothermal contracts that were introduced in last year's plan. With SCPA's diverse and expanded portfolio of RPS resources and ongoing negotiations for additional RPS resources, it is well-positioned to maintain its long-term and overall RPS compliance.

SCPA is not planning any territory expansion at this time. Departure of customers to direct access in 2021 and 2022 and robust growth in behind-the-meter solar caused a decrease in load over the last few years. However, SCPA expects this trend to reverse as electrification of the transportation and building sectors continues to grow.

SCPA's 2023 Final RPS Procurement Plan includes a robust discussion of risks to its portfolio, including transmission deliverability, uncertainty on the timing of electrification adoption, permitting, and geothermal exploration risk. SCPA expects it will need to plan for a 3-4% margin of retail sales of additional procurement to manage these risks.

SCPA's 2023 Final Procurement Plan is well aligned with its 2022 Integrated Resources

Planning (“IRP”) filing. This includes the types and timing of contracted resources, as well as new hourly emissions targets adopted by SCPA’s Board of Directors. Whereas the 2022 IRP contains SCPA’s long-term plan for resource procurement, the 2023 Final Procurement Plan focuses on only contracted resources to avoid overstating SCPA’s compliance position.

III. Summary of Legislation Compliance

This Final RPS Procurement Plan addresses the requirements of all relevant legislation and the Commission’s regulatory framework. This Section describes the relevant statutory and regulatory requirements and demonstrates that this Final RPS Procurement Plan meets or exceeds all requirements.

Governor Brown signed SB 350 on October 7, 2015. SB 350 set a new RPS procurement target of 50% by December 31, 2030. On December 20, 2016, the Commission issued Decision (“D.”) 16-12-040, which partially implemented the increased targets of SB 350 by establishing new compliance periods and procurement quantity requirements. On July 5, 2017, the Commission issued D.17-06-026, which implemented some of the key remaining elements of SB 350, including adopting new minimum procurement requirements for long-term contracts and owned resources, as well as revising the excess procurement rules.

On September 10, 2018, Governor Brown signed SB 100, which became effective on January 1, 2019. SB 100 increased the RPS procurement requirements to 44% by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. On June 6, 2018, the Commission issued D.18-05-026, which implemented changes made by SB 350 to the RPS waiver process and reaffirmed the existing RPS penalty scheme. In July of 2018, the Commission issued Rulemaking (“R.”) 18-07-003 to continue the implementation of the RPS. On May 22, 2019, the Commission issued a Proposed Decision that would continue to use a

straight-line method to calculate compliance period procurement quantity requirements.

SCPA's Renewable Net Short Calculation Table incorporates current RPS procurement targets as described in Section VIII below and attached as Appendix B. SCPA's current and planned procurement, is sufficient to exceed these targets, as reflected in SCPA's Renewable Net Short Calculation Table and described in Sections IV and V. SCPA's RPS procurement targets also include a minimum margin of over-procurement based on SCPA's risk assessment, and is further described in Sections VII and IX. SCPA is also positioned to exceed the SB 350 long-term procurement requirement, as described in Sections V and VII.

SB 901, signed by Governor Brown on September 21, 2018, added Public Utilities Code ("Pub. Util. Code") § 8388, which requires any investor-owned utility, publicly owned electric utility, or CCA with a biomass contract meeting certain requirements to seek to amend the contract to extend the expiration date to be five years later than the expiration date that was operative as of 2018. SCPA does not have a contract with a biomass facility that is covered by Pub. Util. Code § 8388.

SB 255, signed by Governor Newsom on October 2, 2019, amended Pub. Util. Code § 366.2 and § 8283 to require each CCA with gross annual revenues exceeding \$15,000,000 to annually submit a report to the Commission regarding the CCA's procurement from women, minority, disabled veteran, and LGBT business enterprises in all categories. SB 255 also requires CCAs to include a methodology for ensuring procurement from local, small, and diverse business enterprises. SCPA has met all of its reporting obligations to fulfill SB 255 requirements.

As a public agency, SCPA takes official positions on legislation through a formal vote of its Board of Directors or through the actions of SCPA's Chief Executive Officer, subject to the authority delegated by SCPA's Board of Directors. Information on the official support positions

of SCPA, including a support letter if applicable, is made available as part of the Board of Directors meeting agenda packets. While SCPA has an adopted Legislative Platform, SCPA still evaluates each legislative position as each issue arrives. Therefore, SCPA cannot report on any definite future legislative positions it may take in advance.

IV. Assessment of RPS Portfolio Supplies and Demand

IV.A. Portfolio Supply and Demand

SCPA expects to exceed the Commission's RPS compliance obligations. The exact portfolio characteristics SCPA selects may vary depending on legislative and policy changes, technological improvements, preferences of the community, or other developments. To manage this future uncertainty, SCPA routinely examines and estimates supply and customer demand, including demand trends, as they relate to population of customers served, climate, energy efficiency, distributed generation, electrification of vehicles and buildings, and emerging industries. SCPA structures its procurement efforts to match supply profiles with customer demand profiles. SCPA's examination of customer demand and other market developments will help reduce costs and assist in meeting planned procurement for the period in this Final RPS Procurement Plan.

IV.A.1. Voluntary Allocation and Market Offer ("VAMO")

As discussed in SCPA's 2022 Final RPS Procurement Plan, SCPA decided to not make an election in the Voluntary Allocation process for Pacific Gas and Electric Company ("PG&E"). This was due to several factors including poor alignment of the candidate resources with SCPA's long-term resource plan, the operational issues due to the delay in delivering generation of Voluntary Allocation and Market Offer ("VAMO") resources, uncertainty in the contract price, and the risk of changes to the portfolio composition.

Following the Voluntary Allocation process last year, market conditions changed that caused unprecedented scarcity in the RPS market through the current compliance period. These conditions, coupled with the better fit of other investor-owned utility (“IOU”) portfolios and contract price certainty, motivated SCPA to participate in Market Offer solicitations. SCPA submitted bids in the Short-term Market Offer solicitation for PG&E, San Diego Gas & Electric Company (“SDG&E”), and Southern California Edison Company (“SCE”). SCPA also submitted a bid in PG&E’s Long-term Market Offer solicitation that offered short-term contracts. None of SCPA’s bids were awarded. It is important to note that SCPA’s compliance for the current RPS period was secure without participation in VAMO. Internal RPS goals drove SCPA’s participation, and SCPA subsequently secured the volume to help meet its internal targets through bilateral contracts. SCPA supports the Market Offer process and encourages IOUs to continue offering excess RPS to the market to relieve short-term scarcity.

IV.A.2. Portfolio Optimization

SCPA’s resource portfolio includes baseload renewable power (geothermal), intermittent resources with complementary profiles (solar and wind), and battery storage. SCPA examines the need to procure resources to meet its goals (which meet or exceed both state and local compliance obligations) and when significant change in load is expected to occur (*e.g.*, phasing in new territories).

Starting in 2021, SCPA contracted with Ascend Analytics to provide advanced portfolio optimization capabilities. Using Ascend’s PowerSimm platform, SCPA is building a portfolio that is co-optimized for reliability, environmental performance, and cost, while meeting compliance obligations. The underlying stochastic engine, storage dispatch logic, and locational price modeling provide the foundation for robust decisions to minimize cost and risk for SCPA

customers.

Reducing greenhouse gas (“GHG”) emissions is one of SCPA’s cornerstone objectives. In its 2022 IRP, SCPA established an hourly emissions target that reflects the relative contribution of different resource types to mitigating grid emissions. By 2026, SCPA is contracting a supply portfolio that aims to provide 100% of the hourly marginal emissions mitigation as incurred by its load. Meanwhile, SCPA is increasingly focused on planning a portfolio that can maintain affordability and reliability as electrification of the transportation and building sectors ramps-up.

Although SCPA has invested considerable effort in the capability to optimize its portfolio for cost and carbon mitigation, procurement activity is being increasingly driven by the Commission’s reliability requirements and market constraints. One example is the Mid-term Reliability (“MTR”) requirement established in D.21-06-035 and expanded in D.23-02-040 which requires SCPA to procure 186 megawatts (“MW”) of incremental capacity.

SCPA staff balance SCPA Board of Directors’ desire for pro-active procurement according to SCPA’s long-term plans with maintaining flexibility to incorporate procurement mandates. Resources that satisfy MTR zero-emitting capacity requirement and the firm non-fossil baseload resource impact SCPA’s RPS position. SCPA has already executed a contract for a 20 MW MTR-eligible expansion of a solar project paired with storage for zero-emitting MTR capacity that will contribute 53 gigawatt hours (“GWh”) of annual RPS generation starting Spring 2024. SCPA has also executed two geothermal contracts for MTR that add 133 GWh of annual RPS by 2029, an additional MTR-eligible zero-emitting 60 MW solar project paired with storage that will add 182 GWh of RPS starting Spring 2025, and an energy-only local 5 MW solar facility (13 GWh/year) that will be paired with an MTR-eligible battery to provide zero-

emitting capacity. In total, MTR procurement could be associated with 381 GWh of newly developed RPS by 2029, or 17% of SCPA's load.

IV.B. Responsiveness to Local and Regional Policies

(i) Responsiveness to Policies of SCPA Governing Board

SCPA is a local governmental agency. SCPA is subject to the control and additional compliance mandates of its Board of Directors and is directly accountable to the community that it serves. SCPA strongly supports and is committed to meeting California's GHG reduction and renewable procurement goals. SCPA actively supported the passage of SB 100 and has fully incorporated the procurement requirements of California's RPS program into its overall procurement strategy. Furthermore, SCPA's planned procurement exceeds California's GHG emissions goal by 82% in its 2022 IRP filing. SCPA plans to attain a 0.035 million metric tons ("MMT") emissions target rather than meet California's 0.203 MMT equivalent for the 25 MMT benchmark. SCPA does not purchase Portfolio Content Category ("PCC") 3 products to meet compliance requirements or Board of Directors-adopted targets.

(ii) Responsiveness to Regional Policies

SCPA's Board of Directors sets most of the local policies relating to RPS targets and greenhouse gas emissions from SCPA customer electricity use in Sonoma and Mendocino Counties. SCPA's Board of Directors consists of elected officials from each of the cities and counties served. SCPA's Board of Directors coordinates its policies with all other local governments accordingly, including coordination on issues relating to long-term planning targets, local project development, zoning for renewable energy, streamlined permitting for electric vehicle charging stations, and dozens of similar related topics. In addition to the cities and counties of Sonoma and Mendocino Counties, SCPA works closely with its members' water

districts, the Regional Climate Protection Authority, the Office of Emergency Management, two air quality management districts, refuse agencies, and a number of land use agencies to coordinate local policy that support similar climate goals of the RPS. In short, SCPA is in a good position to ensure compliance and report on progress as an authority for establishing, monitoring, and implementing regional renewable energy and climate policy.

SCPA's Board of Directors approved a Final Local Resource Plan ("LRP") on May 6, 2021, that sets the plan for developing additional renewable resources in SCPA's territory to serve its growing load share of 100% local, 24/7 renewable EverGreen customers. On June 1, 2021, SCPA released a Local Resource Solicitation to develop new local resources to achieve this plan. The Local Resource Solicitation resulted in multiple local projects being short-listed for negotiating long-term Power Purchase Agreements ("PPAs"). SCPA executed an agreement in March 2023 for two projects resulting from this solicitation: the 5 MW Twin Pine Circle solar facility in Laytonville and the 4 MW Redemeyer solar facility co-located with 4 MW of 4-hour battery storage near Ukiah.

SCPA is also leading a cross-jurisdictional initiative to reinvigorate local geothermal power development. The Geothermal Opportunity Zone ("GeoZone") created a formal partnership between SCPA and Sonoma and Mendocino Counties to explore opportunities for private geothermal companies to deploy new technologies and development strategies to grow local generation capacity by 600 MW. SCPA will use its commitment as an offtaker and community liaison to de-risk new geothermal projects. Last year, SCPA solicited proposals from industry and selected three partners: Chevron New Energies, Cyrq Energy, and Eavor Inc.

IV.B.1. Long-term Procurement

SCPA's existing portfolio has historically aligned with the 65% requirement and the

ramp from 25% to 65% has not introduced significant risk of noncompliance. SCPA's currently contracted procurement achieves the 65% long-term RPS requirement through 2028, as demonstrated in Table 1 below. SCPA recognizes that the long-term procurement requirement requires early planning and is proactively evaluating strategies to fulfill the long-term requirement after 2028. Contracts currently under negotiation for fulfilling SCPA's long-term IRP needs would satisfy long-term compliance for the foreseeable future.

Table 1: Long-term RPS Compliance (% of SCPA Retail Sales)

Compliance Measure (% of Retail Sales)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
RPS Obligation	41.3%	44.0%	46.7%	49.3%	52.0%	54.7%	57.3%	60.0%	60.0%	60.0%	60.0%
RPS Obligation Long-term (x 65%)	26.8%	28.6%	30.3%	32.1%	33.8%	35.5%	37.3%	39.0%	39.0%	39.0%	39.0%
Contracted Long-term RPS	33.9%	41.7%	49.8%	55.1%	37.1%	37.1%	36.6%	36.0%	35.6%	34.9%	34.2%
Long-term Deficiency							0.6%	3.0%	3.4%	4.1%	4.8%

SCPA's long-term portfolio currently includes 742 GWh of online long-term RPS from online solar, wind, and geothermal facilities, representing 33.9% of its load in 2023, or 82.1% of its 2023 RPS obligation. A key challenge for SCPA's long-term RPS compliance will occur after 2026, when a large long-term geothermal contract expires: SCPA has only 297 GWh of long-term RPS under contract in 2027 from currently operating solar and wind facilities. Meeting compliance will be dependent on successful execution of in-development solar and geothermal facilities under contract that are expected to contribute 517 GWh towards SCPA's 2027 long-term requirement. If all projects are successful, SCPA would have 814 GWh of long-term RPS in 2027 compared to its 741 GWh obligation. To mitigate this risk, SCPA specifically evaluates the impact to its 2027 long-term position in its Risk Assessment

IV.C. Portfolio Diversity and Reliability

SCPA considers the deliverability characteristics of its resources, such as the resource's dispatchability and available capacity, and reviews the respective risks associated with short and long-term purchases as part of its forecasting and procurement processes. These efforts will lead to a more diverse resource mix, address grid integration issues, closely match SCPA's hourly electrical supply to its customers' demand and provide additional value to the local community. A quantitative description of this forecast is attached to the Final 2023 RPS Procurement Plan in Appendix B.

Contracting with solar-only resources is proving unattractive due to the mismatch with real-time load, the trajectory of hourly energy market prices, and reliability counting methodology. Accordingly, all but one of the solar resources SCPA is currently negotiating or planning to add to its portfolio are co-located with storage. SCPA also contracted for the capacity resource of a 75 MW x 4-hour battery co-located with its existing Mustang solar facility. SCPA expects these resources to significantly reduce curtailment, decrease transmission impacts, and provide cost-effective capacity to serve peak load conditions in summer evenings. SCPA is also pursuing several standalone storage opportunities with similar benefits, including two standalone long-duration storage contracts with other CCAs. In total, SCPA already retains 1,192 MWh of full-toll battery storage under contract, which is enough capacity to shift 19% of SCPA's average daily load.

SCPA recognizes the importance of baseload renewables in providing reliability and high-value, intra-seasonal energy. Geothermal energy currently serves 20% of SCPA's load. SCPA expects the need for baseload renewables to increase as California retires nuclear and natural gas facilities and relies increasingly on intermittent renewables and storage resources.

SCPA's territory is host to a world-class geothermal resource at The Geysers. Although new capacity has not been added to The Geysers since 1989, innovations in the geothermal industry that reduce the environmental impacts – critically, including water usage – provide an opportunity to reinvigorate local geothermal development that is compatible with community values.

The GeoZone is a key initiative in which SCPA is proactively alleviating barriers to development by engaging its community and partnering with geothermal development companies. These efforts are discussed in Section IV.B. Although the transmission approval timeline for large-scale geothermal projects is long, SCPA hopes the GeoZone will contribute meaningful capacity growth by the end of the current RPS planning horizon through 2033. SCPA recognizes the need for long-term planning and development of resources and is making the commitment now for the future of baseload renewables within our service territory.

To optimize cost, value, and risk, SCPA continuously examines and estimates supply and customer demand. This analysis includes demand trends as they relate to the number of customers served, climate, energy efficiency, distributed generation, and electrification of vehicles and buildings. SCPA structures its procurement efforts to balance customer demand with resource commitments. SCPA also considers the deliverability characteristics of its resources, and reviews the respective risks associated with short and long-term purchases as part of its forecasting and procurement processes. SCPA diversifies its resource mix to address grid integration issues such as reliability, and closely matches hourly electrical supply to customer demand to reduce ratepayer risk.

SCPA's portfolio consists of baseload geothermal renewable power and complementary, intermittent solar and wind resources combined with battery storage. SCPA regularly examines

the need to procure resources to meet its own goals, compliance obligations, and changes to expected loads (*e.g.*, when customers upgrade from SCPA’s default product, CleanStart, to its 100% renewable, local, and 24/7 product, EverGreen).

SCPA uses a load forecast for the quantitative assessment for this Final 2023 RPS Procurement Plan that explicitly models anticipated incremental load from transportation and building electrification. SCPA also incorporates the expected impact of energy efficiency measures and growth in distributed solar load forecast used in the quantitative assessment for SCPA’s Final 2023 RPS Procurement Plan.

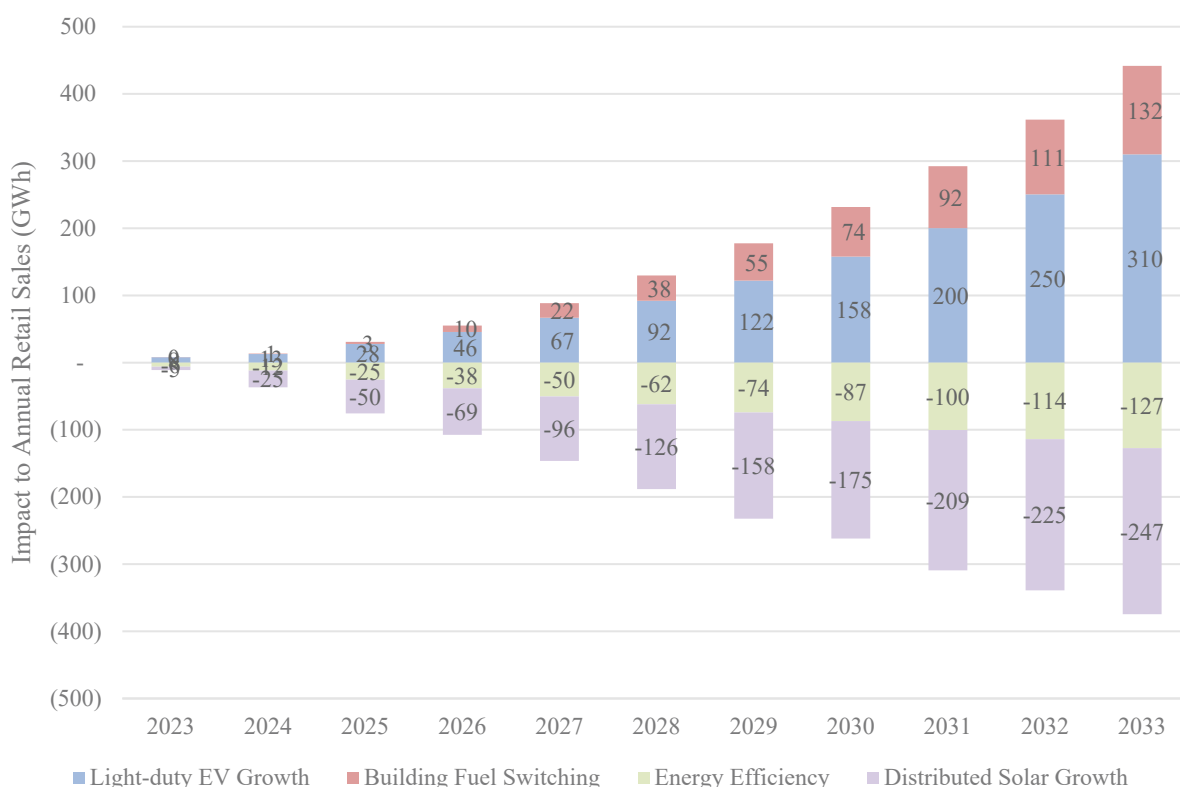
SCPA’s load forecast aligns with its expectations for electrification in transportation and building electrification, and with the preferred alternative in the California Air Resources Board’s (“CARB”) Final 2022 Scoping Plan.¹ SCPA calibrated the penetration of light-duty electric vehicles and residential fuel switching forecasted in the Final 2022 Scoping Plan to specific data on the vehicle fleet and natural gas usage data in SCPA’s territory. A comparison of SCPA’s forecast for the impact of transportation electrification to its PG&E load share of the 2022 California Energy Commission’s (“CEC”) Integrated Energy Policy Report (“IEPR”) Additional Achievable Transportation Electrification Scenario 3 is included in Figure 1.² SCPA’s forecast demonstrates a similar long-term impact (only including light-duty vehicles at this time) but reflects slower near-term adoption rates than observed statewide data. SCPA derived expectations for energy efficiency and growth of distributed solar from scaling forecasts in the 2022 Integrated Energy Policy Report (“IEPR”) proceeding by its load share of PG&E. As shown in Figure 2, the increase in load from electrification can be roughly balanced with energy

¹ SCPA uses data from the “AB32 GHG Inventory Sectors Modeling Data Spreadsheet” released alongside the Final Scoping Plan at <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>

² “Utility Region Forecast” from <https://www.energy.ca.gov/data-reports/california-energy-planning-library/forecasts-and-system-planning/demand-side-modeling>

efficiency and distributed resources in the near-term. However, increases from electrification begin to significantly outpace energy reductions starting in 2032 and beyond, and attention on ensuring that new loads are matched on an hourly basis with new supply remains a top priority.

Figure 2: Load Modifiers in SCPA’s 2023 Final RPS Procurement Plan Load Forecast



IV.D. Lessons Learned

SCPA has served customers and participated in the RPS process since 2014. SCPA consistently sets RPS targets above California’s annual obligations. Table 2 shows the actual SCPA RPS percentages compared to California’s RPS annual obligations and SCPA annual targets. SCPA plans to meet or exceed its adopted targets through all compliance periods.

Table 2: RPS percentage of retail sales - targeted and actual

	2015	2016	2017	2018	2019	2020	2021	2022
RPS obligation	23.3%	25.0%	27.0%	29.0%	31.0%	33.0%	35.8%	38.5%
SCPA target	36.0%	40.0%	44.0%	46.0%	48.0%	50.0%	50.0%	50.0%
Actual RPS	36.5%	41.8%	45.2%	49.0%	50.7%	49.6%	51.4%	52.5%
Excess of RPS obligation	13.2%	16.8%	18.2%	20.0%	19.8%	16.7%	15.7%	14.0%
Excess of SCPA target	0.5%	1.8%	1.2%	3.0%	2.8%	-0.3%	1.4%	2.5%

Although SCPA has established a strong historical track record of RPS compliance, it recognizes that renewable resource development is inherently risky. SCPA has experienced contract failures, including one for a large wind farm, one for a local floating solar array, and one from a local solar with co-located storage project. SCPA has gained additional insight and care for mitigating permitting and political risks from these past experiences. In recent solicitations, SCPA collected detailed information on project characteristics, including permitting requirements and transmission status. SCPA is finding that obtaining deliverability from the CAISO’s interconnection process is a key impediment to project success and has improved its understanding of the process and regional transmission constraints that can cause significant cost and delay. Developers are also vetted for experience and financing capability. Additionally, SCPA has participated in several recent joint solicitations with other CCAs and adopted best practices for capturing information in solicitation and structuring evaluations to reduce project risk.

V. Project Development Status Update

SCPA’s current and planned procurement is sufficient to meet both the applicable RPS procurement requirements as well as support California’s GHG reduction targets. Further, SCPA’s current and planned procurement supports system reliability by considering both portfolio diversity and alignment with SCPA customers’ hourly load curve.

Following SCPA's Final 2022 RPS Procurement Plan, the contract for the 11.6 MW Tubbs Island solar and co-located 4-hour storage was terminated and is not included in SCPA's Final 2023 RPS Procurement Plan. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

SCPA currently has six projects in development under executed contracts. Development status information for these projects is included below and in Appendix C – Project Development Status Template as of the date of the Final 2023 RPS Procurement Plan filing (July 17, 2023).

Proxima

Development Phase: Construction

Capacity Procured: 70 MW solar + 32 MW 4-hour storage

Length of Contract: 20 years

Location: Crows Landing, California

Commercial Online Date: April 1, 2024

Technology Type: Solar PV with co-located 4-hour lithium-ion storage

Contract start and end dates: April 1, 2024, through March 31, 2044

Expected Annual Generation: 191.9 GWh

Total Contract Volume: 3,653.9 GWh

Transmission Status: Developer has executed an interconnection agreement. No new transmission lines are required, but the project is dependent on a circuit breaker replacement and construction of a new switching station that are currently expected to be finished to accommodate the project's COD.

Narrative:

The Proxima project has been included in past filings as a 50 MW solar + 5 MW storage project but was expanded to 70 MW solar + 32 MW storage through a contract amendment in January 2022. The project is located near Crows Landing in Stanislaus County and received its conditional use permit approval in March 2021. [REDACTED]

[REDACTED] The developer mobilized for construction on August 1, 2022, and is not forecasting any issues in accommodating the revised commissioning date. No major transmission upgrades are required, but the project will be dependent on PG&E completing construction of a new 230kV switchyard.

Fish Lake

Development Phase: Pre-Construction

Capacity Procured: 1.52 MW geothermal

Length of Contract: 20 years

Location: Dyer, Nevada

Commercial Online Date: June 1, 2024

Technology Type: Geothermal

Contract start and end dates: June 1, 2024, through May 31, 2044

Expected Annual Generation: 12.8 GWh

Total Contract Volume: 256.7 GWh

Transmission Status: The interconnection agreement with NV Energy was executed on October 20, 2022, and transmission service agreements are in place to deliver energy to CAISO. SCPA has secured long-term import capacity.

Narrative:

Fish Lake is a new 13 MW geothermal project being developed in Northern Nevada that SCPA jointly procured with other CCAs through California Community Power. SCPA's share of Fish Lake is 1.52 MW. Fish Lake is expected to be developed using Organic Rankine Cycle technology. The project will deliver energy to CAISO through NV Energy and contracted third-party transmission to Mona. More efficient delivery through Gonder, Silver Peak, or Summit in Northern Nevada was not possible due to limited import capability (an expansion of which has been requested).

The developer submitted its hydrological and cultural reports to the Bureau of Land Management ("BLM") in September 2022. The BLM is requiring the developer to develop a hydrologic model to address sensitivity to endangered species before issuing required permits. Drilling started in August 2022 and an interconnection agreement was executed in October 2022. Additionally, SCPA was able to obtain Maximum Import Capability from CAISO in 2023 to enable a long-term reservation for the contract. There are no issues currently expected to impact the planned June 2024 online date.

Ormat Portfolio

Development Phase: Pre-Construction

Capacity Procured: 14 MW geothermal

Length of Contract: 20 years

Location: Varies (Nevada and California)

Commercial Online Date: starting June 1, 2025

Technology Type: Geothermal

Contract start and end dates: June 1, 2025, through May 31, 2045

Expected Annual Generation: 120.4 GWh

Total Contract Volume: 240.7 GWh

Transmission Status: Status varies by project; some have executed agreements and others are in queue. A candidate CAISO resource in the portfolio may be dependent on local and area network upgrades. Projects outside CAISO will need import capacity.

Narrative:

The Ormat Portfolio is a 125 MW contract for new geothermal projects in Nevada and California that SCPA jointly procured with other CCAs through California Community Power. The agreement is structured as a portfolio with flexibility in the location and attributes of specific projects to accommodate the uncertainty and risk in geothermal project development. SCPA's share of the portfolio is 14 MW. Potential projects in the portfolio could be commissioned as soon as June 2025 and may be located in Northern Nevada, California's Imperial Valley, or Sonoma County. The developer is progressing geologic exploration, transmission, and permitting activities for all projects—with some more mature than others. SCPA will need to secure import capability from CAISO for any projects in Nevada or the Imperial Valley.

The developer has site control secured for all the candidate resources in the portfolio. Two of the most mature projects have also executed interconnection agreements. The projects are in Nevada and Imperial Valley and will require SCPA to secure long-term import capability. Drilling planned in 2023 will confirm project viability. The revised portfolio also includes a

project in CAISO that received a Cluster 14 Phase I study indicating a dependency on several large-scale and lengthy system upgrades. The developer is currently evaluating mitigation options to try and enable commissioning of the project to occur in 2027. SCPA expects it will be able to share much more concrete information on the composition and timing of the Ormat Portfolio in its 2023 Final RPS Procurement Plan.

Twin Pine Circle

Development Phase: Pre-Construction

Capacity Procured: 4.99 MW solar

Length of Contract: 20 years

Location: Laytonville, California

Commercial Online Date: December 31, 2025

Technology Type: Solar PV

Contract start and end dates: December 31, 2025, through December 30, 2045

Expected Annual Generation: 13.3 GWh

Total Contract Volume: 254.3 GWh

Transmission Status: Developer submitted an interconnection application in PG&E's wholesale distribution access tariff (WDAT) using the Independent Study Process and received its System Impact Study (Phase 1) in September 2022 for a solar system paired with storage, but the developer is asking PG&E to restudy the project as solar-only.

Narrative:

The Twin Pine Circle project was procured by SCPA through its Local Resource Plan solicitation. The project is 4.99 MW solar facility and will be located near Laytonville. The project was originally proposed as a solar + storage, but SCPA ultimately negotiated a contract

for solar-only after completing an economic evaluation. The developer is requesting PG&E to restudy the project as solar-only. The developer has secured site control and is undergoing seasonal biological surveys as an input to county permitting.

Redemeyer

Development Phase: Pre-Construction

Capacity Procured: 4 MW solar + 4 MW 4-hr storage

Length of Contract: 20 years

Location: Ukiah, California

Commercial Online Date: December 31, 2025

Technology Type: Solar PV with lithium-ion storage

Contract start and end dates: December 31, 2025, through December 30, 2045

Expected Annual Generation: 10.5 GWh

Total Contract Volume: 199.5 GWh

Transmission Status: Developer submitted an interconnection application in PG&E's wholesale distribution access tariff (WDAT) using the Independent Study Process and received its System Impact Study (Phase 1) in October 2022. The developer executed an interconnection agreement with PG&E in February 2023.

Narrative:

The Redemeyer project was procured by SCPA through its Local Resource Plan solicitation. The project is a 4 MW solar facility with a 4 MW 4-hour energy storage system and located north of Ukiah. The developer has secured site control. Although the developer will be seeking full deliverability for the project through CAISO, the contract is written to allow the

project to proceed as energy-only. A Major Use Permit Application was submitted to Mendocino County in Summer 2023.

Azalea

Development Phase: Construction

Capacity Procured: 60 MW solar + 38 MW 4-hr storage

Length of Contract: 10 years

Location: Lost Hills, California

Commercial Online Date: May 15, 2025

Technology Type: Solar PV with lithium-ion storage

Contract start and end dates: May 15, 2025, through May 14, 2035

Expected Annual Generation: 182.7 GWh

Total Contract Volume: 1,783.5 GWh

Transmission Status: Developer has executed an interconnection agreement with CAISO and PG&E and attained full capacity deliverability status.

Narrative:

Azalea is a 60 MW solar facility co-located with a 38 MW 4-hour battery storage system near Lost Hills. The project has completed site control, environmental and cultural surveys, and solicited bids for construction and equipment contracts. The project has also circulated its Draft Environmental Impact Report and received its Conditional Use Permit from Kern County. Before starting construction, the developer will also need to secure an incidental take permit, builder's permit, and finalize construction and procurement contracts. [REDACTED]

[REDACTED]

[REDACTED]

VI. Potential Compliance Delays

SCPA does not anticipate any potential delays in the current compliance period.

Although a delay or cancellation of the development resources described in Section V could impede SCPA from reaching its internal 50% renewable goal, these projects are not necessary to achieve the weighted RPS objective for Compliance Period 4.

As SCPA's margin of voluntary over-procurement decreases going into the next compliance period, SCPA does expect to be exposed to compliance risks. These risks are discussed in more detail in Section VII and quantified where appropriate in Section VIII.

VII. Risk Assessment

SCPA routinely reviews development and operational risks to achieving compliance obligations. A discussion of key risks relevant to achieving RPS compliance, including the long-term procurement requirement, is included below and organized by assessed severity:

High-Severity Compliance Risks

- **Geothermal exploration risk:** A risk to SCPA's RPS compliance is geothermal exploration risk. The Ormat contract included in this filing is a portfolio of projects, many of which require additional drilling and resource characterization to confirm viability. Although the structure of the agreement allows project substitution to help mitigate risk, the developer has only guaranteed delivery of 51.2% of the project capacity. This risk is expected to decrease each year as projects continue to mature. Significant exploration activity is occurring in 2023 that should provide more certainty in 2024.
- **Electrification adoption timing:** Although SCPA's current load is steady, rapid growth is expected after transportation and building electrification efforts build momentum.

Current forecasts for load growth increase dramatically through the 2030s for California and SCPA. This growth trend is barely captured in the 2033 planning horizon. If California and federal policy leads to an acceleration in electrification efforts, SCPA's RPS obligation and long-term requirement could increase measurably leading to difficulties to build capacity at a sufficient pace. SCPA will continue to monitor electrification adoption trends and update its load forecast each year to inform its RPS procurement needs.

- **Transmission deliverability:** SCPA prefers to contract with resources that have obtained deliverability and historically did so. However, the size and extended timeframe of the current California Independent System Operator ("CAISO") interconnection queue and the high demand for renewable and storage resources to satisfy procurement mandates is limiting the availability of low-risk projects. It appears likely that most projects with firm transmission rights and good developability already have signed contracts, and that substantially most additional capacity is on a longer timeframe because of the long delays in the CAISO transmission queue. Transmission concerns exist for the Twin Pine Circle and several candidate resources in the Ormat Portfolio contract, which do not yet have executed interconnection agreements. SCPA is also contracting with resources outside of CAISO, but securing Maximum Import Capability rights adds an additional uncertainty to securing the capacity benefits of new resources. SCPA has proactively requested CAISO study MIC expansion at import points that can accommodate Ormat's portfolio and has demonstrated experience in securing long-term new use import commitments. SCPA expects to have resolution on the Twin Pine Circle interconnection risk and the status of MIC for a large portion of the Ormat Portfolio by 2024.

Mid-Severity Compliance Risks

- **Permitting:** SCPA is familiar with the risk of project delays due to permitting issues from its experience with the failure of an 80 MW wind project. Although the political issues which caused concern for that project were specific to Altamont wind resources, permitting renewable development continues to be a challenge. The local Twin Pine Circle and Redemeyer projects, as well as Nevada geothermal projects have significant permitting hurdles to overcome prior to construction, including requirements to satisfy the California Environmental Quality Act and National Environmental Policy Act. However, SCPA did not identify any specific project characteristics that significantly risk failure or delay. Additionally, the Ormat geothermal contract is structured as a portfolio of potential projects that allows the developer to substitute facilities if permitting constraints are encountered. SCPA expects uncertainty on the permitting status of at-risk projects to be significantly narrowed by 2024.
- **Load variability:** SCPA's load is fairly stable. No territory expansion is planned at this time, and population and economic growth within the territory is fairly nominal. In early 2022, reduced commercial energy usage during COVID provided unexpected headroom in the PG&E direct access cap which led to an un-forecasted 2.5% decrease in load that is unlikely to occur again in the future. Many of SCPA's largest customers are municipal accounts that are unlikely to shut down or leave service. SCPA's load is sensitive to load changes of commercial customers. However, SCPA's largest commercial customer only comprises 1.5% of SCPA's load.

SCPA employs a load forecasting model that stochastically varies weather forecasts using historic data adjusted for climate change and deterministic projections of

meter counts, distributed resource installs, and electric vehicle adoption. Whereas the impact of weather uncertainty remains constant through time, diverging low and high projections for meter count, distributed resources, and electric vehicles cause uncertainty to increase significantly over time. Table 3 shows the sensitivity of the load model to these uncertainties, and range of outcomes in the overall model, for both a year-ahead forecast and a forecast for 2030.

Table 3: Sensitivity of Load Model Forecast to Uncertainties in Year-Ahead and 2030

Uncertainty	Year-Ahead		2030	
	Lowside	Upside	Lowside	Upside
Weather	-1.4%	+1.5%	-1.0%	+1.8%
Meter Count	-1.2%	+1.3%	-6.6%	+8.2%
Distributed Resource Installation	-0.5%	+0.7%	+3.9%	-2.1%
Electric Vehicle Adoption	-0.4%	+0.5%	-2.6%	+3.0%
Overall Model	-3.7%	+3.7%	-13.4%	+14.7%

The uncertainty and compliance risk reflected in this table is distinct from the high risk of accelerated electrification timing described above, which has the potential to lead to changes in load that are not characterized in load modeling. Although the uncertainty range in 2030 implies load variability may be a high risk to RPS compliance, these results represent bookend outcomes and uncertainty will naturally reduce as time progresses and the projection period compresses. Please note that the uncertainties in Table 3 cannot be added to determine an overall uncertainty.

Low-Severity Compliance Risks

- **Supply chain:** [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- **Financing:** SCPA has not yet encountered issues with financing renewable development. SCPA would expect the financeability of projects to improve with the investment-grade issuer credit rating it received in December 2021. However, the Federal Reserve Bank increased interest rates to address inflation and may continue to raise rates further. Higher borrowing costs could reduce the availability of resources and diversity of developers, while making it more difficult to secure resources to meet SCPA's long-term procurement requirement. [REDACTED]

[REDACTED]

- **Online generation:** SCPA has a resource portfolio with diverse technologies, geography, and developers that minimizes the variability and risk of online generation. SCPA's portfolio diversity strength is best illustrated through results from stochastic modeling that is trained on historical forecasts and weather variability. Table 4 shows the 90% confidence interval of variability from the mean in 2023 for a single intermittent resource, all intermittent resources in SCPA's portfolio, and SCPA's entire RPS portfolio. Although a single wind farm shows measurable variability (-9.5% to +11.8%), a portfolio of that resource with intermittent resources with different technologies and geographies provides a substantial reduction in range (-4.3% to +3.8%), and SCPA's strong concentration of firm renewable resources like geothermal lead to a total portfolio

variance of less than +/- 2%.

Table 4: Variability in Stochastic Generation Model for 2023 vs. Mean

Generation Source	5 th Percentile	95 th Percentile
Golden Hills Wind	-9.5%	+11.8%
All SCPA Intermittent Resources	-4.3%	+3.8%
SCPA RPS Portfolio	-1.8%	+1.6%

In May 2023, SCPA experienced its first instance of physical failure of a portion of an online resource. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- **Curtailment:** SCPA's experience with curtailment is discussed further in Section XIII.

SCPA currently self-schedules all RPS generation and does not currently see curtailment as a significant risk to RPS compliance. Installation of battery storage adjacent to SCPA's existing solar facility and the inclusion of storage in future planned solar facilities should also minimize the risk of curtailment.

Risk Modeling & Risk Factors

SCPA has completed a risk assessment of its RPS portfolio by modeling risks described above that are high or medium in severity, [REDACTED]

[REDACTED] Table 5 below includes details on the framework SCPA has employed to independently model each risk and the resulting impact to three key compliance considerations for SCPA: the overall net RPS position for 2025 (unrisked scenario currently has 3.1% of sales excess), the overall net RPS position for 2026 (unrisked scenario currently has 5.8% of sales excess), and the long-term position in 2027 (unrisked scenario has 3.3% of sales excess). Risks

are evaluated relative to the Commission’s compliance requirements rather than to SCPA voluntary targets.

Table 5: SCPA RPS Portfolio Risk Modeling Framework and Compliance Impact

Risk	Modeling Approach	MMoP Scenario Probability	2025 Net RPS Position (% of Sales)	2026 Net RPS Position (% of Sales)	2027 Long-term Position (% of Sales)
Geothermal Exploration Risk	Assume only 51.2% of the capacity in the Ormat exploration-dependent contract is built	25%	Reduces excess to 2.7%	Reduces excess to 4.6%	Reduces excess to 0.9%
Electrification Adoption Timing	Assume a 3-year acceleration in the projected growth in EV adoption and building electrification impacts shown in Figure 2.	25%	Reduces excess to 1.0%	Reduces excess to 2.9%	Reduces excess to 1.0%
Transmission Deliverability	Assume the Twin Pine Circle and Redemeyer projects cannot be built due to interconnection requirements	50%	No Impact	Reduces excess to 4.7%	Reduces excess to 2.2%
Permitting	Assume only 70% of capacity in permit-dependent projects (Twin Pine, Redemeyer, and geothermal projects)		Reduces excess to 2.7%	Reduces excess to 4.5%	Reduces excess to 1.3%
Load Variability	Increase load by a straight-line interpolation of the +3.7% year-ahead and +14.7% bookend sensitivity		Reduces excess to 0.6%	Reduces excess to 2.3%	Reduces excess to 0.4%

The results from Table 5 provide a reliable assessment of the potential for independent risks to impact RPS compliance. However, adding these risks together results in an unrealistically pessimistic scenario, especially because several of the risks overlap. Accordingly, SCPA has taken the additional step of developing a deterministic scenario using a subset of the risks in Table 5 that have a higher probability of occurrence or are more difficult to mitigate to calibrate a Minimum Margin of Over-Procurement (“MmoP”).

The risks included in this scenario are assigned a probability in the “MMoP Scenario”

column in Table 5 and results are discussed in Section IX.A. These probabilities are assigned based on SCPA's judgement, as there is insufficient analog data to statistically calibrate these occurrences. Permitting risk was not included because it overlaps with transmission and geothermal exploration risk. Load variability was not included because it overlaps with electrification adoption and can be mitigated by following SCPA's process of updating load forecasts and procurement plans each year which is also why it was assigned a mid-level severity despite its potentially large compliance impact.

Strategies to Address Risk

SCPA addresses RPS generation resource risk by maintaining a diversified portfolio. SCPA maintains diversity in counterparties, resource types, project sizes, and locations of RPS facilities. SCPA addresses risk of overall RPS compliance by its MmoP detailed in Section IX. SCPA can utilize short-term contracts for additional RPS quantities, if necessary. SCPA can solicit for new long-term RPS generation resources if an existing contract is terminated. Though SCPA may utilize short-term RPS contracts, SCPA will exceed all long-term contracting requirements and will demonstrate this in the annual RPS Compliance filing due August 2023. Over-procurement beyond SCPA's targets can be mitigated either by selling excess energy to third parties or simply by retaining the RPS generation and exceeding its targets.

System Reliability

SCPA's current and planned procurement is sufficient to meet the applicable RPS procurement requirements, California's GHG reduction targets, and support system reliability by considering both portfolio diversification and alignment with SCPA customers' hourly load

curve. Specifically, the projects that are currently under development fit within and support SCPA's plans for meeting these goals.

The capacity value of resources is a key consideration in selecting resources to fulfill SCPA's long-term RPS obligations. As previously stated, SCPA currently plans to prioritize contracting with solar that is co-located with storage with Full Capacity Deliverability Status ("FCDS") capability. SCPA is also strategically focused on growing baseload renewables that will provide high-capacity value to the grid through the new geothermal contracts reflected in this filing and SCPA's investment in the GeoZone initiative to grow local geothermal power. Meanwhile, SCPA's procurement of local resources to satisfy Board of Directors requirements in its LRP, including the 4 MW Redemeyer solar facility with co-located storage and 4.99 MW Twin Pine Circle solar facility, are expected to reduce the constraints on high-voltage transmission lines in SCPA's region that reach capacity during large-scale PSPS events.

Lessons Learned

In 2021, SCPA's Board of Directors adopted a detailed Energy Risk Management Policy which is actively monitored by SCPA's Risk Oversight Committee ("ROC"). The Energy Risk Management Policy exists to limit SCPA's exposure to unnecessary risks and provide clear guidance for SCPA's procurement-related decisions. The ROC serves in an oversight and advisory role which governs and ensures adherence to SCPA's Energy Risk Management Policy and advises SCPA's CEO on prudent risk management.

The ROC evaluates energy market transactions for consistency with SCPA's procurement strategy, its RPS, IRP, GHG, Resource Adequacy ("RA"), energy storage targets, and established risk tolerances. The ROC also validates that risk management controls and practices appropriately monitor SCPA's risk exposure. The ROC reviews risk management reports

provided by SCPA's Middle Office. These reports contain quantitative metrics by which the ROC can assess SCPA's performance.

- **Establishing an independent department to quantify risk:**

In 2020, SCPA created a new department solely dedicated to Planning and Analytics. This data-based team provides analysis and forecasts of every aspect of SCPA's load, resources, customer participation, GHG emissions, RPS generation output, and more. Since the department is independent of SCPA's Power Procurement department, it creates an independent assessment of SCPA's portfolio with respect to the likelihood of complying with future regulatory obligations.

- **Relying on strong modeling tools:**

SCPA contracted with Ascend Analytics which utilizes PowerSimm, a stochastic modeling platform, to evaluate resource selection and overall portfolio scenarios under a host of risks and future scenarios. This platform is operated by SCPA's Planning and Analytics department and provides a detailed understanding of specific sensitivities to many different kinds of risk, including risks associated with deliverability – an issue of key concern with respect to summer capacity far into the future. These range from price changes at specific p-nodes, to variations in generation to modifications, to Effective Load Carrying Capability ("ELCC") methodology and changes in demand. Specifically, the tool utilizes market intelligence to forecast hourly and sub-hourly energy prices, congestion, volatility, ancillary services, PPA prices, and provides scenarios for variables contributing to assumptions such as low/high natural gas prices, EV adoption rates, and storage adoption rates. Resource and load modeling factors consider weather variability, dispatch optimization, and SCPA defined constraints such as RPS targets, GHG emissions, costs, reliability, and system power reliance. PowerSimm can provide

reports on net position by year, gross margin at risk, and potential future exposure using stochastic modeling.

- **Financial Resilience When Risk Mitigation is Insufficient:**

SCPA has been preparing for another potential energy crisis since its inception. This is why SCPA maintains minimum reserves of 180 days cash reserves on hand and carries no debt. This conservative fiscal management is perhaps one of SCPA's most important risk management tools for achieving California's long-term RPS objectives because it facilitates contracting for new resources and allows SCPA to sustain its progress through adverse economic conditions.

VIII. Renewable Net Short Calculation

SCPA is including Appendix B – Renewable Net Short Template, which is a quantitative assessment to support the qualitative descriptions provided in this Final 2023 RPS Procurement Plan. The quantitative information in Appendix B presents resources that are procured under existing contracts only. Note that the actual quantities for 2017-2022 are shown for the year in which the REC was retired for RPS. The entry for the Voluntary Margin of Over-Procurement ("VmoP") is inclusive of *both* a MmoP and VmoP, and referred in Section IX as Total Margin of Over-Procurement ("TmoP").

IX. Minimum Margin of Procurement (MmoP)

In 2018, the SCPA Board of Directors committed to delivering 50% RPS by 2020, six years ahead of the compliance schedule. SCPA actually achieved this target in 2019, seven years ahead of the compliance schedule. SCPA will continue to target delivering at least 50% RPS through 2026. SCPA will then follow the trajectory of compliance requirements to 60% by 2030. Additionally, SCPA's planned procurement incorporates the MmoP discussed in Section IX.A to mitigate the compliance risks discussed in Section

VII.

SCPA's 2022 IRP portfolio contains measurably more renewables than required by California or Board of Directors-imposed requirements, reaching up to 89% of sales by 2030. This result is due to the comparative cost, reliability, and hourly carbon emissions impact in comparing different renewable and clean energy resources. Although the 2022 IRP indicates SCPA's optimum portfolio may include higher levels of RPS, SCPA is defining its TmoP to only include the following:

1. Historical or forecasted RPS generation under contract in excess of compliance requirements;
2. Planned RPS procurement to reach SCPA's Board of Directors-imposed 50% RPS target through 2026; and
3. If needed, additional planned RPS procurement to reach the MmoP calculated in Section XI.A above the RPS compliance obligation.

The above definition of TmoP avoids SCPA overcommitting to RPS generation that is not contracted or motivated by a compliance or self-imposed requirement. As SCPA contracts additional supply to satisfy its IRP, or if the SCPA Board of Directors adopts a revised RPS-specific target, TmoP will be revised in future RPS procurement plans. Section XV discusses the potential RPS development beyond the representation in the TmoP in SCPA's IRP. Section IX.B provides a breakdown of the TmoP between MmoP and VmoP.

IX.A. MmoP Methodology and Inputs

SCPA has Total RPS Eligible Procurement (*i.e.*, procurement under contract) in excess of the Gross RPS Procurement Quantity Requirement through 2026 as shown in Appendix B.

Additionally, SCPA expects to satisfy its long-term procurement obligation through 2028, as demonstrated in Table 1. SCPA is also actively working on contracts that will add to the Total RPS Eligible Procurement, further exceeding the requirements of RPS.

SCPA routinely tracks the variability in forecasted versus actual load and generation, and can utilize short-term contracts for additional RPS quantities, if necessary. Though SCPA may utilize some short-term RPS contracts, SCPA will exceed all long-term contracting requirements which will be reported in SCPA’s annual RPS Compliance Report filing.

To develop a discrete MmoP, SCPA used the deterministic scenario discussed in Section VII and captured in the “MmoP Scenario Probability” column in Table 5. This scenario is represented quantitatively as Appendix E. In the quantitative analysis, load is increased for a 25% chance of a 3-year electrification acceleration. RECs from facilities in development are decreased to reflect a 50% chance of failure for the local Redemeyer and Twin Pine Circle solar facilities due to transmission risks and a 25% risk that the exploration-risked geothermal projects are not built. The exploration risk for geothermal development has been reduced relative to 2022 due to matured project characteristics. The MmoP scenario also [REDACTED]

[REDACTED] The decrease in the net RPS position relative to the compliance is used to calculate a MmoP. Table 6 shows the results of this analysis, along with a conversion of the MmoP into the percentage of retail sales forecasted in Appendix B.

Table 6: SCPA MmoP Calculation

Measure	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
MmoP Scenario Compliance Net RPS Position (MWh)	48,202	43,197	-34,665	24,645	-447,679	-517,733	-597,540	-686,920	-712,556	-751,732	-785,903
Appendix B Compliance Net RPS	69,002	68,863	-3,479	75,336	-386,983	-452,262	-528,257	-612,821	-633,274	-665,232	-695,869

Position (MWh)											
MmoP (MWh)	20,800	25,667	31,186	50,691	60,696	65,470	69,283	74,099	79,282	86,500	90,034
MmoP (% of Sales)	0.9%	1.2%	1.4%	2.3%	2.8%	3.0%	3.1%	3.3%	3.5%	3.8%	3.8%

The resulting MmoP from the deterministic scenario aligns with SCPA's view of overall market conditions. RPS scheduled to come online before 2025 is from projects with greater maturity, and less risk of failure due to transmission and permitting requirements. Long-term, there is a residual risk with delivering new RPS contracts that requires around 3% of over-procurement.

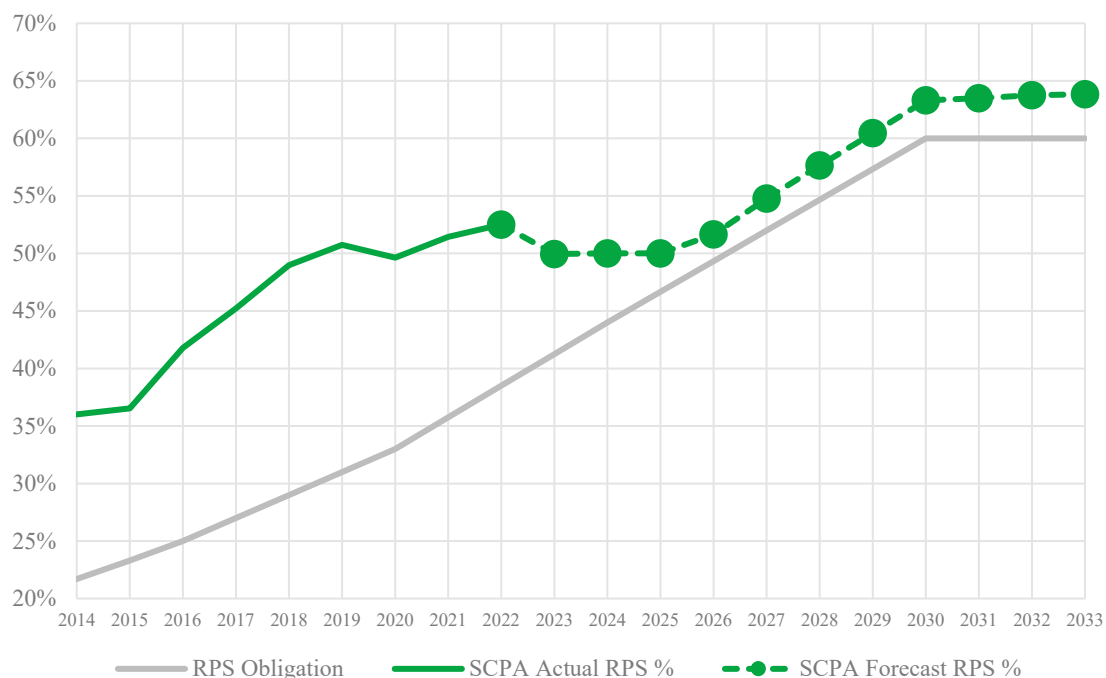
The results from Table 6 are used to allocate the TmoP into MmoP and VmoP. As discussed in Section IX, SCPA's TmoP is comprised of three components: excess contracted RPS, RPS for internal benchmarks, and, if needed, additional RPS to cover MmoP requirements. Table 7 shows the allocation between MmoP and VmoP, where excess is first used to satisfy MmoP, and remaining excess is represented as VmoP.

Table 7: SCPA Margin of Over-Procurement Allocation

Measure	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
TmoP (MWh)	190,701	131,984	72,854	50,691	60,696	65,470	69,283	74,099	79,282	86,500	90,034
MmoP (MWh)	20,800	25,667	31,186	50,691	60,696	65,470	69,283	74,099	79,282	86,500	90,034
VmoP (MWh)	169,901	106,317	41,668	0	0	0	0	0	0	0	0
VmoP (% of Sales)	7.8%	4.8%	1.9%	0%	0%	0%	0%	0%	0%	0%	0%

SCPA has consistently exceeded California RPS minimum target since it began serving customers in 2014. The historical RPS performance from 2014 to date and the future planned RPS performance incorporating the TmoP are compared to California's RPS requirements from 2014 through 2032 as shown in Figure 3 below.

Figure 3: SCPA RPS % Compared to Obligation



IX.B. MmoP Scenarios

SCPA utilizes the TmoP to calculate its renewable net short (Annual Net RPS Position after Bank Optimization) as shown in Appendix B. A risk assessment of SCPA’s renewable net short position is provided in Section VII. The RECs reported in the Quantitative Response in Appendix B are not adjusted for risk. Rather, SCPA takes the approach of mitigating risk through the use of MmoP.

The deterministic scenario described in section IX.A to calibrate MmoP is included as a separate quantitative assessment as Appendix E. As discussed in section IX.A, the retail sales in this assessment are increased to reflect a 25% chance of a 3-year acceleration in electrification. Additionally, the risk-adjusted RECs from facilities in development are decreased to reflect a 50% probability of failure for the local Twin Pine Circle and Redemeyer projects, and a 25% risk that the geothermal exploration-dependent projects are not built. Risk-adjusted RECs from online facilities are adjusted to reflect a scenario where the Mustang facility continues to be at 51% capacity through 2023 and a 50% probability that it is not repaired in future years. The forecast

failure rates in Appendix E represents the ratio of the resulting RPS volumes to the un-risked volumes represented in Appendix B. The same TmoP as Appendix B is entered as VmoP, to illustrate the impact of over-procurement on mitigating compliance risk in this scenario. The results indicate that Compliance Period 4 (2021-2024) is well above its obligation. As with the un-risked scenario shown in Appendix B, future compliance periods are out of compliance—but by an additional margin of around 2-3%. The MmoP scenario also brings 2028 out of compliance for SCPA’s long-term obligation, indicating that SCPA should specifically focus on additional long-term procurement for the last compliance period.

X. Bid Solicitation Protocol

X.A. Solicitation Protocols for Renewables Sales

SCPA does not have immediate plans to issue a solicitation for sales of renewable energy products.

X.B. Bid Selection Protocols

Consistent with Pub. Util. Code § 399.13(a)(6)(C), SCPA conducts, responds to solicitations, and utilizes bilateral contracting for procuring energy resources that includes specific needs for eligible renewable energy resources, generating capacity, locational preferences, generation profile, and required online dates to assist in determining what resources fit best within a portfolio. Since CCA program Governing Boards are comprised of local elected officials, these solicitation and procurement decisions are overseen by elected representatives of the ratepayers. These solicitation and procurement decisions must comply with California’s RPS requirements as well as locally established policies.

SCPA has not issued any new formal RPS-related solicitations since its Final 2022 RPS Procurement Plan, but rather relied on bilateral negotiations or brokers for filling its RPS needs. Therefore, there are no solicitation materials provided with this filing.

In addition to the Market Offer solicitations described in IV.A.1 SCPA has responded to two solicitations for RPS since filing the Final 2022 RPS Procurement Plan (all shown in Table 8).

Table 8: SCPA Solicitation Responses

Counterparty	Solicitation Submission Date	Transaction Date
City of Palo Alto	September 2022	None
City of Palo Alto	January 2023	None
PG&E (PCIA RPS Short-Term Market Offer)	January 2023	None
SCE (Short-term Market Offer)	January 2023	None
SDG&E (RPS Market Offer for Short-term)	January 2023	None
PG&E (PCIA RPS Long-Term Market Offer)	March 22023	None

X.C. LCBF Criteria

The Least-Cost Best Fit (“LCBF”) methodologies approved by the Commission pursuant to D.04-07-029, D.11-04-030, D.12-11-016, D.14-11-042, and D.16-12-044 are expressly only directly applicable to investor-owned utilities and the Commission does not have jurisdiction over the solicitation protocols of CCAs. However, SCPA places a high degree of importance on resource costs because SCPA is a customer-owned public agency governed by locally elected officials and does not have guaranteed cost recovery. Additionally, consistent with Pub. Util. Code § 399.13(a)(9),³ SCPA also considers best-fit attributes that support a balanced mix of resources to help support reliability of the electrical grid.

SCPA’s current practice evaluates candidate resources using the Ascend PowerSimm platform described in Section IV.A.2, which is used to assess the net value of a contract considering the impacts of tenor, locational margin price (“LMP”), forward energy prices,

³ Cal. Pub. Util. Code § 399.13(a)(9) (“In soliciting and procuring eligible renewable energy resources, each retail seller shall consider the best-fit attributes of resource types that ensure a balanced resource mix to maintain the reliability of the electrical grid.”).

economic curtailment, capacity contribution (including declining net qualifying capacity where necessary), and the value of environmental attributes (RECs or carbon-free). The ratio of net project value to cost is used to compare potential contracts and procuring energy and attributes separately through the market or short-term contracts.

The types and relative contribution of technologies SCPA considers procuring are driven by the 2022 IRP, which evaluates the right resource mix to cost-effectively maximize the carbon reduction and reliability contribution of SCPA's portfolio. The IRP also validates the reliability of SCPA's portfolio by comparing its reliance on short-term resource adequacy (assumed to be from gas units) relative to its peak share of statewide retained gas capacity. Despite its ambitious climate targets in the 2022 IRP, SCPA consistently uses less than its peak share of capacity thanks to its concentration of geothermal, wind, and storage capacity.

Assessing project feasibility is another important component of SCPA's contract evaluation project. In comparing candidate projects, SCPA reviews the status of project interconnection, developer experience, permitting risks, and completes a counterparty risk assessment.

The requirement of Pub. Util. Code § 399.13(a)(8) to give preference to renewable projects located in certain communities is only expressly applicable to "electrical corporations" and is not mandatory for CCAs.⁴ However, SCPA fully recognizes the need to help mitigate the impacts of air pollution in regions of California where communities have been disproportionately impacted by the existing generating fleet. This need has motivated two initiatives in particular: SCPA's GeoZone project discussed in Section IV.B to develop

⁴ Cal. Pub. Util. Code § 399.13(a)(8)(1) ("In soliciting and procuring eligible renewable energy resources for California-based projects, each electrical corporation shall give preference to renewable energy projects that provide environmental and economic benefits to communities afflicted with poverty or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases.").

local renewable resources that replace the capabilities of natural gas and SCPA's GridSavvy demand response program. SCPA's GridSavvy program dispatches EV chargers, smart thermostats, and behavioral demand response to alleviate critical grid conditions currently served by less efficient and more heavily polluting peaker plants.

XI. Safety Considerations

SCPA holds safety as a top priority. Since SCPA does not own, operate, or control generation facilities, SCPA's procurement of renewable resources does not present any direct safety risks. This Section describes how SCPA has taken actions to reduce the safety risks posed by its renewable resource portfolio and how SCPA supports California's environmental, safety, and energy policy goals.

(i) Decommissioning Facilities

SCPA contracts for its PPAs in a manner that all end-of-life disposal obligations are the responsibility of its counterparties. Therefore, SCPA does not make specific plans for deconstruction or environmental remediation, which are generally criteria that lead agencies establish for developers at the time of CEQA determination and criteria that are established by California and local authorities to obtain necessary permits. SCPA requires developers to adhere to all environmental requirements of their permits to construct and operate facilities under PPAs with SCPA.

(ii) Climate Change Adaptation

SCPA considers numerous risks when determining generating resources to procure. In addition to the ordinary energy market risks such as transmission congestion, curtailment, and matching SCPA's hourly load profile, SCPA also considers risks relating to geographic overconcentration to help mitigate threats related to earthquakes, storms, and wildfires. SCPA is forecasting an increase in storm and wildfire intensity as a result of the climate crisis.

Unfortunately, flood risk has become more difficult to evaluate with the climate crisis since FEMA flood risk maps are no longer tracking to historic data and are no longer a reasonable predictor of flood risk. Avoiding sites in floodplains and low-lying coastal areas is relatively straightforward, but evaluating risk of flood damage from unusually heavy rain events is much more challenging. As a result, SCPA has placed the burden of ensuring sufficient generation output onto its suppliers and organized its portfolio to be geographically and technologically diverse.

(iii) Impacts During PSPS Events

PSPS events can have a moderate, but important, impact on SCPA's portfolio of renewable resources. The following resources can be shutoff or curtailed during local PG&E PSPS events:

- A portion of SCPA's 50 MW of geothermal from Geysers. Note that it is unlikely that all Geysers transmission would be shut down in a PSPS, so it is unlikely that SCPA would lose more than a fraction of its contracted supply.
- Any of the 6 MW of feed-in tariff solar power facilities located within SCPA's service territory.
- Any of the new local renewable generation resources and storage constructed as part of SCPA's local resource solicitation.
- An unknown amount of other renewable resources located outside SCPA's territory with PSPS-caused transmission Force Majeure. This is assumed to be both small and very rare, and is therefore ignored for this purpose.

SCPA has analyzed each of the past PSPS events to determine the renewable energy impacts and has determined that the volume of customers shutdown by PG&E more than offsets

the loss in renewable energy output of SCPA's local facilities. In 2019, SCPA's Lavio 1 MW solar feed-in-tariff project experienced three separate PSPS shutdowns for a total of 8.5 days of solar production. The loss of renewable supply was far less than the loss of customer load during these events. The Geysers facility was partially shutdown due to a Force Majeure event separate from PSPS. As a result, SCPA has determined that the impact of PSPS events is unlikely to have a negative impact on SCPA's percentage of renewable energy delivered to customers.

XII. Consideration of Price Adjustment Mechanisms

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

XIII. Curtailment Frequency, Forecasting, Costs

This Section responds to the questions presented in Section 6.13 of the ACR⁵ and describe SCPA's strategies and experience so far in managing SCPA's exposure to negative

⁵ ACR at 34.

pricing events, overgeneration, and economic curtailment for SCPA's region and portfolio of renewable resources.

(i) Factors Having the Most Impact on the Projected Increases in Incidences of Overgeneration and Negative Market Price Hours

SCPA continues to track the many changes occurring in the California energy market, including considerations related to energy curtailment with increased solar buildout, forecasts of storage value by duration and location over time, and the potential for different kinds of customer-owned resources to contribute to solutions. The following represents SCPA's understanding of this topic, which may impact future procurement processes.

Due in large part to the rapid increase in the amount of wind and solar generating facilities that have been built throughout the western United States, the CAISO balancing authority area has experienced an increasing frequency and magnitude of curtailment and negative pricing events. As of 2022, California has over 15,000 MW of solar and 6,100 MW of wind capacity.⁶

This increased capacity results in discrete periods where the majority of load in the CAISO is served by solar and wind resources. The monthly maximum load served by wind and solar in the CAISO has averaged 79.8% over the past 3 years (June 2020 to May 2023), and in April 2022, May 2022, and April 2023 the monthly maximum load exceeded 100.⁷ When combined with the current need to operate natural gas peaking power plants at their minimum setting to ensure quick ramping capability, mandatory seasonal hydropower flows, and Title 24 building codes requiring solar on most new residential rooftops, oversupply in solar hours is now

⁶ California Energy Commission, Renewable Electric Generation Capacity and Energy, July 2023, available at <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy>.

⁷ CAISO, Monthly Renewables Performance Report, May 2023, available at <http://www.caiso.com/Documents/MonthlyRenewablesPerformanceReport-May2023.html>.

a more common issue, as was widely expected.

To address the resulting instances of over-supply, the amount of curtailment of solar and wind in the CAISO has significantly increased. In 2015, curtailments totaled 187 GWh. In 2022, curtailments reached 2,449 GWh. Curtailments have already reached 1,946 GWh in the first five months of 2023.⁸

Curtailment is typically highest during the months of March, April, and May when hydroelectric generation is historically at its highest, solar output is typically high and air conditioning loads are still low. California has experience with both above average snowpack and extreme drought in the past few years, so the extreme variability in total and seasonal California hydropower output is considered a large factor in SCPA's portfolio management. With the buildout of battery storage, SCPA anticipates solar curtailments to stabilize and potentially decrease as batteries are able to charge during the hours of the day with the lowest prices, typically during curtailment hours. In general, SCPA plans for greater variability in hydropower output that will trend lower average output over time, but with occasional higher output from wetter and colder years.

(ii) Written Description of Quantitative Analysis of Forecast of the Number of Hours Per Year of Negative Market Pricing for the Next 10 Years

SCPA currently schedules its Variable Energy Resources ("VERs") into the CAISO market and is partially exposed to negative pricing at each resource's pricing node. Negative pricing occurs in the Day Ahead market ("DA"), Fifteen Minute Market ("FMM"), and Real Time ("RT") market typically as a result of local or systemwide negative congestion. Although SCPA can be exposed to negative pricing from imbalance between markets, the principal risk is in the market a resource is scheduled.

⁸ CAISO, Managing Oversupply, Wind and Solar Curtailment Totals, obtained July 5, 2023, *available at* <http://www.caiso.com/informed/Pages/ManagingOversupply.aspx>.

The average number of net negative pricing hours experienced per resource by all SCPA VERs from January 2018 through June 2023 are shown in Table 9, broken down by the market schedule. The number of hours shown in Table 9 are the average across all SCPA solar and wind VERs resources. After a decrease in 2021 after the installation of battery storage adjacent SCPA’s Mustang solar facility, SCPA is seeing a steady increase in negative pricing hours in the day-ahead market.

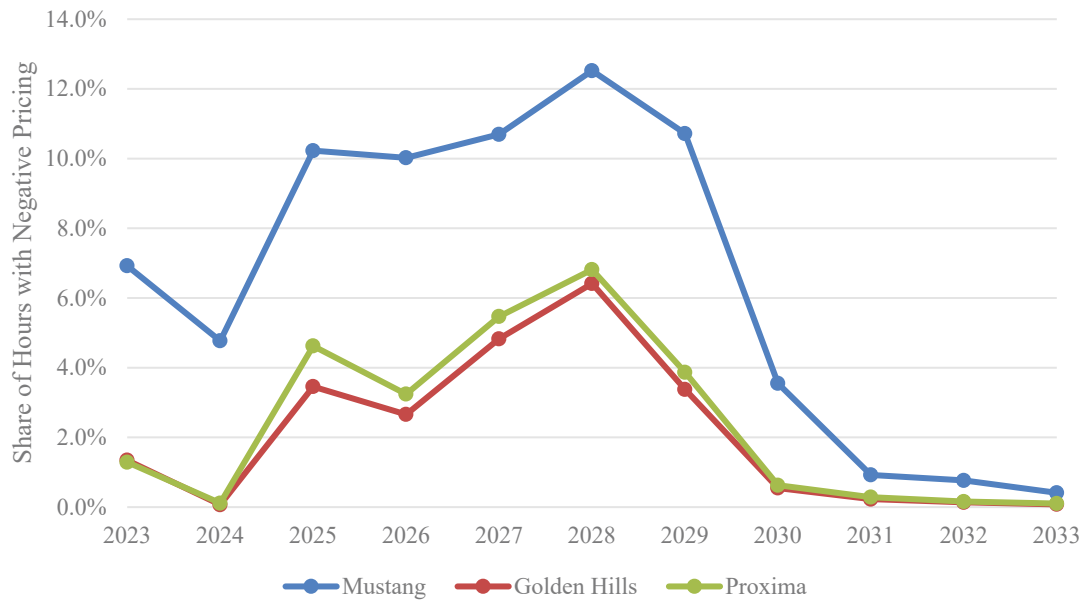
Table 9: Average Number of Negative Pricing Hours for SCPA VERs

Market Schedule	2018	2019	2020	2021	2022	Jan-June 2023
DA	102	171	287	104	319	561
FMM	144	186	163	131	131	185

Negative prices and associated costs occurred mainly between March and May, during the Pacific Northwest freshet, when higher than normal water levels impact hydroelectric supply and consequently power prices across the Western Electricity Coordinating Council.

SCPA forecasts hourly pricing for each of its RPS resources using Ascend’s PowerSimm platform, which incorporates historical trends and a forecast of local transmission build-out and congestion. Figure 4 shows the latest forecast for negative pricing for three of SCPA’s key RPS resources. SCPA generally expects the amount of negative pricing events to rise in the near-term. However, SCPA expects long-term battery storage and the high demand for RPS energy to reduce curtailment for its resource fleet, which is all located in NP15 and less exposed to oversaturation of solar resources. Importantly, this forecast is one deterministic realization and large uncertainties such as the impact of the Extended Day-ahead Market, reinstatement of production tax credits, and increased deployment of battery storage systems are difficult to characterize. Nonetheless, SCPA does not foresee negative pricing to be a major risk to its portfolio.

Figure 4: Forecast of Negative Pricing for SCPA RPS Resources



(iii) Experience, to Date, With Managing Exposure to Negative Market Prices and/or Lessons Learned from Other Retail Sellers in California

SCPA takes action to limit the impacts of curtailment on its ratepayers. SCPA pursues and implements contract terms that recognize and limit the potential financial impacts of negative pricing, and give SCPA greater flexibility to direct economic curtailment. SCPA also evaluates new procurement opportunities by evaluating the proposed project location and nearby historical negative pricing and congestion. SCPA has contracted and is actively exploring battery storage systems at existing resources as well as new hybrid projects and has a particular focus on modeling the locational value of storage resources.

(iv) Direct Costs Incurred, to Date, for Incidences of Overgeneration and Associated Negative Market Prices

While not a result of CAISO incidences of overgeneration as defined by CAISO, SCPA incurred costs of approximately \$87,000 over a total of 19,330 MWh at negative pricing hours for all VERs in 2022. This represents a negligible amount of total energy costs for SCPA ratepayers over the same time period, even when considered specifically for intermittent

resources. Negative pricing occurred for resources scheduled in the DA market and FMM as shown in Table 10.

Table 10: Costs from Negative Pricing in 2022

Market Schedule	Volume Weighted Average Price (VWAP) during negative pricing hours only (\$/MWh)	Volume during negative pricing hours only (MWh)
DA	-4.45	17,355
FMM	-5.07	1,973

(v) Overall Strategy for Managing the Overall Cost Impact of Increasing Incidences of Overgeneration and Negative Market Prices

While curtailment is a viable renewable integration strategy that is generally more cost-effective than other options, there are potential negative consequences from excessive curtailment. Curtailment of solar and wind represents a lost opportunity to generate zero GHG emitting electricity, and excessive curtailment could impact the ability of California to meet its environmental and energy policy goals. Additionally, these over-supply situations expose ratepayers to increased costs – LSEs must either economically curtail the generating resource by often paying for the electricity that was not generated, or generate power and be exposed to negative prices. Because these conditions are largely driven by California policy, it is appropriate to consider macro-level mitigation measures through CAISO initiatives, Commission rulemakings, and possibly even legislation.

There are a number of measures and policies that have already been implemented or are currently being pursued that will have significant impacts on how substantial curtailment will be in the future. These include the expansion of the EIM, improvements to the CAISO market design and structure, enhanced forecasting capabilities, improved time-of-use rates, improved EV charging functionalities, and smart deployment of DERs. Recently, SCPA has experimented with promoted workplace EV charging. SCPA has learned this may have significant potential to address curtailment while simultaneously providing access to EVs for renters and drivers who

have only street parking options. The Commission’s IRP proceeding will be an appropriate forum to measure the impact of these policies and the effect that they will have on future curtailment. These new measures will need to be modeled and incorporated into forecasts of future curtailment.

(vi). Contract Terms Included in RPS Contracts Intended to Reduce the Likelihood of Curtailment or Protect Against Negative Prices

SCPA includes contract terms in its PPAs that allow rights to dispatch the resource, where applicable, which could lead to an economic curtailment of the resource in the event of significant negative pricing. However, SCPA is still obligated to pay for deemed energy. In addition, SCPA includes contract language that requires the seller to use “commercially reasonable efforts to minimize the extent, amount and duration of any curtailments.” Finally, SCPA includes language in each of its PPAs for resources paired with storage that allows charging the storage resource from the grid.

XIV. Cost Quantification

SCPA has provided the Cost Quantification Table as Appendix D. Pursuant to the direction in the ACR, SCPA has completed those cells in the Cost Quantification Table that correspond to Table 3, Rows 1-5 in the ACR.

XV. Coordination with the IRP Proceeding

SCPA is including resources in the Final 2023 RPS Procurement Plan that are currently contracted. SCPA’s 2022 IRP portfolio contained additional RPS that is not yet contracted, but are not included in the 2023 RPS Procurement Plan to avoid over-representing SCPA’s procurement commitment. As required by the ACR,⁹ Table 11, below, describes how SCPA’s Final 2023 RPS Procurement Plan conforms with the determinations made in the IRP

⁹ ACR at 35-38.

Proceedings (R.16-02-007 and R.20-05-003). SCPA submitted a single conforming portfolio for the 25 MMT GHG target in its 2022 IRP.

Table 11: Conformity with the IRP

IRP Section Subsection	RPS Alignment in IRPs	
III. Study Results A. Conforming and Alternative Portfolios	<p><i>1. Existing RPS resources that the retail seller owns or contracts.</i></p> <p><i>2. Existing RPS resources that the retail seller plans to contract with in the future.</i></p> <p><i>3. New RPS resources that the retail seller plans to invest in.</i></p> <p><i>4. New and existing resources that will be used to meet Mid-Term Reliability obligations adopted in D.21-06-035.</i></p>	<p><i>1. Existing RPS resources that the retail seller owns or contracts.</i></p> <p>SCPA’s 2022 IRP preferred portfolio and this 2023 Final Procurement Plan share the following existing RPS resources under contract:</p> <ul style="list-style-type: none"> - 50 MW Geysers geothermal (expiring in 2026) - 40 MW Mustang Solar - 30 MW Mustang Solar 3 - 46 MW Golden Hills North Wind - 6 MW local solar feed-in-tariff projects - 150 GWh of existing biomass in 2023 and 2024 <p>The 2023 Final RPS Procurement Plan contains additional short-term RPS resources contracted by SCPA from existing facilities executed after the 2022 IRP (220 GWh in 2023 and 100 GWh in 2024) that were represented as a generic short-term RPS placeholder from existing resources in the IRP.</p> <p><i>2. Existing RPS resources that the retail seller plans to contract with in the future</i></p> <p>The 2023 Final RPS Procurement Plan does not explicitly contain any resources that are not already under contract to avoid overstating SCPA’s RPS position. However, SCPA continues to plan on contracting with existing RPS resources to satisfy its TMoP.</p> <p>The 2022 IRP contains two planned contracts for RPS from existing resources: a placeholder for short-term RPS contracts through 2029 (volume varies by year) and a 10-year 40 MW</p>

	<p>extension of SCPA's contract from existing geothermal resources that expires in 2026.</p> <p><i>3. New RPS resources that the retail seller plans to invest in</i></p> <p>The 2022 IRP and this Final 2023 RPS Procurement Plan share the following new RPS resources under contract:</p> <ul style="list-style-type: none"> - 70 MW Proxima solar project (paired with storage) - 15.5 MW of geothermal from Nevada and California (two separate contracts) <p>The 2022 IRP contained the 11.6 MW Tubbs Island project that is not included in this Final 2023 RPS Procurement Plan because the contract was terminated after the 2022 IRP filing. This Final 2023 RPS Procurement Plan includes the following specific new RPS resources that more than backfill Tubbs Island and were not included in the 2022 IRP and because they have been contracted following the IRP filing:</p> <ul style="list-style-type: none"> - 4 MW Redemeyer solar project (paired with storage) - 5 MW Twin Pine Circle solar project - 60 MW Azalea solar project (paired with storage) <p>The 2022 IRP also contained non-specific plans for new resources starting in 2027 including additional solar and storage, geothermal, out-of-state wind, and in-state wind. These resources are not included in the Final 2023 RPS Procurement Plan because they are not under contract and SCPA wants to avoid overstating its RPS compliance position.</p> <p><i>4. New and existing resources that will be used to meet Mid-Term Reliability obligations adopted in D.21-06-035 and the supplemental procurement ordered in D. 23-02-040.</i></p> <p>The 2023 Final RPS Procurement Plan includes 15.5 MW of new geothermal resources from Nevada and California, the Proxima project (20 MW is eligible for MTR), and the Azalea solar</p>
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		<p>project that are expected to be used to satisfy MTR obligations and contribute to SCPA's RPS portfolio. All of these resources except Azalea were included in SCPA's 2022 IRP.</p> <p>Beyond the RPS contracts listed above, SCPA has executed contracts with battery storage resources that completely fulfill its Mid-Term and supplemental procurement obligations.</p>
IV. Action Plan A. Proposed Activities	<p><i>1. Proposed RPS procurement activities as required by Commission decision or mandated procurement.</i></p> <p><i>2. Procurement plans, potential barriers, and resource viability for each new RPS resource identified.</i></p>	<p><i>1. Proposed RPS procurement activities as required by Commission decision or mandated procurement.</i></p> <p>The development of new RPS resources in the Final 2023 RPS Procurement Plan is very consistent with the Action Plan in the 2022 IRP. The 2022 IRP Action Plan and this Final 2023 RPS Procurement Plan include two geothermal contracts SCPA has executed for its share of 1 GW of new firm zero-emitting generation, and solar and storage resources executed to fulfill SCPA's share of the 2.5 GW of zero-emission generation paired with storage. In the 2022 IRP Action Plan, SCPA envisioned expanding the Tubbs Island project to complete fulfillment of this category, but following its termination, SCPA replaced Tubbs Island and a planned expansion with the much larger Azalea solar with paired storage project to completely fulfill its obligation.</p> <p>Although not mandated, the 2022 IRP Action Plan describes additional RPS procurement of new out-of-state wind, an extension of SCPA's contract from existing geothermal, new in-state wind, new paired solar and storage, and new geothermal to achieve internal and CPUC targets for emissions and reliability. These resources are not included in this Final 2023 RPS Procurement plan because they are not yet contracted and SCPA does not wish to overstate its RPS compliance position.</p> <p><i>2. Procurement plans, potential barriers, and resource viability for each new RPS resource identified.</i></p>

		<p>Many of the same risks described in Section VII for SCPA's development resources will create barriers for new RPS resources. SCPA is hopeful that issues such as supply chain constraints and transmission backlogs abate as the global market stabilizes and the MTR procurement order is satisfied. However, additional procurement orders and the expected growth in load alongside rising compliance requirements will likely sustain a high level of demand for new RPS resources that will complicate procurement. Securing FCDS and MIC allocation is a concern for SCPA given the number of projects vying for the same designation.</p> <p>SCPA is not forecasting specific resource types in its Final 2023 RPS Procurement Plan beyond projects currently under contract. Details on the size and type of SCPA's preferred resources to satisfy RPS obligations and IRP emissions targets are described in the 2022 IRP filing.</p> <p>In its IRP analysis, SCPA identified baseload renewables, out-of-state resources, and solar paired with storage as likely preferred resources. SCPA is gaining direct experience with these resource types through projects in development with risks thoroughly described in Section VII.</p>
IV. Action Plan B. Procurement Activities	<ol style="list-style-type: none"> <i>1. The type of solicitation</i> <i>2. The timeline for each solicitation.</i> <i>3. Desired online dates.</i> <i>4. Other relevant procurement planning information, such as solicitation goals and objectives.</i> 	<p>The 2022 IRP Action Plan forecasted the following near-term RPS procurement activities for SCPA to build its preferred portfolio (status provided for each):</p> <ul style="list-style-type: none"> - Finish negotiating up to 100 MW of out-of-state wind in 2023 for an online date of 2026 [REDACTED] - Finish negotiating local resource contracts for solar and storage for an online date of 2025 (completed with Twin Pine Circle and Redemeyer contracts) - Start soliciting an offer for a 10-year extension SCPA's existing geothermal contract by 2024 for an online date of 2027

		<div data-bbox="850 195 1411 275" data-label="Text"> <p>[REDACTED]</p> </div> <ul data-bbox="805 289 1411 827" style="list-style-type: none"> - Start soliciting an offer for 40 MW of new paired solar + storage by 2024 for an online date of 2027 (completed early with execution of Azalea contract) - Start soliciting an offer for up to 150 MW of in-state wind by 2025 for an online date of 2028-2030 [REDACTED] - Collaborate with GeoZone partners to enable 70 MW of dispatchable geothermal with online dates of 2030-2033 (cooperation agreements signed this year; working on required exploration, permitting, and interconnection) <p data-bbox="805 846 1411 1388">Several of the negotiations described above originated from responses from one of SCPA's solicitations for local resources or MTR-eligible capacity over the past few years, but SCPA is increasingly relying on its network of developer contacts to identify opportunities without the administrative burden of an open solicitation. Due to the scarcity of interconnection capacity and permitting risks, SCPA has also shifted its procurement focus to concentrate on project maturity and developer experience alongside price, which is better managed through bi-lateral networking with trusted developers rather than an open solicitation.</p> <p data-bbox="805 1409 1411 1663">SCPA will manage any remaining short position relative to compliance obligations and its TMoP target through short-term RPS contracts. SCPA has a strong track record of delivering RPS volumes through short-term contracts to meet internal RPS compliance targets.</p>
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IV. Action Plan C. Potential Barriers	<p><i>1. Key market, regulatory, financial, or other resource viability barriers or risks associated with the RPS resources coming online in both retail sellers' Preferred Portfolios.</i></p> <p><i>2. Key risks associated with the potential retirement of existing RPS resources on which the retail seller intends to rely in the future.</i></p>	<p>The key barriers for resources under contract and in development are described in detail in Section VII. These resources are a good sample of the types of resources SCPA included in its 2022 IRP preferred portfolios. Issues such as importing ex-CAISO generation, permitting complexity, securing solar and battery modules, and geothermal exploration risk are shared between SCPA's current development queue and candidate IRP resources.</p> <p>SCPA's 2022 RPS Procurement Plan discussed potential challenges with the risk of existing geothermal retirements due to high operating costs and their ineligibility for the procurement mandate. However, this risk has reduced considerably in the past year as the market value of existing geothermal has increased as LSEs prepare for hourly carbon accounting and slice-of-day resource adequacy. SCPA does not currently see any discrete risks with the retirement of existing RPS resources. Outside existing geothermal most of SCPA's planned RPS is procured from newer facilities.</p>
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XVI. Impact of Transmission and Interconnection Delays

SB 1174 (stats. 2022, ch. 229) requires electrical corporations that own transmission lines to report to the Commission on the development of transmission and interconnection facilities necessary to provide transmission deliverability for renewable energy and/or energy storage facilities that have executed interconnection agreements. SCPA is not subject to the requirements of SB 1174 and does not own any transmission lines. Accordingly, SCPA has not included a Transmission/Interconnection Delay Data Report as an attachment to this RPS Procurement Plan.

Dated: January 19, 2024

Respectfully submitted,



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APPENDIX A

REDLINED VERSION OF FINAL 2023 RPS PLAN

PUBLIC

Energy Division staff have been provided with a confidential redlined version of SCPA's Final 2023 RPS Plan. Per the May 5, 2023, *Assigned Commissioner and Assigned Administrative Law Judge's Ruling Identifying Issues and Schedule of Review for 2023 Renewables Portfolio Standard Procurement Plans*, other parties that are interested in receiving an electronic copy may contact Brian Goldman at bgoldman@sonomacleanpower.org to request a copy of the public redlined version of SCPA's Final 2023 RPS Plan.

APPENDIX B

RENEWABLE NET SHORT TEMPLATE 2023

PUBLIC

	C	D	E	F	G	H	I	J	K	L	M
4	Variable	Calculation	Item	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2017-2020	2021 Actual	2022 Actual	2023 Forecast
5			Forecast Year					CP 3			1
6			Annual RPS Requirement								
7	A		Total Retail Sales (MWh)	2,380,562	2,409,841	2,360,421	2,343,097	9,493,922	2,271,341	2,179,224	2,191,970
8	B		RPS Procurement Quantity Requirement (%)	27.0%	29.0%	31.0%	33.0%	30.0%	35.8%	38.5%	41.3%
9	C	A*B	Gross RPS Procurement Quantity Requirement (MWh)	642,752	698,854	731,731	773,222	2,846,558.4	812,004	839,001	904,188
10	D		Voluntary Margin of Over-procurement (MWh)	433,752	481,358	466,053	389,609	1,770,773	355,571	305,265	190,701
11	E	C+D	Net RPS Procurement Need (MWh)	1,076,504	1,180,212	1,197,784	1,162,831	4,617,331	1,167,575	1,144,266	1,094,889
12			RPS-Eligible Procurement								
13	Fa		Risk-Adjusted RECs from Online Generation (MWh)	1,076,504	1,180,212	1,222,784	1,254,331	4,733,831	1,167,575	1,144,266	1,163,891
14	Faa		Forecast Failure Rate for Online Generation (%)					#DIV/0!			
15	Fb		Risk-Adjusted RECs from RPS Facilities in Development (MWh)					-			
16	Fbb		Forecast Failure Rate for RPS Facilities in Development (%)					#DIV/0!			
17	Fc		Pre-Approved Generic RECs (MWh)					-			
18	Fd		Executed REC Sales (MWh)			25,000	91,500	116,500			
19	F	Fa+Fb+Fc+Fd	Total RPS Eligible Procurement (MWh)	1,076,504	1,180,212	1,197,784	1,162,831	4,617,331	1,167,575	1,144,266	1,163,891
20	F0		Category 0 RECs					-			
21	F1		Category 1 RECs	534,437	803,313	781,022	774,467	2,893,239	1,167,575	1,144,266	1,163,891
22	F2		Category 2 RECs	542,067	376,899	416,762	388,364	1,724,092			
23	F3		Category 3 RECs					-			
24			Gross RPS Position (Physical Net Short)								
25	Ga	F-E	Annual Gross RPS Position (MWh)	-	-	-	-	-	-	-	69,002
26	Gb	F/A	Annual Gross RPS Position (%)	45%	49%	51%	50%	49%	51%	53%	53%
27			Application of Bank								
28	Ha	J-Hc (from previous CP)	Existing Banked RECs above the PQR					-	-		
29	Hb		RECs above the PQR added to Bank					-			
30	Hc		Non-bankable RECs above the PQR					-			
31	H	Ha+Hb	Gross Balance of RECs above the PQR	-	-	-	-	-	-	-	-
32	Ia		Planned Application of RECs above the PQR towards RPS Compliance					-			
33	Ib		Planned Sales of RECs above the PQR					-			
34	J	H-Ia-Ib	Net Balance of RECs above the PQR	-	-	-	-	-	-	-	-
35	J0		Category 0 RECs					-			
36	J1		Category 1 RECs					-			
37	J2		Category 2 RECs					-			
38			Expiring Contracts								
39	K		RECs from Expiring RPS Contracts (MWh)					-			327,680
40			Net RPS Position (Optimized Net Short)								
41	La	Ga+Ia-Ib-Hc	Annual Net RPS Position after Bank Optimization (MWh)	-	-	-	-	-	-	-	69,002
42	Lb	(F+Ia-Ib-Hc)/A	Annual Net RPS Position after Bank Optimization (%)	0.452205845	0.489746736	0.507445053	0.496279448	0.486346018	0.514046548	0.52507957	0.53097961

	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4	2024 Forecast	2021-2024	2025 Forecast	2026 Forecast	2027 Forecast	2025-2027	2028 Forecast	2029 Forecast	2030 Forecast	2028-2030	2031 Forecast	2032 Forecast	2033 Forecast
5	2	CP 4	3	4	5	CP 5	6	7	8	CP 6	9	10	11
6													
7		8,842,265		2,183,480	2,192,980	6,564,270	2,203,230	2,217,980	2,244,030	6,665,240	2,268,430	2,306,380	2,346,900
8	44.0%	39.8%	46.7%	49.3%	52.0%	49.3%	54.7%	57.3%	60.0%	57.3%	60.0%	60.0%	60.0%
9		3,523,074.5		1,077,111	1,140,350	3,238,511.2	1,204,506	1,271,568	1,346,418	3,822,491.8	1,361,058	1,383,828	1,408,140
10		983,521		50,691	60,696	184,241	65,470	69,283	74,099	208,852	79,282	86,500	90,034
11		4,506,595		1,127,802	1,201,045	3,422,752	1,269,976	1,340,851	1,420,517	4,031,344	1,440,340	1,470,328	1,498,174
12													
13		4,479,234		739,636	296,877	1,782,273	292,396	289,665	286,734	868,795	288,065	287,635	287,208
14	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15		165,227		463,502	517,185	1,325,353	525,319	522,929	520,961	1,569,209	519,001	517,462	515,097
16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
17		-				-				-			
18		-				-				-			
19		4,644,461		1,203,138	814,062	3,107,626	817,714	812,594	807,696	2,438,004	807,065	805,097	802,305
20		-				-				-			
21		4,644,461		1,203,138	814,062	3,107,626	817,714	812,594	807,696	2,438,004	807,065	805,097	802,305
22		-				-				-			
23		-				-				-			
24													
25		137,866		75,336	(386,983)	(315,126)	(452,262)	(528,257)	(612,821)	(1,593,340)	(633,274)	(665,232)	(695,869)
26	53%	53%	55%	55%	37%	47%	37%	37%	36%	37%	36%	35%	34%
27													
28		-				-	-			-	-		
29		-				-				-			
30		-				-				-			
31		-		-	-	-	-	-	-	-	-	-	-
32		-				-				-			
33		-				-				-			
34		-		-	-	-	-	-	-	-	-	-	-
35		-				-				-			
36		-				-				-			
37		-				-				-			
38													
39		578,119		488,000		438,000				-			
40													
41		137,866		75,336	(386,983)	(315,126)	(452,262)	(528,257)	(612,821)	(1,593,340)	(633,274)	(665,232)	(695,869)
42		0.525256906		0.551018442	0.371212817	0.473415338	0.371143415	0.366366591	0.359930919	0.363778855	0.355781352	0.3490738	0.341857451

APPENDIX C

PROJECT DEVELOPMENT STATUS UPDATE TEMPLATE 2023

	A		B	C		D
	Reporting LSE Name	RPS Contract ID	Project Name	Technology Type		
1						
2	Sonoma Clean Power Authority (SCPA)	SCPA500010	Solar (Proxima)	Solar PV- Ground Mount		
3	Sonoma Clean Power Authority (SCPA)	SCPA300003	Geothermal (Fish Lake)	Geothermal		
4	Sonoma Clean Power Authority (SCPA)	SCPA300004	Geothermal (Ormat Portfolio)	Geothermal		
5	Sonoma Clean Power Authority (SCPA)	SCPA500013	Solar (Twin Pine Circle)	Solar PV- Ground Mount		
6	Sonoma Clean Power Authority (SCPA)	SCPA500014	Solar (Redemeyer)	Solar PV- Ground Mount		
7	Sonoma Clean Power Authority (SCPA)	SCPA500015	Solor (Azalea)	Solar PV- Ground Mount		

	C	E	F	G	H	I	J
	Project Name	Project Development Phase	City	County	State	Zip Code	Latitude
1							
2	Solar (Proxima)	Construction	Crows Landing	Stanislaus	CA	95313	37.401988
3	Geothermal (Fish Lake)	Construction	Dyer	Esmeralda	NV	89010	37.861623
4	Geothermal (Ormat Portfolio)	Pre-Construction	Varies	Varies	NV	Varies	Varies
5	Solar (Twin Pine Circle)	Pre-Construction	Laytonville	Mendocino	CA	95454	39.642033
6	Solar (Redemeyer)	Pre-Construction	Ukiah	Mendocino	CA	95482	39.183091
7	Solor (Azalea)	Pre-Construction	Lost Hills	Kern	CA	93249	35.76

	C	K	L	M	N
	Project Name	Longitude	Contract Length (Years)	Contract Execution Date (mm/dd/yyyy)	Contract Start Date (mm/dd/yyyy)
1					
2	Solar (Proxima)	-121.161029	20	9/24/2018	4/1/2024
3	Geothermal (Fish Lake)	-118.032382	20	5/31/2022	6/1/2024
4	Geothermal (Ormat Portfolio)	Varies	20	5/31/2022	6/1/2025
5	Solar (Twin Pine Circle)	-123.466248	20	3/23/2023	12/31/2025
6	Solar (Redemeyer)	-123.194798	20	3/23/2023	12/31/2025
7	Solor (Azalea)	-119.89	10	5/16/2023	5/15/2025

	C	O	P	Q
	Project Name	Contract End Date (mm/dd/yyyy)	Contract Capacity	Expected Annual Generation
1				
2	Solar (Proxima)	3/31/2044	70	191926
3	Geothermal (Fish Lake)	5/31/2044	1.52	12833
4	Geothermal (Ormat Portfolio)	5/31/2045	14	120351
5	Solar (Twin Pine Circle)	12/30/2045	4.99	13328
6	Solar (Redemeyer)	12/30/2045	4	10458
7	Solor (Azalea)	5/14/2035	60	182712

	C	R	S	T
	Project Name	Total Contract Volume	Commercial Operation Date (COD)	Transmission Status
1				
2	Solar (Proxima)	3653923	4/1/2024	Interconnection agreement executed 12/3/2018.
3	Geothermal (Fish Lake)	256660	6/1/2024	Interconnection agreement executed 10/20/2022. Transmission service agreements in place and MIC secured through long-term reservation.
4	Geothermal (Ormat Portfolio)	2407010	Varies	Status varies by project; some have executed agreements, others are in queue. CAISO resource may be subject to local and area network upgrades. Will need MIC for capacity for projects outside CAISO.
5	Solar (Twin Pine Circle)	254268	12/31/2025	System Impact Study (Phase 1) received from PG&E in October 2022 for solar + storage but submitting restudy for solar-only configuration.
6	Solar (Redemeyer)	199517	12/31/2025	System Impact Study (Phase 1) received from PG&E in September 2022.
7	Solor (Azalea)	1783531	5/15/2025	Interconnection agreement executed with PG&E and CAISO.

	C	U	V	W
	Project Name	Storage: Rated Power (MW)	Storage: Capacity (MWh)	Project Notes
1				
2	Solar (Proxima)	32	128	Contract was amended on 1/21/2022 to add 20 MW of solar (70 MW total) and 27 MW of storage (32 MW total) to original contract.
3	Geothermal (Fish Lake)			Entries reflect SCPA's 11.7% share in a 13 MW facility contracted with other CCAs through California Community Power
4	Geothermal (Ormat Portfolio)			Entries reflect SCPA's 11.3% share in a 125 MW portfolio contracted with other CCAs through California Community Power. Developer will confirm exact projects within portfolio as exploration and permitting risks are resolved. Earliest potential COD is expected to be June 2025. Projects will be split when specifically assigned and accepted by California Community Power.
5	Solar (Twin Pine Circle)			
6	Solar (Redemeyer)	4	16	
7	Solar (Azalea)	38	152	

APPENDIX D

COST QUANTIFICATION TEMPLATE 2023

PUBLIC

A	B	C	D	E	F	G	H	I	J	K	L	M		
Table 3: Cost Quantification (Actual Procurement / Generation and Sales, MWh)		Actual RPS-Eligible Procurement / Generation and Sales (MWh)												
Technology Type (Procurement and Sales)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1	BioGas, Digester Gas													
2	BioGas, Landfill Gas													
3	BioGas, Landfill Gas													
4	Biomass													
5	Biomass													
6	Muni Solid Waste													
7	Geothermal													
8	Small Hydro (Non-UOG)													
9	Small Hydro (Non-UOG)													
10	Water Supply / Conveyance													
11	Ocean Wave													
12	Ocean Thermal													
13	Ocean Thermal													
14	Solar PV (Non-UOG)													
15	Solar Thermal													
16	Wind													
17	Unbundled REC's (REC Only)													
18	Various Index Plus REC's**													
19	UOG, Small Hydro													
20	UOG, Solar PV													
21	UOG, Other													
22	UOG, Other													
23	UOG, Other													
24	Executed REC Sales (MWh)													
25	Executed REC Sales (MWh)													
26	Executed REC Sales (MWh)													
27	Executed REC Sales (MWh)													
28	Executed REC Sales (MWh)													
29	Executed REC Sales (MWh)													
30	Executed REC Sales (MWh)													
31	Executed REC Sales (MWh)													
32	Executed REC Sales (MWh)													
33	Table 4: Cost Quantification (Forecast Procurement / Generation and Sales, MWh)	Forecast RPS-Eligible Procurement / Generation and Sales (MWh)												
34	Executed But Not Approved RPS-Eligible Contracts (Purchases and Sales)**	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
35	BioGas, Digester Gas													
36	BioGas, Landfill Gas													
37	BioGas, Landfill Gas													
38	Biodiesel													
39	Biomass													
40	Muni Solid Waste													
41	Geothermal													
42	Small Hydro (Non-UOG)													
43	Conduit Hydro													
44	Water Supply / Conveyance													
45	Ocean Wave													
46	Ocean Thermal													
47	Tidal Current													
48	Solar PV (Non-UOG)													
49	Solar Thermal													
50	Wind													
51	Unbundled REC's (REC Only)													
52	Various Index Plus REC's**													
53	Fuel Cell													
54	UOG, Small Hydro													
55	UOG, Solar PV													
56	UOG, Other													
57	UOG, Other													
58	UOG, Other													
59	Executed REC Sales (MWh)													
60	Executed REC Sales (MWh)													
61	Executed REC Sales (MWh)													
62	Executed REC Sales (MWh)													
63	Executed REC Sales (MWh)													
64	Executed REC Sales (MWh)													
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170	Executed REC Sales (MWh)													
171	Executed REC Sales (MWh)													
172	Executed REC Sales (MWh)													
173	Executed REC Sales (MWh)													
174	Executed REC Sales (MWh)													
175	Executed REC Sales (MWh)													
176	Executed REC Sales (MWh)													
177	Executed REC Sales (MWh)													
178														

APPENDIX E

RENEWABLE NET SHORT TEMPLATE 2023 FOR MMoP

PUBLIC

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
4	Variable	Calculation	Item	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2017-2020	2021 Actual	2022 Actual	2023 Forecast	2024 Forecast	2024-2024	2025 Forecast	2026 Forecast
5			Forecast Year					CF 3			1	2	CF 4	3	4
6			Annual RPS Requirement												
7	A		Total Retail Sales (RWth)	2,898,482	2,469,441	2,466,421	2,343,897	5,493,822	2,271,341	2,179,224	2,494,970		8,961,285		2,214,893
8	B		RPS Procurement Quantity (Logar element (b))	27.0%	29.0%	31.0%	33.0%	30.0%	35.6%	38.5%	41.3%	44.0%	39.9%	46.7%	49.3%
9	C	A*B	Gross RPS Procurement Quantity (Logar element (RWth))	642,782	696,664	778,291	773,222	2,944,593.4	812,084	839,081	904,110		8,191,331.4		1,892,195
10	D		Voluntary Margin of Over procurement (MWth)	433,752	481,358	466,053	389,609	1,770,773	355,571	305,265	190,701		983,321		50,691
11	E	C-D	Net RPS Procurement Need (RWth)	1,876,694	1,180,212	1,197,794	1,162,891	4,617,381	1,457,275	1,144,266	1,494,869		4,514,654		1,142,896
12			RPS-Eligible Procurement												
13	Fa		Back-Adjusted REC's from Online Generation (RWth)	1,476,694	1,180,212	1,222,794	1,254,361	4,738,861	1,457,275	1,144,266	1,443,891		4,441,825		722,642
14	Fa		Forecast Failure Rate for Online Generation (b)					#O/R				1.7%	1.8%	2.3%	2.3%
15	Fb		Back-Adjusted REC's from RPS Facilities in Development (RWth)												
16	Fb		Forecast Failure Rate for RPS Facilities in Development (b)					#O/R				0.0%	0.0%	0.7%	4.0%
17	Fc		Re-Adjusted General REC's (RWth)												
18	Fd		Re-Adjusted REC Sales (RWth)												
19	F	Fa+Fb+Fd	Total RPS-Eligible Procurement (RWth)	1,476,694	1,180,212	1,197,794	1,162,891	4,617,381	1,457,275	1,144,266	1,443,891		4,441,825		1,167,283
20	F0		Category 0 REC's				91,500	116,590							
21	F1		Category 1 REC's												
22	F2		Category 2 REC's	534,437	803,513	781,022	774,467	2,893,239	1,167,275	1,144,266	1,143,091		4,606,253		1,167,251
23	F3		Category 3 REC's	542,867	376,899	416,762	388,364	1,724,952							
24			Gross RPS Position (Physical Net Short \$)												
25	Ga	F0	Annual Gross RPS Position (RWth)												
26	Gb	F/A	Annual Gross RPS Position (b)	-	-	-	-	-	-	-	-		91,399		24,645
27			Applications of Risk	45%	49%	51%	50%	49%	51%	53%	52%		52%		
28	Ha	Hk from previous Cf)	Adding Back-Adjusted REC's above the PQR												
29	Hb		REC's above the PQR added to Bank												
30	Hc		Non-bankable REC's above the PQR												
31	H	Ha+Hb	Gross Balance of REC's above the PQR												
32	Is		Planned Application of REC's above the PQR to meet de RPS Compliance												
33	Is		Planned Sales of REC's above the PQR												
34	J		Net Balance of REC's above the PQR												
35	J0		Category 0 REC's												
36	J1		Category 1 REC's												
37	J2		Category 2 REC's												
38			Expanding Contracts												
39	K		REC's from Expanding RPS Contracts (MWth)										578,119		438,000
40			Net RPS Position (Optimized Net Short \$)												
41	La	Ca+Gb+Hc	Annual Net RPS Position after Bank Optimizations (RWth)										91,399		24,645
42	Lb	(La-Bk)/A	Annual Net RPS Position after Bank Optimization (b)	0.432205845	0.489746794	0.507440031	0.490294448	0.480346018	0.514046548	0.525072907	0.521492275		0.519832328		0.5273261

R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
Variable	Calculation	Item	2021 Actual	2022 Actual	2023 Actual	2024 Actual	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast				
4														
5														
6														
Annual RPS Requirement														
7	A	Total Retail Sales (MWh)	2,383,827	2,216,645	2,398,644	2,294,433	9,235,813	2,271,342	2,379,224	2,245,000	2,271,561	8,967,157	2,215,582	2,217,486
8	B	RPS Procurement Quantity Requirement (%)	35.0%	37.0%	39.0%	41.0%	38.0%	46.5%	49.5%	52.5%	50.0%	50.0%	52.0%	54.7%
9	C	Gross RPS Requirement Quantity Requirement (MWh)	834,559	827,238	897,259	946,638	3,597,689.9	1,064,862	1,179,716	1,173,628	1,240,839	4,502,954.9	1,193,681	1,211,448
10	D	Voluntary Margin of Over-procurement (MWh)	405,760	391,986	376,213	361,439	1,534,397	355,572	65,550	71,266	11,549	508,937	28,528	6,564
11	E	Net RPS Requirement (MWh)	1,227,219	1,248,219	1,273,472	1,298,877	5,642,096	1,417,424	1,144,566	1,264,295	1,268,987	5,071,891	1,198,689	1,208,819
12														
RPS-Eligible Procurement														
13	Fa	Subsidized Rates from Onsite Generation (MWh)	1,627,471	1,685,676	1,442,482	1,590,287	5,655,516	1,167,576	1,144,566	825,696	877,496	3,613,836	716,725	710,869
14	Faa	Forecast Failure Rate for Onsite Generation (%)					#N/D!			1.7%	1.7%	1.7%	2.3%	2.3%
15	Fb	Subsidized REC's from RPS Facilities in Development (MWh)												
16	Fbb	Forecast Failure Rate for RPS Facilities in Development (%)					#N/D!							
17	Fc	Pre-approved General REC's (MWh)												
18	Fcc	Forecast Failure Rate (MWh)												
19	F	Total RPS-Eligible Procurement (MWh)	1,627,471	1,685,676	1,284,682	1,276,787	5,273,816	1,167,576	1,144,566	825,696	877,496	3,979,264	1,264,283	1,261,026
20	F0	Category 0 REC's												
21	F1	Category 1 REC's	897,760	967,539	1,037,319	1,107,699	4,009,717	1,167,576	1,144,566	825,696	877,496	3,979,264	1,264,283	1,261,026
22	F2	Category 2 REC's	325,712	283,587	241,462	199,338	1,050,098							
23	F3	Category 3 REC's												
24		Gross RPS Position (Physical Net Short)												
25	Ga	Annual Gross RPS Position (MWh)	186,152	196,857	11,218	(22,290)	238,930	(249,848)	-	(417,199)	(826,384)	(1,093,623)	88,875	143,023
26	Gb	Annual Gross RPS Position (%)	57%	60%	56%	56%	57%	51%	53%	37%	37%	44%	57%	61%
27		Application of Risk												
28	Ha	H1c from previous CB												
29	Hb	REC's above the PQR added to Bank												
30	Hc	Non-bankable REC's above the PQR												
31	H	Gross Balance of REC's above the PQR												
32	Ia	Planned Application of REC's above the PQR, Inverse & RPS Compliance												
33	Ib	Planned Sales of REC's above the PQR												
34	J	Net Balance of REC's above the PQR												
35	J0	Category 0 REC's												
36	J1	Category 1 REC's												
37	J2	Category 2 REC's												
38		Expiring Contracts												
39	K	REC's from Expiring RPS Contracts (MWh)								173,198	95,957	269,135		438,001
40		Net RPS Position (Optimized Net Short)												
41	La	Carlsbad	186,152	196,857	11,218	(22,290)	238,930	(249,848)	-	(417,199)	(826,384)	(1,093,623)	88,875	143,023
42	Lb	(P1a-B1c)/A	0.669086	0.5972642	0.5389623	0.55845722	0.57986233	0.51464762	0.5207957	0.36902673	0.36812731	0.41648297	0.57032996	0.61387964

APPENDIX F

CHECKLIST AND OFFICER VERIFICATION

SCPA FINAL 2023 RPS Procurement Plan Checklist

Retail seller name: SONOMA CLEAN POWER AUTHORITY		YES/ NO	NOTES
I.	Major Changes to RPS Plan	YES	
II.	Executive Summary	YES	
III.	Summary of Legislation Compliance	YES	
IV.	Assessment of RPS Portfolio Supplies and Demand	YES	
	IV.A Portfolio Supply and Demand	YES	
	IV.A.1 Voluntary Allocation and Market Offer (VAMO)	YES	
	IV.A.2 Portfolio Optimization	YES	
	IV.B Responsiveness to Local and Regional Policies	YES	
	IV.B.1 Long-term Procurement	YES	
	IV.C. Portfolio Diversity and Reliability	YES	
	IV.D Lessons Learned	YES	
V.	Project Development Status Update	YES	
VI.	Potential Compliance Delays	YES	
VII.	Risk Assessment	YES	
VIII.	Renewable Net Short Calculation	YES	
IX.	Minimum Margin of Procurement (MMoP)	YES	
	IX.A MMoP Methodology and Inputs	YES	
	IX.B MMoP Scenarios	YES	
X.	Bid Solicitation Protocol	YES	
	X.A Solicitation Protocols for Renewables Sales	YES	
	X.B Bid Selection Protocols	YES	
	X.C LCBF Criteria	YES	
XI.	Safety Considerations	YES	
XII.	Consideration of Price Adjustments Mechanisms	YES	
XIII.	Curtailment Frequency, Forecasting, Costs	YES	
XIV.	Cost Quantification	YES	
XV.	Coordination with the IRP Proceeding	YES	

XVI. Impact of Transmission and Interconnection Delays	YES	
Appendix A: Redlined Version of the Final 2023 RPS Plan	YES	Energy Division staff have been provided with a confidential redlined version of SCPA's Final 2023 RPS Plan. Per the May 5, 2023, <i>Assigned Commissioner and Assigned Administrative Law Judge's Ruling Identifying Issues and Schedule of Review for 2023 Renewables Portfolio Standard Procurement Plans</i> , other parties that are interested in receiving an electronic copy may contact Brian Goldman at bgoldman@sonomacleanpower.org to request a copy of the public redlined version of SCPA's Final 2023 RPS Plan.

SCPA 2023 RPS Procurement Plan Checklist- Task Completed

Officer Verification

I am an officer of the reporting organization herein, and am authorized to make this verification on its behalf. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true. The spreadsheet templates used within this filing have not been altered from the version issued or approved by Energy Division.

Executed on January 19, 2024 at Santa Rosa, California.



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