This meeting will be conducted in accordance with State of California Executive Order N-29-20, dated March 17, 2020, in consideration of the Coronavirus (COVID-19). All members of the Silicon Valley Clean Energy Board of Directors and staff will participate in this meeting by teleconference.

Members of the public may observe this meeting electronically by accessing the meeting via instructions above. Public Comments can be sent in advance of the meeting to Board Clerk Andrea Pizano at Andrea.Pizano@svcleanenergy.org and will be read within the public comment period or the applicable agenda item. The public will also have an opportunity to provide comments during the meeting.

The public may provide comments on any matter listed on the Agenda. Speakers are customarily limited to 3 minutes each, however, the Board Chair may increase or decrease the time allotted to each speaker based on the number of speakers, the length of the agenda and the complexity of the subject matter. Speaking time will not be decreased to less than one minute.

If you are an individual with a disability and need a reasonable modification or accommodation pursuant to the Americans with Disabilities Act (“ADA”) please contact Board Clerk Andrea Pizano at andrea.pizano@svcleanenergy.org prior to the meeting for assistance.

AGENDA

Call to Order

Roll Call
Public Comment on Matters Not Listed on the Agenda

The public may provide comments on any matter not listed on the Agenda provided that it is within the subject matter jurisdiction of SVCE. Speakers are customarily limited to 3 minutes each, however, the Board Chair may increase or decrease the time allotted to each speaker based on the number of speakers, the length of the agenda and the complexity of the subject matter. Speaking time will not be decreased to less than one minute.

Consent Calendar (Action)

1a) Approve Minutes of the June 10, 2020, Board of Directors Meeting
1b) Receive April 2020 Treasurer Report
1c) Appoint the Chief Executive Officer to Serve as Interim SVCE Board Treasurer/Auditor
1d) Approve Amended Title and Job Description for the Director of Finance and Administration to Chief Financial Officer and Director of Administrative Services, and Adopt Resolution Amending the Positions Chart, Job Classifications, and Salary Schedule
1e) Receive Quarterly Decarbonization Programs Update for Q2 2020
1f) Executive Committee Report
1g) Finance and Administration Committee Report
1h) Audit Committee Report
1i) Legislative and Regulatory Responses to Industry Transition Ad Hoc Committee Report

Regular Calendar

2) CEO Report (Discussion)
3) Strategic Plan Update (Discussion)
4) Approve SVCE 2020 Integrated Resource Plan (Action)
5) Proposed SVCE FY 2020-21 Operating Budget and Financial Review (Discussion)

Board Member Announcements and Direction on Future Agenda Items

Public Comment on Closed Session

The public may provide comments regarding the Closed Session item(s) just prior to the Board beginning the Closed Session. Closed Sessions are not open to the public.
Convene to Closed Session
Public Employee Performance Evaluation
Title: Chief Executive Officer

Conference with Labor Negotiator
Agency Representative: Howard Miller, Chair, Board of Directors
Unrepresented Employee: Chief Executive Officer

Report from Closed Session

Adjourn

svcleanenergy.org
333 W El Camino Real
Suite 290
Sunnyvale, CA 94087
Silicon Valley Clean Energy Authority
Board of Directors Meeting
Wednesday, June 10, 2020
7:00 pm

Pursuant to State of California Executive Order N-29-20, dated March 17, 2020, the meeting was conducted via teleconference.

DRAFT MINUTES

Call to Order
Chair Miller called the meeting to order at 7:02 p.m. in recognition of equality and justice and in honor of George Floyd, Breonna Taylor, Ahmaud Arbery, and all those who have lost their lives and suffered due to racism.

Roll Call

Present:
Chair Howard Miller, City of Saratoga
Vice Chair Nancy Smith, City of Sunnyvale
Director Liz Gibbons, City of Campbell
Director Rod Sinks, City of Cupertino
Director Fred M. Tovar, City of Gilroy
Director Neysa Fligor, City of Los Altos
Director George Tyson, Town of Los Altos Hills
Director Rob Rennie, Town of Los Gatos
Director Carmen Montano, City of Milpitas
Director Javed Ellahie, City of Monte Sereno
Director Yvonne Martinez Beltran, City of Morgan Hill
Director Margaret Abe-Koga, City of Mountain View
Director Susan Ellenberg, County of Santa Clara

Absent:
None.

All Board members participated via teleconference.

Public Comment on Matters Not Listed on the Agenda
No speakers.

Consent Calendar

MOTION: Director Ellenberg moved and Director Abe-Koga seconded the motion to approve the Consent Calendar.

Chair Miller opened public comment.
Board Clerk Andrea Pizano announced written public comment was received for Item 1c) *Adopt Resolution to Authorize the Chief Executive Officer to Execute Master Agreements with Mariposa Energy, LLC and BP Energy Company* from Kira Barsten; the comment was read into the record (Attached).

Chair Miller closed public comment.

CEO Girish Balachandran responded to the public comment and noted staff would respond to Ms. Barsten via email.

Vice Chair Smith noted she had a small change to Item 1a) *Approve Minutes of the May 13, 2020, Board of Directors Special Meeting* which were revised to clarify she advised as opposed to provided a recommendation to the board on a matter, and clarified that the Board would be approving the revised minutes.

The motion carried unanimously by verbal roll call vote.

1a) *Approve Minutes of the May 13, 2020, Board of Directors Special Meeting*
1b) Receive March 2020 Treasurer Report
1c) *Adopt Resolution to Authorize the Chief Executive Officer to Execute Master Agreements with Mariposa Energy, LLC and BP Energy Company*
1d) Approve One-Time Exceptions to SVCE Net Energy Metering Cash-Out Policy
1e) *Adopt Resolution Amending SVCE Conflict of Interest Code to Add Position of Principal Power Analyst to the List of Designated Positions for Filing*
1f) *Adopt Resolution Extending the Authorization to the Chief Executive Officer to Grant 20 Days of Paid-Time-Off to Employees Affected by COVID-19 through December 31, 2020*
1g) Executive Committee Report
1h) Finance and Administration Committee Report
1i) Audit Committee Report
1j) Legislative and Regulatory Responses to Industry Transition Ad Hoc Committee Report

**Regular Calendar**

2) **CEO Report (Discussion)**

CEO Balachandran introduced Jessamyn Allen, Decarbonization and Grid Innovation Data Analyst Intern, who provided brief comments. CEO Balachandran provided an update on SVCE’s customer relief programs, an update on SVCE’s employees and work during shelter in place orders, and announced Director of Finance and Administration Don Eckert would be leaving SVCE for the role of CEO at another CCA.

Director of Finance and Administration thanked the Board of Directors and noted it was an honor working for SVCE. Directors shared their congratulations and thanks to Director of Finance and Administration Eckert for his service.

Chair Miller opened public comment.

Bruce Karney thanked Director of Finance and Administration Eckert for his service and responsiveness to community concerns from renewable energy advocates.

James Tuleya thanked Director of Finance and Administration Eckert for his service and noted he would be missed.

Chair Miller closed public comment.

3) **Strategic Plan Update (Discussion)**

CEO Balachandran presented a PowerPoint presentation on an update to SVCE’s Strategic Plan.
Chair Miller opened public comment.
No speakers.
Chair Miller closed public comment.

4) Integrated Resource Planning Update (Discussion)
CEO Balachandran and Director of Power Resources Monica Padilla presented a PowerPoint presentation on SVCE’s Integrated Resource Plan; staff responded to board member questions.
Chair Miller opened public comment.

Bruce Karney thanked staff for taking a clear-eyed look at what the state is trying to accomplish and how SVCE can lead the way to accomplishing that, and commented he would like SVCE to do whatever it takes to succeed. Karney noted he is aware of the mismatch between time-of-use energy electricity prices now and what they need to be. Karney encouraged staff to be bold and look at the most challenging goals.
Chair Miller closed public comment.

Director Gibbons thanked staff for the presentation and suggested including it as an appendix in future presentations on the topic.

5) Authorize the Chief Executive Officer to Execute a 20-Year Power Purchase Agreement with 91 MC 8ME, LLC for Renewable Solar PV Supply (PCC1) and Energy Storage in Substantial Form and Including Any Necessary Ancillary Agreements and Documents (Action)
Director of Power Resources Padilla presented a PowerPoint presentation and responded to board member questions.

Director Ellahie requested to view a chart comparing costs of the different resources SVCE is considering in PPA negotiations; Director of Power Resources Padilla noted information related to price is retained as confidential and cannot be shared publicly, but Board Clerk Pizano could share with Directors. Staff confirmed they would check with General Counsel on what could be provided.
Chair Miller opened public comment.
No speakers.
Chair Miller closed public comment.

MOTION: Director Gibbons moved and Vice Chair Smith seconded the motion to authorize the Chief Executive Officer (CEO) to execute the Power Purchase Agreement (PPA) with 91 MC 8ME, LLC ("Aratina") in substantial form and any necessary ancillary agreements and documents as follows:

1.8Minute Solar Energy’s 91 MC 8ME, LLC – Aratina Solar Center 1B ("Aratina"):
   o 80 MW of Solar photovoltaic (PV) supply with 20 MW (three-hour duration) of energy storage qualifying as Portfolio Category Content One (PCC1) renewable resource;
   o 20-Year term power expected delivery from June 30, 2023 to June 29, 2043; and
   o Total amount not-to-exceed $174,000,000.

The motion carried unanimously by verbal roll call vote.
Director Sinks noted he is looking for diversity in wind in a future contract.
6) **Adopt Resolution Delegating Authority to the Executive Committee to Review, Approve and Authorize the Execution of Contracts with Sunrun Inc. and Enel X North America Inc. for Resource Adequacy from Customer-Sited Storage Systems that Also Provide Community Resilience (Action)**

Director of Decarbonization and Grid Innovation Programs Aimee Bailey presented a PowerPoint presentation.

Chair Miller opened public comment.

Bruce Karney requested Dir. of Decarbonization and Grid Innovation Programs Bailey explain the steps which staff and the vendors would be taking in July, following approval, to communicate the potential program to customers who might want to engage.

Chair Miller closed public comment.

Director of Decarbonization and Grid Innovation Programs Bailey responded to Mr. Karney’s inquiry.

MOTION: Vice Chair Smith moved and Director Gibbons seconded the motion to approve Resolution No. 2020-19 delegating authority to the Silicon Valley Clean Energy Authority (SVCE) Executive Committee of the Board to review, approve and authorize the execution of contracts with Sunrun Inc. (Sunrun) and Enel X North America Inc. (Enel X) for resource adequacy (RA) from customer-sited storage systems that also provide community resilience.

The motion carried unanimously by verbal roll call vote.

7) **SVCE Decarbonization and Grid Innovation Programs Update (Discussion)**

Director of Decarbonization and Grid Innovation Programs Bailey presented a PowerPoint presentation and responded to board member questions.

Director Sinks encouraged staff to look into demand-side management programs with a vendor agnostic solution.

Chair Miller opened public comment.

Bruce Naegel thanked staff for their work and commented on the importance of the educational components in programs for contractors, and electric vehicle chargers in multifamily buildings.

Chair Miller closed public comment.

Director Gibbons recommended staff view the presentation from the Berkeley Haas 2020 Power Conference on equity analysis, and noted she would share a link to the social equity maps produced by the housing department of California for comparison purposes on SVCE’s assumptions.

Director Martinez Beltran suggested SVCE consider working from home longer term in an effort to lead by example in reducing carbon emissions emitted by transportation.

**Board Member Announcements and Direction on Future Agenda Items**

Director Gibbons reported she took Berkeley Haas 2020 Power Conference courses and found it very interesting to understand how the energy market and theoreticians view energy should be handled and produced. Director Gibbons announced she sent information on the Boston Society for Architects course on decarbonization of building materials to CEO Balachandran and encouraged everyone to view the presentation.

**Public Comment on Closed Session**

No speakers.
Chair Miller announced the board would convene to a virtual Closed Session and requested all viewers depart from the meeting; Chair Miller announced an estimate return time of 10:30 p.m.

The Board convened to Closed Session at 9:10 p.m.

**Convene to Closed Session**  
Public Employee Performance Evaluation  
Title: Chief Executive Officer

Conference with Labor Negotiator  
Agency Representative: Howard Miller, Chair, Board of Directors  
Unrepresented Employee: Chief Executive Officer

The Board reconvened from Closed Session at 10:30 p.m.

**Report from Closed Session**

Chair Miller reported there were no reportable actions taken in Closed Session.

**Adjourn**

Chair Miller adjourned the meeting at 10:30 p.m.

**Attachment**

1. Public Comment Received, Kira Barsten
Hello,

For item 1c) on the consent calendar, would it be possible to receive clarification on why SVCE would be contracting with a natural gas facility? Natural gas has shown to be dangerous, unhealthy, and a distraction from the transition to renewables. I understand that the context surrounding this agreement may be complicated, so I just wanted to get a better understanding of what this would mean.

Additionally, I am not in support of SVCE doing any business with BP Energy. Regardless of their renewable energy options, BP has caused irreparable harm to this planet and the communities it operates within, both through physical oil spills and more insidious PR campaigns to spread misinformation and climate denial. I would hope that SVCE is looking more broadly at the impacts of its business decisions beyond just procuring energy. It’s important to understand the nature of the companies you work with and carefully select who you support. BP is not a company that should be supported in any way, shape, or form. Thank you.

Best,
Kira Barsten
TREASURER REPORT

Fiscal Year to Date
As of April 30, 2020
(Preliminary & Unaudited)
Issue Date: August 12, 2020

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<td>Statement of Revenues, Expenses &amp; Changes in Net Position</td>
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<td>Statement of Cash Flows</td>
<td>6-7</td>
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<td>Actuals to Budget Report</td>
<td>8-10</td>
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<tr>
<td>Monthly Change in Net Position</td>
<td>11</td>
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<td>Personnel Report</td>
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<td>Customer Accounts</td>
<td>14</td>
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<td>Weather Statistics</td>
<td>15</td>
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<tr>
<td>Accounts Receivable Aging Report</td>
<td>16</td>
</tr>
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</table>
Financial Highlights for the month of April 2020:

Note: April represents the first full month of shelter-in-place orders in response to COVID-19 virus. Retail load landed 7% below budget.

Staff will present a Mid-Year Budget in May to reflect changes to assumptions based on Shelter-in-Place and rates.

The Board provided rates direction to maintain the 4% discount to PG&E and fund $10 million of Customer Relief and Community Resilience programs at the April meeting.

SVCE operations resulted in a positive change in net position for the month of $4.8 million and year-to-date change in net position of $24.1 million.

- April revenue of $26.2 million accounted for 287 GWh in net retail consumption.
- April revenue also includes $6.6 million of liquidated damages related to the termination of a long-term PPA signed in 2018.
- YTD operating margin of $31.9 million or 20% is well ahead of budget.

Retail GWh sales for the month landed 7% below budget.
- Year-to-date retail load is 34 GWh’s or 2% below budget.
- April weather was normal compared to the 15-year average.

Power Supply costs are 3% below budget year-to-date.
- Much of the vintage 2019 REC’s were invoiced in March and April lowering the variance to budget.
- Market prices have been stable and near budget.
- There are three remaining long-term PPA negotiations remaining from the 2019 RFO. Negotiations are expected to conclude by summer.

Decarbonization and Grid Innovations
- Programs continue to ramp up.

SVCE is investing ~92% of available funds generating year-to-date investment income of $1.3 million

---

### Change in Net Position

<table>
<thead>
<tr>
<th></th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
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<tr>
<td>Actual</td>
<td>14,432</td>
<td>5,732</td>
<td>4,159</td>
<td>2,047</td>
<td>(326)</td>
<td>(6,757)</td>
<td>4,792</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24,079</td>
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<tr>
<td>Adopted</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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### Power Supply Costs

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<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Total</th>
<th>Adopted</th>
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<tbody>
<tr>
<td>Energy &amp; REC's</td>
<td>12,881</td>
<td>13,068</td>
<td>13,525</td>
<td>15,681</td>
<td>15,771</td>
<td>23,555</td>
<td>18,474</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>112,955</td>
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<tr>
<td>Wholesale Sales</td>
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<td>(9)</td>
<td>(10)</td>
<td>(21)</td>
<td>(46)</td>
<td>(106)</td>
<td>(34)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1,034)</td>
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<td>Capacity</td>
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<td>1,674</td>
<td>1,939</td>
<td>1,787</td>
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<td></td>
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<td>12,597</td>
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<td>CAISO Charges</td>
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<td>400</td>
<td>763</td>
<td>678</td>
<td>715</td>
<td>1,211</td>
<td>408</td>
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<td>4,625</td>
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<td>NEM Expense</td>
<td>155</td>
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<td>(223)</td>
<td>(275)</td>
<td>(60)</td>
<td>5</td>
<td>(326)</td>
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<td>(767)</td>
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<td>Charge/Credit (IST/Net Rev)</td>
<td>482</td>
<td>254</td>
<td>(224)</td>
<td>1,736</td>
<td>993</td>
<td>(417)</td>
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<td>Net Power Costs</td>
<td>15,347</td>
<td>15,251</td>
<td>15,588</td>
<td>19,473</td>
<td>19,047</td>
<td>26,186</td>
<td>20,344</td>
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<td>131,236</td>
<td>245,340</td>
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### Other

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<tr>
<th>Item</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Total</th>
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<tbody>
<tr>
<td>Capital Expenditures</td>
<td>-</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>14</td>
<td>400</td>
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<td>Energy Programs</td>
<td>51</td>
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<td>145</td>
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<td>668</td>
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<td>1,320</td>
<td>6,360</td>
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### Load Statistics - GWh

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<tr>
<th>Item</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Total</th>
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<tr>
<td>Retail Sales Actual</td>
<td>325</td>
<td>314</td>
<td>332</td>
<td>334</td>
<td>304</td>
<td>311</td>
<td>287</td>
<td>307</td>
<td>321</td>
<td>360</td>
<td>348</td>
<td>339</td>
<td>2,207</td>
<td></td>
</tr>
<tr>
<td>Retail Sales Budget</td>
<td>325</td>
<td>318</td>
<td>335</td>
<td>329</td>
<td>311</td>
<td>316</td>
<td>308</td>
<td>307</td>
<td>321</td>
<td>360</td>
<td>348</td>
<td>339</td>
<td>3,916</td>
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SVCE Operations resulted in a positive change in net position for the month of $4.8 million and year-to-date change in net position of $24.1 million.
Other Statistics and Ratios

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<th>Item</th>
<th>Value</th>
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<tr>
<td>Working Capital</td>
<td>$166,797,666</td>
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<td>Current Ratio</td>
<td>5.5</td>
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<tr>
<td>Operating Margin</td>
<td>20%</td>
</tr>
<tr>
<td>Expense Coverage Days</td>
<td>201</td>
</tr>
<tr>
<td>Expense Coverage Days with LOC</td>
<td>246</td>
</tr>
<tr>
<td>Long-Term Debt</td>
<td>$0</td>
</tr>
<tr>
<td>Total Accounts</td>
<td>271,956</td>
</tr>
<tr>
<td>Opt-Out Accounts (Month)</td>
<td>44</td>
</tr>
<tr>
<td>Opt-Out Accounts (FYTD)</td>
<td>475</td>
</tr>
<tr>
<td>Opt-Up Accounts (Month)</td>
<td>16</td>
</tr>
<tr>
<td>Opt-Up Accounts (FYTD)</td>
<td>74</td>
</tr>
</tbody>
</table>

Retail Sales - Month

- Actual: 26.1
- Budget: 19.8
- FY18/19: 18.3

Retail Sales - YTD

- Actual: 163.1
- Budget: 156.9
- FY18/19: 137.9

Controllable O&M - Month

- Actual: 21.4
- Budget: 19.5
- FY18/19: 15.8

Controllable O&M - YTD

- Actual: 138.7
- Budget: 144.9
- FY18/19: 124.1
### ASSETS

**Current Assets**
- Cash & Cash Equivalents: $164,464,913
- Accounts Receivable, net of allowance: 18,079,339
- Market settlements receivable: 421,914
- Accrued Revenue: 12,177,684
- Other Receivables: 134,619
- Prepaid Expenses: 2,642,918
- Deposits: 795,615
- Restricted cash: 5,000,000

**Total Current Assets**: $203,717,002

**Noncurrent assets**
- Capital assets, net of depreciation: 130,431
- Deposits: 145,630

**Total Noncurrent Assets**: $276,061

**Total Assets**: $203,993,063

### LIABILITIES

**Current Liabilities**
- Accounts Payable: 890,779
- Accrued Cost of Electricity: 34,834,348
- Accrued Payroll & Benefits: 473,860
- Other accrued liabilities: 22,974
- User Taxes and Energy Surcharges due to other gov'ts: 669,055
- Supplier Security Deposits: 28,320

**Total Current Liabilities**: $36,919,336

### NET POSITION

- Net investment in capital assets: 130,431
- Restricted for security collateral: 5,000,000
- Unrestricted (deficit): 161,943,296

**Total Net Position**: $167,073,727
SILICON VALLEY CLEAN ENERGY AUTHORITY

STATEMENT OF REVENUES, EXPENSES
AND CHANGES IN NET POSITION
October 1, 2019 through April 30, 2020

<table>
<thead>
<tr>
<th>OPERATING REVENUES</th>
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<tbody>
<tr>
<td>Electricity Sales, Net</td>
<td>$155,574,829</td>
</tr>
<tr>
<td>GreenPrime electricity premium</td>
<td>773,816</td>
</tr>
<tr>
<td>Liquidated damages</td>
<td>6,600,000</td>
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<tr>
<td>Other Income</td>
<td>146,723</td>
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<tr>
<td><strong>TOTAL OPERATING REVENUES</strong></td>
<td><strong>163,095,368</strong></td>
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<table>
<thead>
<tr>
<th>OPERATING EXPENSES</th>
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<tbody>
<tr>
<td>Cost of Electricity</td>
<td>131,236,177</td>
</tr>
<tr>
<td>Contract services</td>
<td>5,094,353</td>
</tr>
<tr>
<td>Staff compensation and benefits</td>
<td>2,630,540</td>
</tr>
<tr>
<td>General &amp; Administrative</td>
<td>1,099,087</td>
</tr>
<tr>
<td>Depreciation</td>
<td>31,758</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING EXPENSES</strong></td>
<td><strong>140,091,915</strong></td>
</tr>
<tr>
<td><strong>OPERATING INCOME(LOSS)</strong></td>
<td><strong>23,003,453</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NONOPERATING REVENUES (EXPENSES)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Income</td>
<td>1,286,842</td>
</tr>
<tr>
<td>Financing costs</td>
<td>(211,525)</td>
</tr>
<tr>
<td><strong>TOTAL NONOPERATING EXPENSES</strong></td>
<td><strong>1,075,317</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHANGE IN NET POSITION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Position at beginning of period</td>
<td>142,994,957</td>
</tr>
<tr>
<td><strong>Net Position at end of period</strong></td>
<td><strong>$167,073,727</strong></td>
</tr>
</tbody>
</table>
# CASH FLOWS FROM OPERATING ACTIVITIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts from customers</td>
<td>$179,047,749</td>
</tr>
<tr>
<td>Liquidated Damages</td>
<td>$6,600,000</td>
</tr>
<tr>
<td>Other operating receipts</td>
<td>2,023,545</td>
</tr>
<tr>
<td>Payments to suppliers for electricity</td>
<td>(130,832,825)</td>
</tr>
<tr>
<td>Payments for other goods and services</td>
<td>(6,359,216)</td>
</tr>
<tr>
<td>Payments for staff compensation and benefits</td>
<td>(2,511,872)</td>
</tr>
<tr>
<td>Tax and surcharge payments to other governments</td>
<td>(3,677,149)</td>
</tr>
<tr>
<td><strong>Net cash provided (used) by operating activities</strong></td>
<td><strong>44,290,232</strong></td>
</tr>
</tbody>
</table>

# CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance costs paid</td>
<td>(146,315)</td>
</tr>
<tr>
<td><strong>Net cash provided (used) by non-capital financing activities</strong></td>
<td><strong>(146,315)</strong></td>
</tr>
</tbody>
</table>

# CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition of capital assets</td>
<td>(14,152)</td>
</tr>
</tbody>
</table>

# CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest income received</td>
<td>1,286,842</td>
</tr>
</tbody>
</table>

Net change in cash and cash equivalents                  | 45,416,607  |
Cash and cash equivalents at beginning of year           | 124,048,306 |
**Cash and cash equivalents at end of period**            | **$169,464,913** |
RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED (USED) BY OPERATING ACTIVITIES

Operating Income (loss) $ 23,003,453

Adjustments to reconcile operating income to net cash provided (used) by operating activities

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation expense</td>
<td>31,758</td>
</tr>
<tr>
<td>Revenue reduced for uncollectible accounts</td>
<td>627,907</td>
</tr>
<tr>
<td>(Increase) decrease in net accounts receivable</td>
<td>11,569,569</td>
</tr>
<tr>
<td>(Increase) decrease in energy settlements receivable</td>
<td>(255,257)</td>
</tr>
<tr>
<td>(Increase) decrease in other receivables</td>
<td>(116,719)</td>
</tr>
<tr>
<td>(Increase) decrease in accrued revenue</td>
<td>7,394,416</td>
</tr>
<tr>
<td>(Increase) decrease in prepaid expenses</td>
<td>(1,374,213)</td>
</tr>
<tr>
<td>(Increase) decrease in current deposits</td>
<td>1,448,371</td>
</tr>
<tr>
<td>Increase (decrease) in accounts payable</td>
<td>(55,268)</td>
</tr>
<tr>
<td>Increase (decrease) in accrued payroll &amp; benefits</td>
<td>118,668</td>
</tr>
<tr>
<td>Increase (decrease) in energy settlements payable</td>
<td>(472,313)</td>
</tr>
<tr>
<td>Increase (decrease) in accrued cost of electricity</td>
<td>3,174,352</td>
</tr>
<tr>
<td>Increase (decrease) in accrued liabilities</td>
<td>(234,556)</td>
</tr>
<tr>
<td>Increase (decrease) in taxes and surcharges due to other governments</td>
<td>(569,936)</td>
</tr>
</tbody>
</table>

Net cash provided (used) by operating activities $ 44,290,232
## SILICON VALLEY CLEAN ENERGY AUTHORITY

### BUDGETARY COMPARISON SCHEDULE

October 1, 2019 through April 30, 2020

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD Actual</th>
<th>FYTD Budget</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATING REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Sales</td>
<td>$155,574,829</td>
<td>$156,316,774</td>
<td>($741,945)</td>
<td>0%</td>
<td>$317,230,000</td>
</tr>
<tr>
<td>Green Prime Premium</td>
<td>773,816</td>
<td>538,022</td>
<td>235,794</td>
<td>44%</td>
<td>940,000</td>
</tr>
<tr>
<td>Liquidated Damages</td>
<td>6,600,000</td>
<td>-</td>
<td>6,600,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other Income</td>
<td>146,723</td>
<td>29,167</td>
<td>117,556</td>
<td>403%</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING REVENUES</strong></td>
<td>163,095,368</td>
<td>156,883,963</td>
<td>6,211,405</td>
<td>4%</td>
<td>318,220,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD</th>
<th>FYTD</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENERGY EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>131,236,177</td>
<td>135,031,653</td>
<td>(3,795,476)</td>
<td>-3%</td>
<td>245,340,000</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>31,859,191</td>
<td>21,852,310</td>
<td>10,006,881</td>
<td>46%</td>
<td>72,880,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD</th>
<th>FYTD</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATING EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Management</td>
<td>1,915,691</td>
<td>2,056,547</td>
<td>(140,856)</td>
<td>-7%</td>
<td>3,530,000</td>
</tr>
<tr>
<td>PG&amp;E Fees</td>
<td>674,315</td>
<td>785,227</td>
<td>(110,912)</td>
<td>-14%</td>
<td>1,350,000</td>
</tr>
<tr>
<td>Salaries &amp; Benefits</td>
<td>2,630,540</td>
<td>3,204,459</td>
<td>(573,919)</td>
<td>-18%</td>
<td>5,490,000</td>
</tr>
<tr>
<td>Professional Services</td>
<td>1,208,458</td>
<td>2,222,750</td>
<td>(1,014,292)</td>
<td>-46%</td>
<td>3,710,000</td>
</tr>
<tr>
<td>Marketing &amp; Promotions</td>
<td>315,085</td>
<td>571,477</td>
<td>(256,392)</td>
<td>-45%</td>
<td>960,000</td>
</tr>
<tr>
<td>Notifications</td>
<td>34,353</td>
<td>41,000</td>
<td>(6,647)</td>
<td>-16%</td>
<td>160,000</td>
</tr>
<tr>
<td>Lease</td>
<td>194,451</td>
<td>350,000</td>
<td>(155,549)</td>
<td>-44%</td>
<td>600,000</td>
</tr>
<tr>
<td>General &amp; Administrative</td>
<td>530,670</td>
<td>645,000</td>
<td>(114,330)</td>
<td>-18%</td>
<td>1,150,000</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING EXPENSES</strong></td>
<td>7,503,563</td>
<td>9,876,460</td>
<td>(2,372,897)</td>
<td>-24%</td>
<td>16,950,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD</th>
<th>FYTD</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NON-OPERATING REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Income</td>
<td>1,286,842</td>
<td>857,208</td>
<td>429,634</td>
<td>50%</td>
<td>1,470,000</td>
</tr>
<tr>
<td>Grant Income</td>
<td>-</td>
<td>94,792</td>
<td>(94,792)</td>
<td>-100%</td>
<td>160,000</td>
</tr>
<tr>
<td><strong>TOTAL NON-OPERATING REVENUES</strong></td>
<td>1,286,842</td>
<td>952,000</td>
<td>334,842</td>
<td>35%</td>
<td>1,630,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD</th>
<th>FYTD</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NON-OPERATING EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td>211,525</td>
<td>141,628</td>
<td>69,897</td>
<td>49%</td>
<td>180,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD</th>
<th>FYTD</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAPITAL EXPENDITURES, TRANSFERS, &amp; OTHER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>14,151</td>
<td>250,000</td>
<td>(235,849)</td>
<td>-94%</td>
<td>400,000</td>
</tr>
<tr>
<td>Refund of Bond (Cash Inflow)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(100,000)</td>
</tr>
<tr>
<td>Financial Security Requirement</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>147,000</td>
</tr>
<tr>
<td>Transfer to Program Fund</td>
<td>6,360,000</td>
<td>6,360,000</td>
<td>-</td>
<td>-</td>
<td>6,360,000</td>
</tr>
<tr>
<td><strong>TOTAL OTHER USES</strong></td>
<td>6,374,151</td>
<td>6,610,000</td>
<td>(235,849)</td>
<td>-4%</td>
<td>6,807,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>FYTD</th>
<th>FYTD</th>
<th>Variance</th>
<th>FY 2019-20</th>
<th>FY 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NET INCREASE(DECREASE) IN AVAILABLE FUND BALANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$19,056,794</td>
<td>$6,176,222</td>
<td>$12,880,572</td>
<td>209%</td>
<td>$50,573,000</td>
</tr>
<tr>
<td>REVENUE &amp; OTHER SOURCES:</td>
<td>BUDGET</td>
<td>ACTUAL</td>
<td>BUDGET REMAINING</td>
<td>ACTUAL/ BUDGET</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------</td>
<td>--------</td>
<td>------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Transfer from Operating Fund</td>
<td>$6,360,000</td>
<td>$6,360,000</td>
<td>$0</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENDITURES &amp; OTHER USES:</th>
<th>BUDGET</th>
<th>ACTUAL</th>
<th>BUDGET REMAINING</th>
<th>ACTUAL/ BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program expenditures</td>
<td>6,360,000</td>
<td>1,320,414</td>
<td>5,039,586</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Net increase (decrease) in fund balance:

| Fund balance at beginning of period | $0 | $5,039,586 | |
| Fund balance at end of period | $5,039,586 | | |
SILICON VALLEY CLEAN ENERGY AUTHORITY

BUDGET RECONCILIATION TO STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

Net Increase (decrease) in available fund balance per budgetary comparison schedule $ 19,056,794

Adjustments needed to reconcile to the changes in net position in the Statement of Revenues, Expenses and Changes in Net Position

Subtract depreciation expense (31,761)
Subtract program expense not in operating budget (1,320,414)
Add back transfer to Program fund 6,360,000
Add back capital asset acquisition 14,151

Change in Net Position 24,078,770
### SILICON VALLEY CLEAN ENERGY AUTHORITY

#### STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

October 1, 2019 through April 30, 2020

<table>
<thead>
<tr>
<th></th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATING REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity sales, net</td>
<td>$ 30,729,014</td>
<td>$ 21,850,841</td>
<td>$ 20,977,174</td>
<td>$ 22,440,755</td>
<td>$ 19,670,594</td>
<td>$ 20,459,015</td>
<td>$ 19,447,436</td>
<td>$ 155,574,829</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green electricity premium</td>
<td>117,448</td>
<td>97,649</td>
<td>111,859</td>
<td>121,089</td>
<td>103,324</td>
<td>120,092</td>
<td>102,355</td>
<td>773,816</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidated damages</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6,600,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other income</td>
<td>40,200</td>
<td>53,094</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6,600,000</td>
<td>146,723</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total operating revenues</strong></td>
<td>$ 30,886,662</td>
<td>$ 22,001,584</td>
<td>$ 21,089,033</td>
<td>$ 22,591,506</td>
<td>$ 19,797,685</td>
<td>$ 20,579,107</td>
<td>$ 26,149,791</td>
<td>$ 163,095,368</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **OPERATING EXPENSES** |         |          |          |         |          |       |       |     |      |      |        |           |      |
| Staff compensation and benefits | 358,403 | 325,710 | 427,518 | 371,006 | 357,900 | 371,006 | 357,900 | 2,630,540 |
| Data manager | 291,256 | 290,953 | 291,025 | 260,475 | 261,253 | 261,253 | 261,253 | 1,915,691 |
| Service fees - PG&E | 96,070 | 95,877 | 95,882 | 95,000 | 96,840 | 96,840 | 96,840 | 674,315 |
| Consultants and other professional fees | 249,638 | 266,760 | 499,433 | 353,118 | 260,475 | 261,253 | 261,253 | 2,504,347 |
| General and administration | 153,979 | 210,400 | 211,420 | 213,108 | 30,495 | 199,289 | 110,396 | 1,099,087 |
| Depreciation | 4,375 | 4,375 | 4,560 | 4,612 | 4,612 | 4,612 | 4,612 | 31,758 |
| **Total operating expenses** | 16,500,329 | 16,445,331 | 17,117,709 | 20,740,996 | 20,279,269 | 27,515,239 | 21,493,042 | 140,091,915 |
| Operating income (loss) | 14,386,333 | 5,556,253 | 3,951,324 | 1,660,510 | (481,584) | (6,936,132) | 4,656,749 | 23,003,453 |

| **NONOPERATING REVENUES (EXPENSES)** |         |          |          |         |          |       |       |     |      |      |        |           |      |
| Interest income | 180,933 | 184,968 | 196,888 | 206,014 | 185,526 | 188,324 | 144,189 | 1,286,842 |
| Financing costs | (135,103) | (9,316) | (9,316) | (9,316) | (9,316) | (9,316) | (9,316) | (211,525) |
| **Total nonoperating revenues (expenses)** | 45,830 | 175,652 | 187,573 | 186,688 | 155,682 | 179,009 | 134,873 | 1,075,317 |

| **CHANGE IN NET POSITION** | $ 14,432,163 | $ 5,751,905 | $ 4,158,897 | $ 2,047,208 | (325,902) | (6,757,123) | 4,791,622 | $ 24,078,770 |

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SVCE April 2020 Treasurer Report
## PERSONNEL REPORT FOR APRIL 2020

<table>
<thead>
<tr>
<th>Position</th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Account Services and Community Relations</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Account Services Manager</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sr. Energy Consultant</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Energy Consultant</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Associate Energy Consultant</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Communications Manager</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Community Outreach Specialist</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Communications Specialist</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Board Clerk/Executive Assistant</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Chief Executive Officer</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Director of Finance and Administration</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Administrative Services Manager</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Director of Legislative and Regulatory Policy</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Management Analyst</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Administrative Analyst</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Administrative Assistant</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Director of Power Resources</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Power Resources Manager</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Power Resources Planner</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Power Settlements &amp; Compliance Analyst</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Manager of Regulatory and Legislative Affairs</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Senior Regulatory Analyst</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Director of Decarboniation and Grid Innovation</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Associate Data Analyst</td>
<td>1</td>
<td>1</td>
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</tr>
<tr>
<td>Analyst</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27</strong></td>
<td><strong>24</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>
### Return on Investments

<table>
<thead>
<tr>
<th>Money Market</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Total YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Market</td>
<td>$180,933</td>
<td>$184,968</td>
<td>$196,888</td>
<td>$206,014</td>
<td>$185,526</td>
<td>$188,324</td>
<td>$144,189</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,286,842</td>
</tr>
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</table>

### Portfolio Invested

<table>
<thead>
<tr>
<th>Average daily portfolio available to invest*</th>
<th>114,832,942</th>
<th>124,956,925</th>
<th>140,310,822</th>
<th>148,981,775</th>
<th>150,166,653</th>
<th>$149,893,470</th>
<th>151,620,999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average daily portfolio invested</td>
<td>102,127,452</td>
<td>120,538,388</td>
<td>130,715,414</td>
<td>137,957,394</td>
<td>137,649,041</td>
<td>$139,005,163</td>
<td>140,220,462</td>
</tr>
<tr>
<td>% of average daily portfolio invested</td>
<td>88.9%</td>
<td>96.5%</td>
<td>93.2%</td>
<td>92.6%</td>
<td>91.7%</td>
<td>92.7%</td>
<td>92.5%</td>
</tr>
</tbody>
</table>

### Detail of Portfolio

<table>
<thead>
<tr>
<th>Money Market - River City Bank</th>
<th>Opening Rate</th>
<th>April Rate</th>
<th>Carrying Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.26%</td>
<td>1.23%</td>
<td>$150,026,059</td>
</tr>
</tbody>
</table>

*Note: Balance available to invest does not lockbox or debt serve reserve funds.*
# CUSTOMER ACCOUNTS

## RESIDENTIAL ACCOUNTS

<table>
<thead>
<tr>
<th>Month</th>
<th>Actual</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
<td>243.2</td>
<td></td>
</tr>
<tr>
<td>Nov</td>
<td>243.3</td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td>243.3</td>
<td></td>
</tr>
<tr>
<td>Jan</td>
<td>243.5</td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>243.7</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>242.9</td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td>244.0</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## NON-RESIDENTIAL ACCOUNTS

<table>
<thead>
<tr>
<th>Month</th>
<th>Actual</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
<td>28.0</td>
<td></td>
</tr>
<tr>
<td>Nov</td>
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<td></td>
</tr>
<tr>
<td>Dec</td>
<td>28.0</td>
<td></td>
</tr>
<tr>
<td>Jan</td>
<td>27.9</td>
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</tr>
<tr>
<td>Feb</td>
<td>27.9</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>28.0</td>
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<tr>
<td>Apr</td>
<td>22.9</td>
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<tr>
<td>May</td>
<td></td>
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<tr>
<td>Jun</td>
<td></td>
<td></td>
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<tr>
<td>Jul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WEATHER STATISTICS

COOLING DEGREE DAYS

HEATING DEGREE DAYS

Actual  15 Year Average

Actual  15 Year Average
### Accounts Receivable Aging Report

<table>
<thead>
<tr>
<th></th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 30 days</td>
<td>88.3%</td>
<td>86.6%</td>
<td>84.7%</td>
<td>88.3%</td>
<td>87.9%</td>
<td>82.6%</td>
</tr>
<tr>
<td>31 to 60 days</td>
<td>5.8%</td>
<td>4.9%</td>
<td>5.1%</td>
<td>4.6%</td>
<td>4.1%</td>
<td>7.9%</td>
</tr>
<tr>
<td>61 to 90 days</td>
<td>1.3%</td>
<td>3.0%</td>
<td>2.4%</td>
<td>1.8%</td>
<td>1.8%</td>
<td>2.5%</td>
</tr>
<tr>
<td>91 to 120 days</td>
<td>0.6%</td>
<td>0.8%</td>
<td>1.6%</td>
<td>0.9%</td>
<td>1.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Over 120 days</td>
<td>4.0%</td>
<td>4.7%</td>
<td>6.2%</td>
<td>4.4%</td>
<td>4.9%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

**Accounts Receivable Days**

- **45 DAYS**

**Total Due**

- **$20,207,245**

**Bad Debt % (Budget)**

- **0.5%**

**Age Summary**

- **<30 days**: $16,833,232
- **<60 days**: $1,599,800
- **<90 days**: $499,042
- **<120 days**: $300,425
- **Older**: $1,124,945

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**SVCE April 2020 Treasurer Report**
**Item 1c:** Appoint the Chief Executive Officer to Serve as Interim SVCE Board Treasurer/Auditor

From: Girish Balachandran, CEO

Prepared by: Andrea Pizano, Board Clerk/Executive Assistant

Date: 8/12/2020

**RECOMMENDATION**
Appoint SVCE CEO Girish Balachandran as the SVCE Board Treasurer/Auditor until the annual appointment of the SVCE Treasurer/Auditor is made at the January 13, 2021 Board of Directors meeting.

**BACKGROUND**
Pursuant to Section 4.11.3 of the Joint Powers Agreement, the Board shall appoint a qualified person to act as Treasurer and a qualified person to serve as Auditor. The Board may appoint a qualified person to serve as both Treasurer/Auditor. The Treasurer/Auditor acts as the depository of the Authority’s funds and has custody of all of the money of the Authority. The Treasurer/Auditor reports directly to the Board in the performance of his or her duties as Treasurer/Auditor and must comply with the requirements for treasurers of general law cities. Government Code Section 6505.5 and Section 6 of the Joint Powers Agreement further specifies the duties and obligations of the Treasurer/Auditor.

**ANALYSIS & DISCUSSION**
With the departure of SVCE’s Director of Finance and Administration Don Eckert, there is a vacancy for the SVCE Treasurer/Auditor role. Given that this position may not be permanently filled within the next six months, staff is recommending this role be performed by SVCE’s CEO, Girish Balachandran, until the annual appointment is made in January.

**STRATEGIC PLAN**
N/A

**ALTERNATIVE**
The Board can elect to appoint an alternative individual for the role of SVCE Board Treasurer/Auditor.

**FISCAL IMPACT**
No fiscal impact as a result of the appointment.
Staff Report – Item 1d

Item 1d: Approve Amended Title and Job Description for the Director of Finance and Administration to Chief Financial Officer and Director of Administrative Services, and Adopt Resolution Amending the Positions Chart, Job Classifications, and Salary Schedule

From: Girish Balachandran, CEO

Prepared by: Andrea Pizano, Board Clerk/Executive Assistant

Date: 8/12/2020

RECOMMENDATION
Staff recommends that the Board approve Resolution 2020-20 amending the Silicon Valley Clean Energy ("SVCE") positions chart, job classifications and salary schedule to amend the position title of "Director of Finance and Administration" to "Chief Financial Officer and Director of Administrative Services" in addition to an amended job description.

BACKGROUND
The Director of Administration and Finance job title and description was created and approved by the SVCE Board in 2016; a title change was made in 2018 to reflect Director of Finance and Administration, but no changes were made to the job specifications.

Amendments to the Positions Chart, Job Classifications and Salary Schedule were most recently approved by Resolution 2020-15 by the Board at the May 13, 2020 Board of Directors meeting to add the positions of Principal Power Analyst and Senior Data Engineer, and Amend the Salary Range of the Director of Decarbonization and Grid Innovation Programs.

ANALYSIS & DISCUSSION
As SVCE continues to mature, staff duties are evolving. The amendment to the title of this position is consistent with other CCAs and is reflective of the duties that will be performed; changes made to the original job description are highlighted in the attached.

STRATEGIC PLAN
This recommendation supports the overall goals of the strategic plan.

ALTERNATIVE
Staff is open to suggestions from the Board.

FISCAL IMPACT
No fiscal impact as a result of amending the title and job description of the position.

ATTACHMENTS
1. Draft Job Description for Chief Financial Officer and Director of Administrative Services
2. Resolution 2020-20 Amending the Approved Positions Chart, Job Classifications and Salary Schedule to Amend the Position Title of Director of Finance and Administration to Chief Financial Officer and Director of Administrative Services
CHIEF FINANCIAL OFFICER AND DIRECTOR OF ADMINISTRATIVE SERVICES

SALARY RANGE: $148,865 - $259,662

SUMMARY DESCRIPTION
The Chief Financial Officer and Director of Administrative Services works under the general direction of the Chief Executive Officer and has responsibility for a wide range of matters to support Silicon Valley Clean Energy’s (SVCE’s) internal functions including banking and budget oversight, accounting, contract management, information technology (IT) and security, office management and communications systems, human resources, and Board/Committee support. The incumbent provides mid-level support to the Chief Executive Officer (when he/she is unavailable) serving as a decision-maker as needed for administrative staff or on behalf of the team/organization. The position requires knowledge of business operations for an organization of approximately 30 people, vendor and contract management, public agency governance, finance and credit, customer service, and human resource/employment practices.

SUPERVISION RECEIVED AND EXERCISED
The Chief Financial Officer and Director of Administrative Services reports to the Chief Executive Officer and manages the supervision of SVCE internal staff in the Finance and Administration team and external vendors and contractors/consultants.

ESSENTIAL FUNCTIONS

- In collaboration with the CEO, develops the strategic plan and implements goals and objectives, policy priorities, and procedures consistent with the SVCE’s mission, vision, and key performance measures. Utilizes performance planning techniques and analysis to evaluate the performance of SVCE and its staff in meeting established goals and objectives; reports findings and recommends improvements or policy changes to the CEO and Board as directed.
- In collaboration with the CEO, develops the budget and is responsible for ongoing budget management, audits and review, recommending adjustments where necessary; assures appropriate expenditure of funds, assists with credit terms and loan structures, and monitors high-priority program expenses and projects. Assists with presentation of the budget and annual audit to the Board and public.
- Conducts research, analyzes data, and evaluates issues and programs to analyze the impact of alternative policies and procedures on administrative and operational problems encountered; assists in evaluating, implementing, and managing business strategies and sustainable business practices.
- Develops, writes, and presents staff reports and recommendations to the Board.
- Oversees and supervises administrative and support functions including Board and committee agendas and materials, personnel and payroll functions, contract claims processing and tracking, and other office support functions. Reviews reports.
developed by staff to recommend approval or suggest changes.

- Reviews and evaluates ongoing employment developments and compliance with local, Federal, and State human resource laws; recommends policy amendments where necessary or beneficial.
- Acts as Custodian of Records for SVCE, including, but not limited to meeting records, legal and business records, correspondence, and personnel files. Responds to Public Records Act requests and other public agency service requirements. Answers complex inquiries and complaints from the public, community groups, private and public agencies, and others.
- Establishes and oversees the Agency’s human resource function including recruitment, classification, compensation and benefits, training, compliance, and development/implementation of personnel policies. Closely works with other department directors to evaluate and track staff performance and staff development needs. Research and implement short and long-term staff development plans.
- Manages consultants and contractors where necessary, including development of vendor RFPs and contracts; review and selection of contractors; contract negotiations; development of performance standards and scopes of work; contract execution; and managing relationships with vendors and consultants.
- Manages requirements for continual operations including facility and capital needs, such as but not limited to lease agreements, permits, insurance policies, equipment, communications and IT systems, and other activities required to ensure proper Agency function and compliance. Anticipates and plans for SVCE’s future infrastructure needs.
- **Assists in the establishment and amendments of the Energy Risk Management Policy and is responsible for compliance.**
- **Establishes the Credit Risk Guidelines and responsible for compliance.**
- Assists in relations with and provides staff support to the Board of Directors and committees of the Board, coordinating Board activities, and resolving concerns. Directs and prepares Agency operation-related documents for Board review and manages resulting implementation plans.
- Attends Board meetings and follows up on Board direction as necessary including implementation of CEO recommendations and Board actions.
- Interacts with General Counsel on any legal matters related to Agency operations or governance.
- Establishes and maintains relationships with appropriate agencies, consultants, professional groups, and programs associated with SVCE management and operations.

**KNOWLEDGE, SKILLS, AND ABILITIES**

*Knowledge of:*

- Principles of business operations and management, strategic planning, budgeting and finance, human resource management and compliance, and general project management.
• Personnel administration including recruitment, selection and training. Management techniques to train and supervise employees and implement employment policies
• Board of Director functions and public agency governance procedures
• Public finance and accounting principles; budget development and knowledge of various credit facilities.
• Above average working knowledge of current software programs, including Microsoft Word, Power Point, Excel, Outlook, and Adobe Acrobat Professional

Ability to:

• Plan, organize and manage all aspects of internal business operations of SVCE
• Represent and communicate SVCE operational policies and procedures to internal Agency staff, the Board of Directors and external parties and vendors
• Identify complex problems, develop, and implement solutions
• Establish and maintain effective working relationships with persons encountered during the performance of duties
• Perform data collection, interpretation and analysis pertaining to administrative, human resource, governance, and fiscal matters
• Develop and manage complex budgets and financing strategies
• Communicate verbal and written ideas clearly and logically
• Analyze administrative problems and stay current on IT systems, software, and procedures
• Effectively direct, supervise and coordinate the work of assigned staff
• Manage IT services and information security for Agency records, customer data, employees, and outside consultants
• Manage multiple priorities, meet deadlines, and quickly adapt to changing priorities in a fast-paced dynamic environment
• Work well under pressure
• Be thorough and detail-oriented
• Demonstrate patience, tact, teamwork and commitment to superior service and performance
• Communicate effectively verbally, in writing, and thorough presentations

REQUIRED QUALIFICATIONS

EXPERIENCE and TRAINING GUIDELINES: Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

EDUCATION: A Bachelor’s or Master’s degree in business or public administration, organizational development, operations management, economics, or a closely related field. Preferred accounting designation (CPA), Masters in Finance, MBA or relevant quantitative field; or Bachelor’s Degree in Finance and Accounting and an equivalent combination of education and experience sufficient to successfully perform the essential duties of the position.
EXPERIENCE: A minimum of seven (7) years of progressively responsible experience in a professional, personnel management, or fiscal staff position. Experience in managing staff and operations of a public utility or service organization with rate payer customers. Public sector experience is strongly desired.

LICENSE: Possession of a valid Class C California driver’s license and a satisfactory driving record at the time of hire.

PHYSICAL AND WORKING CONDITIONS
The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

ENVIRONMENT: Work is performed in a typical office setting with exposure to computer screens and at public events (fairs, meeting rooms, farmers’ markets, etc.) with moderate noise and will require some evening and weekend work. The noise level in the work environment is usually typical of an office environment and public events.

PHYSICAL: While performing the duties of this class, employees are regularly required to sit, walk, and stand; talk or hear, in person and by telephone; reach with hands and arms. Employees are occasionally required to walk, and stand for prolonged periods; stoop, bend, kneel and twist; and may lift up to 20 pounds. Employees must be able to communicate in person, in writing, and by telephone with Board members, management, co-workers, vendors, consultants, and with the public in face-to-face, one-on-one, and group settings.

VISION: See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and, operate assigned equipment.

HEARING: Hear in the normal audio range with or without correction.

-----SVCE IS AN EQUAL OPPORTUNITY EMPLOYER-----
RESOLUTION NO. 2020-20

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SILICON VALLEY CLEAN ENERGY AUTHORITY AMENDING THE APPROVED POSITIONS CHART, JOB CLASSIFICATIONS AND SALARY SCHEDULE TO AMEND THE JOB TITLE FOR THE DIRECTOR OF FINANCE AND ADMINISTRATION TO CHIEF FINANCIAL OFFICER AND DIRECTOR OF ADMINISTRATIVE SERVICES

WHEREAS, the Silicon Valley Clean Energy Authority (“Authority”) was formed on March 31, 2016 pursuant to a Joint Powers Agreement to study, promote, develop, conduct, operate, and manage energy programs in Santa Clara County; and

WHEREAS, under Section 2.5.2 of the Joint Powers Agreement creating the Authority, the Authority has the power to employ agents and employees; and

WHEREAS, the Board of Directors adopted Resolution No. 2016-06 on August 10, 2016 establishing an Organization Chart for the Authority and salary ranges for the established positions; and

WHEREAS, the Board of Directors has amended the Organization Chart and Salary Schedule to add and delete positions and update salaries with the adoption of Resolution Nos. 2017-07, 2017-10, 2018-06, 2018-10, 2019-04, 2019-15, 2020-09 and 2020-15; and

WHEREAS, Resolution No. 2019-04 also renamed the Organization Chart as the Positions Chart; and

WHEREAS, to meet the needs of the Authority, the Chief Executive Officer recommends that the Board amend the existing schedule of job classification titles and salary ranges to amend the title of Director of Finance and Administration to Chief Financial Officer and Director of Administrative Services.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE SILICON VALLEY CLEAN ENERGY AUTHORITY DOES HEREBY RESOLVE, DETERMINE, AND ORDER AS FOLLOWS:

Section 1. The Authority’s schedule of job classification titles and salary ranges is amended to change the title of Director of Finance and Administration to Chief Financial Officer and Director of Administrative Services. The following schedule of job classification titles and salary ranges shall replace and supersede the schedule shown in Resolution 2020-15:

<table>
<thead>
<tr>
<th>Title</th>
<th>Minimum Salary (Annual $)</th>
<th>Maximum Salary (Annual $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Services Manager</td>
<td>111,648</td>
<td>175,447</td>
</tr>
<tr>
<td>Administrative Services Manager</td>
<td>120,952</td>
<td>190,067</td>
</tr>
<tr>
<td>Administrative Analyst</td>
<td>83,737</td>
<td>143,428</td>
</tr>
<tr>
<td>Administrative Assistant</td>
<td>55,824</td>
<td>88,601</td>
</tr>
<tr>
<td>Title</td>
<td>Minimum Salary (Annual $)</td>
<td>Maximum Salary (Annual $)</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Analyst</td>
<td>83,737</td>
<td>131,585</td>
</tr>
<tr>
<td>Associate Analyst</td>
<td>69,780</td>
<td>109,654</td>
</tr>
<tr>
<td>Associate Data Analyst</td>
<td>82,684</td>
<td>122,559</td>
</tr>
<tr>
<td>Associate Energy Consultant</td>
<td>69,780</td>
<td>109,654</td>
</tr>
<tr>
<td>Associate Legislative Analyst</td>
<td>72,106</td>
<td>113,310</td>
</tr>
<tr>
<td>Board Clerk / Executive Assistant</td>
<td>102,344</td>
<td>165,651</td>
</tr>
<tr>
<td>Chief Financial Officer and Director of Administrative Services</td>
<td>148,865</td>
<td>259,662</td>
</tr>
<tr>
<td>Communications Manager</td>
<td>111,648</td>
<td>175,447</td>
</tr>
<tr>
<td>Communications Specialist</td>
<td>60,476</td>
<td>98,835</td>
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<td>Community Outreach Specialist</td>
<td>60,476</td>
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</tr>
<tr>
<td>Data Analyst</td>
<td>96,641</td>
<td>144,489</td>
</tr>
<tr>
<td>Director of Account Services and Community Relations</td>
<td>148,865</td>
<td>233,929</td>
</tr>
<tr>
<td>Director of Decarbonization and Grid Innovation Programs</td>
<td>132,056</td>
<td>233,929</td>
</tr>
<tr>
<td><strong>Director of Finance &amp; Administration</strong></td>
<td><strong>148,865</strong></td>
<td><strong>259,662</strong></td>
</tr>
<tr>
<td>Director of Power Resources</td>
<td>176,776</td>
<td>277,791</td>
</tr>
<tr>
<td>Director of Regulatory and Legislative Policy</td>
<td>148,865</td>
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<td>Energy Consultant</td>
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<td>102,344</td>
<td>160,827</td>
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<tr>
<td>Manager of Decarbonization and Grid Innovation Programs</td>
<td>120,952</td>
<td>190,067</td>
</tr>
<tr>
<td>Manager of Regulatory &amp; Legislative Affairs</td>
<td>124,552</td>
<td>188,351</td>
</tr>
<tr>
<td>Power Resources Manager</td>
<td>139,561</td>
<td>219,309</td>
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<tr>
<td>Power Resources Planner</td>
<td>120,952</td>
<td>190,067</td>
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<tr>
<td>Power Settlements &amp; Compliance Analyst</td>
<td>102,344</td>
<td>160,827</td>
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<tr>
<td>Principal Power Analyst</td>
<td>120,952</td>
<td>190,067</td>
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<tr>
<td>Rates Manager</td>
<td>120,952</td>
<td>190,067</td>
</tr>
<tr>
<td>Senior Analyst</td>
<td>97,692</td>
<td>145,542</td>
</tr>
<tr>
<td>Senior Communications Specialist</td>
<td>72,956</td>
<td>110,835</td>
</tr>
<tr>
<td>Senior Community Outreach Specialist</td>
<td>72,956</td>
<td>110,835</td>
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<tr>
<td>Senior Data Analyst</td>
<td>110,597</td>
<td>158,446</td>
</tr>
<tr>
<td>Senior Data Engineer</td>
<td>122,597</td>
<td>170,446</td>
</tr>
<tr>
<td>Senior Energy Consultant</td>
<td>97,692</td>
<td>145,542</td>
</tr>
<tr>
<td>Senior Rates Analyst</td>
<td>110,172</td>
<td>165,996</td>
</tr>
<tr>
<td>Senior Regulatory Analyst</td>
<td>97,692</td>
<td>153,516</td>
</tr>
</tbody>
</table>
Section 2. The organization of positions shall be as shown in Attachment 1: SVCE Approved Positions Chart. This new Approved Positions Chart shall replace and supersede the Approved Positions Chart adopted by Resolution 2020-09.

Section 3. The Chief Executive Officer shall create and maintain as needed job descriptions for each classification.

Section 4. The Chief Executive Officer is authorized to initiate recruitments and hire for all listed positions.

ADOPTED AND APPROVED this 12th day of August, 2020 by the following vote:

<table>
<thead>
<tr>
<th>JURISDICTION</th>
<th>NAME</th>
<th>AYE</th>
<th>NO</th>
<th>ABSTAIN</th>
<th>ABSENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Campbell</td>
<td>Director Gibbons</td>
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<tr>
<td>City of Cupertino</td>
<td>Director Sinks</td>
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<tr>
<td>City of Gilroy</td>
<td>Director Tovar</td>
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<tr>
<td>City of Los Altos</td>
<td>Director Fligor</td>
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</tr>
<tr>
<td>Town of Los Altos Hills</td>
<td>Director Tyson</td>
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<td></td>
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<tr>
<td>Town of Los Gatos</td>
<td>Director Rennie</td>
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<tr>
<td>City of Milpitas</td>
<td>Director Montano</td>
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<tr>
<td>City of Monte Sereno</td>
<td>Director Ellahie</td>
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<tr>
<td>City of Morgan Hill</td>
<td>Director Martinez Beltran</td>
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<tr>
<td>City of Mountain View</td>
<td>Director Abe-Koga</td>
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</tr>
<tr>
<td>County of Santa Clara</td>
<td>Director Ellenberg</td>
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<tr>
<td>City of Saratoga</td>
<td>Director Miller</td>
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<tr>
<td>City of Sunnyvale</td>
<td>Director Smith</td>
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</tr>
</tbody>
</table>

_____________________________________________________
Chair

ATTEST:

______________________________
Clerk

Attachment 1: SVCE Approved Positions Chart
This approved list of Job Titles has more positions than the number of FTEs funded by the Board via the Budget, to provide flexibility to hire at the right level and also provide advancement opportunities.

### SVCE Positions Chart

<table>
<thead>
<tr>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Board Clerk/Executive Assistant</td>
</tr>
<tr>
<td><strong>Director of Finance &amp; Administration</strong></td>
</tr>
<tr>
<td><strong>Chief Financial Officer</strong></td>
</tr>
<tr>
<td><strong>and Director of Administrative Services</strong></td>
</tr>
<tr>
<td>Rates Manager</td>
</tr>
<tr>
<td>Senior Rates Analyst</td>
</tr>
<tr>
<td>Administrative Services Manager</td>
</tr>
<tr>
<td>Management Analyst</td>
</tr>
<tr>
<td>Administrative Analyst</td>
</tr>
<tr>
<td>Administrative Assistant</td>
</tr>
<tr>
<td><strong>Director of Account Services &amp; Community Relations</strong></td>
</tr>
<tr>
<td>Account Services Manager</td>
</tr>
<tr>
<td>Senior Energy Consultant</td>
</tr>
<tr>
<td>Energy Consultant</td>
</tr>
<tr>
<td>Associate Energy Consultant</td>
</tr>
<tr>
<td>Communications Manager</td>
</tr>
<tr>
<td>Senior Communications Specialist</td>
</tr>
<tr>
<td>Senior Community Outreach Specialist</td>
</tr>
<tr>
<td>Community Outreach Specialist</td>
</tr>
<tr>
<td>Communications Specialist</td>
</tr>
<tr>
<td><strong>Director of Power Resources</strong></td>
</tr>
<tr>
<td>Power Resources Manager</td>
</tr>
<tr>
<td>Principal Power Analyst</td>
</tr>
<tr>
<td>Power Resources Planner</td>
</tr>
<tr>
<td>Power Settlements &amp; Compliance Analyst</td>
</tr>
<tr>
<td><strong>Director of Decarbonization &amp; Grid Innovation Programs</strong></td>
</tr>
<tr>
<td>Manager of Decarbonization &amp; Grid Innovation Programs</td>
</tr>
<tr>
<td>Senior Data Engineer</td>
</tr>
<tr>
<td>Senior Analyst</td>
</tr>
<tr>
<td>Analyst</td>
</tr>
<tr>
<td>Associate Analyst</td>
</tr>
<tr>
<td>Senior Data Analyst</td>
</tr>
<tr>
<td>Data Analyst</td>
</tr>
<tr>
<td>Associate Data Analyst</td>
</tr>
<tr>
<td><strong>Director of Regulatory &amp; Legislative Policy</strong></td>
</tr>
<tr>
<td>Manager of Regulatory &amp; Legislative Affairs</td>
</tr>
<tr>
<td>Senior Regulatory Analyst</td>
</tr>
<tr>
<td>Associate Regulatory Analyst</td>
</tr>
</tbody>
</table>

*This approved list of Job Titles has more positions than the number of FTEs funded by the Board via the Budget, to provide flexibility to hire at the right level and also provide advancement opportunities.*
**Staff Report – Item 1e**

**Item 1e:** Receive Quarterly Decarbonization Programs Update for Q2 2020

From: Girish Balachandran, CEO

Prepared by: Aimee Bailey, Director of Decarbonization and Grid Innovation Programs

Date: 8/12/2020

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**RECOMMENDATION**

Staff recommends the Board accept the Q2 2020 Update of the Decarbonization Strategy & Programs Roadmap.

**BACKGROUND**

To achieve its mission to reduce dependence on fossil fuels by providing carbon-free, affordable and reliable electricity and innovative programs for the community, SVCE adopted Strategy 5.2 of the Strategic Plan, to establish an SVCE decarbonization strategy and programs roadmap (abbr. “Roadmap”). In December 2018, the Board approved the Roadmap, and since that time, staff have been working on implementation.

**ANALYSIS & DISCUSSION**

Attachment 1 is the most recent quarterly update, covering April through June of 2020. The quarterly update includes bulleted highlights and a table with a summary of updates and next steps for each initiative.

**STRATEGIC PLAN**

SVCE’s Strategic Plan Goal 5 is to work with the community to achieve energy and transportation GHG emissions reductions of 30% emissions reduction from the 2015 baseline by 2021, 40% by 2025 and 50% by 2030. This work is being carried out to support Strategy 5.2, which is to execute and maintain the Roadmap to achieve community-wide emissions reduction targets.

**FISCAL IMPACT**

Accepting the Q2 2020 Update of the Decarbonization Strategy & Programs Roadmap has no fiscal impact.

**ATTACHMENTS**

1. Decarbonization Strategy & Programs Roadmap – Q2 2020 Update
Decarbonization Strategy & Programs Roadmap
Q2 2020 Update
August 12, 2020 BOD Meeting

Highlights:

- **Innovation Onramp:** On May 15, the third call for applications closed for Innovation Onramp, SVCE’s program to fund innovative pilot projects that address key technical, market and policy barriers to eliminating fossil fuel use. The focus of this application cycle was resilience. Forty-five total applications were received by thirty-five entities. A comprehensive, multi-stage evaluation process was carried out, including an external evaluation panel with representatives from Breakthrough Energy Ventures and City of Palo Alto Utilities. Staff finalized the selection of five pilots and began negotiations to finalize the pilot design, scope, and budget to increase resilience across the community. The selected pilots will be announced once contracting is complete.

- **Customer Relief and Community Resilience:**
  
  **Residential and Small Business Bill Relief:** In early May, the SVCE Board approved $100 in residential bill credits for approximately 25,000 lower-income CARE/FERA program customers. The credits were to be applied in $50 increments on two successive monthly bills. As of the end of July, $2.25M in residential CARE/FERA credits have been applied. All qualifying CARE/FERA customers have received at least one $50 bill credit, and nearly 80% have received both. Remaining CARE/FERA credits will be applied by mid-August. In addition, the Board approved $250 bill credits to small business customers who qualify and apply. SVCE sent letters to approximately 10,000 small business customers indicating they qualified for the $250 bill credit. As of the end of July, 2,300 small business have now applied and received credits.

  **FutureFit Fundamentals:** The Board approved $1.5M for both contractor training and an installation incentive. The program provides a $500 stipend for licensed contractors and relevant union members to learn about a broad array of residential electrification measures and up to $3000 for these participants to purchase and utilize equipment covered in this training, such as battery storage, heat pump water heaters, and induction cooktops. SVCE is collaborating with the Workforce Institute to host the online content and provide participant support services and orientations. SVCE is currently producing the online, asynchronous training materials and has filmed about 20 hours of subject matter experts to form the basis for the roughly five hours of training content. The initial curriculum release is expected to be available in Q4.

  **Community Resilience:** The Board approved $5M for a comprehensive Community Energy Resilience Program. The program aims to support local job creation in the wake of the Covid-19 economic downturn while simultaneously increasing long term energy resilience across the region. Staff sought input from member agencies, met with other CCA’s and PG&E to
more fully understand existing resilience programs, and reviewed existing state incentives and policies to ensure SVCE’s program meets local needs and builds off of and expands upon current resources. The program will include: 1) comprehensive regional planning, 2) data, tools, and technical support to enhance jurisdiction-level planning, and 3) grants to fund capital projects that enhance energy resilience in each of our member jurisdictions. Consultant proposals to support the planning component are due on 8/24/2020. The Phase 1 capital support grant application window is now open. The application may be updated in Q1 of 2021 to include tools and findings from the regional planning exercise.
<table>
<thead>
<tr>
<th>Sector</th>
<th>Program</th>
<th>Q2 Activities</th>
<th>Q3 2020 Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>PS1: C&amp;I Clean Power Offerings</td>
<td>Developed, priced and delivered proposal for Eco-Investment offering to pilot customer; currently under consideration</td>
<td>Sign LOI for Eco-Investment offering with pilot customer; begin funds accrual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Developed and delivered alternative approaches for ‘GreenPrime 24x7’ carbon free offering to pilot customer; currently under consideration</td>
<td>Establish LOI with pilot customer for customer offering minimizing carbon emissions on a 24x7x365 basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuing to develop contract details for a GreenPrime Direct sleeved PPA arrangement with a pilot customer under LOI, and associated system power pricing structure</td>
<td>Support pilot customer analysis of selected PPA for sleeving under a GreenPrime Direct arrangement, develop and finalize contract with customer</td>
</tr>
<tr>
<td>Built Environment</td>
<td>BE1: Reach Codes</td>
<td>9 cities have passed Reach Codes</td>
<td>Continue to support stakeholder engagement meetings held by the cities and to participate in City Council sessions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 member agencies still actively engaged</td>
<td>Support post-implementation tool/training development for city staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technical support platform contracted and serving a few customers prior to full launch</td>
<td>Full launch technical support platform and training services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractor and city staff training priorities identified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BE2: All-Electric Showcase Grants</td>
<td>All residential project profiles are complete and available on the SVCE website: <a href="https://www.svcleanenergy.org/all-electric-award/">https://www.svcleanenergy.org/all-electric-award/</a></td>
<td>Phase two of program design contingent on priorities identified and defined through the Building Decarb Joint Action Plan</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BE3: FutureFit Heat Pump Water Heaters</td>
<td>82 systems installed and operational</td>
<td>Phase 1 – continue to process existing reservations til funds are depleted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SMUD managing customer inquiries and reservations</td>
<td>Phase 1 – work with ADM (EM&amp;V consultant) on impact analysis of HPWH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial customer experience surveys sent</td>
<td>Phase 2 – promote program</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 1 (Air District co-funded program) closed to new enrollments</td>
<td>Phase 2 – establish information exchange protocol with BayREN about their Home+ program which also provides HPWH incentives, among others, to minimize double dipping of rebates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2 (approved by Board in 2020) launched July 2020 and currently has 41 reservations processed</td>
<td></td>
</tr>
<tr>
<td><strong>BE4: Workforce Development</strong></td>
<td>Help build an industry-leading workforce that can accelerate decarbonization by advising on, installing, maintaining, and repairing low-carbon technologies</td>
<td>Incorporated workforce development program design and prioritization in the stakeholder engagement process for the Building Decarbonization Joint Action Plan</td>
<td>Through the Building Decarbonization Joint Action Plan, one or more priority areas will be identified for ongoing focus</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>BE5: Streamlining Community-Wide Electrification</strong></td>
<td>Benchmark and streamline member agency permitting and inspection processes to identify barriers and opportunities to electrification</td>
<td>Posted RFP on May 29th, 2020</td>
<td>TRC’s work will consist of collecting data on member agency’s permitting processes that will inform a Baseline Assessment. Additionally, TRC will gather case studies of jurisdictions with model streamlining permitting processes to create a Best Practices Guide</td>
</tr>
<tr>
<td><strong>BE6: Building Decarb Joint Action Plan</strong></td>
<td>Develop a joint action plan with member agencies to prioritize strategies and programs to advance building decarbonization</td>
<td>Selected and contracted with Integral Group to lead the development of the Building Decarb Joint Action Plan</td>
<td>Complete stakeholder engagement to finalize plan, and bring forward for Board review and approval in Fall 2020</td>
</tr>
<tr>
<td><strong>BE7: Resilience at Community Facilities</strong></td>
<td>Increase the individual and collective capacity of SVCE and our member agencies to reduce adverse impacts of power outages.</td>
<td>Combined the previously approved Critical Community Facilities program with the newly approved and now launched Community Resilience program</td>
<td>Launch planning activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Released the RFP for consultant services to support regional and jurisdiction level energy resilience planning</td>
<td>Execute member agency capital project grant agreements on a rolling basis.</td>
</tr>
</tbody>
</table>
### BE8: FutureFit Fundamentals

Provide financial relief to contractors by expanding their knowledge of electrification technologies

- Contracted with Redwood Energy for primary instruction, Karen Nelson for project management, and Derek May for videography
- Collaborated with ten subject matter experts for content
- Delivered five online webinars to test run our materials
- Adjusted content and filmed roughly 20 hours of content
- Contracted with Workforce Institute for online education platform and student support

- Edit existing content
- Film remaining gaps in content
- Contract for incentive administration services for installation incentive component
- Initial limited launch in Q4 of full online curriculum

### BE9: Bill Relief

Provide immediate bill relief to residential CARE/FERA customers, and to qualifying small business customers

- Sent letters to 25,000 residential CARE/FERA customers informing them of the $100 in bill credits from SVCE, in two successive monthly increments of $50
- Over $2.25M in residential bill credits now applied
- Sent letters to ~10,000 qualifying small business customers informing them of their eligibility to receive a $250 bill credit from SVCE upon receipt of a simple application form
- Over 2,300 businesses have now applied for and received the $250 bill credit

- Finish remaining CARE/FERA credits by mid-August
- Continue to receive small business applications and apply credits through end of August
- Evaluate whether to offer $100 credits to customers that have newly joined CARE/FERA since May 2020
- Conduct program EM&V activities

### MO1: EV Infrastructure Strategy & Plan

Develop a near- to mid-term strategy for EV infrastructure and a set of program implementation plans

- (COMPLETED)

### MO2: California Electric Vehicle Infrastructure Project (CALeVIP)

Work with California Energy Commission to launch a regional CALeVIP project

- Finalized key program elements
- Developed online materials and documentation (application forms, etc.)
- Prepared marketing materials

- CALeVIP webpage and application portal development work
- Complete online materials and documentation (application forms, etc.)
- Begin marketing/outreach in anticipation of Q4 2020 launch date
<table>
<thead>
<tr>
<th>MO3: Priority Zone DCFC</th>
<th>MO4: MUD Technical Assistance</th>
<th>MO5: S/M Workplace Charging Rebates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive application to receive an additional incentive (on top of CALeVIP) for DCFC in “priority zones” that support nearby SVCE-designated multifamily housing clusters</td>
<td>Kept application window open</td>
<td>Finalized marketing materials, website, and strategic program plan</td>
</tr>
<tr>
<td>Promoted program via emails and meetings with stakeholders</td>
<td>Promoted program via emails and meetings with stakeholders</td>
<td>Began working with three potential participants during program’s pilot phase</td>
</tr>
<tr>
<td>Finalized Priority Zone evaluation criteria and process for making selections</td>
<td>Keep application cycle open; close window on September 30th (to give enough time for SVCE evaluation process before CALeVIP launch)</td>
<td>Developed target marketing list</td>
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<tr>
<td>Continue to promote</td>
<td></td>
<td>Launched program with first phase targeted outreach to prioritized commercial customers</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>MO6: Fleet Electrification Grants</th>
<th>MO7: Silicon Valley Transportation Electrification Clearinghouse (SVTEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive application for SVCE’s fleet electrification planning support and funding for site upgrades. Targeting a broad set of fleet types, to create widely applicable fleet electrification planning templates</td>
<td>Held the third quarterly meeting</td>
</tr>
<tr>
<td>No further development work</td>
<td>Began creating interest groups focused on reducing soft cost barriers to EVI deployment</td>
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<tr>
<td>Connect with existing programs also supporting fleets to confirm SVCE program design</td>
<td>Hold fourth meeting</td>
</tr>
<tr>
<td>Begin work on solicitation for consultant to support program</td>
<td>Plan and launch regional initiatives aimed at reducing soft costs of EVI deployment</td>
</tr>
<tr>
<td>Develop detailed fundraising strategy</td>
<td></td>
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</tbody>
</table>
### MO8: Regional Recognition
Recurring recognition for best practices in EV infrastructure deployment, and support for local organizations in taking next steps.
- Extended application deadline to 8/31/2020
- Re-design communications and marketing offer to increase interest
- Select “best practices” to highlight
- Design education and marketing materials
- Design recognition event or materials that highlight regional achievements and expand knowledge

### GI1: Virtual Power Plant
Support “virtual power plants” made up of cloud-based aggregations of customer-sited resources to support grid integration and monetize value from connected, controllable loads.
- By way of background, SVCE joined EBCE, PCE and Silicon Valley Power in the joint issuance of an RFP for over 30MW of resource adequacy from behind-the-meter solar and storage systems (aka “Resilience RFP”) – deadline for applications was Dec 23, 2019.
  - Staff completed evaluation of proposals received in response to the Resilience RFP in Q1.
  - Carried out negotiations with two vendors, one focused on residential customer segment (Sunrun), and the other focused on commercial & industrial (Enel X)
- Complete negotiations with vendors
- Finalize details of program design
- Board review and approval in summer/fall 2020
- Planned program launch in fall 2020

### EO1: Customer Resource Center (eHub)
Develop customer resource center to enable engagement, education and action related to clean electricity, EVs and home electrification.
- Completed strategic messaging for revamped SVCE website
- Developed shorthand name for customer resource center as the ‘eHub’
- Designed, configured and integrated third-party tools (PickMySolar, Enervee, ZappyRide) into the new eHub
- Completed overall website design and development, and ‘soft launch’ release of new SVCE home page and eHub
- Developing marketing plan
- Collecting initial stakeholder feedback
- Completing outstanding implementation items - finalizing content, fixing bugs
- Planning outbound email campaigns and promotions in Q3/Q4 to drive engagement with the site
| Innovation | EO2: Community Engagement Grants | • Completed evaluation of 2019 program  
• Initiated design for 2020 grant cycle | • Future launch date TBD; on-hold due to COVID-19 |
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<tbody>
<tr>
<td></td>
<td>Partner with local organizations in hard-to-reach customer segments to promote SVCE offerings and programs</td>
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</tr>
<tr>
<td>IN1: Innovation Partners</td>
<td>Engage with key strategic partners to participate in the local innovation ecosystem and provide a voice for SVCE customers and the decarb mission</td>
<td>• SVCE was an original sponsor of Powerhouse SunCode 2020, which was cancelled due to COVID. Coordinated with Powerhouse to explore other uses of sponsorship funds.</td>
<td>• Seek external stakeholder input on initial draft “innovation strategy” developed to supplement the Decarb Roadmap in guiding SVCE’s innovation activities</td>
</tr>
<tr>
<td></td>
<td>SVCE was an original sponsor of Powerhouse SunCode 2020, which was cancelled due to COVID. Coordinated with Powerhouse to explore other uses of sponsorship funds.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| IN2: Innovation Onramp | Provide small grants to support innovation through pilot projects with external partners | • Issued third call for applications for Spring 2020 with a focus on resilience  
• Evaluated responses & selected third cohort of pilots  
• Ongoing management of pilots | • Negotiate, finalize and execute partnership agreements for third cohort of pilots from Spring 2020 application cycle  
• Prepared for fourth call for applications for Fall 2020  
• Launching pilots from second application round (ev.energy, EVmatch, Ecology Action)  
• Ongoing management of pilots |
|  | | | |
The Executive Committee has met twice since the Board’s last meeting: June 26, 2020 and July 29, 2020.

At the June 26, 2020 meeting, the committee received an update on SVCE’s Customer Resource Center, called ‘eHub’, and its launch on SVCE’s website. Committee members received information on SVCE’s Building Decarbonization Joint Action Plan, which is a plan to develop a comprehensive building decarbonization strategy and to establish SVCE and member agency priorities, policy/program concepts, and approach. The committee also received a presentation from staff on the FY20-21 budget framework. The materials from that meeting can be found here: SVCE Executive Committee Meeting Materials, 6/26/20

At the July 29, 2020 special meeting of the Executive Committee, the committee authorized the Chief Executive Officer to execute a distributed energy storage agreement for resilience and capacity with Sunrun Inc. in an amount not to exceed $7,400,000 for a term from December 31, 2022 through December 31, 2032. The Board adopted a resolution at the June Board of Directors meeting delegating authority to the Executive Committee to review, approve and authorize the execution of contracts with Sunrun Inc. and Enel X North America Inc. for resource adequacy from customer-sited storage systems that also provide community resilience; the agreement with Enel X is still in progress and will be brought to the Board when ready for approval. The materials from that meeting can be found here: SVCE Executive Committee Special Meeting Materials, 7/29/20

The next meeting of the Executive Committee will be Friday, August 28th, 8:30 am; meeting information will be listed on the agenda which will be posted 72 hours in advance of the meeting.
Staff Report – Item 1g

**Item 1g: Finance and Administration Committee Report**

To: Silicon Valley Clean Energy Board of Directors

From: Rob Rennie, Chair of the Finance and Administration Committee

Date: 8/12/2020

The Finance and Administration Committee met August 5, 2020 and appointed me as Chair and Director Javed Ellahie as Vice Chair of the committee for 2020. The committee received an update on a long-term power prepay agreement from Michael Berwanger of PFM Financial Advisors LLC, and received a presentation from Staff on the preliminary draft of the FY 2020-2021 budget. The committee provided suggestions on the presentation being given to the Board, and voted unanimously to recommend the budget. Materials from the meeting can be found here: [SVCE Finance and Administration Committee Meeting – Aug. 5, 2020](#)

The next meeting of the Finance and Administration Committee will be scheduled in September.
Staff Report – Item 1h

Item 1h:  Audit Committee Report

From:  Girish Balachandran, CEO

Prepared by:  Andrea Pizano, Board Clerk/Executive Assistant

Date:  8/12/2020

No report as the Audit Committee has not met since February 5, 2020. The next meeting of the committee will be September 2, 2020 at 2:30 p.m.; meeting information will be listed on the agenda which will be posted 72 hours in advance of the meeting.
Staff Report – Item 1i

Item 1i: Legislative and Regulatory Responses to Industry Transition Ad Hoc Committee Report

From: Girish Balachandran, CEO

Prepared by: Andrea Pizano, Board Clerk/Executive Assistant

Date: 8/12/2020

No report as the Legislative and Regulatory Responses to Industry Transition Ad Hoc Committee has not met since March 4, 2020.
Staff Report – Item 2

Item 2: CEO Report

To: Silicon Valley Clean Energy Board of Directors

Prepared by: Girish Balachandran, CEO

Date: 8/12/2020

REPORT

COVID-19 Response
A verbal update will be provided at the board of directors meeting.

SVCE Staff Update
Melicia Charles joined SVCE on July 31, 2020. Melicia has worked in the energy industry for nearly fourteen years in progressively responsible roles; her immediate previous role was Director of Public Policy at Sunrun. While working at the California Public Utilities Commission (CPUC), she served as an advisor and chief of staff to two commissioners and served as an analyst and a program and project supervisor in the Energy Division. Melicia has an MBA from the University of San Francisco and a BA from the University of California, Berkeley.

SVCE Office Space Update
The original, pre-COVID timeline for relocating upstairs to the third floor of our Sunnyvale office building was targeting a July 1 occupancy date. However, this timing was delayed by the COVID-19 Shelter-in-Place public health orders, which paused construction by approximately 2 months, while new guidelines were being developed by the County. In addition, SVCE requested an additional pause to consider design changes / impacts from COVID.

Once construction resumed in late June, it did so at a slower pace due to those social distancing / occupancy guidelines, and SVCE’s new occupancy date for the upstairs suite is October 1st. In consideration of the changes necessitate by COVID to both in-office and remote work, SVCE requested several changes, primarily to increase the size of the two large conference rooms in anticipation of greater social distancing. Furniture selections are currently being finalized, which will include individual cubicles with clear, raised extensions rising up from the partition walls for added separation.

CEO Agreements Executed
The following agreements have been executed by the CEO, consistent with the authority delegated by the Board:

1) Ascend Analytics: Business continuity support, not to exceed $100,000
2) Community Choice Partners: Consulting services, not to exceed $5,000
3) ACES – Cost sharing addendum: Strategic communication services from Singer Associates, not to exceed $6,000
4) SAE Communications: Presentation training services, not to exceed $12,000
5) MRG Training Services, Amendment: Organizational team training services, time extension to December 31, 2020
6) SMUD, Amendment to Task Order #2: Heat pump water heater program support, not to exceed $189,350
7) Management Partners, Inc: Management consulting services, not to exceed $75,000
8) Crossborder Energy: Consulting services, not to exceed $5,000
9) Granicus: Communication cloud and communications cloud advanced package, not to exceed $83,753.13
10) Community Choice Partners, Amendment: Consulting Services, time extension
11) Management Partners, Inc.: Director of Finance and Administration replacement search, not to exceed $24,900
12) SJ Evergreen Community College District – Workforce Institute: Developing an online asynchronous training, not to exceed $51,000
13) Keyes & Fox, Amendment: Legal representation before the California Public Utilities Commission
14) M. Cubed: PG&E 2021 ERRA Forecast, not to exceed $5,000
15) ADM, Task Order #5: Evaluation of Customer Relief & Community Resiliency Programs, not to exceed $60,035
16) TRC Engineers, Inc.: Streamlining Community-wide electrification program, not to exceed $76,000
17) Creative F5: Graphic and web design services, not to exceed $75,000
18) Karen Nelson: Board training videos, not to exceed $12,500

**CEO Power Supply Agreements Executed**

The following power supply agreements have been executed by the CEO, consistent with the authority delegated by the Board:

<table>
<thead>
<tr>
<th>Counterparty Name</th>
<th>Execution Date</th>
<th>Transaction Type</th>
<th>Product</th>
<th>Start Date</th>
<th>End Date</th>
<th>Notional Value</th>
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<tr>
<td>PG&amp;E</td>
<td>6/8/2020</td>
<td>Purchase</td>
<td>Renewable Energy PCC1</td>
<td>1/1/2021</td>
<td>12/31/2021</td>
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<td>East Bay Community Energy</td>
<td>7/30/2020</td>
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<td>12/31/2020</td>
<td>$104,000</td>
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These agreements are included in the Board packet as Appendix A.

**Presentations & Relevant Meetings Attended by CEO**
- Participated in CalCCA Monthly board, dues, executive, and legislative meetings;
- COVID-19 Impact calls with various CCAs, CPUC, etc.

**Presentations by SVCE Staff**
- June 26, 2020, CalCCA Community Energy Innovation webinar: Aimee Bailey, Dir. of Decarbonization and Grid Innovation Programs

**ATTACHMENTS**
1. Decarb & Grid Innovation Programs Update, July/August 2020
2. Regulatory and Legislative Update, July/August 2020
3. Account Services & Community Relations Update, July/August 2020
4. Agenda Planning Document, August – November 2020
1. Customer Relief & Community Resilience (1 of 4)

Staff has begun work on three new programs approved by the SVCE Board in May 2020:

<table>
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<tr>
<th>Program</th>
<th>Est $</th>
<th>$ spent by</th>
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<tr>
<td><strong>Customer Relief</strong></td>
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<tr>
<td>1a) $100 bill credit to all residential CARE/FERA customers</td>
<td>$2.5M</td>
<td>August 2020</td>
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<tr>
<td>1b) $250 bill credit to qualifying/responding small business customers</td>
<td>$1.0M</td>
<td>August 2020</td>
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<td><strong>Workforce Relief</strong></td>
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<tr>
<td>2a) Workforce Electrification Training with $500 Stipend</td>
<td>$1.0M</td>
<td>August 2020</td>
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<tr>
<td>2b) Workforce Home Electrification Installation</td>
<td>$0.5M</td>
<td>March 2021</td>
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<tr>
<td><strong>Community Resiliency</strong></td>
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<tr>
<td>3a) Resiliency Infrastructure Planning Support</td>
<td>$1.0M</td>
<td>December 2021</td>
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<tr>
<td>3b) Resiliency Infrastructure Capital Project Support</td>
<td>$4.0M</td>
<td>December 2022</td>
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~$10M
1. Customer Relief & Community Resilience (2 of 4)

Customer Relief

Residential

- 43,079 credits disbursed to Residential CARE/FERA customers as of 7/31
  - $2.2M of $2.5M budget
  - Residential credits expected to be complete 8/14

Small Commercial

- 2,415 local small businesses awarded $250 bill credits as of 7/31
  - $600k of $1.0M budget
  - Application deadline extended to 8/14
1. Customer Relief & Community Resilience (3 of 4)

Workforce Relief

Future Fundamentals – Contractor Training
• Content recorded, currently being edited
• Partnered with Redwood Energy and Workforce Institute
• Initial online asynchronous curriculum going live in Q4
1. Customer Relief & Community Resilience (4 of 4)

Community Resiliency

• Issued RFP for Community Energy Resilience Analysis, Planning and Support – proposals due 8/24

• Released Phase 1 applications for capital project grants (rolling deadline)
2. Reach Code Initiative (1 of 2)

• **Buildings**
  
  • **Nine cities have adopted Reach Codes** – Morgan Hill, Mountain View, Milpitas, Saratoga, Monte Sereno, Los Gatos, Cupertino, Campbell, and Los Altos Hills.
  
  • Sunnyvale and Los Altos bringing proposed codes to council in Fall 2020
  
  • Technical support platform available for electrification
  
  • Morgan Hill council briefed on amending existing code with additional battery storage considerations

• **EVs**
  
  • **Seven member agencies adopted EV reach codes**
  
  • Morgan Hill council briefed on adding EV codes
### 2. Reach Code Initiative (2 of 2)

#### Key

- **Status**
  - Approved
  - 2nd Reading
  - 1st Reading
  - Staff Proposal
  - Council Briefing

- **Building Reach**
  1. All-electric buildings
  2. Mixed fuel has higher requirements
  2A. Mostly electric/electric heating only

#### Table

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<tr>
<th>Member Agency</th>
<th>Status</th>
<th>Next Meeting</th>
<th>Date of Next Meeting</th>
<th>Code Language</th>
<th>Building Reach</th>
<th>EV Reach</th>
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#### Notes

- 1 - All-electric buildings
- 2 - Mixed fuel has higher requirements
- 2A - Mostly electric/electric heating only
3. FutureFit Home Program

Phase 1 & 2 focus on Heat Pump Water Heaters

Phase 1 - Co-funded by Air District grant is closed
- **83 Completed**. Processing remaining reservations
- Entering EM&V phase to learn program impacts

Phase 2 - launched July 24, 2020
- **43 Reservations**.
- More HPWH units are eligible
- Continues incentive for service panel upgrade
4. Streamlining Community-Wide Electrification

- **Purpose**: Review member agency’s permitting and inspection processes and identify barriers and key opportunities related to electrification.

- Program will have two deliverables:
  - **Baseline Assessment**: Benchmark member agencies permitting processes related to all-electric technology and gas counterparts
  - **Best Practices Guide**: Collect case studies of jurisdictions with model permit streamlining processes

- Budget approved in February BOD as part of the Decarb Roadmap update

- Consultant to begin in early August and conclude in December
5. Building Decarb Joint Action Plan

• BOD approved building decarb joint action plan as program priority in Feb 2020

• Purpose: *articulate a shared vision for how SVCE and member agencies can continue to work to decarbonize the built environment & establish prioritized actions*

• Schedule:
  • Mar – work commenced
  • May – mini-workshops with stakeholders
  • Jul – draft plan distributed for stakeholder input
  • Aug – synthesizing stakeholder feedback and revising draft

• **Plan to be brought forward to Ex Com in Sep, and to BOD in Oct**
6. EV Programs (1 of 3)

- **CALeVIP** final development work is ongoing – launch is in Q4 2020

- Quarterly **Silicon Valley Transportation Electrification Clearinghouse** meetings ongoing, with web resources (including a list of available funding) now available at: [svcleaneenergy.org/svtec/](http://svcleaneenergy.org/svtec/)

- Application period for **Regional EV Leadership Recognition** is now open! Projects should showcase best practices in charging infrastructure and SVCE will document and promote awardees. Apply by August 31 at: [svcleanenergy.org/regional-recognition/](http://svcleanenergy.org/regional-recognition/)
6. EV Programs (2 of 3)

**FutureFit Assist: EV Charging - Now Live!**

- Concierge support to multifamily and small/medium business to install EV charging
- Targeted education/outreach and awareness-building
- Site assessments with tailored recommendations (costs, equipment type, management, etc.)
- SVCE will learn from the program about key challenges faced and continue to adapt this offering
- Apply at: svcleanenergy.org/ev-charging-assist/

Administered by CLEAResult

Decarb & Grid Innovation Programs Update
Priority Zone DC Fast Charging Incentives Program Application Window Closing September 30!

- Provides incentives on top of CALeVIP for sites located near select multifamily housing clusters
- SVCE will competitively select winning sites
- Builds relationships with charger developers, multifamily owners and residents
- Part of SVCE's multi-program support for multifamily EV market transformation

Additional information online at: https://www.svcleanenergy.org/dcfastchargers/
7. Resilience RFP & VPP Update

- EBCE, PCE, SVP and SVCE jointly released RFP to support community resilience in Nov 2019
- Solicitation will spur >30MW of batteries at homes and businesses
- Batteries will form a “virtual power plant” to provide grid services to SVCE when not in use for back-up power
- Contract with Sunrun approved by Exec. Committee in July
- Staff currently in negotiations with Enel X for C&I customer segment
8. Customer Resource Center - eHub

- eHub provides online tools for the community to learn about, see the value of, and take action to transition to electric vehicles and appliances as well as solar with storage.

- Approved with Decarb Roadmap
  ✓ $350k approved with Roadmap
  ✓ $250K annually for ongoing operation in FY2021, FY2022

- eHub, together with the ZappyRide, Enervee and PickMySolar online tools, is live and can be accessed on the redesigned SVCE website. Over the next several months, eHub will be refined; marketing will begin in September. Email advertising and promotions will be launched in time for the holidays.
9. Innovation Programs

• Innovation Onramp’s third call for applications closed May 15 and was focused on resilience solutions.

• After an extensive eval process, 5 finalists were selected.

• The eval process included an external evaluation panel with reps from Breakthrough Energy Ventures & City of Palo Alto Utilities.

• Awardees will be announced in the coming months after contracting is complete.
10. Other Updates

• SVCE and UtilityAPI gave a joint presentation on the SVCE Data Hive flagship pilot on June 26 as a part of the CalCCA Community Energy Innovation Webinar Series. Over one hundred participants joined live.

• SVCE’s Data Hive was also featured in a Northeast Energy Efficiency Partnerships (NEEP) report on best practices for sharing load profile data (https://neep.org/sharing-load-profile-data-best-practices-and-examples)
Welcome back. In the two months since the Board last met there has been a lot happening on the policy front. Our biggest developments this summer included issuance of California Public Utilities Commission (CPUC) Decisions or Proposed Decisions on a central buyer for Local Resource Adequacy (RA), the amount of RA compliance credit we get for solar-plus-storage projects, and prepaying the Power Charge Indifference Adjustment (PCIA). We also began the annual cycle of updating the PCIA for 2021 and helped secure over $100M of ratepayer savings in PG&E’s 2019 ERRA compliance proceeding. SVCE’s 2020 Integrated Resource Plan is before you for approval this month, and the much-reduced scope of the 2020 legislative session has not precluded progress on several energy bills of interest.

Regulatory Ratesetting, Short- and Long-Term

Two months after the 2020 PCIA went into effect on May 1st (alongside SVCE’s updated rates), the process of setting the 2021 PCIA began. The annual cycle in which PG&E updates both its generation rates and the PCIA (called the Energy Resource Recovery Account or ERRA Forecast proceeding) typically begins on June 1st of every year. This year, due to a combination of the disruptions caused by COVID-19 and the delayed ending of the previous cycle, this start date was pushed back to July 1st. PG&E filed its Application (A.20-07-002) with initial rate forecasts on July 1st, 2020, and Supplemental Testimony on July 17th. As with previous ERRA Forecast proceedings, SVCE is participating jointly with a group of other CCAs in PG&E’s service territory. CCA staff and consultants have reviewed PG&E’s testimony and workpapers with the usual purpose of identifying accounting errors or costs that have been misallocated. On August 5th, the Joint CCAs filed a protest to PG&E’s application. As of now the official timeline of launching the 2021 PCIA on January 1st has not been altered, but given the late start and the 5-month delays in the past two cycles a similar delay in 2021 is very likely.

In the meantime, there is still a strong likelihood of a sharp PCIA increase in late Q3 of 2020. As discussed in previous updates, the 2020 PCIA that went into effect on May 1st is lower than it would have otherwise been due the implementation of a new cap on year-to-year PCIA increases. The cap reduces rate volatility by preventing the PCIA from increasing more than 0.5¢/kWh in one year. However, that also reduces the rate at which PG&E accumulates the total amount of money the CPUC has authorized it to collect through the PCIA each year. If the undercollection reaches 10% of the total PCIA revenue requirement, PG&E can increase the PCIA mid-year to make up the difference. In the context of this year’s numbers, this means that the PCIA could jump from a system average of 3.2 ¢/kWh on May 1st (a 20% increase over the 2019 PCIA) to 4.8 ¢/kWh (an 80% increase over 2019) in late Q3. PG&E has not yet filed the official application for such an increase, but San Diego Gas & Electric has, and PG&E is expected to follow suit in the near future. If this happens SVCE will add this Application proceeding to our portfolio of ratesetting regulatory engagement.

SVCE also remains actively engaged in PG&E’s 2019 ERRA Compliance proceeding (A.20-02-009). Like the ERRA Forecast proceeding discussed above, the ERRA Compliance proceeding happens annually. This version’s purpose is to ensure that PG&E implemented 2019 rates in accordance with the 2019 ERRA Forecast decision, and to identify any discrepancy between PG&E’s 2019 revenue requirement and its actual collected revenues so that the appropriate true-up amount can be added to or subtracted from the 2021 rates. The Joint CCAs’ early engagement in the proceeding was complicated by difficulty
accessing the data required for substantive review of PG&E’s performance. PG&E’s evasive response to several Joint CCA data requests resulted in CPUC staff convening a workshop on data transparency on 5/6, and the struggle for access to critical data is ongoing on both the regulatory and legislative sides of SVCE’s policy work. However, the Joint CCAs were able to access enough information to file testimony on July 10th identifying $175.3M of reductions that should be made to the amount charged to customers in 2021. PG&E has subsequently agreed to $110M of that, leaving roughly $65.3M contested that must be resolved by the end of the proceeding.

Finally, SVCE continues to participate jointly with other CCAs in the two phases of PG&E’s 2020-2022 General Rate Case (GRC). In Phase 1 (A.18-12-009), the CPUC establishes PG&E’s total revenue requirement for the three-year period. Phase 1 of PG&E’s GRC is drawing to a close and we are waiting for a Proposed Decision. Phase 2 (A.19-11-019) of the GRC is where the revenue requirement approved in Phase 1 is divided among the various classes of customer (residential, commercial, industrial, etc.). Phase 2 of PG&E’s current GRC began in November 2019 with PG&E’s opening application. The Joint CCAs filed a Protest on 1/10/20, PG&E replied on 1/21/20. On 5/15 PG&E filed an updated testimony which did not impact the Joint CCA issues. All parties are now awaiting a Scoping Memo to schedule the rest of Phase 2.

Reliability, aka Resource Adequacy (RA)

Resource Adequacy is the main program the CPUC uses to protect grid reliability and ensure that there is enough generating capacity on the system to meet peak demand. We currently have two proceedings open, and there has been significant activity in both since the June Board meeting.

The older proceeding (R.17-09-020) is primarily focused now on designing a central buyer (known as a Central Procurement Entity or CPE) for Local RA. The Proposed Decision (PD) on how that buyer would be structured came out on 3/26. Several aspects of the PD were very concerning, particularly the lack of a mechanism for load-serving entities to offset their portion of the central buyer’s costs with RA resources they procure themselves. After delays in the initial approval timeline, a revised version of the central buyer PD was issued shortly before and passed at the 6/11 CPUC voting meeting. The final Decision maintains the PD’s approach of making PG&E and Southern California Edison the CPEs in their respective service territories, and they will begin activities in this role in spring 2021. The revisions did not directly address the CCAs’ major concerns, but appointed a working group to further study and develop proposals for the offsetting mechanism CCAs requested as well as treatment of existing long-term CCA RA contracts that would no longer be valuable for compliance purposes. This working group is being co-chaired by PG&E and CalCCA and will submit its report to the CPUC by 9/1/2020. Overall, the CPE will result in discontinuation of the Local RA compliance requirement for SVCE and lower System and Flexible RA obligations due to the way the CPE procurement is structured.

The newer RA proceeding (R.19-11-009) focuses on reviewing how much RA credit different types of resources are eligible for and other updates to the RA program. One of the highest priority issues for SVCE in this proceeding is how RA credit is calculated for hybrid resources such as solar paired with battery storage. The Commission passed a Decision on the use of solar plus storage for RA on 6/25, and it’s an improvement over what we had in place previously. The earlier version, which was passed in January 2020, erred on the side of caution and allowed only the larger of the two (the solar or the storage as measured in capacity) to count for RA purposes. The new requirements allow for adding the two together
in a limited way, increasing the RA value and thus the overall value proposition for solar plus storage. Given how critical solar plus storage is for meeting CA’s overall GHG reduction goals, this Decision synergizes well with both SVCE’s mission and CA’s broader decarbonization efforts.

Elsewhere in this proceeding, an additional track of discussions is beginning that will tackle the deeper question of how to adapt the RA framework to a grid dominated by low- or no-carbon resources whose capacity is only available at certain times of day (compared to the 24/7 availability of gas). Proposals for deeper, fundamental reforms to the RA framework are due 8/7/2020. This track is expected to yield a more energy- rather than capacity-focused RA framework that better protects reliability in all hours rather than focusing exclusively on the hour of peak demand.

**GHG Reduction Planning, aka Integrated Resource Planning/Plan (IRP)**
IRP is the framework the CPUC uses to ensure the electricity sector is on track to meet its portion of CA’s GHG emissions reduction goals by 2030, and we have to submit one every two years. This month, the Board is presented with SVCE’s 2020 IRP for approval. SVCE staff request authority for the CEO to make any necessary final changes before the September 1st submission deadline. Once all the load-serving entities have submitted their individual IRPs, CPUC staff will aggregate them into a statewide picture of where GHG emissions from the electricity sector are likely to be in 2030. In fall 2020 we expect to receive information from the CPUC about whether this trajectory is sufficient to meet the state’s GHG reduction targets, and if it is not we can expect a mandate for additional resource procurement designed to close that gap.

**Direct Access (DA)**
SB 237 (Hertzberg, 2018) expanded CA’s DA program by 4,000 GWh and required the CPUC to conduct a study on the implications of fully reopening DA to all nonresidential electricity customers in the state. SVCE has been leading CalCCA’s involvement in SB 237’s implementation proceeding at the CPUC, where Commission staff were supposed finish the study and submit it to the legislature by 6/1/20. The draft study, originally set to be released on 3/9/20, has been indefinitely delayed by the CPUC. The delay has now extended far enough that we are unlikely to see DA-related legislation during the 2020 legislative session, but it remains a strong possibility in 2021.

**Power Charge Indifference Adjustment (PCIA) Reform**
Apart from the annual PCIA-setting that happens in the ERRA Forecast proceedings, the PCIA reform proceeding is dedicated to improving the methodology the ERRA uses to calculate the PCIA. This proceeding is also examining some deeper reforms such as allocation of excess investor-owned utility (IOU) resources directly to the CCAs. The proceeding has three working groups, each tackling a different set of issues. Working Group 1 got a Decision on the first half of its issues in October 2019 and a second one on remaining issues in March 2020. The second Decision notably requires the IOUs to show the PCIA as a separate line item on all customer bills by 1/1/21. This should facilitate more meaningful comparison between SVCE and PG&E generation rates since the PCIA already appears separately on SVCE customer bills. The IOUs are required to submit Advice Letters proposing how to implement a PCIA line item on bundled customer bills by 8/31/20, and fall 2020 will be spent on finalizing this process.
Working Group 2, which is examining options for CCAs to prepay the PCIA if they wish, received a long-awaited Proposed Decision on 6/30. The PD defines a process by which CCAs could prepay their PCIA, eliminating PCIA volatility and uncertainty in future years while recovering the cost of the prepayment from their customers in a manner of their choosing. The CCA would have to enter negotiations with the appropriate IOU on the amount, payment timeline, and other terms and present these to the CPUC for approval in a joint application. The CPUC could then approve or reject the Application even if both the CCA and IOU support it.

While the PD is a step in the right direction, the process it defines will make completion of PCIA prepayment deals difficult. The PD gives the IOUs no requirement or fundamental incentive to enter such deals, so the negotiations leading up to the joint application are likely to be difficult. The PD also allows the IOUs to charge a risk premium on prepayment deals in order to account for the possibility of PCIA forecasting error, increasing the cost of the prepayment option for CCAs. Another issue with the PD is that it would require a CCA seeking prepayment to pay for IOU administrative costs associated with the application and even if the application is not approved. However, one positive aspect of the PD is that it implicitly confirms that the IOUs are capable of providing longer-term PCIA forecasts than they have previously supplied, because a long-term PCIA forecast is necessary to determine the prepayment amount. If these longer-term PCIA forecasts are developed for prepayment purposes, there is potential for them to eventually be incorporated into broader PCIA planning. CalCCA filed comments on the PD on 7/20 and reply comments on 7/27, and the earliest the PD can be heard is at the 8/6 Commission voting meeting.

Working Group 3, addressing the aforementioned resource allocations, submitted its final report to the CPUC on 2/21/20. The report includes proposals for allocating GHG-free resources, RPS resources, and system/flex/local RA from the IOUs’ portfolios to CCAs on a voluntary or involuntary basis (depending on the resource type). Discussions around these issues are ongoing, and CalCCA along with Working Group 3 co-chair Southern California Edison continue to meet with CPUC staff to explain the positions in the report. A final Decision from the Commission on these allocation proposals was originally expected in Q2 2020, and now could arrive at any time.

Legislative
The highly unusual 2020 legislative session is drawing to a close. After returning from its initial emergency recess in the spring, the legislature entered a second one in July that ended on the 27th. The most significant piece of energy legislation to emerge from this session so far is SB 350, the Golden State Energy Act. You may remember the bill number from last year, when Senate Majority Leader Hertzberg introduced it as a spot bill with the intention of turning it into a central buyer bill similar to AB 56. Hertzberg withdrew it after AB 56 was defeated, and in May 2020 it was rewritten as a PG&E reform bill and the authorship transferred to Senator Jerry Hill.

The updated SB 350 sets the stage for radical reform of PG&E’s business model under specific conditions. It was primarily designed as a contingency plan for if PG&E failed to exit Chapter 11 bankruptcy on schedule, so it was fast-tracked through the legislature and signed by Governor Newsom on 6/30. Since then, PG&E’s successful exit from bankruptcy on 7/1 has eliminated many of the scenarios under which the reforms would have been triggered. At least one remains however, and the
bill overall is a significant step forward in the scope of PG&E reform acknowledged as appropriate and feasible by the legislature.

If PG&E had failed to exit bankruptcy on time or if, at any point in the future, the CPUC revokes PG&E’s Certificate of Public Convenience and Necessity (CPCN), SB 350 sets up a process for restructuring PG&E as a nonprofit public benefit corporation known as Golden State Energy (“GSE”). Key features of Golden State Energy include:

1. Taking control of all of PG&E’s assets, revenue requirement, and CPCN to provide retail electric and natural gas service.
2. Governance by a nine-member Board of which the first iteration will be nominated by Governor Newsom and confirmed by the Senate. Future Board members will be elected by the ratepayers, i.e., GSE’s members.
3. Authorization to fund energy and project costs utilizing financing mechanisms available to economic development facilities through the California Infrastructure and Economic Development Bank (IBank).

Other relevant legislation still under consideration includes SB 364, a bill that would classify nonresidential solar PV systems as personal property rather than improvements during assessment of real property value. This distinction is significant given the major property tax reform potentially appearing on the California ballot this November. If these utility-scale solar facilities were counted as improvements, project costs for solar development would increase sharply and cause a disruption in the solar development pipeline. Given the rapid pace of solar development needed to keep CA on track to meet its GHG reduction goals, there is little buffer time available to absorb such a slowdown. SVCE and CalCCA have supported the bill, and the Assembly approved it on 8/3. It now returns to the Senate for concurrence.
1. Outreach Events & Sponsorships

With in-person event sponsorships on pause, SVCE is engaging in virtual events and summits.

Upcoming events:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 6 - 7</td>
<td>8:30 AM – 5:00 PM</td>
<td>Silicon Valley Bike Summit 2020 hosted by Silicon Valley Bike Coalition – sponsor and attended</td>
<td>Virtual</td>
</tr>
<tr>
<td>Aug 7</td>
<td>8:15 AM- 4:30 PM</td>
<td>Energy &amp; Sustainability Summit hosted by Silicon Valley Leadership Group – sponsor and attended</td>
<td>Virtual</td>
</tr>
</tbody>
</table>
## 2. Customer Participation

<table>
<thead>
<tr>
<th></th>
<th>Participation Rate</th>
<th>Overall Participation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>96.24%</td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>96.36%</td>
<td>96.25%</td>
</tr>
</tbody>
</table>
3. Member Agency Working Group Update

The recent MAWG meeting was held virtually on July 23, 2020 and was attended by ten different agencies and organizations with a total of 28 participants.

The following agenda items were presented and discussed:

• Building Decarb Joint Action Plan
• Buildings Baseline Study
• eHub feedback
• Community Resilience Program Update
• Heat Pump Water Heater Rebate Program 2.0
• Streamlining Community-Wide Electrification Update
• Reach code EM&V
4. Education Fund Update

SVCE is providing funding to local, student-led projects that support our communities’ goal of fighting climate change through climate education and outreach.

The student organizations and projects include:

**Climate Youth Ambassadors**
- Educating elementary students and the community about climate solutions, environmental contest

**Youth Environmental Power Initiative**
- Creating podcast, video series, newsletters and an environmental leadership conference

**Saratoga eFish**
- Building an electric vehicle prototype to participate in a national competition

**Silicon Valley Youth Climate Action**
- Hosting leadership training workshops, podcast, speaker series

*All of the following projects can be conducted safely and in accordance with public health ordinances.*
5. Latest SVCE News


- Peninsula-Silicon Valley Collaboration Recognized for Advancing Electrification in Building Codes, *EV Infrastructure*, *Press Release*, 07-01-20


6. Media

- **SVCE Offers $10 Million for Customer Relief & Community Resilience Programs**, Cupertino Patch.com, 06-03-20
- **California CCAs issue request for information for long-duration storage**, American Public Power Association, 06-05-20
- **California CCAs solicit info on long duration storage, with possible procurement launch this summer**, Utility Dive, 06-09-20
- **Silicon Valley Clean Energy will allocate total of $10 million toward COVID relief**, The Milpitas Beat, 06-10-20
- **8minute Energy developing 250-MW California solar + storage project**, Solar Power World, 06-16-20
- **8minute to develop 250-MW solar-plus-storage project for California CCA**, Renewable Energy World, 06-16-20
- **East Bay Community Energy Blasts CPUC Ruling In Joint Statement**, Patch.com, 06-17-20
6. Media (Continued)

- **8minute Solar Nabs Its First Supply Deal with California Community Choice Aggregators**, Greentech Media, 06-17-20

- **CCA power purchases up 37.8% on year in Q1 2020 as sellers flock to market**, S&P Global Platts, 06-18-20

- **Calif. community choice aggregators sign PPAs for solar-storage capacity**, American Public Power Association, 06-19-20

- **Clean Energy Milestone**, The Mercury News (Campbell, Milpitas, San Jose, Sunnyvale, Los Gatos, Saratoga Community Briefs), 06-28-20

- **Solar Plus Storage Delivers Wildfire Readiness In San Francisco Bay Area**, Electrical Contractor, 07-07-20

- **Silicon Valley Clean Energy Authority -- Moody's assigns Baa2 Issuer Rating to Silicon Valley Clean Energy Authority (CA) (SVCE); stable outlook**, Markets Insider – Business Insider, 07-15-20

- **Silicon Valley Clean Energy receives Moody’s investment-grade credit rating**, American Public Power Association, 07-17-20
6. Media (Continued)

- **Sunrun Lands Contract for 20MW Backup Battery-Solar Project in Blackout-Prone California**, *Greentech Media*, 07-30-20
- **Bay Area Aggregators Launch Big Home Battery Backup Plan**, *California Current*, 07-30-20
- **Sunrun to bring more than 13 MW of solar + storage to three Bay Area CCAs**, *Solar Power World*, 07-30-20
- **Sunrun Signs With California CCAs to Utilize Local Clean Power**, *Solar Industry*, 07-30-20
- **Inside Clean Energy: What’s a virtual power plant? Bay Area consumers will soon find out**, *The Mercury News*, 08-06-20
- **Inside Clean Energy: What’s a virtual power plant? Bay Area consumers will soon find out**, *InsideClimate News*, 08-06-20
- **How local energy providers are ensuring energy resilience**, *GreenBiz*, 08-07-20
## MILESTONES

### AUGUST 2020
- **Board of Directors, August 12:**
  - Consent
  - Minutes
  - April 2020 Treasurer Report
  - Regular Calendar
  - SVCE Continuity Plan
  - Request Integrated Resource Plan Report Approval
  - Solar plus storage PPA
  - Closed Session
  - CEO Evaluation

### SEPTEMBER 2020
- **Board of Directors, September 12:**
  - Consent
  - Minutes
  - May 2020 Treasurer Report
  - Regular Calendar
  - SVCE FY20/21 Budget Adoption
  - Adopt Revised Strategic Plan
  - Building Decarb Joint Action Plan
  - Solar plus storage PPA - Tentative

### OCTOBER 2020
- **Board of Directors, October 12:**
  - Consent
  - Minutes
  - June 2020 Treasurer Report
  - Regular Calendar
  - Prepay Agreement

### NOVEMBER 2020
- **Board of Directors, November 13:**
  - Consent
  - Minutes
  - July 2020 Treasurer Report
  - Regular Calendar
  - Long term duration storage super JPA

### Executive Committee, August 28:
- **Board Succession Planning Update - Modules Phase 1 Strategic Plan Update**

### Executive Committee, September 25:
- **Building Decarb Joint Action Plan Update**

### Executive Committee, October 23:
- **TBD**

### Executive Committee, November/December TBD:
- **TBD**

### Finance and Administration Committee, Aug. 5:
- **Review of FY 20/21 Budget**

### Finance and Administration Committee, TBD:
- **Prepay agreement**
This item is an informational update that will be addressed in the form of a presentation to the Board. The purpose is to provide an update on SVCE’s Strategic Plan.
RECOMMENDATION
Staff recommends that the Board approve the attached 2020 Integrated Resource Plan in substantial form, delegate to the Chief Executive Officer the authority to make any further changes needed to ensure compliance with California Public Utilities Commission (CPUC) requirements and guidance before submission by September 1, 2020; and submit with the IRP the following three portfolios and necessary templates:

1. 38 MMT Conforming Portfolio to be submitted as SVCE’s Preferred Portfolio;
2. 46 MMT Conforming Portfolio for compliance purposes; and
3. Alternate Portfolio which includes a higher RPS and lower dependence on large hydroelectricity

The attached IRP is provided in substantive form, however additional changes may be made to finalize the submittal templates, appendices, and IRP narrative including incorporating feedback from the CalCCA community, CPUC and SVCE’s Board in the sections related to future activities, barriers to implementing SVCE’s IRP, and lessons learned.

BACKGROUND
The Integrated Resource Plan (IRP) is a document required of all load serving entities (LSEs) under the jurisdiction of the CPUC. The purpose of the IRP process is to ensure that the electricity sector is on track to achieve its portion of the required statewide greenhouse gas (GHG) emissions reductions by 2030. Each cycle of the IRP process takes two years (this is the 2019-2020 cycle) and is accomplished in three basic stages.

In the first stage, which took place in 2019, the CPUC conducts modeling of the entire California grid in order to estimate the types and amounts of new resources necessary for the grid as a whole to meet the statewide GHG reduction targets by 2030. In the second stage, individual LSEs develop and submit IRPs that show their planned portfolios and procurement through 2030 and demonstrate that their emissions will be at or below the individual GHG benchmarks the CPUC sets for each LSE. The second stage concludes with the submission of the individual IRPs to the Commission by September 1, 2020. In the third stage, which will take place in fall 2020 and early 2021, CPUC staff will aggregate the individual IRPs into a statewide forecast of the electricity generation fleet in 2030. They will compare this to the statewide forecast completed in stage one and determine whether extra remedial procurement is needed to keep the sector on a trajectory to hit the sector-wide GHG target by 2030.

SVCE’s preparation process for this IRP began in September 2019, well before the CPUC released the formal compliance requirements and materials for the 2020 IRPs. The purpose of this early start was to allow staff to
approach the IRP as an internal planning process that would not only result in an acceptable compliance document for the CPUC, but also materially inform procurement decisions that SVCE had to make over the course of this IRP cycle. At the time of the first Board IRP workshop in September 2019, only two of SVCE’s seven current long-term power purchase agreements (PPAs) were in place. The feedback SVCE staff received at the Board IRP workshops in September and October 2019 influenced the selection of the next five PPAs, as well as other Board decisions such as whether to accept the allocations of carbon-free (large hydro and nuclear) resources available from PG&E via the ongoing PCIA reform process. SVCE staff also significantly strengthened the analysis underlying this IRP compared to SVCE’s first IRP in 2018, reflecting the increased sophistication of SVCE’s procurement, portfolio management, and risk management operations over the past two years. Ascend Analytics, the company that owns the sophisticated power portfolio simulation model that is used by SVCE, adapted some of their ongoing work for the procurement team for this IRP. The IRP document staff seeks approval of today reflects both the results of their analysis; the guidance received from the Board during the 2019 IRP workshops and the February, March, and June 2020 Board IRP updates; and specific instructions received by the CPUC for submitting IRPs. In future IRP cycles, SVCE staff intend to continue using the IRP as a way to structure internal conversations about planning and procurement in addition to ultimately producing a compliance document for the CPUC.

**ANALYSIS & DISCUSSION**

This IRP contains three portfolios: two required Conforming Portfolios and one optional Alternate Portfolio. The two Conforming Portfolios reflect the two-scenario structure of the statewide modeling described in stage one of the IRP process above: one scenario for hitting the required 2030 sector-wide GHG target (46 Million Metric Tons or MMT) exactly and another reflecting the steeper reductions needed by 2030 (38 MMT) in order for the sector to hit GHG targets for the electricity sector that were put in place by SB 100, by the year 2045. SVCE received a GHG benchmark for each of these scenarios that represents SVCE’s proportional load-share of the total allowable electricity sector emissions in each scenario. SVCE’s IRP must in turn contain at a minimum two Conforming Portfolios. The Conforming portfolio for the 46 MMT scenario must show emissions roughly equal to SVCE’s 46 MMT benchmark, and the 38 MMT Conforming Portfolio may show emissions equal or below but not above SVCE’s 38 MMT benchmark.

The Conforming Portfolio for the 38 MMT scenario is SVCE’s Preferred Portfolio and the one that most accurately reflects SVCE’s current procurement policies. It maintains the 50/50 split between RPS-eligible renewables and carbon-free energy (mostly large hydro) through 2026. Beyond 2026 SVCE’s RPS tracks California’s annual RPS targets through 2030 when it hits 60% RPS with balance of energy being met with carbon-free, non-RPS resources. This portfolio meets all statewide requirements, including RPS targets, long-term contracting requirements, California’s storage mandate, and the 67.2 MW of additional new resources required of SVCE in the final outcome of the 2017-2018 IRP cycle.

The other two portfolios, the 46 MMT Conforming Portfolio and the 38 MMT Alternate Portfolio, are derived in different ways from this Preferred Portfolio. The 46 MMT Conforming Portfolio must show higher emissions than those produced by SVCE’s Preferred Portfolio, so in order to comply SVCE staff were obliged to artificially raise the emissions by removing carbon-free large hydro resources from the Preferred Portfolio and replacing them with system power. This was done incrementally until emissions rose to the level of SVCE’s 46 MMT Scenario benchmark. Though this does not reflect SVCE procurement policy, CPUC staff have made it clear that under the 46 MMT Scenario all LSE Conforming Portfolios may not have lower emissions than their benchmarks out of concern that lower emissions will distort the grid reliability analysis planned for stage 3 of the IRP cycle. SVCE has made clear in the narrative that the 46 MMT Conforming Portfolio is constructed for compliance purposes only and does not reflect SVCE’s actual planned procurement over the next decade.

The third portfolio, an Alternate Portfolio under the 38 MMT Scenario, is included in response to expressed CPUC concern about future system reliability and LSEs with high percentages of large hydro in their portfolios. Between potential changes in regional climate, tightening requirements on imported electricity, and new climate laws in the Northwest that may limit that availability of hydro in California, CPUC staff are concerned that LSEs which have previously relied on large amounts of imported hydro for energy and reliability will not
be able to do so in the future. In order to speak to this concern, the Alternate Portfolio reduces SVCE’s utilization of hydro by increasing the RPS target to 75%. Like the Preferred Portfolio, the Alternate Portfolio is carbon-free on an annual (but not hourly) basis and forecasts 2030 GHG emissions well below SVCE’s 38 MMT Scenario benchmark. The IRP narrative makes clear that this portfolio does not represent SVCE’s current RPS policy, but it demonstrates one way for SVCE to adapt to tightening hydro markets in the future while maintaining a portfolio that is carbon-free on an annual basis.

The table below shows SVCE’s benchmarks under each scenario and the forecast 2030 emissions of each of the three portfolios included in this IRP.

<table>
<thead>
<tr>
<th>(Million Metric Tons)</th>
<th>46 MMT Scenario</th>
<th>38 MMT Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVCE GHG Benchmark</td>
<td>0.704</td>
<td>0.562</td>
</tr>
<tr>
<td>Conforming Portfolio 2030 Emission</td>
<td>0.704</td>
<td>0.255</td>
</tr>
<tr>
<td>Alternate Portfolio 2030 Emissions</td>
<td>N/A</td>
<td>0.297</td>
</tr>
</tbody>
</table>

**STRATEGIC PLAN**

Approving this contract will directly support Goal 8 of SVCE’s Strategic Plan, “Engage regulators and legislators in developing policy that protects CCA rights and facilitates CCA contributions to decarbonization, grid reliability, affordability, and social equity.”

**ALTERNATIVE**

If the Board does not delegate authority to the CEO to approve final changes to this IRP before submission, SVCE staff will have to submit the document as it is. Given that there are ongoing conversations with CPUC staff to clarify compliance requirements and within the CCA community to compare methodologies, an inability to refine the document to reflect these will increase the likelihood of its being rejected.

The Board may decide to submit only SVCE’s Preferred Portfolio as it has no intention of carrying out the 46 MMT Conforming Portfolio. Doing so would risk SVCE’s IRP being rejected, as the CPUC has made it clear that it is a requirement for compliance. Submitting the Alternate Portfolio while not necessary, demonstrates to the CPUC SVCE’s flexibility and commitment in meeting it carbon-free energy policy and that it understands the challenges of relying on hydroelectric resources.

**FISCAL IMPACT**

This IRP alone does not have an individual fiscal impact. Though it forecasts procurement of certain resources out to 2030, this does not remove any of the existing Board approval requirements for individual PPAs or annual budgeting. The Board will thus have separate opportunities to review and approve the expenditures implied by the portfolios in this IRP.

**ATTACHMENT**

1. Draft SVCE 2020 Integrated Resource Plan
Standard LSE Plan

Silicon Valley Clean Energy

2020 INTEGRATED RESOURCE PLAN

September 1, 2020
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I. Executive Summary

Silicon Valley Clean Energy (SVCE) is pleased to present herein its 2020 Integrated Resource Plan (IRP). As a community choice aggregator (CCA) focused on helping its member communities advance their greenhouse gas (GHG) reduction goals by providing a clean source of energy while maintaining cost competitive rates and furthering system reliability. SVCE appreciates this opportunity to highlight its progress so far and to contribute to the statewide IRP planning exercise.

SVCE’s accomplishments since its launch in 2017 include achieving an annual carbon-free\(^1\) content which includes an aggressive Renewable Portfolio Standard (RPS) of approximately 50% since its inception, successful offering of a voluntary 100% RPS product to approximately 3.7% of its load; demonstrable progress towards meeting SB350 long-term RPS procurement mandates through the successful execution of seven long-term power purchase agreements; strong performance in meeting California’s Resource Adequacy mandates (almost 100% compliance with no penalties); and an expansive list of program offerings to promote the decarbonization and electrification within SVCE’s service territory. All this was achieved while maintaining competitive rates relative to the incumbent investor-owned utility and building a financial stable organization. In July 2020, SVCE became the third CCA to earn an investment grade credit rating by Moody’s of Baa2. This rating was awarded because of SVCE’s ability to meet all procurement mandates, strong leadership, ability to understand and manage risk and build a financially viable organization.

The 2021-2030 IRP is SVCE’s second IRP. In the process of creating it, SVCE engaged its community, stakeholders and governing board to establish high level goals and objectives and a vision for where SVCE needs to be in 2030. SVCE’s planning and electricity procurement efforts will help meet California’s aggressive and necessary GHG reductions goals while setting a path towards providing SVCE’s customers carbon-free electricity to promote electrification in an affordable and reliable manner. To this end, SVCE has identified three key goals; greenhouse gas reductions, affordability and reliability. It is not sustainable or responsible to present a portfolio which merely looks at one of these goals without the consequences of the others. This is demonstrated through SVCE’s current procurement efforts, which balances aggressive deployment of solar PV with paired storage at all facilities and additional long-term purchases of new and existing geothermal resources. Additionally, while SVCE’s energy portfolio is carbon-free on an annual basis, SVCE recognizes the ongoing role of natural gas in grid reliability and the challenges that decarbonizing California’s grid has raised. Through consistent investments in resource adequacy products, its plan to self-procure to meet the IRP Procurement Track mandate\(^2\) and current efforts to deploy long-duration storage through collaborative procurement, SVCE is committed to doing its part in maintaining grid reliability.

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\(^1\) SVCE voluntary tracks and reports greenhouse gas emissions to The Climate Registry under its Electric Power Sector protocol. In 2017, 2018 and 2019 SVCE reported 0.25, 4.32 and 2.34 lbs of CO2e/MWh, respectively.

\(^2\) D.19-11-016.
In this IRP, SVCE presents two conforming portfolios in accordance with the two scenarios examined in this IRP cycle: 46 MMT by 2030 and 38 MMT by 2030 and an alternative portfolio. The 38 MMT conforming portfolio represents SVCE’s current procurement approach, which is carbon-free on an annual basis with a 50% RPS through 2025, the mandated RPS percentage plus a 5% buffer through 2030, and the remainder of annual demand in all years supplied with large hydro. The 38 MMT portfolio emissions are below the assigned GHG emissions benchmark for the 38 MMT scenario. The 46 MMT portfolio is the same as the 38 MMT portfolio, but with reduced large hydro reliance in 2030 such that it meets the assigned GHG emissions benchmark for the 46 MMT scenario. Both portfolios meet the reliability standards tested in the resource template. This IRP also presents one alternative portfolio under the 38 MMT scenario, which increases the RPS mandate to 75% of retail sales while filling in the remainder of annual need with large hydro. While this alternative portfolio does not represent current SVCE procurement policy, it was modeled and included as a representation of how SVCE could adapt to a tightening market for large hydro and other carbon-free non-RPS resources in the future while still meeting all GHG reduction milestones. Notably, both the 38 MMT scenario conforming portfolio and alternative portfolio have 2030 emissions below not only SVCE’s 38 MMT Scenario GHG benchmark, but also SVCE’s forecasted benchmark in a theoretical 30 MMT Scenario.

The modeling approach for this IRP uses the PowerSimm model to simulate reliability, cost, and GHG metrics for each portfolio. In the coming years SVCE’s procurement activity will focus on additionality of new renewable procurement, diversifying our renewable portfolio in order to better match our renewable generation profile to our demand curve, and planning for potential changes in the large hydro market as environmental conditions evolve and more retail suppliers are interested in carbon-free power. SVCE is also investing heavily in programs to help its communities decarbonize their building and transportation sectors by facilitating building electrification, access to electric vehicle charging infrastructure, and decarbonization-related workforce development as shown in Figure 1.

*Figure 1. SVCE’s approach to deep decarbonization is to impact all four elements*
II. Study Design

a. Objectives

SVCE’s purpose in undertaking this modeling exercise was twofold. First and foremost, to produce an IRP that would represent SVCE’s procurement policies as comprehensively as possible and contribute meaningfully to the statewide IRP process. Second, to undertake an outreach and modeling process that would be internally useful for planning purposes and instructive on how SVCE might wish to modify its procurement strategy in the future should market conditions make the current approach less feasible or more expensive.

In order to achieve these goals, SVCE took a three-phase approach spanning a full year between August 2019 and August 2020. The first phase involved conversations with SVCE’s Board of Directors and the public about key procurement decisions and aspects of SVCE’s procurement strategy. SVCE held two community workshops in the fall of 2019, one in September and one in November. The purpose of the workshops was to review SVCE’s overarching carbon-free policy and procurement strategy as well as guiding several major procurement decisions SVCE would have to make between when the workshops were held and when the IRP was due. These included whether to accept allocations of large hydro and nuclear energy available to SVCE either on an interim basis or through the Working Group 3 portion of the ongoing PCIA reform proceeding (R.17-06-026), although CPUC staff have since clarified that these resources should not be shown in the 2020 IRPs. The workshops and subsequent Board follow-ups in February, March, and June 2020 also spanned and influenced the implementation of SVCE’s 2019 RFP for long-term PCC1 renewable resources, resulting in the selection and execution of five of SVCE’s seven current long-term PPAs.

Table 1. SVCE Long-term Renewable Power Purchase Agreements Executed to Date

<table>
<thead>
<tr>
<th>Project</th>
<th>Technology</th>
<th>Location</th>
<th>Term (years)</th>
<th>Expected On-line Date</th>
<th>RFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDF BigBeau</td>
<td>Solar + Storage</td>
<td>Kern County, CA</td>
<td>20</td>
<td>December 2021</td>
<td>2017</td>
</tr>
<tr>
<td>Recurrent Energy Slate</td>
<td>Solar + Storage</td>
<td>King County, CA</td>
<td>17</td>
<td>June 2021</td>
<td>2017</td>
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<tr>
<td>Ormat Casa Diablo</td>
<td>Binary Geothermal</td>
<td>Mono County, CA</td>
<td>10</td>
<td>December 2021</td>
<td>2019</td>
</tr>
<tr>
<td>Coso Geothermal</td>
<td>Geothermal</td>
<td>Inyo County, CA</td>
<td>15</td>
<td>January 2022</td>
<td>2019</td>
</tr>
<tr>
<td>First Solar Rabbitbrush</td>
<td>Solar + Storage</td>
<td>Kern County, CA</td>
<td>15</td>
<td>June 2022</td>
<td>2019</td>
</tr>
<tr>
<td>Nextera Yellow Pine</td>
<td>Solar + Storage</td>
<td>Clark County, NV</td>
<td>20</td>
<td>December 2022</td>
<td>2019</td>
</tr>
<tr>
<td>8ME Aratina</td>
<td>Solar + Storage</td>
<td>Kern County, CA</td>
<td>20</td>
<td>June 2023</td>
<td>2019</td>
</tr>
</tbody>
</table>
These early conversations focused on how to adapt SVCE’s original standard of being carbon-free on an annual energy basis for the future grid needs and to transition to a carbon neutral energy system in 2045. The workshops recognized that being carbon-free on an annual basis is not sufficient for ensuring grid reliability in a decarbonizing world, and sought to identify ways for SVCE to evolve its portfolio in accordance with changing grid needs while maintaining that original standard. The main strategy that emerged from these conversations was to pursue renewable energy PPAs whose generation profile was better matched to both SVCE’s hourly load profile and to the Availability Assessment Hours (AAH), the times of greatest energy need on the grid. One component of this is renewable baseload, which SVCE secured in the form of two geothermal PPAs in January and March 2020, one of which will be the first new geothermal plant to schedule into the CAISO in 30 years. Another component is heavier reliance on battery storage to move solar output to the AAH, and SVCE has paired all new solar resources with storage equal to at least 40% of the solar capacity.

Apart from applying this to the new solar PPAs signed in 2020, SVCE also amended one of its two 2018 PPAs in February 2020, expanding the battery capacity from roughly 30% to 50% the size of the solar nameplate capacity. Figure 2 summarizes SVCE’s approach to planning and procurement in the context of IRPs, the state’s clean mandates and goals and SVCE’s own clean energy goals.

Core to SVCE’s mission is the deployment of programs to reduce dependence of fossil fuels. The need to identify distributed energy resources (DER) and electrification measures was a focus of SVCE’s IRP discussions. Since SVCE’s conforming load represents a pro rata share of PG&E’s TAC area load and is not representative of SVCE’s specific service territory load, SVCE has made it a
priority to understand its own load and how it may be modified. Specifically, SVCE assessed the potential to deploy DERs incremental to those already accounted for in the state’s long-term planning and load forecasts. While incremental DERs are not a part of SVCE’s Conforming Portfolios, they are presented in the Alternate Portfolio and SVCE will continue to pursue cost effective DERs and electrification measures in pursuit of its mission.

The second phase of the process was the modeling described below, but it happened on an iterative basis alongside the conversations in the first phase of the IRP. The portfolios presented here in this IRP are a final version reflecting both procurement decisions made by SVCE as well as changing compliance requirements and guidance from the Energy Division over the past year. However, it should be noted that there were a number of portfolios modeled along the way that are not included in the list of portfolios for IRP compliance. This is because the IRP cycle has been long enough that the marginal portfolio changes these portfolios were designed to assess, such as inclusion/exclusion of the carbon-free allocations, the geothermal PPAs, and theoretical biomass PPAs, have either already been decided or been rendered superfluous by updated IRP guidance (exclusion of carbon-free allocations) or lack of feasible market options for implementation (biomass contracts).

The final phase of SVCE’s IRP process was selecting the portfolios that would be included in the IRP itself, of which there are two conforming portfolios and one alternative portfolio. These and SVCE’s reasons for selecting them are detailed further in Section III.

b. Methodology

i. Modeling Tool(s)

For IRP portfolio development, SVCE relied on PowerSimm, an industry leading market simulation, capacity expansion, and production cost model, developed by Ascend Analytics (“Ascend”). PowerSimm is able to capture and quantify elements of risk through the simulation of meaningful uncertainty with weather as a fundamental driver. PowerSimm is a “hybrid model,” meaning it uses both market data and long-term fundamentals to simulate load, renewables, and CAISO spot market prices against which resources are dispatched and valued.
Figure 3. Schematic diagram of PowerSimm modeling framework.

The diagram shows PowerSimm’s modeling framework. PowerSimm simulates hourly spot price conditions (i.e. “during delivery simulations”) as a function of weather, system load, and renewables. The simulated spot prices are scaled so that the average of all spot prices equals the simulated on-peak/off-peak monthly forward price. Market forward data in the near term (next 5 years) is blended with Ascend’s long-term fundamental forecasts of gas and power prices driven by supply fundamentals in the WECC.

PowerSimm captures a meaningful range on uncertainty driven by the factors that create price risk in power markets, including variability in weather, load, renewable output, congestion risk, and forward price volatility. PowerSimm trains its econometric “sim engine” model with up to 30 years of historical weather to model the relationships between weather, load, and renewables. Ascend parameterizes its weather uncertainty using both time (month, day, hour) and autoregressive terms to create discrete chronological weather simulation. Weather serves as input to load and renewable simulation for both SVCE load and CAISO system load. A typical study includes running 50 – 100 “sim-reps,” which are simulation processes of 8760 hours across the planning time horizon. Results are summarized across the sim-reps to capture the full distribution of outcomes, including summarization of mean, median, P5, and P95 states.

SVCE selected PowerSimm as the primary production cost and valuation tool for this IRP because it provides deeper insight and precision in valuation relative to a sector-wide capacity expansion model like RESOLVE. PowerSimm was used as a simulation model to valuate

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³ RESOLVE is a high-level capacity expansion optimization model that selects system level (i.e. WECC or California wide) resources to meet a set of load, emissions, and reliability constraints at minimum cost using a “typical week” simplification.
SVCE’s load and resources within the context of both CAISO hubs (NP-15) and specific LMPs (for PPA resources).

One aspect to note is that SVCE opted not to use the capacity expansion function of PowerSimm for this exercise. This was largely for two reasons. First, after layering SVCE’s existing contracts and the priorities of its member communities on top of statewide compliance requirements, there were significantly more constraints on the composition of SVCE’s future portfolio than there are with the Reference System Plan. This makes capacity expansion less marginally useful, because the optimization process has a narrower solution space in which to work from the start. Secondly, SVCE staff wished to avoid projecting an air of greater certainty around SVCE’s future procurement than actually exists. While there are certain resource categories such as RPS-eligible renewables whose quantities have hard percentage requirements, within those categories SVCE’s selection between various resources will depend heavily on the responses received in future RFOs. Changing markets and financing conditions, the granular characteristics and varying quality of individual offers, and changing regulatory requirements around reliability all add uncertainty to the selection of future resources. SVCE staff indicate clearly in this document the places where the estimation of the percentage of each resource type is a proxy representing flexibility within a category rather than a set-in-stone commitment. However, SVCE staff did not feel that capacity expansion would convey that uncertainty as clearly, and so opted for the scenario analysis approach documented below.

For DER modeling, E3 used the RESTORE and IDSM Models for DER valuation and to determine optimal dispatch. The consumer adoption model was informed by the PATHWAYS stock rollover model and the NREL Bass Diffusion model.

ii. Modeling Approach

Initial Analysis
As discussed above, the second phase of SVCE’s IRP involved significant analytical work to lay the foundation for the assumptions used to form the portfolios presented in this IRP (“Initial Analysis”). That modeling work was comprised of two separate efforts: DER potential modeling by E3 and resource portfolio scenario modeling by Ascend Analytics. Each is described in turn below.

E3 Consulting DER Modeling

SVCE hired E3 Consulting to run a scenario analysis of DER adoption and load in SVCE territory through 2030. Customers were segmented into 15 groups based on building type, building vintage, square footage, and energy use. The following technologies were considered:

- Rooftop solar PV
- EV charging
- BTM storage
• Water heating
• HVAC/Space heating
• Energy Efficiency
• Cooking
• Clothes drying

E3 conducted seven sensitivities and three reference scenarios for each technology and each customer segment. More detail on E3’s modeling can be found in the slides in Appendix A attached to the IRP.

Based on the results of this analysis SVCE selected a scenario to incorporate into the baseline assumptions in further resource planning modeling, including the work by Ascend Analytics described below. This scenario included the following set of assumptions:

• Building electrification (water heating (EE embedded), HVAC/space heating (EE embedded), clothes drying, cooking): Natural gas moratorium in new construction and remodels by the 2022 code cycle
• BTM PV: Assume full economic potential of BTM PV under an SVCE NEM rate from 2020-2030
• BTM storage: Assume full economic potential and a 4-hour battery duration under a continuing SGIP program from 2020-2030
• Residential EV charging: Assume level 2 charging load and full economic potential, 250-mile range, and identical customer driving profiles under an SVCE EV rate from 2020-2030

E3 ran the above scenario and forecasted through 2030 the incremental load change due to these technologies in the residential and commercial customer sectors. Using the 8760 results for each technology, SVCE calculated the incremental change in load due to the technology through 2030.

**Ascend Analytics PowerSimm Modeling**

SVCE took the approach of designing candidate portfolios, as summarized in the table below, based on the intersection of Board procurement priorities and the type of quantity of resources available on the market.

Each portfolio had to meet all regulatory requirements for long-term contracted resources, RA, GHG, and renewable energy along with SVCE’s aggressive RPS targets and its internal goal of being 100% carbon free on an annual basis. In addition, SVCE used the same load forecast for each portfolio in Table 2. The load forecast was based on SVCE’s IEPR forecast, with modifications to account for the load modifiers from E3’s results described above. To avoid double counting the E3 incremental load change with the embedded DER assumptions in the SVCE IEPR forecast, SVCE computed the difference between the IEPR DER assumptions and E3’s incremental load change for each technology. This difference is what is deemed as SVCE’s
load change due to incremental DERs/electrification, and it was applied as a load reduction resource in PowerSimm.

Table 2. Initial list of portfolios modeled in PowerSimm.

<table>
<thead>
<tr>
<th>Portfolio Name</th>
<th>Description and Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Business as Usual</td>
<td>SVCE’s existing portfolio in fall 2019. The remainder of SVCE’s long-term contracting obligations under SB 350 were filled in with generic long-term wind and solar PPAs at a 30%/70% ratio, with the balance of RPS credits coming from Index+ REC short-term contracts. SVCE conservatively estimates 50 MW of imported large hydro can be reliably procured, with the rest of load served by Index+ GHG-free short-term contracts. No long-term geothermal or bioX resources are included.</td>
</tr>
<tr>
<td>B-RFP</td>
<td>This plan includes existing contracts plus contracts that were under negotiation through SVCE’s 2018 RFP process which includes two geothermal resources (Ormat and Coso). A small amount of generic long-term PPAs for solar and wind in a 70%/30% ratio were backfilled into the portfolio to meet the SVCE long-term contract requirements, with the balance of RPS credits coming from Index+ REC short-term contracts. SVCE conservatively estimates 50 MW of imported large hydro can be procured on a bundled energy and RA basis, with the rest of load served by Index+ GHG-free short-term contracts.</td>
</tr>
<tr>
<td>C-RFP No Coso Geo</td>
<td>Identical to portfolio B, but without the Coso geothermal PPA. This was a sensitivity to evaluate the marginal impact of that contract on evaluated metrics.</td>
</tr>
<tr>
<td>D-PG&amp;E RPS + Hydro</td>
<td>Identical to portfolio B but with added allocations of large hydro and RPS resources from the PCIA Working Group 3 process unfolding in R.17-06-026.</td>
</tr>
<tr>
<td>E-PG&amp;E Nuclear</td>
<td>Identical to portfolio D but with the addition of nuclear from PG&amp;E’s carbon-free allocations</td>
</tr>
<tr>
<td>F-BioX with PG&amp;E RPS &amp; Hydro</td>
<td>Identical to portfolio D but with added long-term biomass PPAs. This portfolio was designed to complement SVCE’s investment in geothermal, as biomass could serve as another form of renewable baseload.</td>
</tr>
</tbody>
</table>

As the table indicates, the analysis was set up to analyze the following questions:

- Should SVCE execute contracts under negotiation in the RFP process?
- Should SVCE include geothermal in its portfolio?
- What benefits would allocations from PG&E’s PCIA resources provide?
• Should biomass and/or biogas ("biox") resources be included?

To answer these questions, Ascend Analytics modeled each portfolio in PowerSimm to quantify the performance of each portfolio on various metrics in three categories: Decarbonization, Reliability, and Affordability. More detailed descriptions of the metrics and results are provided in the slides attached to the IRP as Appendix B. SVCE staff ranked the portfolios against the metrics, and, based on the results, made the following recommendations:

• Use Portfolio B as the preferred portfolio to guide future procurement as it represents the best balance of reduced emissions, reliability, and affordability of all portfolios modeled
• Execute contracts for geothermal resources to capture their reliability and emissions-reduction benefits
• Explore taking allocations of PCIA resources from PG&E to reduce cost should the CPUC approve such allocations in the future

**IRP Compliance Analysis**

Because Portfolio B was selected as the preferred portfolio from the PowerSimm modeling, SVCE intended it to be the basis for its conforming portfolio for the IRP. However, after the Ascend Analytics modeling analysis, the CPUC expanded the IRP requirements to include two conforming portfolios, one for each of two emissions reduction scenarios: 38 MMT and 46 MMT and provided emissions benchmarks for each LSE associated with each scenario. Each LSE is required to submit at least one conforming portfolio for each scenario. For the 38 MMT scenario, the portfolio emissions may be at or below the emissions benchmark. For the 46 MMT scenario, emissions must be at the benchmark level. Because Portfolio B was constructed to achieve the SVCE procurement goal of 100% carbon free energy on an annual basis, it falls below the emissions benchmarks, and thus was selected as the basis of the 38 MMT conforming portfolio.

The 38 MMT Scenario Conforming Portfolio was built from Portfolio B and thus includes the following requirements:

1. Be carbon-free on an annual basis, meaning procuring enough RPS-eligible renewable and carbon-free energy to cover the GWh of our total annual load each year.
2. Achieve a 50% RPS target every year though 2025, followed by the state RPS target plus a 5% buffer in 2026 – 2030.
3. Fill in remaining annual energy need with large hydro and carbon-free ACS.
4. Meet RA requirements and the RPS long-term contracting requirements associated with SB 350.
5. In order to promote grid reliability and help address the duck curve, pair all future new solar resources with 4-hour battery storage equal to 40% of the capacity of the solar facility.
Beyond these concrete requirements, SVCE adopted several assumptions as placeholders representing uncertainty in future procurement:

1. Future RPS-eligible PPAs and short-term contracts were assumed to be a mix of 70% solar and 30% wind. This mirrors the larger role of solar in the Reference System Plan fleet and is also an approximation of the relative frequency with which each resource appears in responses to SVCE’s renewable RFOs so far.
2. Future long-term wind PPAs would include 150 GWh of existing wind based on responses to RFPs received so far, and the rest would be new.
3. All new solar + storage PPAs would be assumed to be from new facilities.
4. All Index+ transactions for RPS compliance would be from existing facilities.

To become the 38 MMT Conforming Portfolio, Portfolio B also had to be updated to reflect the results of ongoing procurement and needed some modification to meet the CPUC’s requirements to be a conforming portfolio. The following changes were made:

- The contract for the Duran Mesa wind facility was removed, as this contract was cancelled. (For more detail, please see the Out of State Wind Development section of the IRP.)
- The contract for the Aratina solar+storage facility was executed and added to the portfolio.
- Generic long-term PPAs had been modeled starting in 2021 in Portfolio B. These were delayed to 2023 to reflect SVCE’s updated expectations of its procurement through its ongoing RFP.
- The load forecast was modified to reflect expectations of expanded Direct Access consistent with the IEPR. A shed demand response (DR) resource was added as a proxy for the ongoing resiliency RFP procurement. (For more detail, please see the System Reliability Analysis section of the IRP.)
- The load modifier assumptions from the E3 analysis were removed, as they are not allowed for conforming portfolios.

In addition to the 38 MMT Conforming Portfolio, SVCE is required to submit a second conforming portfolio for the 46 MMT emissions reduction scenario. SVCE’s 46 MMT Conforming Portfolio is based on the 38 MMT Conforming Portfolio, but includes a reduced amount of large hydro energy in 2030, such that the GHG emissions benchmark is reached. Thus, this portfolio does not meet SVCE’s Board-approved procurement objective of being 100% carbon free on an annual basis, and is only being provided for IRP compliance purposes.

Finally, SVCE added one portfolio that was not part of the initial PowerSimm portfolio modeling effort. Because of concerns over the reliance on large hydro in the 38 MMT conforming portfolio, which is discussed further in the Hydro Generation Risk section of the IRP, SVCE developed an the 75% RPS Alternative Portfolio. This portfolio uses similar assumptions as the 38 MMT Conforming Portfolio, except for the following:
- Reduces the reliance on large hydro by targeting SVCE's portfolio to be 75% renewable under California's RPS by 2030.
- Includes more aggressive RPS procurement targets for long-term contracting, as shown in Section III below.
- Because it is an alternative portfolio and not a conforming portfolio per CPUC IRP requirements, load modifiers are allowed. Thus, it includes the load modifications from the E3 modeling.

All three portfolios are submitted for IRP compliance, and thus are modeled in the CPUC’s Clean System Power (CSP) calculator to estimate their emissions. SVCE has also prepared CPUC resource data templates for each portfolio, which includes an RA tracking table. Earlier versions of two of the IRP portfolios (38 MMT Conforming and the 75% RPS Alternative Portfolios) were modeled in PowerSimm. Due to a lack of time between receiving final IRP requirements from the CPUC (June 15, 2020) and the filing date (September 1, 2020), SVCE was unable to model the final versions of the three portfolios listed in the IRP document. SVCE will continue modeling efforts in the next IRP cycle. A summary of the PowerSimm analysis is included in Appendix C.

**CSP Calculator Assumptions**

The CSP Calculator was customized using the following assumptions:

- Load reflects the annual managed retail sales forecast assigned to SVCE.
- The load shape reflects a mix of the default commercial and industrial (C&I) and non-C&I load shapes provided in the calculator. SVCE assumes a mix of 66% C&I load and 34% non-C&I load in each modeled year.
- Hourly generation profiles for all resources for which SVCE has executed long-term contracts were summed and entered as annual custom GHG-free generation profiles in the calculator. This includes dispatch of the battery storage for SVCE’s hybrid resource PPAs.
- Resources under short-term contract and generic resources, for which SVCE has planned but not yet contracted for, were entered using the default generation profiles by resource type that are embedded in the calculator.

**RA Tracking Table Assumptions**

The following table summarizes the assumptions used to build the RA tracking tables in the CPUC’s resource data templates.

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4 Portfolios C, D, and E were modeled in PowerSimm but ultimately not selected as part of SVCE’s IRP.
Table 3. Summary of RA modeling assumptions.

<table>
<thead>
<tr>
<th>RA Tracking Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual System RA Obligation Forecast</td>
<td>The ratio of LSE 2021 peak demand and CAISO 2021 peak demand is multiplied by the annual forecasted CAISO peak demand and then reduced by each LSE’s proportional share of the resource adequacy capacity value of the resources reflected in the year-ahead cost-allocation mechanism (CAM) list.</td>
</tr>
<tr>
<td>Hybrid Resource RA Contribution</td>
<td>Methodology from D.20-06-031; Solar generator RA portion is derated to that portion not needed to charge the battery</td>
</tr>
<tr>
<td>Effective Load Carrying Capability (ELCC) Curves</td>
<td>Monthly ELCC curves are provided in resource data template and change over time; Different for 46 MMT and 38 MMT portfolios</td>
</tr>
</tbody>
</table>

III. Study Results

a. Conforming and Alternative Portfolios

SVCE has chosen to submit three portfolios for this IRP:

- **38 MMT Conforming Portfolio**: based on the preferred portfolio from the Initial Analysis, with updates to conform to CPUC requirements for IRP compliance;
- **46 MMT Conforming Portfolio**: based on the 38 MMT conforming portfolio, but with reduced large hydro in 2030 in order to meet the assigned GHG emissions benchmark; and
- **75% RPS Alternative Portfolio**: based on the 38 MMT Conforming Portfolio, but with more aggressive renewable procurement. This portfolio represents a potential future response to a tightening market for large hydro that would allow SVCE to uphold its commitment to being carbon-free on an annual basis.

i. Resources Included in All Portfolios

All portfolios include resources procured from SVCE’s portfolio of short-term index+ transactions. The following two tables summarize SVCE’s current portfolio used in IRP modeling for 2020 and 2021. Contracts for multiple types of RPS resources may include a mix of biomass, geothermal, small hydro, wind, and solar.
Table 4. SVCE RPS Index+ Transactions by Resource Type (GWh).

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Types</td>
<td>1,350</td>
<td></td>
</tr>
<tr>
<td>Biomass</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Geothermal</td>
<td>152</td>
<td>0</td>
</tr>
<tr>
<td>Small Hydro</td>
<td>327</td>
<td>0</td>
</tr>
<tr>
<td>Solar</td>
<td>730</td>
<td>0</td>
</tr>
<tr>
<td>Wind</td>
<td>723</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,973</td>
<td>1,350</td>
</tr>
</tbody>
</table>

The carbon-free index+ transactions below are backed by a mix of in-state and imported large hydro. The mix changes year-to-year. For 2020, SVCE estimates a mix of 35% in-state hydro.

Table 5. SVCE Carbon-Free Index+ Transactions by Resource Type (GWh).

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Large Hydro</td>
<td>1,893</td>
<td>1,507</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,915</td>
<td>1,507</td>
</tr>
</tbody>
</table>

In addition to short-term procurement, the table below summarizes the long-term PPA resources that are included in all portfolios:

Table 6. Long-term PPA Resources included in all portfolios.

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Resource Name</th>
<th>Nameplate Capacity (MW) (Solar/Battery)</th>
<th>Contract Status</th>
<th>Development Status</th>
<th>Delivery Start Date</th>
<th>Energy &amp; RA?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar plus Storage</td>
<td>Big Beau</td>
<td>70/22</td>
<td>Executed</td>
<td>New</td>
<td>12/1/2021</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Slate</td>
<td>93/46.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rabbitbrush</td>
<td>40/8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yellow Pine</td>
<td>50/26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aratina</td>
<td>80/20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geothermal</td>
<td>Ormat</td>
<td>7</td>
<td>Executed</td>
<td>New</td>
<td>12/31/2021</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Coso</td>
<td>33.3</td>
<td></td>
<td></td>
<td>1/1/2022</td>
<td></td>
</tr>
<tr>
<td>Large Hydro</td>
<td>Western Base Resource</td>
<td>1,900 – SVCE’s share 0.325%</td>
<td>Planned</td>
<td>Existing</td>
<td>1/1/2025</td>
<td>Energy Only</td>
</tr>
<tr>
<td>Demand Response</td>
<td>TBD from Resiliency RFP</td>
<td>8.5</td>
<td>Planned</td>
<td>New</td>
<td>TBD</td>
<td>Yes</td>
</tr>
</tbody>
</table>
In addition to the resources listed in the table above, each portfolio also includes 50 MW of
generic imported large hydro/ACS that provides energy and RA from 2021-2030. Historically,
SVCE has received over 100 MW of allocated annual import allocation rights on the major
interconnections and believes that assuming 50 MW of generic imported large hydro/ACS and its
bundled energy delivery is a conservative estimate. SVCE plans on executing long-term import
RA and bundled energy contracts as soon as the CAISO Maximum import capability Stabilization
and Multi-Year Allocation Initiative is implemented in Q3 2021.

ii. Additional Generic Resources

The portfolios also include resources from the following resource types. All these resources
are planned resources that have not been procured. The assumed resource mix may vary
depending on actual responses to future resource solicitations.

Backfill Long-Term PPAs

All scenarios were targeted to procure enough energy under long-term PPA to exceed
minimum RPS contract requirements. The 75% RPS Portfolio included especially aggressive
long-term contracting targets for compliance periods (CP) 5 and 6. These targets are
summarized in the table below.

Table 7. Long-term PPA contracting targets for each compliance period (CP). Targets are based on percent
of retail sales.

<table>
<thead>
<tr>
<th></th>
<th>CP4</th>
<th>CP5</th>
<th>CP6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Long-term RPS Requirement</td>
<td>25.9%</td>
<td>32.1%</td>
<td>37.3%</td>
</tr>
<tr>
<td>SVCE’s Current Long-term RPS Resources</td>
<td>25%</td>
<td>36%</td>
<td>33%</td>
</tr>
<tr>
<td>38 MMT and 46 MMT Portfolios</td>
<td>31%</td>
<td>37%</td>
<td>42%</td>
</tr>
<tr>
<td>75% RPS Portfolio</td>
<td>31%</td>
<td>45%</td>
<td>55%</td>
</tr>
</tbody>
</table>

The table below summarizes the backfill PPA resources that were added to each portfolio to
meet long-term RPS compliance requirements. Contracts were modeled to begin in 2023, with
additional PPAs starting in 2028 for the 75% RPS portfolio to meet the more aggressive RPS
requirements.
Table 8. Backfill PPA resource summary. Generic storage resources are modeled as 4-hour battery storage.

<table>
<thead>
<tr>
<th>New Resources</th>
<th>Solar + Storage</th>
<th>38 MMT Portfolio &amp; 46 MMT Portfolio</th>
<th>75% RPS Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>171.5 MW solar + 68.6 MW storage starting 2023</td>
<td>171.5 MW solar + 68.6 MW storage starting 2023</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16.5 MW starting 2023</td>
<td>16.5 MW starting 2023</td>
</tr>
<tr>
<td></td>
<td>Wind</td>
<td>57 MW starting 2023</td>
<td>57 MW starting 2023</td>
</tr>
</tbody>
</table>

Index + RPS Transactions

These resources were added above long-term RPS contracts to meet SVCE renewable procurement goals from 2021-2030. The procurement goals exceed minimum RPS standards as shown in the table below.

Table 9. Annual RPS procurement targets for each portfolio. Targets are based on percent of retail sales.

<table>
<thead>
<tr>
<th>RPS Minimum Requirement</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 MMT and 46 MMT Portfolio RPS Procurement Target</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>54%</td>
<td>57%</td>
<td>59%</td>
</tr>
<tr>
<td>75% RPS Portfolio RPS Procurement Target</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>58%</td>
<td>64%</td>
<td>69%</td>
<td>75%</td>
</tr>
</tbody>
</table>

The quantities of short-term RPS purchases needed to meet the above targets for each portfolio are summarized in chart below. The resources were modeled as a mix of 70% existing solar and 30% existing wind resources. Short-term resource needs are expected to decline between 2022 and 2023 as SVCE’s portfolio of resources under long-term contract come online, then increase again after 2026 as RPS requirements increase. For the 75% RPS portfolio, the short-term procurement need declines from 2027 to 2028 as Backfill PPAs are assumed to begin in 2028 to meet CP6 targets.
Index + GHG Free Transactions

These resources were added to meet the Board’s approved procurement goal of being 100% carbon free on an annual basis. Currently, SVCE contracts for supply from existing large hydro resources to meet this need, and this is assumed to continue through 2030 in the IRP portfolios. The differences in the amounts of Index+ GHG free energy in each portfolio reflect the following:

- The reduced hydro necessary to meet the 46 MMT portfolio GHG emissions benchmark in 2030
- The lower amount of hydro necessary in the 75% RPS portfolio because it includes more renewable energy as described above.
- The additional hydro needed to meet the assumed incremental electrification load in the 75% RPS portfolio.
iii. Portfolio Energy Balance

The following charts graphically summarize the portfolio composition for each portfolio.

Figure 4. Index+ GHG-free transaction quantities included in each portfolio.

Figure 52. 38 MMT Conforming Portfolio Energy Expansion Chart.
Figure 6. 46 MMT Conforming Portfolio Energy Expansion Chart. Gap in 2030 to be filled by system power.

Figure 7. 75% RPS Alternative Portfolio Energy Expansion Chart.
iv. Comparison to Reference System Portfolios

The table below compares the new resources in the portfolios to the new resources in the Reference System Portfolios.

Table 10. Comparison of new resources in SVCE portfolios to SVCE’s load ratio share of new resources in RSPs.

<table>
<thead>
<tr>
<th>Source of Resources</th>
<th>Load Ratio Share of Reference System Portfolios</th>
<th>SVCE Portfolios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38 MMT</td>
<td>46 MMT</td>
</tr>
<tr>
<td>Short-Duration Storage (MWh Capacity)</td>
<td>777</td>
<td>710</td>
</tr>
<tr>
<td>Long-Duration Storage (MWh Capacity)</td>
<td>385</td>
<td>234</td>
</tr>
<tr>
<td>Total Storage (MWh Capacity)</td>
<td>1,162</td>
<td>943</td>
</tr>
<tr>
<td>Renewable Energy (GWh)</td>
<td>1,161</td>
<td>803</td>
</tr>
<tr>
<td>Renewable Energy Mix</td>
<td>Solar: 57%</td>
<td>Solar: 76%</td>
</tr>
<tr>
<td></td>
<td>In-State Wind: 24%</td>
<td>In-State Wind: 19%</td>
</tr>
<tr>
<td></td>
<td>Out-of-State Wind: 19%</td>
<td>Out-of-State Wind: 5%</td>
</tr>
<tr>
<td>Shed Demand Response (MW)</td>
<td>4.4</td>
<td>4.4</td>
</tr>
</tbody>
</table>

As the table shows, the total quantities of short-duration storage, renewable energy, and shed demand response are comparable to or greater than SVCE’s load ratio share of the RSPs. The two major differences are the lack of long-duration storage, the inclusion of new geothermal, and the heavier reliance on solar energy. Though not included in its portfolio modeling, SVCE is exploring procurement of this resource. Further information on this topic is discussed in the Long Duration Storage Development section of the IRP. As a baseload renewable resource, the addition of new geothermal energy is expected to contribute to grid reliability. Finally, although SVCE relies more on solar energy than the RSPs, all new solar energy is assumed to be paired with 4-hour battery storage to ensure operation of the resource.

b. Preferred Conforming Portfolios

As SVCE has only selected one conforming portfolio for each GHG emission reduction scenario, each is considered a preferred portfolio for IRP compliance purposes. However, the 38 MMT portfolio is SVCE’s preferred portfolio that represents SVCE’s current procurement plans. It is preferred over the
46 MMT conforming portfolio because it conforms to the Board’s procurement goal of being 100% carbon free on an annual basis through 2030. It is currently preferred over the 75% RPS Alternative Portfolio for the following reasons:

- The SVCE Board has not approved a procurement strategy for a 75% RPS target
- Staff is still assessing the cost, benefits, risk and viability of accelerating RPS procurement:
- Reliability, resource adequacy and grid integration requirements are still in flux and highly uncertain and may impact the value of additional RPS resources;
- Moving to a higher RPS will likely be achieved with solar plus storage resources, which may have an adverse impact on SVCE’s hourly GHG emissions and electrification goals; and
- the expansion of Direct Access could pose significant risk to SVCE if it procures large amounts of long-term resources. However, SVCE will continue to analyze the need for additional procurement of alternatives to energy from large hydro that may become scarce over time as more LSEs are required to meet the state’s decarbonization goals. SVCE will report on this topic in the next IRP.

As shown in the next section, the GHG emissions for the 38 MMT conforming portfolio are significantly below the required GHG emissions benchmark. SVCE expects this portfolio would operate similarly regardless of what emissions target other LSEs use to set their own procurement goals. Though aggressive large hydro procurement by other LSEs could make large hydro more difficult to procure in the future, it is not expected to significantly impact hydro operations or SVCE’s ability to procure in the near term. SVCE has addressed the risk of lack of hydro availability through analysis of the 75% RPS alternative portfolio, which is more thoroughly discussed in the Hydro Generation Risk Management section of the IRP.

SVCE’s aggressive procurement of renewable resources, including large amounts of new solar development, could create lower effective load carrying capability for all solar resources for resource adequacy planning purposes. However, all new solar in SVCE’s portfolio is backed by battery storage to reduce risk of curtailment and ensure its operation. Additionally, within executed PPAs, SVCE has negotiated buyer curtailment and buyer curtailment caps into PPAs to help mitigate CAISO negative price risk. Additionally, with the exception of one solar plus storage resource, SVCE along with MBCP will be responsible for the scheduling coordination function thus ensuring optimal dispatch to the two CCA’s portfolio objectives. Last, SVCE expects to continue to rely on natural gas generation for resource adequacy and hedging of its cost to meet load through the CAISO, as shown in the System Reliability Analysis section of the IRP and supports expansion of the CAISO’s Energy Imbalance Market (EIM) and regionalization efforts as an effective means to manage curtailment risk on a macro level.

c. GHG Emissions Results

Both of SVCE’s conforming portfolios achieve GHG reductions at or below the level required by our assigned GHG benchmarks. The emissions from each portfolio are shown in the table below alongside the appropriate benchmark.
Table 11. GHG Emissions in 2030

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Unit</th>
<th>46 MMT Conforming Portfolio</th>
<th>38 MMT Conforming Portfolio (Preferred)</th>
<th>75% RPS Alternative Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2020</td>
<td>2022</td>
<td>2026</td>
</tr>
<tr>
<td>CO2</td>
<td>MMT/yr</td>
<td>0.216</td>
<td>0.128</td>
<td>0.125</td>
</tr>
<tr>
<td>Benchmark*</td>
<td>MMT/yr</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Benchmark is shown net of BTM CHP emissions.

These emissions are the result of inputting each portfolio into the final version of the CSP calculator. The assumptions used in the CSP calculator are described in Section IIb above.

**d. Local Air Pollutant Minimization and Disadvantaged Communities**

**i. Local Air Pollutants**

Local air pollutant emissions were calculated in the CSP calculator and for each portfolio and are summarized in the table below.

Table 12. Local Air Pollutant Results

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Unit</th>
<th>46 MMT Conforming Portfolio</th>
<th>38 MMT Conforming Portfolio (Preferred)</th>
<th>75% RPS Alternative Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2020</td>
<td>2022</td>
<td>2026</td>
</tr>
<tr>
<td>PM 2.5</td>
<td>Tonnes/yr</td>
<td>26</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>SO2</td>
<td>Tonnes/yr</td>
<td>7</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>NOx</td>
<td>Tonnes/yr</td>
<td>73</td>
<td>24</td>
<td>24</td>
</tr>
</tbody>
</table>

For all portfolios, the only local air pollutants are due to system power. The Action Plan section of the IRP discusses various strategies SVCE intends to use to reduce reliance on system power over time.

**ii. Focus on Disadvantaged Communities**

In order to identify disadvantaged communities (DACs) that are located within its service territory, SVCE used CalEnviroScreen 3.0 to identify the top 25% of impacted census tracts on a statewide basis and the top 5% of census tracts without an overall score but with highest pollution burden. This analysis indicates that SVCE serves 5,719 customers residing in 6 census tracts identified as DACs: 6085504602, 6085505202, 6085512310, 6085512602, 6085512603, and 6085503214. The map below, excerpted from the CalEnviroScreen 3.0 website, shows each of these census tracts. The population of these DAC areas is listed as 26,006 per 2010.

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census figures, which is estimated to comprise approximately 4% of the population of SVCE service territory.

SVCE’s primary strategy for reducing emissions and contributing to the economic development of DACs is the aggressive procurement of zero-emissions renewable resources. When selecting green power projects, SVCE considers whether proposed facilities are located within DACs or otherwise contribute to DAC economic development (for instance, by increasing employment opportunities for DAC residents). Currently, SVCE has signed one PPA for a solar plus storage facility within a DAC census tract: RE Slate in Kings County.

SVCE’s community outreach and programs are designed to be especially sensitive to the needs of DACs. In 2018, SVCE awarded $75,000 in grant funds to six local nonprofits to collaborate on outreach to traditionally hard-to-reach and underserved residential customers. The purpose of this small grant pilot program was to provide accurate information to SVCE customers about SVCE’s mission and benefits, as well as build relationships in disadvantaged communities for future program development and deployment.

The grants were offered to trusted, local nonprofits that serve underrepresented communities and harder to reach audiences in the SVCE territory, including low-income residents; seniors; customers eligible for Medical Baseline discounts; customers with low English language proficiency; and customers living in the south county, unincorporated Santa Clara County, and

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Milpitas. In total, the grants facilitated outreach to over 310,000 residents. This collaboration has helped SVCE promote social equity by ensuring that customers in target communities are aware of how they can benefit from SVCE programs and rates, which is a shared priority among state regulators. SVCE plans to launch a second Community Engagement Grant cycle in the future.

Through the Innovation Onramp program, SVCE provided grant funding to launch two innovative pilots to provide reliable and affordable charging access to apartment and condo residents. The pilot with EVmatch is to test their reservation-based software platform for shared charging for multi-unit dwelling tenants. The pilot with Ecology Action is to demonstrate a low power charging technology and business model for specifically for affordable housing communities. SVCE is conducting ongoing analyses to better understand and measure equity in its service territory. This includes tracking customer adoption of behind-the-meter (BTM) solar, BTM storage, electric vehicles, and home electrification on a census tract-level. Tracking these adoption metrics alongside equity metrics such as CalEnviroScreen 3.0 will allow SVCE to ensure that its programs and initiatives reach its disadvantaged and underserved communities.

Per SVCE’s Electric Vehicle Infrastructure Joint Action Plan, SVCE is currently offering two programs focused on deployment of EV charging to serve multi-family properties in lower-income communities. The ‘Priority Zone DC Fast Charging’ program offers additional financial incentives for new fast charging stations located near concentrations of lower-income multifamily properties. SVCE’s FutureFit Assist EV Charging program offers a full suite of free technical assistance to multi-family properties for design and deployment of onsite Level 2 charging.

Last, through SVCE’s Resiliency RFP, described in other sections, VCE contracted with Sunrun for capacity and resilience from behind-the-meter battery storage and solar installations. Half of the capacity is targeted to come from installations at multi-family properties to benefit customers living in disadvantaged communities or enrolled on low income assistance (CARE, FERA) or medical baseline programs. The installations will take place in 2020 through 2022. The program is expected to benefit thousands of customers.

e. Cost and Rate Analysis

As a California CCA operating in an in environment where customers have choice, whether it’s returning to the incumbent utility, participating in direct access or bypassing SVCE with behind-the-meter solar, SVCE is acutely aware of need to manage cost and maintain competitive rates. SVCE’s value proposition since its inception has been to provide affordable and carbon-free product offerings to its customers. GreenStart is SVCE’s default product offering, comprised of a mix of RPS and other carbon-free

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6 Over 3,000 total engagement and over 308,000 total reach.
resources, which since inception has been offered at a discount PG&E’s rates of four percent on average. GreenPrime is SVCE’s opt-up product which is made up of 100% RPS eligible resources and is offered at a slight premium to GreenStart.

Fundamental to achieving SVCE’s product and rate objectives is SVCE’s ability to procure cost-effective electric supply resources and manage the cost and risk associated with its load and supply portfolio. This starts with the proper evaluation and selection of its resources acquired to meet its long-term renewable needs which make up a large portion of the supply portfolio. In evaluating the addition of new or existing resources to the SVCE generation portfolio, SVCE utilizes both quantitative and qualitative metrics. SVCE evaluates the resource value as determined by its net energy (including congestion), ancillary service (A/S), resource adequacy (RA) and RPS/REC value and compares it to the contract cost. In addition, SVCE assigns qualitative metrics including a resource’s generation profile, location, workforce development and technology type. SVCE then measures the resource’s benefits against its costs to determine whether it is cost-effective and to assess an implied REC cost.

After a resource has been analyzed to be cost-effective, it is then incorporated and modeled with SVCE’s existing portfolio to determine the overall portfolio’s return/risk ratio. The return/risk ratio analysis will account for portfolio dynamics including:

- Resource performance against SVCE’s hourly load obligation;
- Basis locational price differential between the resource and SVCE DLAP; and
- Variability in production from resources and forward and spot price uncertainty

Resources that increase the portfolio’s gross margin net present value (NPV) while decreasing the gross margin at risk as measured by the mean gross margin NPV minus the fifth percentile probability (P5) gross margin NPV, are considered preferred resources.

Aside from the process describe above, SVCE also assesses the strategic value a resource may provide. Resources are evaluated on their ability to:

- Meet SVCE’s vision of a true carbon-free portfolio where the resource can provide clean energy on a 24x7 basis or in the hours where carbon emissions are the highest;
- provide local benefits to its member communities;
- mitigate portfolio concentration risk (price, technology, counterparty and/or location);
- provide for overall grid reliability.

SVCE is subject to significant cost volatility and uncertainty in meeting its energy load obligations within the CAISO. To manage this cost, SVCE’s governing board has adopted an Energy Risk Management Policy. Included in the Policy are tolerance bands set to for minimum and maximum amount of load to be met through forward purchases of fixed-price energy. These transactions are carried out with Board-approved counterparties and for the most part are sourced through generic resources priced at the PG&E EZ-Gen Hub or NP15 delivery point.
### Table 13. SVCE Board Approved Energy Risk Management Tolerance Bands (Fixed Price Supply as a % of Load)

<table>
<thead>
<tr>
<th>Period</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt Quarter</td>
<td>85%</td>
<td>105%</td>
</tr>
<tr>
<td>Current Balance of Year</td>
<td>80%</td>
<td>105%</td>
</tr>
<tr>
<td>Year 2</td>
<td>70%</td>
<td>90%</td>
</tr>
<tr>
<td>Year 3</td>
<td>55%</td>
<td>75%</td>
</tr>
<tr>
<td>Year 4</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Year 5</td>
<td>0%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Taking a portfolio approach of varying new and existing projects, technology, location, contract tenor, counterparties and contract pricing structures in its pursuit of long-term RPS resources along with having a rigorous energy risk management program to manage load obligations and supply portfolio cost and risk ensures that SVCE can meet its near and long-term cost, rate and financial objectives. Over time short-term index plus REC and/or carbon-free resources will be replaced with less expensive and more valuable long-term PPAs delivering energy, RECs. Carbon-free and RA attributes. As such, SVCE’s cost for clean energy is expected to decrease or remain stable over time; however cost to meet RA requirements are expected to increase. Overall SVCE’s expected cost through 2030 are relatively flat as shown in Figure 8.

![Figure 8: SVCE Expected Cost to Meet Load 2021-2030 $MM/year.](image)

#### f. System Reliability Analysis

SVCE is fully committed to maintaining a portfolio that not only meets our decarbonization goals but, fulfills our commitment to the Resource Adequacy (RA) program and broader system reliability. Reliability has emerged as the major technical challenge in the process of decarbonizing California’s
grid, and SVCE’s procurement strategy and priorities bring several types of innovative solutions to the table.

The reliability challenge California faces is that unlike natural gas, which the state has historically and continues to rely on for the majority of our energy needs, many renewable energy sources cannot generate electricity on a 24/7 basis. A gas-based system can maintain system reliability as long as there is enough capacity available to meet peak demand, and that is what California’s current RA program is designed to do. However, as the fleet is increasingly dominated by variable renewables, planning for peak demand is not enough because there is no guarantee that resources available to meet the peak can contribute in other hours as well.

RA tracking table results are summarized in the tables below. RA contributions from the following resources are included:

- Existing short-term RA contracts
- Executed long-term PPAs for RPS resources and associated storage, if applicable
- Planned long-term PPAs for additional RPS resources (existing wind, new wind, and new solar + storage hybrid resources)
- Planned shed DR resources from SVCE’s resiliency RFP

After these resources are accounted for, 50 MW of the remaining RA obligation each year is assumed to be met with large hydro imports, which is in line with current short-term RA contracts, and the remaining RA obligation is met with existing gas resources via short-term RA-only contracts. This is consistent with SVCE’s current RA procurement, which relies on RA-only contracts with natural gas generating units.

For purposes of estimating RA from solar + storage PPAs, all PPAs, both executed contracts and backfill generic resources are modeled as hybrid resources, meaning they have charging restrictions such that most energy for the battery is supplied by attached solar, making the resource eligible for investment tax credits. The calculation of the amount of RA for these resources is described in D.20-06-031. Per this decision, the amount of RA contribution from the solar resource must be limited to that which is not used to charge the battery. SVCE estimated this derate for each PPA, and then multiplied the resulting solar capacity by the solar ELCC curves in the CPUC resource data template, which vary for the 38 MMT and 46 MMT scenarios. The battery ELCC curves in the resource data template were also multiplied by the battery capacities to estimate the RA contribution from the battery resources.
Table 11. RA Tracking table for 38 MMT Conforming Portfolio.

<table>
<thead>
<tr>
<th>System Reliability Progress Tracking Table (NQC MW) for month of September by contract status, 38 MMT portfolio</th>
<th>ELCC type</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Table 12. RA Tracking table for 46 MMT Conforming Portfolio.

<table>
<thead>
<tr>
<th>System Reliability Progress Tracking Table (NQC MW) for month of September by contract status, 46 MMT portfolio</th>
<th>ELCC type</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 13. RA Tracking table for 75% RPS Alternative Portfolio.

<table>
<thead>
<tr>
<th>System Reliability Progress Tracking Table (NQC MW) for month of September by contract status, 38 MMT portfolio</th>
<th>ELCC type</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>87</td>
<td>85</td>
<td>82</td>
<td>80</td>
<td>77</td>
<td>137</td>
<td>133</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


The RA tracking table includes new shed DR resources in all portfolios. (Shed DR is an unknown ELCC type in the tables.) In response to Pacific Gas and Electric Public Safety Power Shutoffs and to invest in resiliency for our customers, SVCE along with three other LSEs requested for proposals (“RFP”) to provide Resource Adequacy (“RA”) capacity and resilience to its residential and commercial customers through the development of customer-sited Distributed Energy Resources (“DERs”). SVCE signed a 10-year contract with SunRun to provide capacity and resiliency in the form of a load modification approach. SunRun is contracted to provide up to 7.5 MWs through the installation of solar plus storage DERs to single family and multi-family homes no later than 2022. SVCE is also in negotiation with another developer to provide a load modification approach with SVCE’s Commercial and Industrial customers with an expected capacity of no more than 1 MW by 2022. Because these negotiations were completed after the June 30, 2020 cut-off date for , the RA tracking tables only reflect 6 MW of generic shed DR as a proxy for these resources. Although each tracking table represents a reasonable approach to RA procurement for each IRP portfolio, there is significant uncertainty regarding future RA requirements and procurement. Therefore, SVCE’s actual RA portfolio in the future may be significantly different than what is reported here. Current Commission proceedings, once resolved, may result in SVCE taking RA allocations from PCIA resources, and the new central procurement framework may result in substantial RA procurement outside SVCE’s direct control.

The tracking tables above also include all resources needed to meet SVCE’s incremental procurement requirement specified in D.19-11-016 for years 2021-2023. The table below shows the resources SVCE has procured that will contribute to this requirement. The total expected contribution of these resources is greater than SVCE’s procurement obligation each year, giving SVCE confidence that it will meet this requirement successfully.

Table 14. Resources planned to meet SVCE’s incremental procurement requirement.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Expected RA Initial Delivery Date</th>
<th>Expected Qualifying Capacity (MW)</th>
<th>Term (years)</th>
<th>% Contribution to 2021 Obligation</th>
<th>% Contribution to 2022 Obligation</th>
<th>% Contribution to 2023 Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutter Energy Center</td>
<td>1/1/2021</td>
<td>33.6</td>
<td>3</td>
<td>100%</td>
<td>66%</td>
<td>49%</td>
</tr>
<tr>
<td>Slate Battery Expansion</td>
<td>6/30/2021</td>
<td>46.5</td>
<td>17</td>
<td>138%</td>
<td>92%</td>
<td>69%</td>
</tr>
<tr>
<td>Big Beau Battery</td>
<td>12/1/2021</td>
<td>22</td>
<td>20</td>
<td>0%</td>
<td>43%</td>
<td>33%</td>
</tr>
<tr>
<td>Ormat Geothermal</td>
<td>12/31/2021</td>
<td>7</td>
<td>10</td>
<td>0%</td>
<td>14%</td>
<td>10%</td>
</tr>
<tr>
<td>SVCE Procurement Requirement (MW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>33.6</td>
<td></td>
<td></td>
<td>50.4</td>
<td>67.2</td>
</tr>
</tbody>
</table>
### SVCE Total Procurement (MW)

<table>
<thead>
<tr>
<th>% of Requirement Procured</th>
<th>80.1</th>
<th>108.6</th>
<th>108.6</th>
</tr>
</thead>
</table>

**g. Hydro Generation Risk Management**

Electrical generation from hydroelectric facilities depends on the volume of water available to flow through turbine generators. A lack of precipitation in drought years creates low water availability and hence lower hydro generation output. Hydro systems without large reservoirs that can store water for multiple years and that can average out generation over time are at particular risk. California’s hydro generation system is vulnerable to drought and has experienced lower than average hydro generation during droughts in 2007-2009 and 2012-2016.

Drought risk can impact generation system reliability. For hydro generation systems with at least some water storage and dispatch flexibility, the risk primarily manifests as an energy constraint as opposed to a capacity constraint. During droughts, such systems can generate up to their maximum capacity for short periods of time, but cannot do so for long periods because of a lack of water due to the drought. Hydro systems with no effective water storage will be energy and capacity limited in a drought.

Currently, SVCE relies on a significant amount of purchases of GHG-free energy from hydro generators to maintain its Board-approved goal of being 100% carbon free on its power content label. SVCE manages its hydrological risk by contracting with both Pacific Northwest (PNW) and California suppliers. In addition, SVCE attempts to execute firm contracts to provide certainty on hydro deliveries from suppliers who will only sell excess resources versus a unit contingent contract that is subject to the vagaries of hydrological conditions. For example, in 2020 hydro conditions in the PNW are at or above average while California conditions are more challenging. SVCE is able to mitigate its hydrological delivery risk by diversifying the regions from which it procures large hydro. In addition, SVCE is inserting language in contracts that specify that the supplier provide hydrological statistics (storage levels and acre/ft conversions) at certain times of the year in order for SVCE to better forecast future deliveries.

SVCE contracts for hydro resources through a mix of counterparties and for varying terms to manage risk associated with counterparty default on hydro resources. SVCE’s goal is to secure a large portion of its large hydro needs under contract of three to five-year tenors; however, it continues to explore long-term contracting for small hydro facilities.

SVCE is actively working to reduce its reliance on short-term purchases of GHG-free energy through its growing portfolio of long-term contracts for renewable resources. This portfolio includes geothermal resources that can deliver baseload generation. Further, SVCE is exploring long-term contracts for hydro resources. In 2018, SVCE was awarded a small allocation of large hydro from the
Central Valley Project (CVP) as provided for under Western Area Power Administration’s 2025 Power Marketing Plan. The contract is 30 years in term, structured as a run-of-river for which SVCE will be responsible for its share of project cost. The contract is expected to be executed by the end of 2020 for deliveries starting in 2025.

The chart below compares the amount of hydro generation in 2030 for both the RSPs and SVCE’s IRP portfolios. Since it is not known how much hydro in SVCE’s portfolio will be in-state or imported, total hydro generation is shown as a percent of retail sales.

![Chart showing comparison of 2030 hydro generation as percent of retail sales.](chart.png)

**Figure 9.** Comparison of 2030 hydro generation as percent of retail sales. For RSPs, CAISO large, small, and imported hydro generation is shown as a percent of CAISO retail sales. For SVCE portfolios, SVCE hydro purchases are shown as a percent of SVCE retail sales.

As the chart shows, the 38 MMT Conforming Portfolio and 75% RPS Portfolio are far more heavily dependent on hydro than the RSPs. However, they also have emissions much lower than the assigned benchmark. When the amount of large hydro in the 38 MMT Conforming Portfolio is reduced to meet the 46 MMT emissions benchmark, the result is the 46 MMT Conforming Portfolio. And as the chart shows, the amount of hydro in this portfolio is somewhat lower than the RSPs.

In addition, SVCE performed a sensitivity analysis with the 75% RPS portfolio. It lowered the amount of large hydro in the portfolio until the 38 MMT emissions benchmark was reached. The result is shown in the chart above in the rightmost column, which is lower than the 38 MMT RSP hydro reliance. Therefore, SVCE concludes that the additional hydro reliance in the 75% RPS portfolio compared to the RSP is not necessary to meet the emissions benchmark, but only needed to meet the Board-approved goal of being 100% carbon free. Should hydro purchases become difficult over time due to drought or competition with other LSEs seeking lower-carbon portfolios to meet GHG emissions targets, the 75% RPS portfolio represents an alternative path to meeting SVCE’s
procurement objectives, including being 100% carbon free on its power content label. SVCE will monitor hydro availability and the cost of renewable energy to determine which path it will take. SVCE will report back on this issue in future IRPs.

h. Long-Duration Storage Development

Along with 12 other CCAs, SVCE issued a joint request for information (RFI) on long-duration storage on June 3, 2020. The goal of the RFI was two-fold. First to collect information to inform upcoming efforts to issue request for offers for long-duration storage resources. Second, to assess the viability of long-duration storage and inform the CCAs’ individual and collective efforts in developing their IRPs specifically as it relates to meeting long-duration storage capacity needs identified in the CPUC’s Reference System Portfolio (RSP). The RSP (38 MMT scenario), identified a need to add 1,605 MW of new long-duration storage (minimum of eight-hour discharge duration, though modeled by the CPUC as twelve hour duration) by 2026. Taking a pro rata share of the CCA’s portion of the capacity represents 450 MW in 2026, assuming CCAs are 28% of state load. For SVCE alone, the needed capacity is 48 MW assuming an eight-hour duration.7

The RFI is an attempt to reflect the results from the RSP in that it sought information for resources to be grid charged, have a minimum discharge duration of 8 hours and commercial operation by 2026. The RFI was open to multiple technologies including battery storage, mechanical storage, thermal storage, and chemical storage. RFI responses were due July 1, 2020 and over 30 submissions were received for 25 distinct projects. While SVCE and the group of CCAs are still reviewing results, the general observation is that the amount of capacity identified in the RSP can be technically developed by 2026. The following is a summary of key information gathered:

- A total of 9,183 MW of 8-hour duration project capacity was submitted;
- Offers varied in tenor, battery discharge duration (8, 12, or 16-hour) and available attributes (e.g., RA only, tolling, A/S);
- 14 types of technologies were submitted including lithium-ion, chemical flow, compressed air, pumped storage hydro, thermal storage, gravity-based, hydrogen, and 2nd life EV batteries;
- Prices ranged from $10 - $51.26 per kW-month; and
- Projects are able to meet an on-line date of 2026 or earlier.

Additionally, no developer expressed specific concerns with respect to contracting with a single CCA or with multiple CCAs through a joint buying arrangement.

SVCE along with a sub-set of the CCAs that participated in the RFI, intend to issue a joint RFO later this year. These same CCAs are exploring the formation of a new joint-powers authority to enable the procurement of a long-duration storage resulting from the RFO. Joint procurement for long-duration storage will allow for better economies of scale, while reducing project development, technology and regulatory risk. While the results from the RFI appear promising from a technical

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7 SVCE’s straight load-ratio share of the 1,605 MW is 32 MW. However, since the 1,605 MW was modeled as a 12-hour duration resource, SVCE multiplies 32 by 12/8 to get 48 MW equivalent at 8-hour duration.
potential basis, SVCE and the other CCAs remain concerned about the costs, benefits and regulatory risk and will look to the results of its future RFO and discussions with developers and the CPUC to inform future procurement decisions for long-duration storage.

i. Out-of-State Wind Development

SVCE is open to out-of-state wind proposals in response to its requests for offers. Such proposals are evaluated alongside others and are not penalized for being out-of-state as long as they can deliver to the CAISO. However, SVCE recently had to terminate an out-of-state wind PPA. In June 2018, SVCE’s Board of Directors approved a 15-year PPA with Duran Mesa LLC for 110 MW of wind power from the Corona Wind Farm in Torrance and Lincoln Counties, New Mexico. The project was to supply portfolio content category one renewable energy credits from a new wind facility and transmitted to California via a new transmission path. Unfortunately, on April 16, 2020 SVCE and Pattern Energy, Duran Mesa LLC’s parent company, mutually terminated the PPA due to unanticipated delays in development outside the control of the supplier. The project had a scheduled COD of December 31, 2020 and was expected to meet 10% of SVCE’s RPS.

The RSP calls for a large amount of out-of-state wind on new transmission paths for delivery in 2026, which SVCE finds to be challenging. Through its current RFP for long-term renewables, SVCE received multiple offers for in-state resources but none for out-of-state. Additionally, SVCE has had bilateral discussions with developers for out-of-state wind resources, however transmission and cost continue to be a major barrier. SVCE will continue to seek cost-effective and viable wind resources consistent with its Preferred Portfolio and its desire to achieve a diversification of technologies in its RPS procurement.

j. Transmission Development

Resources for which SVCE has already executed contracts are in all IRP portfolios. The table below summarizes the location information for new resources under long-term contract.

Table 15. New SVCE Resource Location Information. SVCE has executed contracts with these resources.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Resource Type</th>
<th>Location</th>
<th>Queue Position</th>
<th>Station or Transmission Line</th>
<th>Interconnection Agreement?</th>
<th>RESOLVE Area</th>
<th>Coordinates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Beau</td>
<td>Solar + Storage</td>
<td>Kern County, CA</td>
<td>602 (18MWs solar) 1329 (110MWs solar, 40 MWs storage)</td>
<td>Whirlwind Substation 230kV</td>
<td>Yes</td>
<td>Tehachapi</td>
<td>34.933767 N 118.341933 W</td>
</tr>
<tr>
<td>RE Slate</td>
<td>Solar + Storage</td>
<td>Kings County, CA</td>
<td>1158</td>
<td>Mustang Switching Station 230kV</td>
<td>Yes</td>
<td>Westlands</td>
<td>36.24095 N 119.914801 W</td>
</tr>
<tr>
<td>Ormat</td>
<td>Geothermal</td>
<td>Mono County, CA</td>
<td>315</td>
<td>115 kV bus at SCE Control Substation</td>
<td>Yes</td>
<td>Northern California</td>
<td>37.65187 N 118.91686W</td>
</tr>
</tbody>
</table>

8 The PPA resulted from a joint procurement with Monterey Bay Community Power.
Each of the portfolios also includes new solar, wind, and storage resources that are modeled as planned backfill PPAs but not yet under contract. SVCE’s only location requirement for these resources is that they must qualify as PCC1 resources for RPS compliance purposes, meaning they either have a first point of interconnection with a California balancing authority. For resources with CODs on or before December 31, 2026, the CPUC requires LSEs indicate which transmission zone the resources will be located in. Because SVCE does not have any strong preferences for resource location, it followed the RSP distribution of wind and solar resources. This spreads the resources in many zones throughout California. For resources with CODs after December 31, 2026, SVC does not specify a location. Ultimately, SVCE will select resources with the best overall characteristics for cost and reliability, including the cost of any new transmission for interconnection. Risk of interconnection delays due to the need for new transmission construction are also considered in reviewing all offers in SVCE’s procurement process.

SVCE also includes a new shed DR resource in all IRP portfolios, that is planned to come from its resiliency RFP, as described in more detail in the section of the IRP on System Reliability Analysis. This resource is expected to be located within SVCE’s service territory.

I. Geothermal Resources

In 2019 SVCE signed two long-term geothermal PPAs one existing and one new which utilizes an air-cooled binary system that will have no CO2 emissions. Both projects are located in California and will deliver PCC1 energy meeting about 11% of SVCE’s RPS along with resource adequacy and ancillary services. The geothermal resources will help SVCE meet its decarbonization and electrification goals by providing a 24x7 source of carbon-free energy.

Both resources were selected through a competitive solicitation process which evaluated offers to assess an expected levelized net benefit value under various market and regulatory conditions.

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9 Energy was apportioned using the RSP capacity by aggregated zone for year 2022 as provided in the CSP calculators. For the Resource Data Template, the resources were placed in one RESOLVE zone per aggregated CSP zone. For simplicity, the RESOLVE zone with the most development in 2022 was selected as a proxy.
While the geothermal resources were offered in at significantly higher PPA cost on a per MWh basis versus the solar plus storage and wind projects, the expected value and therefore net benefit was deemed competitive and cost effective. Specifically, the projects demonstrated strong energy, REC and resource adequacy value. And, from a reliability perspective, SVCE finds geothermal to be a good substitute to capacity from natural gas resources and Diablo Canyon. It is a proven technology and is not susceptible to grid integration issues such as those with intermittent resources.

SVCE recognizes that the CPUC’s RSP does not include new geothermal capacity, however given SVCE’s own experience and valuation of these resources it is excited to include them as part of its Preferred Conforming Portfolio.

IV. Action Plan

a. Proposed Activities

As a community-driven LSE, SVCE works with its governing board to set policy, strategies and directives. At a high level, in 2018 SVCE’s board approved a Decarbonization Roadmap which sets a path for achieving deep decarbonization goals. The Decarbonization Roadmap promotes electrification in the built environment and transportation, grid integration and a carbon-free source of electricity.

SVCE’s decarbonization approach consists of four central tenets that are all necessary to achieving deep decarbonization: procure and maintain a sustainable, affordable and carbon-free power supply; electrify the built environment; electrify mobility; and promote energy efficiency and successful grid integration. Figure 1 shows how SVCE holistically considered all these pieces when developing a decarbonization portfolio.

The following subsections summarize key activities by focus area.

i. Built Environment

Buildings are responsible for approximately one third of GHG emissions in our communities – as SVCE’s electricity supply is carbon-free, these emissions are driven by the consumption of natural gas as an on-site fuel source. SVCE embarked on a journey with our member communities in early 2019 to undertake an ambitious project: adopting reach codes that would provide decarbonization benefits above and beyond the state code. Each city is able to consider its own reach codes, and SVCE’s role was as a facilitator and technical advisor. The reach code effort was a major success, and as of July 2020 twelve of our thirteen communities have approved or are working towards some type of reach code. Figure 11 has the details on each city’s code.

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11 For more details, see [https://www.svcleanenergy.org/reach-codes/](https://www.svcleanenergy.org/reach-codes/).
Reach codes can be adopted to impact both the built environment through banning gas or encouraging all-electric construction and mobility through requirements on installing EV chargers or laying EV-ready wiring to parking spaces.

<table>
<thead>
<tr>
<th>Member Agency</th>
<th>Status</th>
<th>Next Meeting</th>
<th>Date of Next Meeting</th>
<th>Code Language</th>
<th>Encourage Gas Reduction (1 + 2 + 2A)</th>
<th>Limit Gas (1 + 2A)</th>
<th>Ban Gas (1 only)</th>
<th>Higher than CalGREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain View</td>
<td>Approved</td>
<td></td>
<td></td>
<td>Begins on pg. 25</td>
<td>X</td>
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<tr>
<td>Morgan Hill</td>
<td>Approved</td>
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<td>Begins on pg. 45</td>
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<td>Milpitas</td>
<td>Approved</td>
<td></td>
<td></td>
<td>Begins on pg. 1132</td>
<td>X</td>
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<td></td>
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<tr>
<td>Monte Sereno</td>
<td>Approved</td>
<td></td>
<td></td>
<td>Begins on</td>
<td>x1</td>
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<tr>
<td>Los Gatos</td>
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<td>Cupertino</td>
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<td>Ordinance</td>
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<tr>
<td>Los Altos Hills</td>
<td>Approved</td>
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<td>Ordinance</td>
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</tr>
<tr>
<td>Campbell</td>
<td>Approved</td>
<td></td>
<td></td>
<td>Begins on pg. 41</td>
<td>x</td>
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<td></td>
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</tr>
<tr>
<td>Los Altos</td>
<td>1st Reading</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>Santa Clara County</td>
<td>Staff Proposal</td>
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<td></td>
<td></td>
<td>X</td>
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<td></td>
</tr>
<tr>
<td>Sunnyvale</td>
<td>Staff Proposal</td>
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<td></td>
<td>X</td>
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<td></td>
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<tr>
<td>Gilroy</td>
<td>Declined</td>
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<td></td>
<td></td>
<td>X</td>
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</tr>
</tbody>
</table>

1Reach code proposes wiring all homes for electric appliances and battery storage.

Figure 4. Building Reach Code Progress in SVCE’s Territory.

To continue to spur adoption of electrified technologies and building on the momentum and success of the reach code effort, SVCE is completing a Building Decarbonization Joint Action Plan (Building Decarb Plan)12 to identify a portfolio of programs to pursue. The plan will be finalized in Fall 2020. The goal is to help our customers understand and transition to “FutureFit” buildings, as shown in Figure 10.

The programs and budget committed to tackling building decarbonization will allow SVCE to address the challenging problems and demonstrate scalable solutions. The Building Decarb Plan portfolio will be complimentary to other ongoing SVCE initiatives including a heat pump water heater rebate,13 city permitting streamlining support and continued support for reach code implementation.

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13 For more details, see https://www.svcleanenergy.org/water-heating/.
ii. Mobility

Emissions from transportation comprise the largest source of GHGs in SVCE’s territory, and our Board has taken this sector seriously by authorizing $8 million in expenditure through 2023 to run the set of programs outlined in our EV Infrastructure Joint Action Plan (EVI Plan). SVCE also worked with four other LSEs across San Mateo and Santa Clara Counties (CCAs and municipal utilities) to attract the California Electric Vehicle Infrastructure Project (CALeVIP) to our region, and through that program saw an additional $6 million in co-funding for EV charging incentives committed to SVCE territory from the California Energy Commission.

SVCE’s programs tackle some of the hardest challenges in the electric vehicle sector: soft costs, multifamily properties, and fleets. As one example, SVCE launched a working group in 2019 to share knowledge among cities, installers, manufacturers and employers and have been working on reducing soft costs and other installation barriers. SVCE also launched a program in July 2020 that is helping multifamily and small or medium business properties understand EV charger options and go through the process of installing them. The programs in our EVI Plan are both helping our customers transition to electric vehicles now and providing insights for SVCE as it considers additional programmatic efforts.

Community Resiliency: Public Safety Power Shutoffs & COVID

In response to PG&E Public Safety Power Shutoff (PSPS) events and desire from our customers to be able to enhance their home or business resilience, SVCE partnered with three other Bay Area LSEs to issue a competitive solicitation for a capacity product made from aggregated solar and storage installations (aka “Resilience RFO”). SVCE expects to pay a premium for this capacity product in order to help more customers receive a resiliency co-benefit. SVCE has signed a 10-year contract with SunRun to provide up to 7.5 MW of capacity from DERs installed on single-family and multifamily homes no later than 2022. Negotiations are still underway with developers for commercial

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and industrial customers but SVCE is planning to provide additional capacity to be better prepared for additional PSPS events.

SVCE’s Resiliency RFO in response to PSPS events will also help minimize local pollutants. By incentivizing resiliency provided by solar and storage installations, SVCE is ensuring that participating customers do not need to turn to diesel or gas backups that result in local emissions during outage events.

In response to COVID-19 and the corresponding economic impact on our customers, SVCE’s Board approved $10M in customer relief and community resilience funds in Spring 2020. Approximately $2.5M of the total funds are being used to provide $100 in bill credits to our customers on CARE/FERA rates. These are customers with demonstrated economic or medical hardships. Our relief program will help these customers be able to afford to keep using electricity for their needs and comfort. On top of the bill credits for CARE/FERA customers, SVCE is issuing $250 in bill credits to qualifying/interested small business customers with the total expenditure targeted at $1 million and approximately 4,000 customers.

Of the $10M total in relief, $5M is reserved for our thirteen member agencies to consider and install resiliency infrastructure in their communities. Resiliency projects will vary, but keeping facilities operational during PSPS events or other outages is critical for our member agencies’ ability to serve all customers and particularly those in disadvantaged communities. Our $5M investment in our member agencies to support them in pursuing resiliency projects includes stipulations and encouragement around clean resiliency options like storage systems. While some operational constraints may require diesel or gas backups, SVCE’s involvement will help ensure that the goal of minimizing local pollutants is considered and incorporated as much as feasible.

iii. **Large Commercial & Industrial Initiatives**

SVCE has a close relationship with many of our local large C&I customers, and SVCE has begun discussions to understand how it can continue to best serve their needs with our power offerings. This has led SVCE to begin constructing some custom power offerings built on our C&I customer’s interests. One approach is our “Eco-Invest” offering, which will provide a lower rate whose discount goes into a fund for reinvestment into a decarbonization project at the customer site. Another approach is our “GreenPrime Direct”, which offers a dedicated renewable resource to a customer through a virtual power purchase agreement. Third and finally, SVCE is also in the process of developing a “GreenPrime 24x7” offer that will match a customer’s load with carbon-free electricity at all hours of the year.

iv. **Grid Integration**

SVCE worked with Gridworks and a group of industry stakeholders to create a whitepaper outlining options for running a virtual power plant (VPP) in our territory. VPPs aggregate DERs to provide various value streams to SVCE (such as providing capacity or reacting to real-time pricing surges), which are then monetized by aggregators or DER providers and passed on to the end customer in the form of cheaper up-front costs or ongoing payments. Improving the economics of intelligent, electric technologies has the potential to spur an increase in widespread DER adoption by making

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16 For more details on SVCE’s COVID-19 response, see [https://www.svcleanenergy.org/covid-19/](https://www.svcleanenergy.org/covid-19/).
5. EVALUATION MATRIX AND DISCUSSION

Virtual power plant options are evaluated to indicate how well they align with criteria.

<table>
<thead>
<tr>
<th>OPTION</th>
<th>CUSTOMER, COMMUNITY, AND PUBLIC VALUE</th>
<th>EMISSIONS IMPACT</th>
<th>SCALABLE &amp; TRANSFERABLE</th>
<th>EQUITY IN SERVICE</th>
<th>CORE ROLE FOR SVCE</th>
<th>VIABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REAL TIME PRICING</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>rates based on hourly wholesale market prices</td>
<td>Can lower customer bills but change in demand is uncertain.</td>
<td>Emissions are consistent with wholesale prices, so demand response to price signals increase emissions reductions.</td>
<td>Theoretically replicable but technical challenges for CA to offer real-time pricing exist, as introduced herein.</td>
<td>Available to all customers and is not dependent on specific equipment. Exposure to real-time price limits cross subsidi.</td>
<td>Sophisticated CAI customers already requesting dynamic pricing rate options. CAI could engage closely with its customers to offer technical assistance and guidance for customers to shift load.</td>
<td>Substantial, but addressable, technical barriers and determinants to CLA implementation exist, as introduced herein.</td>
</tr>
<tr>
<td><strong>PEAK DAY PRICING</strong></td>
<td></td>
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</tr>
<tr>
<td>commercial and industrial (C&amp;I) rates structure that targets summer peak load reduction</td>
<td>Year-round customer bill savings possible, provides RA value. Decline in summer peak can improve grid stability and provide grid services, but limits are limited to the season.</td>
<td>Reductions are limited to summer season. May lead to more consumption overall.</td>
<td>As an existing program, easily replicable, scalable, and transferrable.</td>
<td>Only available to RA customers. Limited cross subsidy from non-participants.</td>
<td>Same as RTP.</td>
<td>If program design fits within utility billing structure, program could launch quickly.</td>
</tr>
<tr>
<td><strong>DER demand response</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>aggregation (or resource adequacy (RA))</td>
<td>Direct impact on grid services, providing grid services such as capacity and load smoothing benefit the community.</td>
<td>Potential to reduce peak emissions but depends on when resources are scheduled.</td>
<td>Aggregation approach and auction design could be replicated and transferred to other load serving entities.</td>
<td>Accessible to all customers with communicating DERs. Limited cross subsidy from non-participants.</td>
<td>DER’s role in the community can engage participants closely and solicit innovative ideas to meet RA requirements.</td>
<td>CDA, could design and implement auction in short-term. Market nascence may make it challenging to keep customers engaged throughout CAISO integration process and realize total program potential, this challenge is not specific to a CDA.</td>
</tr>
<tr>
<td><strong>LSR — GRID RESPONSIVE</strong></td>
<td></td>
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</tr>
<tr>
<td>load shift from targeted dispatch signals, customer can opt out</td>
<td>Customers can earn value on provision of grid services. Community and public benefit from grid services, increased DER integration, and avoided renewable entitlement.</td>
<td>Reduced DER eligibility and grid-related dispatch signals can maximize emissions reductions.</td>
<td>Relatively easy scalable and transferrable, depends on local DER adoption rates.</td>
<td>Accessible to all customers with communicating DERs. Non-participants benefit from optimized load management.</td>
<td>CCA’s understanding of DER adoption rates and grid needs are critical to success. CCA can leverage close customer relationships to target participants and ensure responses.</td>
<td>Program could launch relatively quickly but delayed access to customer meter data might impact operations.</td>
</tr>
<tr>
<td><strong>LSI — MARKET INTEGRATED</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>load shift to take advantage of low to negative prices, requires storage</td>
<td>Customers can access low or negative energy prices. Community and public benefit from avoided renewable entitlement and local grid management.</td>
<td>Uses only emission-free electricity and avoids curtailment of renewable resources.</td>
<td>Limited scalability since currently only storage in eligible. Transferability is possible.</td>
<td>Only available to storage customers, DERs. Non-participants benefit from optimized load management.</td>
<td>CCA engagement would closely market actors. Close customer relationships needed to engage participants.</td>
<td>Limited to storage resources. CAISO market is not open until Fall 2020.</td>
</tr>
<tr>
<td><strong>DISTRIBUTION SERVICE MODEL</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>proactively independent non-profit distribution system operator (DSO) optimizes DSO to provide grid services</td>
<td>Customers earn on monetized grid services and contribution to local grid management. Community and public benefit from optimized operation of distribution grid, renewable integration, and avoided renewable entitlement.</td>
<td>Assumes DERs replace conventional resources.</td>
<td>Dependence on DSO limits ability to scale or transfer.</td>
<td>All DERs could participate. Non-participants benefit from optimized distribution grid and load management.</td>
<td>CCA leverages close customer relationships and detailed understanding of local DER adoption rates to engage participants and liaise with DSO.</td>
<td>Lack of independent DSO, optimization tools, and access to grid and customer data are significant barriers.</td>
</tr>
</tbody>
</table>

Figure 6. Table from SVCE’s review of VPP options.
v. **Innovation**

SVCE’s location in the Silicon Valley gives us a unique opportunity to engage with top innovators and startups. Since achieving deep decarbonization will necessitate overcoming major hurdles in cost-effective ways, SVCE developed our Innovation Onramp program\(^\text{17}\) to attract innovative companies to propose pilots that demonstrate or test potential solutions. These pilots are bigger swings that SVCE is taking to make not only incremental change but possibly unlock paradigm-shifting technologies or approaches. To that end, each pilot is accompanied by a robust evaluation plan to be sure that learnings are captured and can be shared with the rest of the industry.

SVCE runs a semi-annual application cycle and is currently supporting six active pilots – these range from our Data Hive\(^\text{18}\) that offers authorized, instant access of customer electricity data for DER providers to several pilots focused on new models for EV charging deployment at multifamily properties. SVCE is currently evaluating five more pilots for our next cohort with a focus on resiliency.

vi. **Carbon Free Power Supply**

California’s goal to be carbon neutral by 2045 along with SVCE’s efforts to promote electrification through a carbon-free source of electricity, necessitates a closer look at SVCE’s ability to provide a clean source of energy on an annual basis. Additionally, there is a desire by some to move SVCE to be carbon-free in all hours of the day in support of its goals. These aspirational goals must be balanced with the need to be cost competitive and promote the use of resources which support grid reliability.

Through this IRP exercise, SVCE tested several portfolio scenarios including a more aggressive RPS as provided for in the proposed Alternate Plan. The Alternate Plan allows SVCE to achieve its clean goals while reducing its reliance on large hydro resources, most notably out-of-state. The cost of achieving SVCE’s carbon-free goals has increased over time and is expected to continue to rise as competition for large hydro, both in-state and out-of-state, increases. Over the next year, SVCE intends to explore this Alternate Plan further. Specifically, SVCE will evaluate options to secure a long-term source of large hydroelectricity, use of Asset Controlling Supplier (ACS) resources, use of carbon-offsets, and renewable energy products which guaranty delivery of energy in specified hours including non-solar producing hours such as 4 to 9 pm otherwise known as “sundown” products.

In the future SVCE will explore its ability to deliver a 24x7 carbon-free product or at least one which better matches SVCE’s unique load and/or customer specific characteristics and needs. A key focus of this assessment will be how to reduce emissions during certain months and/or hours of the day when SVCE may be heavily reliant on system power and therefore subject to high levels of emissions. SVCE will explore supply and demand-side measures to reduce hourly system emissions and develop a plan to transition to a carbon-free portfolio with reduced hourly emissions.

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\(^{17}\) For more details, see [https://www.svcleanenergy.org/innovation/](https://www.svcleanenergy.org/innovation/).

\(^{18}\) For more details, see [http://data.svcleanenergy.org/](http://data.svcleanenergy.org/).
Lastly, SVCE is committed to reducing all GHG emissions including those within its own community through the implementation of its Decarbonization Roadmap and local pollutants identified in the Minimization of Local Air Pollutants in Disadvantaged Communities (Table 12). Aside, from evaluation of a more aggressive RPS and consideration of a 24x7 carbon-free policy to displace emissions from natural gas resources, SVCE will explore alternatives to further reduce Local Air Pollutants.

Resource Adequacy and Preferred Resources
SVCE is committed to meeting its RA requirements and overall reliability needs in a cost-effective manner while also recognizing a desire to reduce dependence on RA supported by natural gas resources. With the exception of small portions of DR RA, SVCE currently sources all of its RA requirements through natural gas resources. By 2030, SVCE’s executed PPAs will amount to approximately 25-30% RA capacity through preferred resources. Further, SVCE recognizes the value and need to bundle out-of-state clean energy when procuring import RA. SVCE intends to fully utilize its import allocation rights received for 2020 to ?? and will seek opportunities to procure bundled imported energy and RA beyond 2020 consistent with the CPUC’s new import RA rules. To this end, SVCE fully supports efforts by the CAISO to expand allocations of import allocation rights to a multi-year process.

With the expected retirement of once-through-cooling units and the Diablo Canyon Nuclear Power Plant, the cost of meeting RA through short-term transactions is expected to increase and become much more volatile. Procuring the majority of RA needs through short-term contracts is not a viable strategy to manage cost. SVCE plans to procure longer-term RA resources, however is mindful of the risk of stranding assets due to load loss and/or regulatory change. SVCE plans to issue an RFP for long-duration storage by fall of 2020 and will also issue an RFP for stand-alone storage in 2021. Both resources will be evaluated on their cost and benefits and overall ability to manage portfolio risk and mitigate regulatory uncertainty related to grid reliability.

Last, SVCE will evaluate the merits of adopting an internal clean RA policy and setting a minimum standard of RA to be met via preferred resources including, shed DR, large hydro, bundled clean energy imports with RA, and RPS resources with and without storage.

b. Procurement Activities –

a. Clean Energy Procurement

SVCE takes a multi-pronged approach to meet its annual and long-term clean energy goals for RPS and carbon-free non-RPS eligible resources. This includes issuing request for proposals, participating in other entities’ RFPs, bilateral negotiations and exploring partnerships to develop clean resources. SVCE ladders its clean energy procurement to ensure a diversification of counterparties, prices and term and to meet short-term needs based on actual load.

All long-term RPS procurement has been done jointly with Monterey Bay Community Power Authority (MBCP). Together the two agencies completed two RFPs and executed eight PPAs. Through joint procurement SVCE and MBCP are able to attract a larger set of diverse and competitive offers, cost effectively use resources and spread risks related to execution, development and performance.
SVCE and MBCP issued their latest joint RFP in April 2020 with submittals received in June 2020 for long-term RPS PCC1 resources. A variety of diverse proposals were submitted, meeting the objectives set out by the RFP. SVCE is confident it will be able to execute PPAs in support of its long-term RPS targets and Preferred Conforming Portfolio. The specific resources to be procured have not been decided, so SVCE included generic backfill PPA resources including wind and solar with storage in its resource portfolios beginning in 2023 as substitutes for these planned PPAs. SVCE plans to bring three to four new PPAs to its governing board in early 2021 for consideration.

SVCE has completed procurement of Index+ RPS and Index+ carbon-free resources for 2020 and part of 2021, which was included in SVCE’s IRP portfolios. Beyond this timeframe, SVCE included generic existing RPS and large hydro resources in its portfolios beginning in 2021 as a substitute for planned Index plus transactions. These transactions will be carried out consistent with SVCE’s laddering strategy and to meet its actual load obligations.

SVCE is exploring several short and mid-term bundled clean energy and RA resources and longer-term contracts for large hydroelectricity. Some contracts are intended to start as early as 2021.

iii. DER Procurement

SVCE successfully executed one PPA from long-term DR RA through its Resiliency RFP and is in negotiations for a second PPA. Through these efforts, SVCE will direct the installation of BTM solar plus storage throughout its service territory. Additional DER procurement is expected through the efforts of its Decarbonization Roadmap as described above.

iv. Resource Adequacy Procurement

SVCE works with a group of four other CCAs to pool and procure RA. In 2019 this joint-RA group enlisted the support of ACES to administer request for RA offers and manage intra-pool transactions. For the upcoming RA compliance period 2021-23, SVCE has procured a significant portion of its 2021 and 2022 system and flex RA needs and much of its local RA needs through 2022. SVCE anticipates procuring additional RA for the upcoming compliance period through the joint-CCA effort, its own RFPs and bilateral negotiations and through participation in other load serving entities, including PG&E’s solicitations. Consistent with the CPUC’s central procurement entity decision, SVCE does not plan to procure local RA products beyond 2023 unless it is a preferred resource such as DER or local renewables.

v. Procurement Summary

Summarized below is a summary of SVCE’s procurement activities for the balance of 2020 through 2021 related to meeting its RPS, carbon-free and resource adequacy goals.
<table>
<thead>
<tr>
<th>Procurement Activity</th>
<th>Portfolio Need</th>
<th>Goal</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 RFP for long-term PCC1 RPS</td>
<td>Long-term RPS Resources PCC1 resources for minimum of ten years with delivery starting in CP#4</td>
<td>Procure sufficient to meet 31% long-term and contribute towards CP#5 and CP#5 targets.</td>
<td>In process of shortlisting proposals.</td>
</tr>
<tr>
<td>Other LSE’s RFPs for RPS and/or RPS Offerings</td>
<td>PCC1 index plus REC purchases to meet annual and long-term RPS targets</td>
<td>Annually meet 50% RPS target or state min RPS, whichever is greatest. Procure a small portion of long-term RPS needs</td>
<td>In June 2020, submitted offer into SDG&amp;E’s to meet a small % of load. Awaiting shortlist status. Waiting on release of other RFPs and PCIA Working Group #3 resolution</td>
</tr>
<tr>
<td>Carbon-free resources</td>
<td>2021-2025 carbon-free (non-RPS) Resources bundled with and without RA</td>
<td>Procure 50 to 100 MW of firm large hydro with RA</td>
<td>Expect to issue in fall 2020</td>
</tr>
<tr>
<td>Western Base Resource Contract (30 year contract starting in January 2025)</td>
<td>Carbon-free</td>
<td>Contract for an allocation of Central Valley Project run-of-river large hydro to meet small portion of load.</td>
<td>Seek Board approval at the end of CY 2020</td>
</tr>
<tr>
<td>Joint CCA RA Procurement (ACES)</td>
<td>2021-2023 System, flex and local RA</td>
<td>Meet all RA compliance obligations by October 31, 2020</td>
<td>On-going</td>
</tr>
<tr>
<td>Other LSE’s RFPs for RA</td>
<td>2021-2023 System, flex and local RA</td>
<td>Meet all RA compliance obligations by October 31, 2020</td>
<td>Waiting on PG&amp;E’s RFP release</td>
</tr>
<tr>
<td>Long-duration Storage RFP (minimum 8 hours)</td>
<td>RA, reliability and energy toll with 2026 on-line date</td>
<td>Jointly procure to meet pro rata share of LDS capacity per 38 MMT Conforming Portfolio</td>
<td>Issue joint RFP early fall 2020 Procurement dependent on RFP results, economics, mandates, and CPE</td>
</tr>
<tr>
<td>Stand-alone Storage RFP</td>
<td>RA, reliability and energy toll with 2023 on-line date</td>
<td>Dependent on hybrid resources procured through current RPS RFP</td>
<td>Issue by mid-2021</td>
</tr>
<tr>
<td>DER</td>
<td>Shed DR, RA and load shifting</td>
<td>Procure clean sources of RA, promote resiliency, reduce hourly system emissions, help customers meet climate goals</td>
<td>Complete Resiliency RFP DR RA negotiations On-going custom product offerings</td>
</tr>
</tbody>
</table>

c. Potential Barriers

Though SVCE has made tremendous progress to effectuate its internal decarbonization goals and meet all state requirements, there remain several barriers to achieving the 38 MMT Conforming Portfolio. The most important barriers include the following:
• As more LSEs decarbonize their portfolios over time, SVCE expects increased competition for a fixed amount of existing large hydro generation. Therefore, it is exploring alternative paths to meet its decarbonization goals, and developed the 75% RPS Alternative Portfolio. This is discussed in greater detail in the Hydro Generation Risk section of the IRP.

• SVCE has had challenges procuring wind resources, and recently had to cancel a contract for out of state wind. However, SVCE remains committed to procuring wind in the future and is in negotiations for wind resource PPAs.

• SVCE must do significant procurement through long-term contracts during a time of considerable regulatory uncertainty, especially with regard to the RA market. Although the CPUC recently approved a methodology for calculating the RA contributions by hybrid resources, this methodology may change in the future, and the contributions made by batteries could decline over time. In addition, the ongoing dispute over the role of a central procurement entity has created uncertainty over how much of SVCE’s own RA needs it will be responsible to procure. It is not known how the changes in the RA market will change future IRP requirements in such a way as may require changes to SVCE’s long-term procurement strategy.

• SVCE faces competition from Direct Access, which has recently been allowed to expand, and may expand further in future years. This leaves SVCE with the risk of stranded assets in its long-term portfolio should load migrate to Direct Access.

a. Commission Direction or Actions - Hilary

SVCE intends to exert all reasonable effort to procure the resources detailed in the Preferred Plan, but there are certain actions on the Commission’s part that could make that substantially easier or more difficult.

**PG&E Interim Allocations & PCIA Working Group #3**

SVCE is paying for the above market costs of PG&E’s carbon-free portfolio via the Power Charge Indifference Adjustment (“PCIA”) while receiving none of the carbon-free attributes associated with the carbon-free portfolio. After being pushed on the issue, PG&E offered all PCIA paying load serving entities allocations of GHG-free resources for 2020. SVCE participated by taking its load share of the large hydro and nuclear resources savings its ratepayers by avoiding procuring carbon-free resources.

As part of its initial IRP analysis, SVCE looked at the merits of taking its full pro rata allocation of PG&E’s carbon-free portfolio (large hydro and nuclear) through 2030. The savings to SVCE’s ratepayers from avoiding procuring large hydroelectricity to meet its carbon-free goals are significant (Appendix B). SVCE is similarly paying for the above market costs of PG&E’s RA and RPS portfolio without receiving any of the associated attributes.

The CPUC asked stakeholders to address the issue of excess resources in IOUs portfolio pursuant to the Phase 2 Scoping Memo of CPUC Rulemaking (“R.”) 17-06-026, PCIA Working Group Three: Portfolio Optimization and Cost Reduction, and Allocation and Auction (“WG 3”). The Final Report submitted by the Co-Chairs (Southern California Edison, Commercial Energy and CalCCA) addresses the appropriate
treatment of excess GHG-free, RA and RPS in the IOU portfolios. The report was developed in a 10-month stakeholder process and outlines the consensus and non-consensus areas. SVCE urges the CPUC to accept the proposal in the final report and issue a proposed decision as soon as possible so that the eligible LSE can claim the attributes that they are already paying for through the PCIA. Delays by the CPUC in making a decision could result in over procurement of RPS, carbon-free and RA.

d. Diablo Canyon Power Plant Replacement

All of SVCE’s IRP portfolios contribute new reliable resources to meet system needs after Diablo Canyon’s planned retirement in 2025, including a new geothermal resource. As a low-carbon, baseload resource, geothermal power is an excellent replacement for nuclear power.

The table below compares the new resources in SVCE’s portfolio compared to its load ratio share of the reference system portfolios in 2026. The table shows SVCE’s procurement of new renewable energy, short-term battery storage, and DR covers more than its load ratio share of such new resources the year after DCPP retires. Though SVCE’s portfolios currently do not include long-duration storage, SVCE is pursuing such resources through its joint RFI as described in the Long-Duration Storage Development section of the IRP.

| Table 16. SVCE portfolios compared to SVCE’s load ratio share of RSPs in 2026. |
|---------------------------------|-----------------|-----------------|-----------------|
|                                 | Load Ratio Share of Reference System Portfolios | SVCE Portfolios |
|                                 | 38 MMT | 46 MMT | 38 MMT and 46 MMT Portfolio | 75% RPS |
| **Short-Duration Storage (MWh Capacity)** | 403 | 490 | 750 | 750 |
| **Long-Duration Storage (MWh Capacity)** | 385 | 234 | - | - |
| **Total Storage (MWh Capacity)** | 788 | 724 | 750 | 750 |
| **Renewable Energy (GWh)** | 683 | 588 | 1,427 | 1,427 |
| **Renewable Energy Mix** | Solar: 70% In-State Wind: 30% | Solar: 75% In-State Wind: 25% | Geothermal: 4% Solar: 93% In-State Wind: 3% | Geothermal: 4% Solar: 93% In-State Wind: 3% |
| **Shed Demand Response (MW)** | 4.4 | 4.4 | 6 | 6 |

V. Lessons Learned

SVCE has learned much through the past year it has worked on long-term resource planning activities, and expects its long-term strategy will continue to evolve as it learns more. For the next IRP cycle, SVCE recommends the CPUC consider some changes.
First, demand-side resource planning is extremely important to SVCE, and SVCE actively supports electrification activities to meet its decarbonization goals. SVCE is disappointed that it cannot include the impact of these activities in its load forecast for conforming portfolios for IRP compliance. SVCE recommends the CPUC revise its process in future IRP cycles to allow LSEs to reflect load modification resources beyond DR in their conforming portfolios, as long as such resources do not duplicate what is already accounted for in the IEPR forecast. This would put such resources on an equal footing with supply-side resources for meeting state decarbonization goals. This is also in accordance with Public Utility Code 454.52(a)(1)(G), which lists “enhance distribution systems and demand-side energy management” as a goal of the IRP process.

Second, SVCE is concerned by the CPUC directive to include portfolios with a minimum amount of GHG emissions. SVCE believes this is not in accordance with the primary objective of the IRP, which is to reduce GHG emissions. In its decision setting the requirements for this IRP (D.20-03-028), the CPUC states that “we note the comments of the Joint CCAs that request the ability to file portfolios containing 100 percent GHG-free resources. While we applaud these LSEs for their forward thinking, they will still need to address how such portfolios will be reliable without further technological or fuel development. It is not sufficient for LSEs to assume that the reliability, renewable integration, and ramping needs associated with their portfolios will be met by resources in the portfolios of other LSEs.” However, the CPUC failed to provide any standards by which LSEs could show such 100% carbon free portfolios adequately (supply reliability, renewable integration, and ramping needs), and instead required LSEs to just include a fixed amount of emissions in their portfolios. That conflates emissions with reliability, renewable integration, and ramping, which is inappropriate. In the next IRP cycle, the CPUC should define these standards more clearly so 100% carbon free portfolios can be conforming for all scenarios.

Third, it is difficult to value the contributions of resources that are not included in the RSP. This was a problem for SVCE this cycle as it has signed a PPA for a new geothermal resource, and there were no geothermal resources selected in the RSPs this IRP cycle. In its decision setting the requirements for this IRP (D.20-03-028), the CPUC discusses certain resources acting as proxies for other resources, including geothermal as a proxy for baseload renewables, but the term “baseload renewables” was not specifically defined or listed in the broad categories of resources the LSEs are expected to procure. It would be much more useful for the CPUC to define a set of objectively identifiable standards required to create a reliable portfolio. LSEs can then compare the contributions of such resources to such a set of standards and procure the set that best meets CPUC requirements and internal Board directives. Traditional resource planning standards of total capacity plus a reserve margin in peak load hours are insufficient with renewable resources for which energy availability varies significantly year-to-year (hydro), hour-to-hour (wind and solar), and/or season-to-season (hydro, wind, and solar). The CPUC’s own RESOLVE modeling showed this to be the case when portfolios selected to meet planning reserve margin standards could not meet loss of load expectation standards in SERVM. New standards beyond a planning reserve margin must be defined.

Fourth, as discussed in the IRP, SVCE has analyzed adding allocations from PG&E’s portfolio of PCIA resources. A set method of allocating such resources to all LSEs is under discussion by stakeholders through the PCIA working group three. Since a final method of such allocations has not been defined,
the CPUC directed LSEs not to use such allocations for building IRP portfolios this cycle. SVCE recommends the CPUC adopt a standard method to allocate these resources to all LSEs since all LSEs pay for these resources. This would also help PG&E optimize its portfolio and avoid over procurement. Then, in future IRP cycles, SVCE recommends reliance on such allocations be an option for building IRP portfolios.
**Glossary of Terms**

**Alternative Portfolio:** LSEs are permitted to submit “Alternative Portfolios” developed from scenarios using different assumptions from those used in the Reference System Plan. Any deviations from the “Conforming Portfolio” must be explained and justified.

**Approve (Plan):** the CPUC’s obligation to approve an LSE’s integrated resource plan derives from Public Utilities Code Section 454.52(b)(2) and the procurement planning process described in Public Utilities Code Section 454.5, in addition to the CPUC obligation to ensure safe and reliable service at just and reasonable rates under Public Utilities Code Section 451.

**Balancing Authority Area (CAISO):** the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

**Baseline resources:** Those resources assumed to be fixed as a capacity expansion model input, as opposed to Candidate resources, which are selected by the model and are incremental to the Baseline. Baseline resources are existing (already online) or owned or contracted to come online within the planning horizon. Existing resources with announced retirements are excluded from the Baseline for the applicable years. Being “contracted” refers to a resource holding signed contract/s with an LSE/s for much of its energy and capacity, as applicable, for a significant portion of its useful life. The contracts refer to those approved by the CPUC and/or the LSE’s governing board, as applicable. These criteria indicate the resource is relatively certain to come online. Baseline resources that are not online at the time of modeling may have a failure rate applied to their nameplate capacity to allow for the risk of them failing to come online.

**Candidate resource:** those resources, such as renewables, energy storage, natural gas generation, and demand response, available for selection in IRP capacity expansion modeling, incremental to the Baseline resources.

**Capacity Expansion Model:** a capacity expansion model is a computer model that simulates generation and transmission investment to meet forecast electric load over many years, usually with the objective of minimizing the total cost of owning and operating the electrical system. Capacity expansion models can also be configured to only allow solutions that meet specific requirements, such as providing a minimum amount of capacity to ensure the reliability of the system or maintaining greenhouse gas emissions below an established level.

**Certify (a Community Choice Aggregator Plan):** Public Utilities Code 454.52(b)(3) requires the CPUC to certify the integrated resource plans of CCAs. “Certify” requires a formal act of the Commission to determine that the CCA’s Plan complies with the requirements of the statute and the process established via Public Utilities Code 454.51(a). In addition, the Commission must review the CCA Plans to determine any potential impacts on public utility bundled customers under Public Utilities Code Sections 451 and 454, among others.

**Clean System Power (CSP, formerly “Clean Net Short”) methodology:** the methodology used to estimate GHG emissions associated with an LSE’s Portfolio based on how the LSE will expect to rely on system power on an hourly basis.
**Community Choice Aggregator:** a governmental entity formed by a city or county to procure electricity for its residents, businesses, and municipal facilities.

**Conforming Portfolio:** the LSE portfolio that conforms to IRP Planning Standards, the 2030 LSE-specific GHG Emissions Benchmark, use of the LSE’s assigned load forecast, use of inputs and assumptions matching those used in developing the Reference System Portfolio, as well as other IRP requirements including the filing of a complete Narrative Template, a Resource Data Template and Clean System Power Calculator.

**Effective Load Carrying Capacity:** a percentage that expresses how well a resource is able avoid loss-of-load events (considering availability and use limitations). The percentage is relative to a reference resource, for example, a resource that is always available with no use limitations. It is calculated via probabilistic reliability modeling, and yields a single percentage value for a given resource or grouping of resources.

**Electric Service Provider:** an entity that offers electric service to a retail or end-use customer, but which does not fall within the definition of an electrical corporation under Public Utilities Code Section 218.

**Filing Entity:** an entity required by statute to file an integrated resource plan with CPUC.

**Future:** a set of assumptions about future conditions, such as load or gas prices.

**GHG Benchmark (or LSE-specific 2030 GHG Benchmark):** the mass-based GHG emission planning targets calculated by staff for each LSE based on the methodology established by the California Air Resources Board and required for use in LSE Portfolio development in IRP.

**GHG Planning Price:** the systemwide marginal GHG abatement cost associated with achieving a specific electric sector 2030 GHG planning target.

**Integrated Resources Planning Standards (Planning Standards):** the set of CPUC IRP rules, guidelines, formulas and metrics that LSEs must include in their LSE Plans.

**Integrated Resource Planning (IRP) process:** integrated resource planning process; the repeating cycle through which integrated resource plans are prepared, submitted, and reviewed by the CPUC.

**Long term:** more than 5 years unless otherwise specified.

**Load Serving Entity:** an electrical corporation, electric service provider, community choice aggregator, or electric cooperative.

**Load Serving Entity (LSE) Plan:** an LSE’s integrated resource plan; the full set of documents and information submitted by an LSE to the CPUC as part of the IRP process.

**Load Serving Entity (LSE) Portfolio:** a set of supply- and/or demand-side resources with certain attributes that together serve the LSE’s assigned load over the IRP planning horizon.

**Loss of Load Expectation (LOLE):** a metric that quantifies the expected frequency of loss-of-load events per year. Loss-of-load is any instance where available generating capacity is insufficient to serve electric demand. If one or more instances of loss-of-load occurring within the same day regardless of duration are counted as one loss-of-load event, then the LOLE metric can be compared to a reference point such as the industry probabilistic reliability standard of “one expected day in 10 years,” i.e. an LOLE of 0.1.
**Net Qualifying Capacity:** Qualifying Capacity reduced, as applicable, based on: (1) testing and verification; (2) application of performance criteria; and (3) deliverability restrictions. The Net Qualifying Capacity determination shall be made by the California ISO pursuant to the provisions of this California ISO Tariff and the applicable Business Practice Manual.

**Non-modeled costs:** embedded fixed costs in today’s energy system (e.g., existing distribution revenue requirement, existing transmission revenue requirement, and energy efficiency program cost).

**Nonstandard LSE Plan:** type of integrated resource plan that an LSE may be eligible to file if it serves load outside the CAISO balancing authority area.

**Optimization:** an exercise undertaken in the CPUC’s Integrated Resource Planning (IRP) process using a capacity expansion model to identify a least-cost portfolio of electricity resources for meeting specific policy constraints, such as GHG reduction or RPS targets, while maintaining reliability given a set of assumptions about the future. Optimization in IRP considers resources assumed to be online over the planning horizon (baseline resources), some of which the model may choose not to retain, and additional resources (candidate resources) that the model is able to select to meet future grid needs.

**Planned resource:** any resource included in an LSE portfolio, whether already online or not, that is yet to be procured. Relating this to capacity expansion modeling terms, planned resources can be baseline resources (needing contract renewal, or currently owned/contracted by another LSE), candidate resources, or possibly resources that were not considered by the modeling, e.g., due to the passage of time between the modeling taking place and LSEs developing their plans. Planned resources can be specific (e.g., with a CAISO ID) or generic, with only the type, size and some geographic information identified.

**Qualifying capacity:** the maximum amount of Resource Adequacy Benefits a generating facility could provide before an assessment of its net qualifying capacity.

**Preferred Conforming Portfolio:** the conforming portfolio preferred by an LSE as the most suitable to its own needs; submitted to CPUC for review as one element of the LSE’s overall IRP plan.

**Preferred System Plan:** the Commission’s integrated resource plan composed of both the aggregation of LSE portfolios (i.e., Preferred System Portfolio) and the set of actions necessary to implement that portfolio (i.e., Preferred System Action Plan).

**Preferred System Portfolio:** the combined portfolios of individual LSEs within the CAISO, aggregated, reviewed and possibly modified by Commission staff as a proposal to the Commission, and adopted by the Commission as most responsive to statutory requirements per Pub. Util. Code 454.51; part of the Preferred System Plan.

**Reference System Plan:** the Commission’s integrated resource plan that includes an optimal portfolio (Reference System Portfolio) of resources for serving load in the CAISO balancing authority area and meeting multiple state goals, including meeting GHG reduction and reliability targets at least cost.

**Reference System Portfolio:** the multi-LSE portfolio identified by staff for Commission review and adopted/modified by the Commission as most responsive to statutory requirements per Pub. Util. Code 454.51; part of the Reference System Plan.

**Short term:** 1 to 3 years (unless otherwise specified).
**Staff:** CPUC Energy Division staff (unless otherwise specified).

**Standard LSE Plan:** type of integrated resource plan that an LSE is required to file if it serves load within the CAISO balancing authority area (unless the LSE demonstrates exemption from the IRP process).
SVCE DER Electrification Adoption Potential

Results
2/21/2020
Agenda

+ Executive Summary
+ Modeling
  • Building Electrification Model
  • RESTORE-IDSM
  • Adoption Model
+ Analysis Setup
  • Customer Segmentation
  • Technologies
  • Scenarios
+ Results
  • Building Electrification
  • DER Adoption

Energy + Environmental Economics
Executive Summary: Analysis

- Adoption forecast of DER technologies: Rooftop solar PV, Electric vehicles, BTM storage, Water heating, HVAC/Space heating, and Energy Efficiency

- Scenarios/Sensitivities:
  - Base cases based on electric and gas rates: Low Elec & High Gas, Mid Electric & High Gas, High Electric & High Gas
  - Rates: Real-time Pricing, SVCE Net Energy Metering 2.0, and SVCE EV rates
  - Incentives to match payback periods of 3, 5, and 10 years and SGIP continuation
  - Codes and Standards: Natural gas moratorium beginning in 2002 for new construction and remodel

- Customer Segmentation:
  - Building type: Residential single-family home, residential multi-family home, small commercial, medium commercial, large commercial
  - Vintages:
    - Commercial: Existing and New Construction

- Building Electrification Adoption Model: 624 Unique Scenario Runs

- RESTORE-IDSM Model: 804 Unique Scenario Runs
Executive Summary: Results Building Electrification

+ **Residential:**
  - Whole building electrification (retrofit) will not occur without intervention
  - HVAC Heat Pumps are economical but are low on the adoption curve, meaning incented adoption will remain slow in the near term

+ **Commercial**
  - Neither HVAC Heat Pumps nor HPWHs are cost effective enough in commercial buildings to encourage adoption in the Reference case
  - HPWHs increase bills and incentives offset lifecycle costs

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**Residential 2030 Customer Penetration**

<table>
<thead>
<tr>
<th></th>
<th>HVAC HP</th>
<th>HPWH</th>
</tr>
</thead>
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<td>0</td>
</tr>
<tr>
<td>Reference (mid-mid)</td>
<td>15</td>
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<tr>
<td>Incentives</td>
<td>20</td>
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<tr>
<td>NG Moratorium</td>
<td>25</td>
<td>15</td>
</tr>
</tbody>
</table>

**Commercial 2030 Customer Penetration**

<table>
<thead>
<tr>
<th></th>
<th>HVAC HP</th>
<th>HPWH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives &amp; Low Elec Rate</td>
<td>20</td>
<td>10</td>
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<tr>
<td>NG Moratorium</td>
<td>25</td>
<td>15</td>
</tr>
</tbody>
</table>
Executive Summary cont. Results DER

+ **Residential:**

  Residential 2030 Customer Penetration

  Residential 2030 Installed Capacity

+ **Commercial**

  Commercial 2030 kSqFt Penetration

  Commercial 2030 Installed Capacity
Building Electrification Model Flow

Exogenous Inputs
- Energy Services Demand
- Building Characteristics
- Climate Data

Electric and Gas Rates
- Capital and Install Costs
- Financing / Discount Rates

Building and Appliance Stock Rollover
- Adoption Calibration Parameters

Endogenous Model
- Building Simulations
- Lifecycle Cost Analysis
- Consumer Adoption Model

Modeling Results
- Gas and Electric Demand
- Utility Bill Impacts
- Financial Results, Payback
- Net Emissions Impacts
- Adoption Estimates by Climate Zone, Customer Type, Building Type

Energy + Environmental Economics
Homeowner Decision Matrix

Whole Home Retrofit/Rebuild?

1978 Non-Adopter

YES → 2019 Vintage

NO → 1978 Vintage

Exogenous (PATHWAYS)

1978 Vintage

Electrify?

YES → 2019 Adopter

NO → 2019 Non-Adopter

Appliance Failure?

YES → Electrify?

YES → 1978 Adopter

NO → 1978 Non-Adopter

Endogenous (Adoption Model)

May Adopt in Future Years

May Remodel in Future Years

Energy + Environmental Economics

Item 4
Attachment 1
Appendix A
RESTORE: DER Shapes

+ **Dispatchable**
  - Objective function: minimizing net costs
  - Subject to technology, market, and incentive (e.g. ITC) constraints
  - Co-optimization across multiple technologies with perfect foresight
  - Price taker

+ **Partial Dispatchable**
  - Dispatch with the consideration of customer comfort level
  - Co-optimize with both dispatchable and partial dispatchable technologies

+ **Fixed shapes**
  - User input based on the specific project or customer
  - Default PV shapes pre-loaded for each climate zone

**Other highlights**
- Temperature-based day mapping
- Flexible Optimization Window (Daily, Monthly, Annual) and Intervals (Hourly, 15mins, 5mins)

**Legend**
- Dispatchable for energy services
- Dispatchable while providing non-energy services
- Non-dispatchable
RESTORE-IDSM Tool

+ A DER valuation tool with an optimization engine for dispatch

Results:
- NPV and annual benefits and costs
- Cost tests
- DER optimal dispatch
- ...

Revenue/Benefit Streams
Optimization Engine
Cost and Financing
Technology Parameters (PV, storage, etc.)

Energy + Environmental Economics
RESTORE: Costs

+ A Pro Forma is integrated into the model to calculate the all-in project costs, including:
  - Capital costs
  - Operating and maintenance costs
  - Financing costs
  - Incentives
    - Self-Generation Incentive Program (SGIP)
    - Investment Tax Credit (ITC)
    - Other
  - Taxes

+ Financing options:
  - Self-financing (ability to specify a debt and equity ratio)
  - Third-Party

+ E3 developed cost estimates
  - Updated in 2019-2020
Consumer Adoption Model Overview

- The Consumer Adoption Model estimates the percent of consumers, by vintage and type, that decide to purchase DERs based on the lifecycle cost of ownership
- It consists of two key elements: PATHWAYS stock rollover and an NREL adoption model

1. Determine payback period

2. Determine max market share

3. Fit logistic curve

4. Apply to technical potential

- Technical potential
- $\times$ Market penetration at $t$
- $\Rightarrow$ Installed capacity at $t$
Stock Rollover Model

Stock rollover is an accounting model populated with PATHWAYS data which provides households by type, climate zone, and vintage.

Homes are characterized by building envelope useful life, not original construction. Consequently, PATHWAYS does not differentiate between home rebuilds and whole-home retrofits.

Stock is assumed to keep pace with California population growth.
Adoption Decision Logic

- Decision logic based on NREL bass diffusion methodology to estimate rooftop solar adoption, and is modified for high efficiency appliance adoption.
- S-curve differentiation between customer types: Residential and Commercial.
- Decisions are made based on payback period e.g.: If payback time decreases from 10 to 5 years, market share of *new sales* rises from 15.7% to 49.3% for EE appliances.

### Payback Period (% of New Sales PV)

<table>
<thead>
<tr>
<th>Payback Period</th>
<th>% of New Sales PV</th>
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<tbody>
<tr>
<td>20</td>
<td>1.7%</td>
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<td>7.4%</td>
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<tr>
<td>10</td>
<td>26.6%</td>
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<td>7.5</td>
<td>44.6%</td>
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<td>66.0%</td>
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<tr>
<td>2.5</td>
<td>85.7%</td>
</tr>
<tr>
<td>1</td>
<td>95.0%</td>
</tr>
</tbody>
</table>

*Decision Share = \( \frac{1 - (e^{-(p+q)PB})}{1 + \frac{q}{p} (e^{-(p+q)PB})} \times M \)*

- *p,q = Adoption Parameters (.045, .25)*
- *PB = Payback Time (e.g. 12 years)*
- *M = Maximum Feasible Market Share (e.g. 100%)*
Factors Affecting Adoption

- Upfront cost
- Lifetime cost
- Knowledge
- Income, debt
- Family size, location
- Convenience
- Social influence
- “Irresistible” technology
- Housing stock
- Policy & regulation
- Many other factors…

Complex consumer decisions have been modeled since 1970s using the Bass Diffusion model/logistics / “S-curve” adoption model, which uses 3 parameters to model adoption:

1. Total market size
2. \( p \) = “coefficient of innovation” rate or probability of innovators adopting new product
3. \( q \) = “coefficient of imitation” the rate or probability of imitators adopting new product
Energy + Environmental Economics

Analysis Setup
Customer Segmentation

Load

Residential Customers

Commercial Square Feet

<table>
<thead>
<tr>
<th>Vintages</th>
<th>Single Family</th>
<th>Low-rise Multi-family</th>
<th>Small Commercial</th>
<th>Medium Commercial</th>
<th>Large Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-1978 (No insulation, single pane windows)</td>
<td>1,800 sf</td>
<td>8 units (780 sf/unit and 960 sf/unit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990s (T24 building code 1992 construction)</td>
<td>2,100 sf</td>
<td>6 units (1,500 sf/unit)</td>
<td>2,000 sf</td>
<td>16,700 sf</td>
<td>100,000 sf</td>
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<tr>
<td>New Construction (2019 T24 building code)</td>
<td>2,400 sf</td>
<td>8 units (780 sf/unit and 960 sf/unit)</td>
<td>2,300 sf</td>
<td>18,000 sf</td>
<td>206,000 sf</td>
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# Technology: Building Electrification

<table>
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<th>Gas Baseline</th>
<th>Electric Home</th>
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<tr>
<td><strong>Water Heating</strong></td>
<td><a href="#">Gas Storage WH (retrofits)</a></td>
<td><a href="#">Gas Tankless WH (new)</a></td>
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<tr>
<td><strong>Cooking and Clothes Drying</strong></td>
<td><a href="#">Gas Stove</a></td>
<td><a href="#">Electric</a></td>
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</table>
## Technology: RESTORE

### Tech Specs

<table>
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<th>Component</th>
<th>Specification</th>
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<tbody>
<tr>
<td>BTM Storage</td>
<td>4-hour storage. Sized to customer load. <em>Assume customers will adopt storage only when they already/plan to have BTM PV</em></td>
</tr>
<tr>
<td>BTM Solar PV</td>
<td>Sized to customer annual load</td>
</tr>
<tr>
<td>EV</td>
<td>BEV, 250-mile range using level 2 charging with uniform driving behaviors and charging availability</td>
</tr>
</tbody>
</table>
## TOU Rates
- Residential: E-TOU-C
- Commercial: B1

## T&D and Natural Gas Rate Assumptions
- **High Building Electrification** - Achieves CA GHG goals. Includes high electrification of buildings and LDVs
- **Current Policy Reference** - Does not meet California’s 2030 and 2050 GHG goals

## Wildfire Costs
- Based on PG&E GRC filing forecast forward and fed through the Future of Natural Gas Revenue Requirement Tool

## PCIA
- From E3 Market Forecasting team

## No NEM (including T&D) in Base Case

### Scenarios: Reference

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Generation Rate</th>
<th>Electric Delivery Charges (T&amp;D)</th>
<th>PCIA</th>
<th>Natural Gas Rate</th>
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</thead>
<tbody>
<tr>
<td>Best: Low Elec &amp; High Gas</td>
<td>2020 SVCE TOU</td>
<td>High Building Electrification</td>
<td>$0.03/kWh</td>
<td>High Building Electrification</td>
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<tr>
<td>Ok: Mid Elec &amp; Mid Gas</td>
<td>2020 SVCE TOU</td>
<td>Multi-prong with Slow electrification</td>
<td>$0.04/kWh</td>
<td>Multi-prong with Slow electrification</td>
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<tr>
<td>Worst: High Elec &amp; Low Gas</td>
<td>2020 SVCE TOU</td>
<td>Current Policy Reference scenario + Plus wildfire costs</td>
<td>$0.05/kWh</td>
<td>Current Policy Reference scenario</td>
</tr>
</tbody>
</table>
Scenarios: Sensitivities

+ Rates
  - Real-time Pricing
    - System capacity price
    - Avoided energy price
    - Avoided emission cost
    - Avoided RPS
    - Avoided Ancillary services cost
  - SVCE NEM
  - SVCE EV Rates

+ 2022 Reach Code: Natural Gas Moratorium
  - Applied to New Construction and Remodels

+ Incentives
  - 3-yr, 5-yr, and 10-yr Target Payback
  - SGIP to 2030
  - ITC included in baseline
Progress of building electrification could affect economics of DER adoption by changing customer electricity load profiles.

E3 captures the building stock rollover by modeling the same representative customer under two fuel type scenarios, and weight adoption results by fuel type mix within this customer group.

Customer Electricity Load Profiles

All-Gas

All-Electric

Adoption

Customer Fuel-type Mix

Weighted Adoption

(outputs from BE modeling)
Building Electrification Results
Residential All-Electric Retrofit

Lifetime Benefit / Cost of All-electric Homes (Single Family, 1990s)

Base, OK

Inctv3, OK

+ Net costs and savings are relative to a mixed-fuel home
+ Lifetime is assumed to be 20 years
A 1990s vintage home is defined as one that was built between 1978 and 2019. The charts above show both single-family and multi-family homes combined.

Retrofitting an existing home to be all-electric is expensive; there is almost no adoption of all-electric retrofits in the Base Case.

With an incentive that improves payback period to 3 years, adoption of all-electric retrofits is projected to reach ~15% by 2030.

Homes without AC are excluded from adopting heat pump HVAC and all-electric homes due to significantly higher costs (details in Appendix).
Residential All-Electric New Construction

Lifetime Benefit / Cost of All-electric Homes (Single Family, NC)

+ Note that blue bars are positive indicating capital cost savings, and orange bars are negative indicating increases in bills.

+ Although customers will pay higher bills, the capital cost savings cover more than the extra bills over the lifetime of the appliances.

+ Net costs and savings are relative to a mixed-fuel home.

+ Lifetime is assumed to be 20 years.

Base, OK

Inctv3, OK

Energy + Environmental Economics
A new construction home is defined as one that will be built in 2020 and beyond. The rate of new construction is assumed to be the same as population growth rate forecasted by the California Department of Finance.

All-electric new construction homes already reach cost parity with mixed-fuel homes; adoption of all-electric new construction is projected to reach 1/3 of total stock by 2030.

Gas moratorium would double the adoption of all-electric new construction than in the Base Case.
Residential HVAC Heat Pumps

Lifetime Benefit / Cost of HVAC Heat Pumps (Single Family, 1990s)

Base, OK

Base, Worst

The different electricity and gas rate scenarios have very little impact on B/C of heat pumps.

Net costs and savings are relative to gas furnace + AC.
Residential HVAC Heat Pumps

Lifetime Benefit / Cost of HVAC Heat Pumps (Single Family, 1990s)

Base, OK

No incentives needed, because heat pump HVACs immediately pays back with capital cost savings

Inctv3, OK

Net costs and savings are relative to gas furnace + AC
Heat pump penetration is projected to increase from 4% currently to 34% by 2030.

Because heat pumps already have payback period less than 3 years, the incentive cases all show same adoption trajectory as the Base case.

Gas moratorium would result in heat pump penetration of 46%.

Homes without AC are excluded from adoption of heat pump HVAC and all-electric homes (details explained in Appendix).
Heat pump HVAC systems are not cost effective enough in commercial buildings to encourage adoption in the Base Case based on E3's internal research.

With incentives, heat pumps can reach up to 23% of all HVAC stock by 2030.

Gas moratorium would result in heat pump penetration of 17%.

* Note that we assume Variable Refrigerant Flow (VRF) systems in the medium and large commercial buildings. These are expensive systems, but the only known heat pump systems for large buildings based on E3’s internal research. Further work is needed on optimal system to electrify space heating for large commercial spaces.
Residential Heat Pump Water Heaters

Lifetime Benefit / Cost of Heat Pump Water Heaters (Single Family, 1990s)

Base, OK

Inctv3, OK

Net costs and savings are relative to a gas storage water heater.
Residential Heat Pump Water Heater

Lifetime Benefit / Cost of Heat Pump Water Heaters (Single Family, NC)

Base, OK

Inctv3, OK

Net costs and savings are relative to a gas tankless water heater
Heat pump water heater (HPWH) penetration is projected to increase from less than 1% currently to 15% by 2030, mainly driven by adoption in new construction homes.

With incentives, heat pump water heaters can reach up to 32% of all stock by 2030.

Gas moratorium would result in heat pump penetration of 21%.
Commercial Heat Pump Water Heaters

Lifetime Benefit / Cost of Heat Pump Water Heaters (Medium Commercial, retrofit)

- Heat pump water heaters (HPWHs) slightly increases bills for commercial buildings in the Ok and Worst scenarios.
- Since commercial customers would spend more money both upfront for capital costs and monthly on bills, Investment on HPWHs would never pay itself back.
- In these cases, we assume that incentives are set to make the investment break even over the lifetime of HPWHs.
- Therefore, the actual payback period equals appliance lifetime. e.g. 13 years for a HPWH. There is no difference in actual payback among the Inctv3, Inctv5 and Inctv10 cases (labeled as Inctv).

Net costs and savings are relative to a gas storage water heater.
Similar situation of increase in both upfront and bill costs also happen to cookstoves and clothes dryers.

Likewise, incentive levels are set to cover the lifetime cost of the appliances.

The actual payback period equals the appliance lifetime, i.e. 12 years for a cookstove and 13 years for a clothes dryer. There is no difference in actual payback between the Inctv3, Inctv5 and Inctv10 cases (labeled at Inctv).
Heat pump water heaters (HPWHs) are not cost effective enough in commercial buildings. In the Ok and Worst scenarios, HPWHs would increase bills and thus incentives are only set to cover lifetime costs. The equivalent payback of 13 years are not high enough to encourage adoptions.

In the Best scenarios, HPWHs would get bill savings and thus incentives can reduce payback period. HPWH reaches up to 25% of all stock by 2030. Gas moratorium would get HPWH penetration to 16%.
Electrification of space heating reduces annual loads in the near term due to switching from electric resistance heating to the much more efficient heat pumps. In the long term, electrification increases winter loads because of fuel switching and reduces summer load due to more efficient heat pumps than existing AC units. The reduction in summer peaks is because heat pumps are assumed to replace only furnaces paired with AC in this analysis. Homes without AC may adopt heat pumps, which could result in summer load increase.

The question is whether the system will become winter peaking at any point?

* The aggregated building simulations likely overestimate the peak impact. A diversity factor of 0.43 is applied to the aggregated peak load. The factor is from the paper linked below and represents diversity in occupancy schedule and customer behaviors.

The major difference between the Base and Inctv3 cases is the adoption of heat pump water heaters.

More electrification of water heating results in greater increase in annual loads and winter peaks, but little effect on reducing summer peaks which are mainly driven by space cooling.

CAVEAT: Water heating load may slightly affect the summer peak if more load diversity is included.

* The aggregated building simulations likely overestimate the peak impact. A diversity factor of 0.43 is applied to the aggregated peak load. The factor is from the paper linked below and represents diversity in occupancy schedule and customer behaviors.

DER Adoption Results
Results Overview

- **Adoption**
  - impacts of rate scenarios and sensitivities on cumulative adoption (MW installed capacity)

- **Costs & Benefits**
  - detailed costs & benefits shedding lights on how economics affect consumer adoption

- **Customer Load Impact**
  - how DER affects BTM customer net load under different cases
Key DER Adoption Modeling Updates

- All residential customers size storage kW capacity to their peak load
- Updated PV and storage cost assumptions for residential
  - update to E3 2020 internal resource cost pro forma analysis
- Modeled California PV Mandate better
- Updated SGIP Incentive assumptions

Incentive Rates ($/Wh) when < 500 kW
Assuming 0-4 hour battery operating 0-2 MWh
Expires after 2025

<table>
<thead>
<tr>
<th></th>
<th>Incentive Rates ($/Wh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential &lt;= 10 kW</td>
<td>0.26</td>
</tr>
<tr>
<td>Large &gt; 10 kW when claiming ITC</td>
<td>0.20</td>
</tr>
<tr>
<td>Large &gt; 10 kW</td>
<td>0.26</td>
</tr>
</tbody>
</table>
Costs & Benefits BTM PV
Residential, Single Family, NC

+ Base Case: residential BTM PV is not cost-effective by 2030 as the bill savings without NEM and ITC tax benefit together are not enough to offset project costs
+ 3-year Target Payback Period Incentive: residential BTM PV becomes cost-effective and the incentive level could decrease in future because of declining capital costs
Different electricity rate scenarios have very little impact on B/C of PV

- cost-effectiveness follows the same trends
- higher electricity rate leads to higher bill savings
Adoption Residential BTM PV

- PV is projected to increase from 96 MW to 242 MW by 2030, being installed by 27% of residential customers within SVCE service territory.
- RTP could facilitate PV adoption to 268 MW by 2030, with a customer penetration of 30%.
- With Target Payback Period Incentives, PV can reach up to 420 MW by 2030, with a customer penetration of 44%.
- NEM could result in PV penetration of 46% by 2030.

Installed Capacity

Scale may change

Base  SGIP2030  10yr  5yr  3yr  NEM  RTP

- Detailed B/C shown in previous slides.
Costs & Benefits BTM Storage Residential, Single Family, NC

+ Base Case: residential BTM storage is not cost-effective as the bill saving is too low when dispatching against TOU rates, and gets worse after ITC and SGIP expire

+ 3-year Target Payback Period Incentive: incentive level to achieve 3-year payback target would increase due to the expiration of federal and state incentives
Different electricity rate scenarios have very little impact on B/C of storage

- Cost-effectiveness follows the same trends
- Higher electricity rate leads to higher bill savings from energy arbitrage
Adoption Residential BTM Storage

+ Storage is projected to increase from 3 MW to 13 MW by 2030, but only installed by about 1% of residential customers within SVCE service territory.

+ RTP could result in storage penetration of 4%, 55 MW by 2030.

+ With utility incentives or extend SGIP, storage can reach up to 72 MW by 2030, with a customer penetration around 5%.

+ Under NEM, residential customers will adopt less storage out of pure economic preference as most of the energy charge saving benefits are claimed by PV under NEM, leading to only 3.2 MW adoption by 2030.

Installed Capacity scale may change: detailed B/C shown in previous slides.
Costs & Benefits EV
Residential, Single Family, NC

+ Mid Elec & Mid Gas: Residential EV is cost-effective because of high gasoline savings

+ With RTP, higher charging costs makes residential EV less economic, but still cost-effective

```
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<tr>
<th>Year</th>
<th>Project Cost</th>
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<th>ICE Savings</th>
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</table>
```
Different electricity rate scenarios have very little impact on B/C of EV

- Cost-effectiveness follows the same trends
- Higher electricity rate leads to higher charging costs
Adoption Residential EV (simplified)

- Simplified EV adoption analysis assuming all EVs are BEV250 with L2 chargers and same driving and charging behaviors
- EV capacity is projected to increase from 135 MW to 700 MW by 2030, being adopted by 37% of residential customers within SVCE service territory
- Under RTP, EV adoption could drop 16%, ending up around 600 MW by 2030, with a penetration of 31%
**Costs & Benefits BTM PV**

**Large Commercial, 1990s**

- Mid Elec & Mid Gas - The payback period for commercial BTM PV is around its lifetime – 25 years as the net lifetime benefits is around 0

- With NEM 2.0, PV becomes very cost-effective with bill savings/revenues from selling back excess solar electricity at retail rate

(Note: unit of commercial customer is kSqFt)
Different electricity rate scenarios have very little impact on B/C of PV

- Cost-effectiveness follows the same trends
- Higher electricity rate leads to higher bill savings
Adoption Commercial BTM PV

+ PV is projected to increase from 25 MW to 70 MW by 2030, being installed by only 5% of commercial customers (in kSqFt) within SVCE service territory

+ RTP could facilitate PV adoption to 127 MW by 2030, with a customer penetration of 9%

+ With incentives, PV can reach up to 221 MW by 2030, with a customer penetration of 16%

+ NEM could result in PV penetration of 17% by 2030

[Graph showing projected capacity for different scenarios]

★: detailed B/C shown in previous slides
Costs & Benefits BTM Storage
Large Commercial, 1990s

+ Base Case, commercial BTM storage is slightly cost-effective with lower capital costs compared with residential and long-lasting ITC tax benefits

+ With SGIP extended to 2030, B/C ratio of installing BTM storage after 2026 improves

Note: unit of commercial customer is kSqFt
Different electricity rate scenarios have very little impact on B/C of storage

- Cost-effectiveness follows the same trends
- Higher electricity rate leads to higher bill savings from energy arbitrage

Note: unit of commercial customer is kSqFt
Adoption Commercial BTM Storage

+ Storage is projected to increase from 3.7 MW to 20 MW by 2030, being installed by only 3.3% of commercial customers (kSqFt) within SVCE service territory

+ Extended SGIP could facilitate storage adoption to 32 MW by 2030, penetrating 5.2% of customers

+ With utility incentives or RTP, storage can reach up to 49 MW by 2030, with a customer penetration around 8%

+ No adoption happened under NEM

Installed Capacity scale may change
### Load Impact Residential BTM Storage

**Residential storage dispatch**

**Res-Ok Base vs Res-Ok RTP**

#### 2020

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<th>Hour</th>
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**Mid Elec & Mid Gas**

**RTP**

- max discharge
- max charge

- no discharging activities after 9 PM
- more diverse
Key Takeaways
DER Key Takeaways

+ Rate scenarios have minor impacts on cost-effectiveness of DER adoption for both residential and commercial customers over the modeling horizon
  - Higher rate would encourage PV and storage adoption, as it increases bill savings/energy charge revenue
  - Higher rate would, in opposite, inhibits EV adoption (assume only allow V1G) because of higher charging costs

+ Sensitivities, including federal, state, and utility incentives, as well as various rate structures, could have noticeable impacts on customer’s economics
Building Electrification Key Takeaways

+ **SVCE has near-term opportunities for building electrification**
  
  • **Heat pump HVAC in replacement of gas furnace + AC**
    - Customers can save costs today!
    - SVCE could focus on consumer education, workforce training and providing incentives to contractors to better market heat pump technology
  
  • **New construction**
    - Customers can save costs on all-electric new construction today!
    - SVCE could work with local government on reach code
  
  • **Heat pump water heater (HPWH)**
    - HPWHs are cheaper than gas tankless water heaters, but still more expensive than gas storage water heaters.
    - SVCE could provide incentives to bring down capital costs and encourage market transformation

+ **Building electrification will increase winter peaks and likely decrease summer peaks of SVCE**
  
  • Our results show that both space heating and water heating will be contributing to the increasing winter peaks.
  
  • Further study is needed to understand the grid impact (whether the system will be shifting to winter peaking).
Residential space and water heating electrification lead in building decarbonization

- High abatement costs reflect large hurdle rate to recover costs over a short payback period
- Rooftop solar is the highest cost abatement opportunity due to already clean electric grid
- Residential electrification is less costly than commercial but is often less driven by economic decision making

X-axis represents annual abatement of equipment adopted by 2030

Y-axis represents levelized abatement costs through the lifetime of the equipment to incent adoption assuming a 5-year payback and mid rates.

Approximate GHG abatement calculated through annual average emissions factors
Further Research Needed

+ **Non-economic factors driving consumer adoption** – The analysis provides an economic adoption forecast with some additional reductions made to better reflect market adoption via the adoption curve assumptions. However, more accurate non-economic inputs to better reflect SVCE’s customers (e.g. a tailored adoption curve) would provide a more accurate forecast.

+ **Impacts to 2045/2050** – The analysis covers adoption to 2030, but further analysis is required to look at the critical climate goal years of 2045 and 2050.

+ **Increased AC need/adoption** – AC penetration was assumed to mimic that of the state and to remain constant, however we expect to see increased AC penetration due to the effects from climate change. This will change the economics of the technologies analyzed.

+ **GHG emissions impacts** – Additional analysis is required to understand the GHG emissions impacts of each of the scenarios/sensitivities.

+ **Air quality impacts** – Additional analysis is required to understand the air quality impacts of each of the scenarios/sensitivities.

+ **Coupling sensitivities** – For this analysis, each sensitivity and technology (ex solar + storage) was analyzed independently. Further research is required to understand the implications of layering interventions.

+ **Detailed EV adoption** – A simplified EV adoption analysis was conducted for this analysis. Further research is required to include all technology types and driving behaviors.

+ **Storage for reliability** – This analysis analyzed economic storage adoption, but further analysis is required to understand storage adoption for reliability.
A targeted payback period can be converted into an internal rate of return (IRR) by considering all the post-incentive benefits and costs over the lifetime of an appliance.

Appliances with different lifetime have different IRR even with the same targeted payback period.

Below is a conversion between the targeted payback modeled in this study and IRR equivalents for all appliances.

<table>
<thead>
<tr>
<th>Payback (Year)</th>
<th>IRR Equivalent</th>
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<tr>
<td></td>
<td>HVAC</td>
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<tr>
<td>3</td>
<td>40%</td>
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<td>5</td>
<td>25%</td>
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<tr>
<td>10</td>
<td>12%</td>
</tr>
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</table>

Based on 5% real discount rate
  • Creates scenarios of consumer adoption using data from Mahajan (2000)
  • a case study of seven suburbs in Brisbane, Australia, comprising of 25,000 houses/units with a mixture of demographics, new and old suburbs.
  • p and q data is based on empirical observation of appliance adoption collected in the years from 1921 to 1996; the average study period was about ten years
The stock rollover model estimates the number of consumer decision-makers in each year:

- **New home builds:** All incremental 2019-vintage housing is considered as a new build and utilizes new build decision inputs.
  - Example: If post-2019 vintage homes rise from 100 to 120 between 2020 and 2021, all 20 incremental homes will decide between gas and electric using new build economics.
  - This is only performed for new homes, all of which are post-2019 vintage.

- **Retrofits:** Retrofit decision-makers are equivalent to the estimated number of appliance failures in each pool. This is represented as the number of remaining non-electrified customers divided by the appliance lifetime.
  - Example: If there are 100 non-electrified pre-1978 homes in 2020 and HPWH lifetimes are estimated at 25 years, 4 customers will decide between gas and electric using retrofit economics.
  - This is performed for all vintages.
Table 2-1. Share of low-rise residential existing housing (as of 2020) assumed by climate zone and utility in the modeled study area

<table>
<thead>
<tr>
<th>Climate Zone</th>
<th>Major City</th>
<th>Utility</th>
<th>Retrofits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Single Family</td>
<td>Low-rise Multifamily</td>
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<tr>
<td>CZ03</td>
<td>San Francisco</td>
<td>PG&amp;E</td>
<td>17%</td>
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<tr>
<td>CZ04</td>
<td>San Jose</td>
<td>PG&amp;E</td>
<td>8%</td>
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<tr>
<td>CZ12</td>
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<td>SMUD</td>
<td>7%</td>
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<td>CZ06</td>
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<td>SCE</td>
<td>10%</td>
<td>3%</td>
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<tr>
<td>CZ06</td>
<td>Coastal LA</td>
<td>LADWP</td>
<td>2%</td>
<td>1%</td>
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<tr>
<td>CZ09</td>
<td>Downtown LA</td>
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<td>12%</td>
<td>3%</td>
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<tr>
<td>CZ09</td>
<td>Downtown LA</td>
<td>LADWP</td>
<td>13%</td>
<td>3%</td>
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<tr>
<td>CZ10</td>
<td>Riverside</td>
<td>SCE</td>
<td>11%</td>
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Table 2-2. Share of low-rise residential new construction housing (as of 2020) assumed by climate zone and utility in the modeled study area

<table>
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<th>Climate Zone</th>
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<th>New Construction</th>
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<td>9%</td>
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<tr>
<td>CZ04</td>
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<td>PG&amp;E</td>
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<td>LADWP</td>
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Gas Rates by Sector in the High Building Electrification Scenario

Percentage Increase in Electric Sector Revenue Requirement, On-Grid Loads and Average Rates

Gas Rates by Sector in the No Building Electrification Scenario
Building Electrification Adoption Assumptions
Special Considerations

+ For HVAC and water heating, we assume that all electric resistance appliances will be replaced by heat pumps upon burnt-out due to much more favorable consumer economics.

+ Homes with air conditioning (AC) and those without AC are modeled separately for heat pump HVAC adoption:
  - We assume that homes without AC will not consider heat pump HVACs because they are much more expensive than a counterfactual of gas furnace only.
  - The following AC share is applied to each modeled home type:

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<th>Home Type</th>
<th>Single Family Detached</th>
<th>Townhouse House</th>
<th>Apartment or Condo (2-4 Units)</th>
<th>Apartment or Condo (5+ Units)</th>
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</thead>
</table>
| CAVEAT: more homeowners will consider installing space cooling even though their houses currently do not have AC. This could be due to the rising temperature and more frequent heat waves in summer as a result of climate change, or rising living standard and income level that makes AC more affordable for more homeowners in SVCE’s service territory.
Homeowners vs. Landlord-Tenant

+ Homeowners are modeled to consider both capital costs and bills when making decision based on payback period.

+ In the landlord-tenant case, we assume that a landlord will make decision based on capital cost only.
  - Utility bills are usually paid by renters and thus are not factored in landlord’s decision.

+ We applied the following share of renting homes by home type for SVCE’s service territory.

<table>
<thead>
<tr>
<th></th>
<th>Single-family</th>
<th>Multi-family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>77%</td>
<td>73%</td>
</tr>
<tr>
<td>Renter</td>
<td>23%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Derived from the American Community Survey 2018 for SVCE’s service territory.
Equipment Lifetime Assumptions & Discount Rate

<table>
<thead>
<tr>
<th>Equipment Lifetime</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Pump</td>
<td>18</td>
</tr>
<tr>
<td>Gas Fired Furnace</td>
<td>18</td>
</tr>
<tr>
<td>Central AC</td>
<td>13</td>
</tr>
<tr>
<td>Gas Water Heater</td>
<td>13</td>
</tr>
<tr>
<td>Heat Pump Water Heater</td>
<td>13</td>
</tr>
<tr>
<td>Cookstove</td>
<td>12</td>
</tr>
<tr>
<td>Clothes Dryer</td>
<td>13</td>
</tr>
<tr>
<td>All-Electric Home / Building</td>
<td>30</td>
</tr>
</tbody>
</table>

Data source: EIA Annual Energy Outlook 2019

- **Discount rate:**
  - 5% for the residential sector, and 7% for the commercial sector
  - Benchmarked to industry standard practice based on commonly used residential nominal discount rate of 7%, and commonly used unleveraged discount rate of 6-12% for commercial real estate.

- Benchmarked to industry standard practice based on commonly used unleveraged discount rate (6-12%) for commercial real estate.

- Assume one lifetime for HVAC systems to simplify lifecycle cost calculations

- Assume 30-year lifetime for all-electric homes and buildings, assuming houses will remain all-electric. CEC T24 uses 30-year lifetime to evaluate cost-effectiveness of residential building code.
DER Adoption Assumptions
DER Adoption Assumptions

+ DER Adoption

- **PV & storage sizing**: might oversize MFH customer’s installed capacity
- **Customer Load Profiles**: fixed customer load profiles over the entire modeling horizon without load growth for each representative customers
- **SGIP**: took a simplified approach SGIP incentives to represent its average effects considering various types of customers
- **CA PV mandate**: assume all new homes built in 2019 will also comply with CA PV mandate for modeling simplicity
- **EV**: EV analysis focuses more on the impacts of different factors (rates, incentives, etc) on EV adoption with less robust modeling assumptions due to the budget constraint. For IRP impact shapes, we would recommend use IEPR forecast with NREL EV charging load.
- **Customer Reliability**: this study assumes 10 $/kWh VoLL for both residential and commercial customers as it’s not focused on reliability-driven adoption. Cost-effectiveness of commercial PV and storage might be dominated by customer reliability if we apply assumptions from ICE ( Interruption Cost Estimates from NREL)
- **Adoption**: this study assumes all customers are eligible for adopting PV, EV, and storage because of data availability issue
- **Home Ownership**: RESTORE/IDSM does not differentiate renters/home-owners
A targeted discounted payback period can be converted into an internal rate of return (IRR) by considering all the post-incentive benefits and costs over the lifetime of DER.

DER technologies with different lifetime have different IRR even with the same targeted payback period.

Below is a conversion between the targeted payback modeled in this study and IRR equivalents for all appliances.

<table>
<thead>
<tr>
<th>Discounted Payback (Year)</th>
<th>IRR Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PV</td>
</tr>
<tr>
<td>3</td>
<td>43%</td>
</tr>
<tr>
<td>5</td>
<td>28%</td>
</tr>
<tr>
<td>10</td>
<td>16%</td>
</tr>
</tbody>
</table>

Based on 7% real discount rate for PV and storage
DER Adoption Assumptions - Data

+ **California Bulk System**
  - avoided cost: PG&E Climate Zone 04 (PGE-CZ04) from 2019 CPUC Avoided Cost Calculator
  - only used in sensitivity analysis for real-time pricing (RTP)

+ **Distribution System**
  - distribution system data including peak deferral value and corresponding distribution upgrade costs are not used in this consumer adoption analysis because customers are usually not able to claim this benefit

+ **Utility Tariff**
  - rate scenarios: the same as building electrification analysis
  - rate escalation: assume 3% annual rate escalation for all rate scenarios except RTP to account for inflation and rate increase
  - RTP: include avoided system capacity, energy, emissions, RPS, ancillary services, and PCIA and T&D costs
DER Adoption Assumptions - Data

+ Customer
  • Customer Load Profiles
    – residential:
    – commercial:
  • Customer Reliability
    – normal-level VoLL for both residential and commercial customers– 10 $/kWh

+ DER Technology
  • DG PV
    – characteristics: fixed normalized PV shapes and PV characteristics from 2018 CPUC Avoided Cost Calculator
    – costs: E3 2020 internal resource cost pro forma analysis
    – sizes: assume both residential and commercial customer size their PV capacity to cover 100% of annual electricity consumption (net-zero on-site electricity consumption)
    – lifetime: 25 years
DER Adoption Assumptions - Data

+ DER Technology
  • Energy Storage
    – characteristics: E3 generic storage inputs for BTM 10kW-4h battery storage
    – costs: E3 2020 internal resource cost pro forma analysis
    – sizes: assume both residential and commercial customer size their storage capacity to their annual peak demand to comply with ITC and/or SGIP requirements, and their storage energy to ensure 4-hour duration
    – lifetime: 10 years
    – SGIP incentives: incentive rates may vary by sizes and duration for every single customer. Initial results show that typical residential storage is <= 10kW/customer and commercial storage is within 5-150 kW/customer, which means the majority of residential and commercial customers will not go above 500 kW. In this case E3 has taken a simplified approach to apply averaged incentive rates to residential and commercial customers respectively (values below have accounted for all incentive discounts):

<table>
<thead>
<tr>
<th>Incentive Rates ($/Wh) when &lt; 500 kW</th>
<th>Residential &lt;= 10 kW</th>
<th>Large &gt; 10 kW when claiming ITC</th>
<th>Large &gt; 10 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assuming 0-4 hour battery operating 0-2 MWh</td>
<td>0.26</td>
<td>0.20</td>
<td>0.26</td>
</tr>
<tr>
<td>Expire after 2025</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

used for residential storage

used for commercial storage
DER Adoption Assumptions - Data

**+ DER Technology**

- **Electric Vehicles (EV)**
  - characteristics: E3 generic BEV250 inputs based on NREL EVI-Pro Lite Tool
  - costs: assume EV has 0 incremental cost compared with equivalent ICE vehicle. It’s because 1) EV incentive; 2) although the average cost of EV is higher than equivalent ICE, customers will not have additional budget when choosing between EV and equivalent ICE, not to mention
  - sizes: assume residential customer only adopt one BEV250 per customer, and commercial customer only adopt one BEV250 per kSqFt
  - lifetime: 10 years
  - driving behavior & charging availability: compiled from NHTS database
  - charging behavior: managed charging (V1G) with L2 chargers. The tool will determine the optimal charging schedule based on rates
  - customer reliability is 0 as EV could not serve as energy sources under managed charging (V1G)
  - As we discussed before, the EV consumer adoption analysis focuses more on the impacts of different factors (rates, incentives, etc) on EV adoption. For IRP impact shapes, we would recommend use IEPR forecast with NREL EV charging load at this moment
+ Financing Assumptions

- California-base-BTM (default data in CEC Solar + Storage Tool)
  - financing options: third party leasing as we assume BTM customers are more likely to purchase from a third party.
  - Third-party lease fee is the payment that an operator who is leasing a DER portfolio must pay to a third party for the right to operate the fleet of technologies. The third-party lease fee is also displayed as the project cost and can be thought of the cost to operate the group of DER’s if the user does not own the devices.
  - Note: customer discount rate: 9%

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation rate</td>
<td>2.00%</td>
</tr>
<tr>
<td>Nominal utility discount rate</td>
<td>7.00%</td>
</tr>
<tr>
<td>Nominal societal discount rate</td>
<td>3.00%</td>
</tr>
<tr>
<td>Financing Option</td>
<td>third_party_lease_fee</td>
</tr>
<tr>
<td>Percent upfront state incentive for storage &gt; 30 kW</td>
<td>50%</td>
</tr>
<tr>
<td>Property Tax</td>
<td>1%</td>
</tr>
<tr>
<td>Federal Tax Rate</td>
<td>21.00%</td>
</tr>
<tr>
<td>State Tax Rate</td>
<td>8.84%</td>
</tr>
<tr>
<td>Debt interest rate</td>
<td>8%</td>
</tr>
<tr>
<td>Weighted Average Cost of Capital</td>
<td>11.00%</td>
</tr>
<tr>
<td>Third Party Lease Escalator</td>
<td>0%</td>
</tr>
</tbody>
</table>

solar ITC schedule chart: https://www.seia.org/initiatives/solar-investment-tax-credit-itc
**DER Adoption Assumptions - Data**

**Adoption Parameters**

- **Technical Potential**
  - Assume both residential and commercial customer have full technical potential for PV, storage, and EV
  - Residential: equal to total customer number based on the customer segmentation from SVCE customer data, adjusted by building stock rollover
  - Commercial: equal to total kSqFt, adjusted by building stock rollover

---

**Commercial Building Stock Rollover**

<table>
<thead>
<tr>
<th>Year</th>
<th>Large Com NC</th>
<th>Large Com Existing</th>
<th>Medium Com NC</th>
<th>Medium Com Existing</th>
<th>Small Com NC</th>
<th>Small Com Existing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>700,000</td>
<td>600,000</td>
<td>500,000</td>
<td>400,000</td>
<td>300,000</td>
<td>250,000</td>
</tr>
<tr>
<td>2030</td>
<td>300,000</td>
<td>200,000</td>
<td>150,000</td>
<td>100,000</td>
<td>75,000</td>
<td>50,000</td>
</tr>
</tbody>
</table>

**Residential Customer Stock Rollover**

<table>
<thead>
<tr>
<th>Year</th>
<th>MFH NC</th>
<th>MFH 90</th>
<th>MFH 78</th>
<th>SFH NC</th>
<th>SFH 90</th>
<th>SFH 78</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>400,000</td>
<td>300,000</td>
<td>200,000</td>
<td>150,000</td>
<td>100,000</td>
<td>75,000</td>
</tr>
<tr>
<td>2030</td>
<td>200,000</td>
<td>150,000</td>
<td>100,000</td>
<td>75,000</td>
<td>50,000</td>
<td>37,500</td>
</tr>
</tbody>
</table>
**DER Adoption Assumptions - Data**

**Adoption Parameters**

- **Achievable Market Curve**
  - The achievable market curve and bass diffusion curve reflect the customers’ willingness-to-pay and the rate of market adoption changes for a certain product in a certain region. Both parameters for achievable market and bass diffusion curves used in this study is based on the analysis done worldwide.
  
  - the curve is from [this report](#) (page 10) by converting payback period to B/C ratio assuming the simple payback assuming a 10-year project lifetime as a proxy.
+ Adoption Parameters

- Bass Diffusion Curve

<table>
<thead>
<tr>
<th>Technology &amp; Storage</th>
<th>Scenario</th>
<th>Customer Type</th>
<th>Innovation parameter: $p$</th>
<th>Imitation parameter: $q$</th>
<th>Sources &amp; Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV &amp; Storage</td>
<td>Less Favorable</td>
<td>Domestic</td>
<td>0.0000039</td>
<td>0.332</td>
<td>Source: Sigrin (2016): The Distributed Generation Market Demand Model (dGen): Documentation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-domestic</td>
<td>0.0000033</td>
<td>0.243</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderately Favorable</td>
<td>Domestic</td>
<td>0.000044</td>
<td>0.344</td>
<td>Notes: $p$, $q$ numbers for three scenarios are based on the $p$, $q$ number studied for the state of Idaho, Oregon, and New York in the U.S. Three states have similar PV capacity factor as Delhi and have varies renewable policy to reflect a less, moderately, and more aggressive renewable policy support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-domestic</td>
<td>0.000018</td>
<td>0.293</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Favorable</td>
<td>Domestic</td>
<td>0.00000035</td>
<td>0.739</td>
<td>Source: Li, G. (nd). Power forecasting for plug-in electric vehicles with statistic simulations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-domestic</td>
<td>0.0000022</td>
<td>0.518</td>
<td></td>
</tr>
<tr>
<td>EV</td>
<td>All</td>
<td>All</td>
<td>0.0000365</td>
<td>0.447</td>
<td>Notes: E3 compares EV adoption studies from multiple academic papers, and pick the parameters that reflects the similar adoption pattern as forecasted by different groups (Energy Policy Simulator, BNEF, Navigant, Barclays, Edison Electric Institute, and AEO)</td>
</tr>
</tbody>
</table>
**DER Adoption Assumptions - Data**

**Adoption Parameters**

- **Baseline Adoption**
  - residential: based on Task 1 results, rematch to E3 customer segmentation, assume EV only includes L2
  - commercial: based on Task 1 results and customer average kSqFt information from SVCE customer data, rematch to E3 customer segmentation
  - assume all new homes built in 2019 will also comply with CA PV mandate for modeling simplicity (see Policy Assumptions section)

### Residential, in #customer

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Vintaga</th>
<th>PV</th>
<th>Storage</th>
<th>EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFH</td>
<td>78</td>
<td>10525</td>
<td>232</td>
<td>7625</td>
</tr>
<tr>
<td>SFH</td>
<td>90</td>
<td>7670</td>
<td>197</td>
<td>5468</td>
</tr>
<tr>
<td>SFH</td>
<td>NC</td>
<td>2024</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MFH</td>
<td>78</td>
<td>93</td>
<td>2</td>
<td>640</td>
</tr>
<tr>
<td>MFH</td>
<td>90</td>
<td>34</td>
<td>0</td>
<td>345</td>
</tr>
<tr>
<td>MFH</td>
<td>NC</td>
<td>2356</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Commercial, in kSqFt

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Vintaga</th>
<th>PV</th>
<th>Storage</th>
<th>EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOM</td>
<td>Existing</td>
<td>69</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>SCOM</td>
<td>NC</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MCOM</td>
<td>Existing</td>
<td>1429</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>MCOM</td>
<td>NC</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LCOM</td>
<td>Existing</td>
<td>8602</td>
<td>2670</td>
<td>0</td>
</tr>
<tr>
<td>LCOM</td>
<td>NC</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Policy Assumptions

- California PV Mandate
  - this analysis fixes annual adoption of SFH-NC and MFH-NC customer to be equal to the annual increase of #customer starting from 2020 to represent the fact that all new homes will comply with CA PV mandate
  - also assume all new homes built in 2019 will comply with CA PV Mandate for modeling simplicity

- ITC & SGIP Compliance
  - assume that only the customers who adopt PV will consider adopting storage in order to get ITC and SGIP incentives. In this case, PV is included in the customer’s system when calculating the BC ratio of installing battery storage
DER Adoption Assumptions – Others

Notes

• all timeseries outputs (if any) are in 2009 days and hours based on the customer load profiles

• DER adoption analysis also captures the impacts of building electrification (reflected on customer load profiles) on DER adoption by modeling representative customers in two scenarios: all-gas & all-electric. Results are the weighted sum of customer adoption under these two fuel-type scenarios using the fuel mix outputs from BE tool. The fuel mix is by customer, year, rate, and by sensitivities.

Example:
• 5yr-Payback-Period-Incentive
• Com-Worst
• SCOM
• NC

• commercial customers only differentiate vintage by new-construction and existing, due to the limit of commercial building electrification modeling

• peak load reduction is ignored in the model as this is a consumer adoption analysis
Q: Why PV adoption is higher under RTP?

+ Why PV adoption is higher under RTP?
  - Sometimes RTP is higher than TOU

  - RTP price spike
    - if PV electricity generation overlaps with the price spike period, even an hour could result in noticeable customer bill savings
Q: Why annual adoption changes?

+ Res-Ok, Base Case, Storage
  
  • 2021 is a tipping point because ITC expires after this year
  • 2025 is a tipping point because SGIP expires after this year

![Cumulative Adoption Graph](image-url)
Q: Why annual adoption changes?

+ **Res-Ok, NEM Case, Storage**

- Energy charge savings are claimed by PV under NEM, so the adoption slope before 2025 is smaller than the base case.
- After 2025, because of the expiration of SGIP the BC ratio drops dramatically, so there is no headroom left for storage adoption to increase.

Note change of scale.
Q: How fixed adoption impacts others?

+ RESTORE calculates adoption by s-curve-sharing-group and adoption calculation is made at the group-level and then allocate back to each customer. This means the adoption of one customer will impact the others -- this is related to our CA PV mandate implementations.

+ Example – Res-Ok, Base
  
  • because of the fixed adoption from new homes every year, it reduces the natural adoption from other customers
Q: Impact shapes

SVCE_Res_Ok_NEM_pv
(first 168 hrs)

SVCE_Com_Worst_SGIP2030_storage
(first 168 hrs)

Note change of scale
**Q: Benchmark PV forecast**

**Compare with 2019 CEC BTM PV Forecast**

- down-scale to SVCE territory level by annual end-use energy deliveries data from IEPR
- include both residential and commercial customer

<table>
<thead>
<tr>
<th>Author</th>
<th>Scenario</th>
<th>2020 (MW)</th>
<th>2030 (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3</td>
<td>Base</td>
<td>117</td>
<td>312</td>
</tr>
<tr>
<td></td>
<td>NEM</td>
<td>151</td>
<td>672</td>
</tr>
<tr>
<td>CEC</td>
<td>Mid</td>
<td>136</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>160</td>
<td>435</td>
</tr>
</tbody>
</table>
2020 Integrated Resource Plan – Ascend’s Preliminary Model Results & Selection of Preferred Portfolio
Board Direction on Integrated Resource Plan (IRP)

10 Year IRP (2020 IRP) – 2021 to 2030

• RPS, GHG and Reliability to be balanced with Affordability

Board direction on IRP modeling in October 2019

• Exceed RPS mandate ~50% through 2026 and 60% by 2030
• Consider PG&E Allocations
• Shopping Cart of Resources – Portfolios
• Consider Geothermal & BioX Resources with a strategy to neutralize GHG

Plan for how to close Clean Energy Net Open Position!
IRP Modeling Directives

1. 100% clean annually
2. Include incremental Distributed Energy Resources
3. 2021-2026 50% minimum RPS; 60% RPS by 2030
4. Must meet minimum long-term RPS mandates (65% of RPS)
5. RPS Portfolio Category Content 1 (PCC1) only
6. Limit long-term procurement
7. Did not model Resource Adequacy alternatives
Key Planning Objective - Metrics

1. Decarbonization
   a. Annual Accounting of Emissions – *SVCE Policy and PCL reportable*
   b. Clean Net Short – emissions for the sum of all hours not covered - *possible future requirement*

2. Reliability
   a. Annual Resource Adequacy Net Open Position based on 2020 system RA obligations – *current requirement*
   b. Availability of Resource During Assessment Hours (4 pm to 9 pm) - *most likely future requirement*

3. Affordability
   a. 10 Year Levelized Net Cost & Risk (PPA and/or resource cost net of energy, A/S & RA value)
## Alternative Portfolios to Meet Clean Energy Goals

<table>
<thead>
<tr>
<th>#</th>
<th>Portfolio Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Business as Usual</td>
<td>No new resources. All energy and clean credit needs purchased from markets.</td>
</tr>
<tr>
<td>B</td>
<td>Business as Usual (A) + PPA resources from RPS RFP</td>
<td>Resources that are in final stages of contract negotiation from RPS RFP process last fall and long-term federal hydro contract from WAPA are included. All remaining needs are purchases from markets (as is done in all other portfolios).</td>
</tr>
<tr>
<td>C</td>
<td>RPS RFP (B) minus Coso Geo</td>
<td>All resources in portfolio B plus minus Coso Geothermal.</td>
</tr>
<tr>
<td>D</td>
<td>RPS RFP (B) + PG&amp;E RPS and hydro Allocation</td>
<td>All resources in portfolio B plus all PCC1 and carbon-free credit from PG&amp;E resources.</td>
</tr>
<tr>
<td>E</td>
<td>RFP (B) PG&amp;E RPS+hydro (D) + Nuclear</td>
<td>All resources in portfolio D plus nuclear allocation.</td>
</tr>
<tr>
<td>F</td>
<td>RPS RFP (B) + PG&amp;E(D) RPS+Hydro + BioX</td>
<td>All resources in portfolio B plus BioX biogas and all PG&amp;E RPS and hydro allocations (no nuclear).</td>
</tr>
</tbody>
</table>
Alternative Portfolios to Meet Clean Energy Goals

- **F** – PG&E RPS+Hydro and BioX
- **E** - PG&E Nuclear credits
- **D** - PG&E RPS + Hydro
- **C** – RFP No Coso Geo
- **B** - RFP Resources
- **A** - Existing Portfolio

* = Does not include entirety of previous portfolio, as indicated
Annual Power Supply Mix per Portfolio (% of Retail Sales): Levelized

All portfolios have significant renewable penetration and minimal GHG emissions intensity. For reference, PG&E had a GHG emissions intensity of 210 lb CO$_2$/MWh in 2017 and the CAISO Reference System averages 375 lb CO$_2$/MWh from 2020-2030. [A CSP dispatchable gas generator emits ~947 lb CO$_2$/MWh.]

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>A – BaU</th>
<th>B - RFP</th>
<th>C – RFP No Coso Geo</th>
<th>D – PG&amp;E RPS + Hydro</th>
<th>E – PG&amp;E Nuclear*</th>
<th>F - BioX with PG&amp;E RPS &amp; Hydro</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS Eligible Resources</td>
<td>51%</td>
<td>50%</td>
<td>50%</td>
<td>63%</td>
<td>63%</td>
<td>64%</td>
</tr>
<tr>
<td>Biomass/Biwaste</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Geothermal</td>
<td>0%</td>
<td>7%</td>
<td>1.4%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Eligible Hydro</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0.9%</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Solar</td>
<td>30%</td>
<td>29%</td>
<td>33%</td>
<td>39%</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>Wind</td>
<td>21%</td>
<td>14%</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
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<tr>
<td>Large Hydro</td>
<td>41%</td>
<td>45%</td>
<td>45%</td>
<td>34%</td>
<td>26%</td>
<td>33%</td>
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<tr>
<td>Nuclear</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>GHG Emission Intensity (lb CO$_2$/MWh)</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>14</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

* nuclear allocation ends mid-2025
Key Findings

1. Incremental DERs reduces underlying load by 16% in 2030, primarily driven by solar and offset by increases in EV charging.

2. Annual emissions can be avoided by excluding BioX and geothermal resources but increases Clean Net Short position (and associated emissions).

3. Taking PG&E RPS allocation increases Clean Net Short emissions due to heavy reliance on solar (and resulting lack of evening clean energy).

4. Geothermal resources minimize Clean Net Short but carry annual emissions. Wind resources help reduce Clean Net Short and do not carry emissions. Both are more expensive than Solar+Storage.

5. Portfolios with geo PPAs best help meet Reliability needs and reduces Resource Adequacy costs.

6. Taking the PG&E Allocations greatly reduces costs.
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</tr>
</thead>
<tbody>
<tr>
<td>Minimizes Annual Emissions</td>
<td>✨</td>
<td>🔥</td>
<td>🔪</td>
<td>🔴</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Helps meet Carbon-free 24x7</td>
<td>✨</td>
<td>🔥</td>
<td>🔪</td>
<td>🔴</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Meets RA Needs</td>
<td>🔴</td>
<td>🔥</td>
<td>🔪</td>
<td>🔴</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Covers 4-9 pm</td>
<td>🔴</td>
<td>🔥</td>
<td>🔪</td>
<td>🔴</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Minimize Net Cost</td>
<td>🔴</td>
<td>🟠</td>
<td>🔪</td>
<td>🔴</td>
<td>🔴</td>
<td>🔴</td>
</tr>
<tr>
<td>Minimize Risk</td>
<td>🟠</td>
<td>🟠</td>
<td>🔪</td>
<td>🔴</td>
<td>🔴</td>
<td>🔴</td>
</tr>
</tbody>
</table>
Recommended Preferred Portfolio

1. For 2020 IRP - Portfolio B

Existing Long-term PPAs
- 2 solar + storage
- 1 Wind
- 1 Geo

New Long-term PPAs
- 4 solar + storage
- 1 Geo
- 1 Large Hydro

2. Pursue PG&E Allocations – RPS, large hydro and Nuclear (Portfolio E)
2020 IRP Next Steps

1. Model supply variations and ability to meet Clean & RPS goals for Preferred Portfolio (B)

2. Benchmark Portfolio B to CPUC's Reference System Plan

3. Assess the ratepayer impact due to changes in PCIA from taking PG&E RPS Allocations

4. Complete 2020 IRP Report and submittals

5. Board approval of IRP

6. File IRP with CPUC
Ascend Analytics
PowerSimm Modeling
Output
Long-term Load Forecast and Load Modifiers

By 2030, sales forecast is **16% lower** according to California Energy Commission's 2019 IEPR load forecast + incremental DERs. Primarily drivers include: behind-the-meter solar: -18%; energy efficiency: -4%; electric vehicle charging: +5%. Includes small DA adjustment.

CPUC requires that we use the IEPR forecast as our Conforming load forecast
Resource Composition

All portfolios meet all RPS and Carbon-Free targets, but portfolios that have a lower percentage of solar energy (A, B, C) have lower Clean Net Short positions and hence lower effective total emissions.
1a. Decarbonization – Annual & Hourly Emissions

All portfolios are long in annual clean energy credits, so the only Annual Net Emissions are those associated with emissive resources (geothermal and biogas). When accounting for hourly emissions, portfolios with a higher percentage of solar energy (D, E, F) have larger shortages during evening hours, and hence have increased total emissions.

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</thead>
<tbody>
<tr>
<td>Annual Net Emissions (with surplus)</td>
<td>0</td>
<td>8,310</td>
<td>0</td>
<td>25,030</td>
<td>25,030</td>
<td>25,977</td>
</tr>
<tr>
<td>Hourly Accounting Total Emissions (no surplus)</td>
<td>257,938</td>
<td>246,493</td>
<td>265,738</td>
<td>298,185</td>
<td>288,084</td>
<td>299,321</td>
</tr>
</tbody>
</table>

The IRP Clean Net Short Calculator allows for inclusion of hourly surpluses.
1b. Decarbonization – Annual Emissions

Portfolio B has the smallest Clean Net Short position (calculated hourly) and the least emissions. Portfolios D, E, and F have higher levels of solar penetration, decreasing the amount of clean energy available during the evening and hence increasing hourly effective emissions.
2a. Reliability – Resource Adequacy Position

All portfolios meet RA requirements. RFP resources significantly help reduce RA purchases. RA surplus is due to purchasing RA in 100 MW increments; this can be fine-tuned during actual procurement to minimize costs.
Portfolio B, which includes additional solar + storage and Coso Geothermal is best able to deliver energy in the new "Net Peak" hours – thus helping with the Duck Curve.
Solar and PG&E RPS+Hydro credits bring the most value to all portfolios while load and RA purchases are the largest expenses. Portfolio E (All PPAs + PG&E RPS, Hydro, and Nuclear credits) is the most cost-effective portfolio.
3a. Affordability – Risk

The Risk Premium represents the cost of all financial risks in a portfolio, providing an estimate of how much costs could potentially exceed expectations in that portfolio. All portfolios present similar levels of risk premium. Portfolio C has a slightly reduced risk premium since it has less energy from physical PPAs and hence lower exposure to market price risk.
Recommended Preferred Portfolio

1. *For 2020 IRP - Portfolio B,*

Existing Long-term PPAs
- 2 solar + storage
- 1 Wind
- 1 Geo

New Long-term PPAs
- 4 solar + storage
- 1 Geo
- 1 Large Hydro

2. Pursue PG&E Allocations – RPS, large hydro and Nuclear (Portfolio E)
**1a. Decarbonization – Annual & Hourly Emissions**

Portfolio A has no Annual emissions as only Solar and Wind resources are assumed to be added. All Portfolios have hourly emissions and PG&E credits bring a strong boost to Net Clean position. Taking PG&E credits for only RPS+Hydro leaves a larger number of Clean Net Short MWh/year (portfolios C, F in red boxes) due to hourly shape of credits poorly complementing remaining net load. Portfolio B (with Coso) has lowest hourly emissions due to baseload nature of resources.

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>Annual Accounting [metric tons CO2]</th>
<th>Hourly Accounting (without surplus) [metric tons CO2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>[A] BaU</td>
<td>0</td>
<td>257938</td>
</tr>
<tr>
<td>[B] BaU+RFP</td>
<td>8310</td>
<td>246493</td>
</tr>
<tr>
<td>[C] RFP No Coso Geo</td>
<td>0</td>
<td>265738</td>
</tr>
<tr>
<td>[D] PG&amp;E RPS+Hydro</td>
<td>25030</td>
<td>298185</td>
</tr>
<tr>
<td>[E] PG&amp;E Nuke</td>
<td>25030</td>
<td>288084</td>
</tr>
<tr>
<td>[F] D+BioX</td>
<td>25977</td>
<td>299321</td>
</tr>
</tbody>
</table>

The IRP Clean Net Short Calculator allows for inclusion of hourly surpluses.
1b. Carbon Free Position

Carbon-Free Position

![Graph showing the Carbon-Free Position with various categories and their corresponding levelized quantities in GWh/yr.]

- [A] BaU
- [B] BaU+RFP
- [C] RFP No Coso Geo
- [D] PG&E RPS+Hydro
- [E] PG&E Nuke
- [F] D+BioX

- Resource REC Credits
- REC Purchases/PG&E
- Resource Carbon-Free Credits
- Carbon-Free Purchases/PG&E
- Yearly REC Requirements
- Yearly Carbon-Free Requirements
- Net Clean Position
- Clean Short MWh

SILICON VALLEY CLEAN ENERGY
1b. Decarbonization – Hourly Emissions

Cost Savings per Incremental mTon CO2 Relative to Business as Usual (Portfolio A)

- [B] BaU+RFP: ($1,197)
- [C] RFP No Coso Geo: $748
- [D] PG&E RPS+Hydro: $1,024
- [E] PG&E Nuke: $701

Cost Savings per Incremental mTon CO2

- ($1,500)
- ($1,000)
- ($500)
- $0
- $500
- $1,000
- $1,500
- $2,000

SILICON VALLEY CLEAN ENERGY
3a. Affordability – 10 Year Levelized Net Benefits

**Portfolio Net Benefits [Excluding Load] (Net Levelized $M/yr)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Net Levelized Benefits ($M/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[A] BaU</td>
<td>($20.12)</td>
</tr>
<tr>
<td>[B] BaU+RFP</td>
<td>($14.19)</td>
</tr>
<tr>
<td>[C] RFP No Coso Geo</td>
<td>($14.73)</td>
</tr>
<tr>
<td>[D] PG&amp;E RPS+Hydro</td>
<td>$1.75</td>
</tr>
<tr>
<td>[E] PG&amp;E Nuke</td>
<td>$3.41</td>
</tr>
<tr>
<td>[F] D+BioX</td>
<td>$1.30</td>
</tr>
</tbody>
</table>

- **Solar**, **Wind**, **Geothermal**, **Existing Clean Contracts**, **Index+ PCC1 Purchases**
- **PG&E RPS+Hydro**, **PG&E Nuclear**, **Risk Premium**, **RA Purchases**
- **Index+ GHG Purchases**, **Energy Contracts**, **Net Cost (No Load)**

**SILICON VALLEY CLEAN ENERGY**
3a. Affordability – 10 Year Levelized Net Benefits – Risk Premium

- The risk premium is calculated similarly to an insurance premium calculation, deriving from the difference between the P95 and median portfolio costs (see diagram at right).
- For example, we simulate market electricity price volatility which exposes load purchases to price risk. This price risk is captured in modeling and allows PowerSimm to quantitatively assess the upside cost risk of a given resource portfolio and compare that risk between portfolios via a Risk Premium.
Portfolio A

Energy Requirement by Year:
- Nuclear
- Large Hydro
- Small Hydro
- Bio
- Wind
- Solar + Storage
- Geothermal
- Backfill Solar
- Backfill Wind
- Total Energy Requirement
Portfolio E

- Year: 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030
- Energy Requirement: 4,500
- Technologies: Nuclear, Small Hydro, Geothermal, Bio, Wind, Solar, Storage, Large Hydro, Backfill Wind, Total Energy Requirement

CLEAN ENERGY
IRP Portfolio Modeling Results

Summary of PowerSimm results for all IRP modeling portfolios.

Daniel Weingarten
Dave Millar
7/1/2020
Analysis Summary

- Five portfolios were built to achieve distinct RPS, carbon-free, and CPUC reference system targets.
- All portfolios were modeled in PowerSimm to simulate the cost, energy position, and risk dimensions of each portfolio under the dynamic conditions of CAISO’s renewable-heavy system.
- PowerSimm also modeled portfolio emissions from dynamically modeled hourly market purchases to cover Clean Net Short position, providing a more accurate calculation than the average hourly shapes used in the CPUC’s Clean Power Calculator tool.
  - For IRP purposes, submitted emission values are calculated using the CPUC calculator tool.
Results Summary

- All portfolios assessed for total cost (A – Preferred, B – RPS-Only, C – 75% RPS) all have similar net costs.

- Portfolios A and C serve all of load with clean energy on a net yearly basis and, as a result, have dramatically lower emissions and hourly Clean Net Short positions.

- While portfolio C is slightly less costly than portfolio A, it has slightly more emissions and hourly clean net short position due to an increased reliance on solar resources.
  - Portfolio C also has more long-term PPA contracts than A as a result of increased long-term RPS targets. As a result, portfolio diverges slightly from SVCE’s historical strategy of relying on short-term purchases as much as possible.

- Portfolio “A – IRP Preferred” best serves SVCE’s needs across RPS, carbon-free, clean net short, cost, and emissions metrics.
Planning Portfolio Composition Strategy

- All portfolios contain all existing and in-process contracts and BTM load modifier resources
  - **Physical PPAs**: Big Beau (solar+storage), RE Slate (solar+storage), Rabbitbrush (solar+storage), Ormat (geo), Coso (geo), Yellow Pine (solar+storage), Aratina (solar+storage), and WAPA WBR (large hydro).
  - Existing RPS (2021) and GHG-free contracts (2021-2023)
  - BTM load modifier resources account for Residential+Commercial Electrification, Energy Efficiency, and BTM storage as forecasted by E3
- Internal portfolios (IRP Preferred, RPS-Only, 75% RPS)
  - Portfolios were “backfilled” with solar and wind physical PPAs to achieve long-term targets.
    - Solar and wind were added in a 70/30 ratio by nameplate capacity until each Compliance Period Long-Term RPS target was met
    - All backfill solar included a 4-hour storage component sized at 40% of the project’s nameplate solar capacity
    - All backfill resources are assumed to be 10-year PPA contracts for all energy and attributes
  - For IRP Preferred and 75% RPS portfolios, GHG-free targets were met using 50 MW of large hydro PPA contracts plus sufficient short-term Index+ Carbon-free credit purchases to meet targets.
    - Large hydro PPA is assumed to include energy and attributes.
    - Index+ carbon-free credits were purchases until portfolio met 106% of net yearly forecasted load with RPS or carbon-free credits (to account for T&D losses)
    - RPS-Only portfolio meets all RPS targets but ignores additional carbon-free targets.
- RPS/GHG Targets
  - IRP Preferred and RPS-Only have identical RPS and GHG-free targets, while 75% RPS portfolio has increased Long-Term RPS requirements as well as increased RPS targets (linearly scaling up from 52% in 2026 to 75% in 2030).
Reference System Portfolio Composition Strategy

- All portfolios contain all existing and in-process contracts and BTM load modifier resources

  o **Physical PPAs**: Big Beau (solar+storage), RE Slate (solar+storage), Rabbitbrush (solar+storage), Ormat (geo), Coso (geo), Yellow Pine (solar+storage), Aratina (solar+storage), and WAPA WBR (large hydro).

  o Existing RPS (2021) and GHG-free contracts (2021-2023)

  o BTM load modifier resources account for Residential+Commercial Electrification, Energy Efficiency, and BTM storage as forecasted by E3

- Reference System Portfolios

  o SVCE’s pro rata share of the CPUC Reference System Portfolio was calculated and then reduced by the amount of resources already under contract by SVCE in 2030 (physical PPAs listed at the top of this slide)

  o All remaining resources in the pro rata portfolio were added at the latest possible date that still achieved long-term RPS targets
    - Solar and Wind was introduced in 2021
    - Additional solar(+storage) and wind plus large hydro, small hydro, biogas/biomass, and Shed DR were added in 2027.
    - Standalone 2hr and 8hr storage was added in 2030.

  o All reference system portfolio resources are assumed to be 10+ year PPA contracts for energy and attributes

  o Additional Index+ RPS short-term purchases were made as necessary

- RPS/GHG Targets

  o Both Reference System Portfolios have the same RPS and GHG targets as the IRP Preferred and RPS-Only portfolios
    - SB 100 RPS targets through 2030 and remainder of yearly energy needs covered by GHG-free up to 106% of load (to cover T&D losses)
### Summary of Portfolios

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<tr>
<td><strong>Existing and In-Process PPA Contracts</strong></td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td><strong>BTM Load Modifier Resources</strong></td>
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<td>✓</td>
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<tr>
<td><strong>RPS Backfill</strong></td>
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<td>✓</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Solar/Wind at 70/30 ratio by capacity plus 4hr storage @ 40% of solar capacity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td><strong>Large Hydro (50 MW)</strong></td>
<td>✓</td>
<td>❌</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td><strong>Index+ RPS Purchases</strong></td>
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<td>✓</td>
</tr>
<tr>
<td><strong>Index+ GHG-Free Purchases</strong></td>
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<td>✓</td>
<td>❌</td>
<td>❌</td>
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<td><strong>Reference System Pro Rata Share</strong></td>
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<tr>
<td><strong>Elevated RPS Targets</strong></td>
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<td>❌</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
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</table>
PowerSimm Modeling Framework

**Inputs to PowerSimm**

- **Historical Hourly Weather**
- **Historical Hourly Load**

**PowerSimm “Sim Engine”**

- **Weather Sim** → **Renewables** → **Spot Price Sim** → **Supply Fundamentals & Transmission** → **Monthly Forward Price Forecast**
  - Power, Gas, Coal, Oil, Emissions, ...

**PowerSimm Outputs**

- Simulated Hourly Pnode Prices
- Optimal Hourly Storage Dispatch
- Resource and Portfolio Costs
- Reliability Assessment
- Hourly and Yearly Clean Position

**Sim Engine**

- Historical Hourly Renewable Generation
- Historical Hourly Pnode Prices

**Resources and Portfolio Costs**
Energy Balance

• All portfolios meet RPS targets (dashed green line)

• [A] and [C] meet 100% of service load with GHG-free resources
  
  o [B] does not include GHG-free targets and so has a significant clean short position

• Portfolio [C] includes significantly more PPA physical resources due to increased Long-Term RPS targets.
Energy Balance

- Composition of both Reference System portfolios are very similar
- Primary differences are slightly increased solar/wind and additional storage [D]

38 MMT RefSys

46 MMT RefSys
Hourly Clean Short Position

- Portfolios [A] and [C] were built to achieve SVCE’s 100%-clean targets, resulting in significantly lower hourly clean shortages.
  - All other portfolios have no Index+ GHG-free purchases to cover Clean Short position.
- Clean Short position increases sharply between 2021-22 for [B], [D], [E] due to the expiration of 1357 MW of existing GHG-free short-term contracts that are not replaced.
- [C] has a slightly higher shortage position than [A] after RPS requirements increase in 2027, largely due to replacing Index+ GHG purchases with the less-desirable hourly shape of solar resources.
Average Clean Position

- Achieve RPS targets in each year from 2021-2030.
  - [C] has a higher RPS target in 2027-2030, which is why the average REC target line is slightly higher for [C] in the graph to the right.

- Portfolio [A] is largely similar to the Reference System portfolios with the addition of significant Index+ GHG purchases to meet all of load with clean energy.
  - As long as [A] can purchase at least 100 GWh of Index+ GHG credits on average (out of ~1,900 GWh/yr planned purchases) then it will be able to achieve RefSys 38 MMT emissions targets.
  - Any Index+ GHG procured after that will contribute towards further reducing hourly Clean Net Short position.

- Reference system portfolios [D] and [E] both achieve smaller yearly Net Clean positions than [B] due to increased biogas and hydro resources.
Portfolio Net Costs

- PPA resources – especially solar and wind – tend to provide net value to the portfolios due to their PPA costs being competitive against market energy prices plus the added value of RA and PCC1 attributes.

- Short-term purchases (Index+ PCC1/GHG-free credits, energy hedge IST purchases) are comparable across all planning portfolios, on average.

- The increased quantity of physical PPAs in [A] and [C] (especially the 50 MW hydro) provide significantly more RA, reducing RA purchase costs compared to [B].

- Load is slightly more expensive in [C] due to the increased RPS target.
  - Some GWh of load that are served by cheaper GHG-free resources/credits in [A]/[B] must now be served by more expensive RPS resources/credits in [C].

- NOTE: Reference System portfolios [D] and [E] were not modeled for cost due to cost assumptions for those resources not being made available when modeling began.

Note: positive values imply net revenue for that category, negative values imply net cost.
RA Position

- RA purchases are targeted to exceed monthly targets by >20 MW in each month, resulting in a yearly RA surplus.
  - RA purchases are assumed to be short-term monthly contracts.
- RA monthly targets are set by 2019 targets and kept constant throughout 2021-2030
  - Actual RA targets will vary by year
  - Yearly load forecast is flat, so actual RA targets not expected to change significantly
- ELCC values of renewable resources are kept constant through study period at 2019 CPUC values
  - ELCC values are expected to reduce over time, reducing the amount of RA provided by physical resources
  - This model accounts for this reduction through over-procurement of RA purchases.
Energy Reliability: 4-9 PM

- Between 4-9 pm SVCE is supplying ~1/3 of load with energy from physical PPA resources.
  - All remaining energy needs are forced market exposure.
- Energy from physical PPA resources is primarily supplied by PCC1 resources between 4-9 pm, with batteries helping extend the availability of solar energy.
- Coso geothermal provides significant energy value during these hours due to few other PCC1 resources that can provide reliable evening energy.
Energy Reliability: All Hours

• All portfolios receive most of their physical energy from PCC1 resources across all hours.

• All portfolios supply an average of ~1/3 of energy needed to serve load.
  o [C], [D], and [E] furnish slightly more energy due to increased procurement of long-term physical PPAs

• Wind resources provide slightly more energy relative to other resources when viewed across all hours vs 4-9 pm.
  o Other resource types are roughly similar in portion of energy provision.
Emissions

• Nearly all emissions are due to effective emissions from market purchases.
  o Portfolios [A] and [C] cover all of load with REC or GHG-free energy/credits, resulting in significantly reduced emissions.
• [C] has slightly more emissions than [A] due to replacing some Index+ GHG purchases with the less-desirable shape of solar PPA resources.
• IRP emissions submitted values were calculated using the CPUC Clean Power System calculator tool and may differ from PowerSimm values.
  o PowerSimm calculates hourly energy position and assigns emissions only to market purchases made to cover Clean Net Short position (i.e. hours when load > resources).
  o PowerSimm calculations are more accurate and responsive to weather/market/load conditions than CPUC’s calculator which uses averaged hourly shapes for all resources.
Portfolio Performance Summary

- All portfolios assessed for total cost (A – Preferred, B – RPS-Only, C – 75% RPS) all have similar net costs.
- Portfolios A and C serve all of load with clean energy on a net yearly basis and, as a result, have dramatically lower emissions and hourly Clean Net Short positions.
- While portfolio C is slightly less costly than portfolio A, it has slightly more emissions and hourly clean net short position due to an increased reliance on solar resources.
  - Portfolio C also has more long-term PPA contracts than A as a result of increased long-term RPS targets. As a result, portfolio diverges slightly from SVCE’s historical strategy of relying on short-term purchases as much as possible.
- Portfolio A – IRP Preferred best serves SVCE’s needs across RPS, clean, clean net short, cost, and emissions metrics.

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<tbody>
<tr>
<td>Net Cost ($M)</td>
<td>$221.9</td>
<td>$225.4</td>
<td>$213.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RA Costs ($M)</td>
<td>$19.0</td>
<td>$22.8</td>
<td>$14.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cost Risk Premium ($M)</td>
<td>$2.6</td>
<td>$2.6</td>
<td>$2.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Emissions (mTons)</td>
<td>257,310</td>
<td>766,812</td>
<td>276,436</td>
<td>688,355</td>
<td>698,143</td>
</tr>
<tr>
<td>Net Carbon-Free Position (GWh)</td>
<td>23</td>
<td>-1,831</td>
<td>35</td>
<td>-1,583</td>
<td>-1,614</td>
</tr>
<tr>
<td>Hourly Carbon-Free Shortage (GWh)</td>
<td>-633</td>
<td>-1,940</td>
<td>-683</td>
<td>-1,733</td>
<td>-1,758</td>
</tr>
<tr>
<td>Energy Reliability 4-9 PM (GWh)</td>
<td>-716</td>
<td>-744</td>
<td>-706</td>
<td>-661</td>
<td>-673</td>
</tr>
<tr>
<td>Energy Reliability ATC (GWh)</td>
<td>-2,574</td>
<td>-2,682</td>
<td>-2,304</td>
<td>-2,181</td>
<td>-2,223</td>
</tr>
</tbody>
</table>
Portfolio Performance Summary

- **Portfolio Recommendation:** [A] – Preferred
  - **Emissions**
    - The Preferred portfolio has the lowest emissions out of all portfolios considered portfolios (primarily due to 100% clean composition and lower reliance on solar than other portfolio).
  - **Cost**
    - Cost is comparable to other portfolios analyzed
    - While more costly than the 75% RPS portfolio, the Preferred portfolio has lower emissions, a smaller hourly clean short position, and less dependence on long-term PPA contracts (which better matches SVCE’s current strategy of maximizing short-term purchases).
  - **Reliability**
    - All portfolios analyzed are comparably reliable. The 75% RPS portfolio is slightly more reliable but does so at the cost of increased hourly clean short position.
    - The Preferred portfolio commits to a smaller amount of long-term PPA contracts than the 75% RPS portfolio, leaving room to contract additional reliability increasing clean-energy PPAs (geo, hydro, etc) as pricing and technology improves.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Cost ($M)</td>
<td>$221.9</td>
<td>$225.4</td>
<td>$213.5</td>
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</tr>
<tr>
<td>RA Costs ($M)</td>
<td>$19.0</td>
<td>$22.8</td>
<td>$14.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cost Risk Premium ($M)</td>
<td>$2.6</td>
<td>$2.6</td>
<td>$2.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>-2,682</td>
<td>-2,304</td>
<td>-2,181</td>
<td>-2,223</td>
</tr>
</tbody>
</table>
Staff Report – Item 5

Item 5: Proposed SVCE FY 2020-21 Operating Budget and Financial Review

From: Girish Balachandran, CEO
Prepared by: Don Rhoads, Interim Director of Finance and Administration
Kevin Armstrong, Administrative Services Manager

Date: 8/12/2020

RECOMMENDATION
The Proposed Operating Budget for FY 2020-21 is being provided for consideration and feedback. Staff is scheduled to present the recommended FY 2020-21 Operating Budget for adoption at the September Board of Directors meeting.

FINANCE AND ADMINISTRATION COMMITTEE RECOMMENDATION
The Finance and Administration committee met August 5th and were unanimous in recommending that staff present the Proposed FY 2020-21 Operating Budget to the full Board. The committee provided feedback on the presentation, which has been incorporated in the presentation to the Board.

ANALYSIS & DISCUSSION
The Proposed FY 2020-21 Operating Budget is balanced and presents Silicon Valley Clean Energy (SVCE) in stable financial condition. The projected balance available for reserves of $8.4 million is a decrease of $11.7 million or 58.1% compared to the FY 2019-20 Mid-Year Budget. Overall, the budget is responsive to the forecast of an extended recessionary period with a second Shelter-in-Place and resulting decrease in Commercial and Industrial (C&I) load during the latter half of 2020.
Revenues
Energy revenues are projected to be $264.4 million, which is a $22.2 million or 7.8% decrease from estimated 2019-20 energy revenues. As noted above, this decrease is primarily due to an expected continuation of load loss from C&I customers during the fiscal year resulting from the impacts of the COVID-19 virus and an expected increase in the Power Charge Indifference Adjustment (PCIA) starting in October 2020. Projected revenues assume rates are adjusted to achieve a 1% discount to PG&E customer generation rates, rather than the current 4% discount, starting in October 2020. This adjustment is necessary to help offset the large expected PCIA increase and to maintain the recently assigned Moody’s credit rating of Baa2. No significant changes to PG&E rates are expected until Spring 2021.
- Interest income is projected to decrease by $845,000 due to a reduction in interest rates.
- Grant income includes projected receipts from the Bay Area Air Quality Management District (BAAQMD) related to the Heat Pump Water Heater Program.

Expenses
Energy expenses are projected to be $234.7 million in 2020-21, which is a $4.4 million decrease due to expected load loss in 2020-21.

Operating expenses are projected to be $16.8 million, a $1.4 million increase over 2020-21. The primary drivers include an increase in personnel, as well professional services to support program development and power supply operations.
- Data Management and PG&E billing expenses are expected to show minimal change.
- Employment expenses project to increase by $1.1 million from the FY19-20 midyear adjusted budget. The primary drivers include:
  - The Board approved the addition of three (3) new positions during FY19-20, including a Senior Data Engineer in the Decarbonization and Grid Innovations Programs Department, a Principal Power Analyst in the Power Resources Department, and a Director of Regulatory and Legislative Policy. Two (2) new positions are being contemplated for FY20-21 and are included in this proposed budget. Together, these additional positions result in a total Full-Time Equivalent (FTE) count of 31 positions. This FTE count is on the lower end of comparable CCAs.
The budget includes a salary savings rate of 5% to recognize that positions are likely to remain open for part of the year.

Personnel expenditures total $6.2 million in FY20-21, which represents 2.4% of total expenses.

Salary tables including the minimum and maximum pay ranges per job title were held constant from FY19-20. Staff salaries will be adjusted within those ranges based on performance.

- Professional Services expenses are projected to increase slightly by $0.2 million, with most departments remaining flat overall from the reductions made in the FY19-20 Midyear Budget. Drivers include:
  - Funding to implement computer systems to manage Power Supply transactions.
  - Funding to support negotiations of long-term power purchase agreements and for the preparation and filing of the Integrated Resource Plan (IRP).
  - Support of a pro-active approach to legislative and regulatory issues including the funding of lobbyists and representation in the PG&E general rate case.
  - Support for Programs initiatives, including Piloting of C&I offerings / long-term contracts, (e.g. GreenPrime Direct, EcoInvestment Discount).
  - Support for community resilience programs, including planning and capex support to member agencies through CRCR efforts and solar+storage offerings through a partnership with Sunrun.

- Marketing & Promotions expenses project to increase by $0.1 million to fund:
  - Shift outreach focus to digital engagement (vs. physical events) due to COVID
  - Comprehensive campaigns and promotions leveraging the new eHub (Customer Resource Center)
  - Expanded SVCE print/digital advertising campaign and collateral around electrification, EV infrastructure, resiliency, innovation, workforce

- Notification expenses are projected to decline, given the implementation of electronic noticing for several required items.

- Building Lease expenses are projected to remain flat.

- General & Administrative expenses are projected to increase by $0.1 million primarily to fund software support for Programs, including developing DAISY 2.0, a comprehensive data analytics platform to provide cross-functional support across SVCE

- Financing expenses include the funding for the renewal of the line of credit.
**Capital Expenditures, Interfund Transfers and Other**

The proposed operating budget shows a reduction of $8.3 million compared to the FY 2019-20 Mid-Year Budget.

- The large reduction is due to the one-time nature of the CRCR funding from FY 2019-20.
- Capital expenses were delayed from their anticipated expenditure during FY 19-20 due to COVID-related construction delays. The $0.4 million carried over from the FY 19-20 budget will fund those delayed expenses related to the office move.
- Transfer to the Programs Fund projects is calculated based on 2% of projected annual energy revenues.

**STRATEGIC PLAN**

The Proposed FY 2020-21 Operating Budget funds the goals of the strategic plan.

**FISCAL IMPACT**

The Proposed FY 2020-21 Operating Budget includes total revenues of $265.7 million and total expenses and transfers to other funds of $257.3 million projecting a surplus of $8.4 million.

**ATTACHMENTS**

1. Proposed FY 2020-21 Operating Budget
2. Proposed FY 2020-21 Table of Organization
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>FY 2019-20 BUDGET AS ADOPTED MIDYEAR</th>
<th>FY 2020-21 RECOMMENDED BUDGET</th>
<th>VARIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENERGY REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Sales</td>
<td>285,540</td>
<td>263,524</td>
<td>(22,016) -7.7%</td>
</tr>
<tr>
<td>Green Prime Premium</td>
<td>1,100</td>
<td>891</td>
<td>(209) -19.0%</td>
</tr>
<tr>
<td><strong>TOTAL ENERGY REVENUES</strong></td>
<td>286,640</td>
<td>264,415</td>
<td>(22,225) -7.8%</td>
</tr>
<tr>
<td><strong>ENERGY EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>239,070</td>
<td>234,662</td>
<td>(4,408) -1.8%</td>
</tr>
<tr>
<td><strong>OPERATING MARGIN</strong></td>
<td>47,570</td>
<td>29,753</td>
<td>(17,817) -37.5%</td>
</tr>
<tr>
<td><strong>OPERATING EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Management</td>
<td>3,160</td>
<td>3,020</td>
<td>(140) -4.4%</td>
</tr>
<tr>
<td>PG&amp;E Fees</td>
<td>1,260</td>
<td>1,350</td>
<td>90 7.1%</td>
</tr>
<tr>
<td>Employment Expenses</td>
<td>5,120</td>
<td>6,223</td>
<td>1,103 21.5%</td>
</tr>
<tr>
<td>Professional Services</td>
<td>3,420</td>
<td>3,620</td>
<td>200 5.8%</td>
</tr>
<tr>
<td>Marketing &amp; Promotions</td>
<td>740</td>
<td>870</td>
<td>130 17.6%</td>
</tr>
<tr>
<td>Notifications</td>
<td>160</td>
<td>100</td>
<td>(60) -37.5%</td>
</tr>
<tr>
<td>Lease</td>
<td>500</td>
<td>500</td>
<td>0 0.0%</td>
</tr>
<tr>
<td>General &amp; Administrative</td>
<td>960</td>
<td>1,070</td>
<td>110 11.5%</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING EXPENSES</strong></td>
<td>15,320</td>
<td>16,753</td>
<td>1,433 9.4%</td>
</tr>
<tr>
<td><strong>OPERATING INCOME (LOSS)</strong></td>
<td>32,250</td>
<td>13,001</td>
<td>(19,250) -59.7%</td>
</tr>
<tr>
<td><strong>NON-OPERATING REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Income</td>
<td>0</td>
<td>50</td>
<td>50 -42.3%</td>
</tr>
<tr>
<td>Interest Income</td>
<td>2,000</td>
<td>1,155</td>
<td>(845) -43.1%</td>
</tr>
<tr>
<td>Grant Income</td>
<td>160</td>
<td>68</td>
<td>(92) -57.5%</td>
</tr>
<tr>
<td><strong>TOTAL NON-OPERATING REVENUES</strong></td>
<td>2,160</td>
<td>1,273</td>
<td>(887) -41.1%</td>
</tr>
<tr>
<td><strong>NON-OPERATING EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td>290</td>
<td>165</td>
<td>(125) -43.1%</td>
</tr>
<tr>
<td>Interest</td>
<td>0</td>
<td>0</td>
<td>0 -40.8%</td>
</tr>
<tr>
<td><strong>TOTAL NON-OPERATING EXPENSES</strong></td>
<td>290</td>
<td>165</td>
<td>(125) -43.1%</td>
</tr>
<tr>
<td><strong>TOTAL NON-OPERATING INCOME</strong></td>
<td>1,870</td>
<td>1,108</td>
<td>(762) -40.7%</td>
</tr>
<tr>
<td>(EXPENSES)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CHANGE IN NET POSITION</strong></td>
<td>34,120</td>
<td>14,109</td>
<td>(20,012) -58.7%</td>
</tr>
<tr>
<td><strong>CAPITAL EXPENDITURES, INTERFUND</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRANSFERS &amp; OTHER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>400</td>
<td>400</td>
<td>0 0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>50</td>
<td>0</td>
<td>(50) -100%</td>
</tr>
<tr>
<td>Transfer to CRCR Fund</td>
<td>8,500</td>
<td>0</td>
<td>(8,500) -100%</td>
</tr>
<tr>
<td>Transfer to Programs Fund</td>
<td>5,050</td>
<td>5,270</td>
<td>220 4.4%</td>
</tr>
<tr>
<td><strong>TOTAL CAPITAL EXPENDITURES, INTERFUND TRANSFERS &amp; OTHER</strong></td>
<td>$14,000</td>
<td>$5,670</td>
<td>$(8,330) -59.5%</td>
</tr>
<tr>
<td><strong>BALANCE AVAILABLE FOR RESERVES</strong></td>
<td>$20,120</td>
<td>$8,439</td>
<td>$(11,682) -58.1%</td>
</tr>
</tbody>
</table>
POSITIONS CHART

SVCE RATEPAYERS

BOARD OF DIRECTORS

CHIEF EXECUTIVE OFFICER

BOARD CLERK / EXECUTIVE ASSISTANT

CHIEF FINANCIAL OFFICER & DIRECTOR OF ADMINISTRATIVE SERVICES

- ADMINISTRATIVE SERVICES MANAGER
  - MANAGEMENT ANALYST
  - ADMINISTRATIVE ANALYST
  - ADMINISTRATIVE ASSISTANT

DIRECTOR OF ACCOUNT SERVICES & COMMUNITY RELATIONS

- COMMUNICATIONS MANAGER
  - COMMUNITY OUTREACH SPECIALIST
  - COMMUNICATIONS SPECIALIST
- ACCOUNT SERVICES MANAGER
- SENIOR ENERGY CONSULTANT
- ENERGY CONSULTANT (2)
- ASSOCIATE ENERGY CONSULTANT

DIRECTOR OF POWER RESOURCES

- POWER RESOURCES MANAGER
- SENIOR DATA ENGINEER
- DATA SCIENTIST
- ANALYST (2)
- ASSOCIATE DATA ANALYST

DIRECTOR OF DECARBONIZATION & GRID INNOVATION PROGRAMS

- SENIOR DATA ANALYST

DIRECTOR OF REGULATORY & LEGISLATIVE POLICY

- MANAGER OF REGULATORY & LEGISLATIVE AFFAIRS
- SENIOR REGULATORY ANALYST

DIRECTOR OF DECARBONIZATION & GRID INNOVATION PROGRAMS

- POWER RESOURCES ANALYST
- POWER RESOURCES PLANNER
- POWER SETTLEMENTS & COMPLIANCE ANALYST

* Funded Positions

Full-Time Staff = 31
Temporary Staff = 5
Silicon Valley Clean Energy
Board of Directors Meeting

August 12, 2020

Appendix A

Power Resource Contracts Executed by CEO
RENEWABLE POWER PURCHASE AGREEMENT

COVER SHEET

Seller: 91MC 8me, LLC

Buyer: Silicon Valley Clean Energy Authority, a California joint powers authority ("SVCE")

Description of Facility: A [solar photovoltaic facility combined with a fully integrated battery energy storage system, located in Kern County, California.]

Milestones:

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date for Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence of Site Control</td>
<td>Complete</td>
</tr>
<tr>
<td>CEC Pre-Certification Obtained</td>
<td>Complete</td>
</tr>
<tr>
<td>Conditional Use Permit</td>
<td>June 30, 2021</td>
</tr>
<tr>
<td>Seller’s receipt of Phase I and Phase II Interconnection study results for Seller’s Interconnection Facilities</td>
<td>Complete</td>
</tr>
<tr>
<td>Executed Interconnection Agreement</td>
<td>Complete</td>
</tr>
<tr>
<td>Expected Construction Start Date</td>
<td>November 1, 2022</td>
</tr>
<tr>
<td>Full Capacity Deliverability Status for the Storage Facility</td>
<td>June 30, 2023</td>
</tr>
<tr>
<td>Initial Synchronization</td>
<td>February 1, 2023</td>
</tr>
<tr>
<td>Network Upgrades Completed</td>
<td>October 7, 2022</td>
</tr>
<tr>
<td>Expected Commercial Operation Date</td>
<td>June 30, 2023</td>
</tr>
</tbody>
</table>

Delivery Term: The period for Product delivery will be for twenty (20) Contract Years.

Expected PV Energy:

<table>
<thead>
<tr>
<th>Contract Year</th>
<th>Expected Energy (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
**Guaranteed Capacity:** 80 MW

**Storage Contract Capacity:** 20 MW

**Storage Contract Output:** 20 MW (at 3 hour discharge) for 60 MWh total

**Storage Facility Loss Factor:** The Storage Facility Loss Factor shall be:

<table>
<thead>
<tr>
<th>Contract Year</th>
<th>Storage Facility Loss Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 20</td>
<td></td>
</tr>
</tbody>
</table>

**Guaranteed Storage Availability:** ninety-seven percent (97%)

**Contract Price:**

The Renewable Rate shall be:

<table>
<thead>
<tr>
<th>Contract Year</th>
<th>Renewable Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 20</td>
<td></td>
</tr>
</tbody>
</table>

The Storage Rate shall be:

<table>
<thead>
<tr>
<th>Contract Year</th>
<th>Storage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 20</td>
<td></td>
</tr>
</tbody>
</table>
**Product:**

- PV Energy
- Discharging Energy
- Green Attributes (Portfolio Content Category 1)
- Storage Capacity
- Capacity Attributes (select options below as applicable)
  - [x] Full Capacity Deliverability Status for the Storage Facility: June 30, 2023
  - [ ] Energy Only Status
- Ancillary Services

**Scheduling Coordinator:** Buyer/Buyer Third Party

**Development Security**

**Performance Security**
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Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
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RENEWABLE POWER PURCHASE AGREEMENT

This Renewable Power Purchase Agreement ("Agreement") is entered into as of June 11, 2020 (the “Effective Date”), between Buyer and Seller. Buyer and Seller are sometimes referred to herein individually as a “Party” and jointly as the “Parties.” All capitalized terms used in this Agreement are used with the meanings ascribed to them in Article 1 to this Agreement.

RECITALS

WHEREAS, Seller intends to develop, design, permit, construct, own, and operate the Facility; and

WHEREAS, Seller desires to sell, and Buyer desires to purchase, on the terms and conditions set forth in this Agreement, the Product;

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, and for other good and valuable consideration, the sufficiency and adequacy of which are hereby acknowledged, the Parties agree to the following:

ARTICLE 1

DEFINITIONS

1.1 Contract Definitions. The following terms, when used herein with initial capitalization, shall have the meanings set forth below:

“AC” means alternating current.

“Accepted Compliance Costs” has the meaning set forth in Section 3.12.

“Adjusted Energy Production” has the meaning set forth in Exhibit G.

“Adjusted Facility Energy” means, for the applicable period, the sum of (a) the total Facility Energy for such period, plus (b) the result of subtracting (i) the total Discharging Energy for such period from (ii) the total Discharging Energy for such period divided by the Storage Facility Loss Factor.

“Affiliate” means, with respect to any Person, each Person that directly or indirectly controls, is controlled by, or is under common control with such designated Person. For purposes of this definition and the definition of “Permitted Transferee”, “control” (including, with correlative meanings, the terms “controlled by” and “under common control with”), as used with respect to any Person, shall mean (a) the direct or indirect right to cast at least fifty percent (50%) of the votes exercisable at an annual general meeting (or its equivalent) of such Person or, if there are no such rights, ownership of at least fifty percent (50%) of the equity or other ownership interest in such Person, or (b) the right to direct the policies or operations of such Person.

“Agreement” has the meaning set forth in the Preamble and includes any Exhibits, schedules and any written supplements hereto, the Cover Sheet, and any designated collateral, credit support or similar arrangement between the Parties.
“**Ancillary Services**” means those Ancillary Services, as defined in the CAISO Tariff, that can be produced from the Storage Facility at any relevant time consistent with the terms and conditions of this Agreement, the Operating Restrictions and Prudent Operating Practice. For clarity, “Ancillary Services” as used herein does not include, at any relevant time, any ancillary services that the Facility is not actually physically capable of providing consistent with the terms and conditions of this Agreement, the Operating Restrictions and Prudent Operating Practice.

“**Approved Forecast Vendor**” means a vendor reasonably acceptable to both Buyer and Seller for the purposes of providing or verifying the forecasts under Section 4.3(d).

“**Approved Maintenance Hours**” has the meaning set forth in Section Error! Reference source not found.

“**Availability Adjusted Storage Contract Capacity**” has the meaning set forth in Exhibit P.

“**Available Generating Capacity**” means the capacity of the Generating Facility, expressed in whole MWs, that is mechanically available to generate Energy.

“**Bankrupt**” means with respect to any entity, such entity that (a) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar Law, (b) has any such petition filed or commenced against it which remains unstayed or undismissed for a period of ninety (90) days, (c) makes an assignment or any general arrangement for the benefit of creditors, (d) otherwise becomes bankrupt or insolvent (however evidenced), (e) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets, or (f) is generally unable to pay its debts as they fall due.

“**Bridge Product**” has the meaning set forth in Section 3.10.

“**Bridge Product Delivery Term**” has the meaning set forth in Section 3.10(a).

“**Bridge Product Offer**” has the meaning set forth in Section 3.10(c).

“**Business Day**” means any day except a Saturday, Sunday, or a Federal Reserve Bank holiday in California. A Business Day begins at 8:00 a.m. and ends at 5:00 p.m. local time for the Party sending a Notice, or payment, or performing a specified action.

“**Buyer**” has the meaning set forth on the Cover Sheet.

“**Buyer Bid Curtailment**” means any curtailment of the Facility arising out of or resulting from the manner in which Buyer bids, offers or schedules the Facility, the Energy or any Products, or in which Buyer fails to do so, where all of the following occurs:

(a) the CAISO provides notice to a Party or the Scheduling Coordinator for the Facility, requiring the Party to deliver less Facility Energy from the Facility than the full amount of energy forecasted in accordance with Section 4.3 to be produced from the Facility for a period of time; and
(b) for the same time period as referenced in (a), the notice referenced in (a) results from the manner in which Buyer or the SC schedules or bids the Facility or Facility Energy, including where the Buyer or the SC for the Facility:

(i) did not submit a Self-Schedule or an Energy Supply Bid for the MW subject to the reduction; or

(ii) submitted an Energy Supply Bid and the CAISO notice referenced in (a) is solely a result of CAISO implementing the Energy Supply Bid; or

(iii) submitted a Self-Schedule for less than the full amount of Facility Energy forecasted to be generated by or delivered from the Facility.

If the Facility is subject to a Planned Outage, Forced Facility Outage, Force Majeure Event or a Curtailment Period during the same time period as referenced in (a), then the calculation of Deemed Delivered Energy in respect of such period shall not include any Energy that was not generated or stored due to such Planned Outage, Forced Facility Outage, Force Majeure Event or Curtailment Period.

“Buyer Curtailment Order” means (a) the instruction from Buyer to Seller to reduce Facility Energy from the Facility by the amount, and for the period of time set forth in such instruction, which instruction shall be consistent with the Operating Restrictions, for reasons unrelated to a Planned Outage, Forced Facility Outage, Force Majeure Event or Curtailment Order, or (b) a curtailment of any portion of the Generating Facility or its output or any reduction in PV Energy arising out of Buyer’s issuance of any Discharging Notice or any other instruction, order or other communication requesting or requiring the Storage Facility to be discharged.

“Buyer Curtailment Period” means the period of time, as measured using current Settlement Intervals, during which Seller reduces Facility Energy from the Facility pursuant to or as a result of (a) Buyer Bid Curtailment, (b) a Buyer Curtailment Order, or (c) Buyer Default; provided, that the duration of any Buyer Curtailment Period shall be inclusive of the time required for the Generating Facility to ramp down and ramp up.

“Buyer Default” means a failure by Buyer (or its agents) to perform Buyer’s obligations hereunder and includes an Event of Default of Buyer.

“Buyer’s WREGIS Account” has the meaning set forth in Section 4.10(a).

“CAISO” means the California Independent System Operator Corporation or any successor entity performing similar functions.

“CAISO Approved Meter” means a CAISO approved revenue quality meter or meters, CAISO approved data processing gateway or remote intelligence gateway, telemetering equipment and data acquisition services sufficient for monitoring, recording and reporting, in real time, all Facility Energy delivered to the Delivery Point.

“CAISO Grid” has the same meaning as “CAISO Controlled Grid” as defined in the CAISO Tariff.
“CAISO Operating Order” means the “operating order” defined in Section 37.2.1.1 of the CAISO Tariff.

“CAISO Tariff” means the California Independent System Operator Corporation Agreement and Tariff, Business Practice Manuals (BPMs), and Operating Procedures, including the rules, protocols, procedures and standards attached thereto, as the same may be amended or modified from time-to-time and approved by FERC.

“California Renewables Portfolio Standard” or “RPS” means the renewable energy program and policies established by California State Senate Bills 1038 (2002), 1078 (2002), 107 (2008), X-1 2 (2011), 350 (2015), and 100 (2018) as codified in, inter alia, California Public Utilities Code Sections 399.11 through 399.31 and California Public Resources Code Sections 25740 through 25751, as such provisions are amended or supplemented from time to time.

“Capacity Attribute” means any current or future defined characteristic, certificate, tag, credit, or accounting construct associated with the amount of power that the Facility can generate and deliver to the Delivery Point at a particular moment and that can be purchased and sold under CAISO market rules, including Resource Adequacy Benefits.

“Capacity Damages” has the meaning set forth in Exhibit B.

“CEC” means the California Energy Commission, or any successor agency performing similar statutory functions.

“CEC Certification and Verification” means that the CEC has certified (or, with respect to periods before the date that is one hundred eighty (180) days following the Commercial Operation Date, that the CEC has pre-certified) that the Generating Facility or Facility, as applicable, is an Eligible Renewable Energy Resource for purposes of the California Renewables Portfolio Standard and that all Facility Energy delivered to the Delivery Point qualifies as generation from an Eligible Renewable Energy Resource.

“CEC Precertification” means that the CEC has issued a precertification for the Facility or the Generating Facility, as applicable, indicating that the planned operations of the Facility would comply with applicable CEC requirements for CEC Certification and Verification.

“CEQA” means the California Environmental Quality Act.

“Change of Control” means, except in connection with public market transactions of equity interests or capital stock of Seller’s Ultimate Parent, any circumstance in which Ultimate Parent ceases to own, directly or indirectly through one or more intermediate entities, more than fifty percent (50%) of the outstanding equity interests in Seller; provided that in calculating ownership percentages for all purposes of the foregoing:

(a) any ownership interest in Seller held by Ultimate Parent indirectly through one or more intermediate entities shall not be counted towards Ultimate Parent’s ownership interest in Seller unless Ultimate Parent directly or indirectly owns more than fifty percent (50%) of the outstanding equity interests in each such intermediate entity; and
(b) ownership interests in Seller owned directly or indirectly by any Lender (including any cash equity or tax equity provider) or assignee or transferee thereof shall be excluded from the total outstanding equity interests in Seller.

“Charging Energy” means the as-available Energy produced by the Generating Facility and delivered to the Storage Facility pursuant to a Charging Notice. All Charging Energy shall be used solely to charge the Storage Facility, and all Charging Energy shall be generated solely by the Generating Facility. For avoidance of doubt, Charging Energy shall be measured at the Storage Facility Meter.

“Charging Notice” means the operating instruction, and any subsequent updates, given by Buyer to Seller, directing the Storage Facility to charge at a specific MW rate to a specified Stored Energy Level, provided that any such operating instruction shall be in accordance with the Operating Procedures. For the avoidance of doubt, (a) any Buyer request to initiate a Storage Capacity Test consistent with Section 4.9 shall not be considered a Charging Notice, and (b) any Charging Notice shall not constitute a Buyer Bid Curtailment, Buyer Curtailment Order or Curtailment Order.

“Claim” has the meaning set forth in Section 16.2.

“COD Certificate” has the meaning set forth in Exhibit B.

“Collateral Assignment Agreement” has the meaning set forth in Section 14.2.

“Commercial Operation” has the meaning set forth in Exhibit B.

“Commercial Operation Date” has the meaning set forth in Exhibit B.

“Commercial Operation Delay Damages” means an amount equal to (a) the Development Security amount required hereunder, divided by (b) sixty (60).

“Compliance Actions” has the meaning set forth in Section 3.12.

“Compliance Costs” has the meaning set forth in Section 3.12.

“Compliance Expenditure Cap” has the meaning set forth in Section 3.12.

“Confidential Information” has the meaning set forth in Section 18.1.

“Construction Start” has the meaning set forth in Exhibit B.

“Construction Start Date” has the meaning set forth in Exhibit B.

“Contract Price” has the meaning set forth on the Cover Sheet. To be clear, the Contract Price is each of the Renewable Rate and the Storage Rate.

“Contract Price for Bridge Product” has the meaning set forth in Section 3.10(c).

“Contract Quantity of Bridge Product” has the meaning set forth in Section 3.10(b).
“Contract Term” has the meaning set forth in Section 2.1.

“Contract Year” means a period of twelve (12) consecutive months. The first Contract Year shall commence on the Commercial Operation Date and each subsequent Contract Year shall commence on the anniversary of the Commercial Operation Date.

“Costs” means, with respect to the Non-Defaulting Party, brokerage fees, commissions and other similar third-party transaction costs and expenses reasonably incurred by such Party either in terminating any arrangement pursuant to which it has hedged its obligations or entering into new arrangements which replace the Agreement; and all reasonable attorneys’ fees and expenses incurred by the Non-Defaulting Party in connection with terminating the Agreement.

“Cover Sheet” means the cover sheet to this Agreement, which is incorporated into this Agreement.

“COVID-19” means the epidemic disease designated COVID-19 and the related virus designated SARS-CoV-2 and any mutations thereof, and the efforts of a Governmental Authority to combat such disease.

“CPUC” means the California Public Utilities Commission or any successor agency performing similar statutory functions.

“Credit Rating” means, with respect to any entity, the rating then assigned to such entity’s unsecured, senior long-term debt obligations (not supported by third party credit enhancements) or if such entity does not have a rating for its senior unsecured long-term debt, then the rating then assigned to such entity as an issuer rating by S&P, Fitch or Moody’s, as applicable.

“Curtailment Order” means any of the following:

(a) CAISO orders, directs, alerts, or provides notice to a Party, including a CAISO Operating Order, to curtail deliveries of Facility Energy for the following reasons: (i) any System Emergency, or (ii) any warning of an anticipated System Emergency, or warning of an imminent condition or situation, which jeopardizes CAISO’s electric system integrity or the integrity of other systems to which CAISO is connected;

(b) a curtailment ordered by the Participating Transmission Owner for reasons including, but not limited to, (i) any situation that affects normal function of the electric system including, but not limited to, any abnormal condition that requires action to prevent circumstances such as equipment damage, loss of load, or abnormal voltage conditions, or (ii) any warning, forecast or anticipation of conditions or situations that jeopardize the Participating Transmission Owner’s electric system integrity or the integrity of other systems to which the Participating Transmission Owner is connected;

(c) a curtailment ordered by CAISO or the Participating Transmission Owner due to scheduled or unscheduled maintenance on the Participating Transmission Owner’s transmission facilities that prevents (i) Buyer from receiving or (ii) Seller from delivering Facility Energy to the Delivery Point;
(d) a curtailment in accordance with Seller’s obligations or limitations under its Interconnection Agreement with the CAISO, Participating Transmission Owner or distribution operator, including curtailments arising from Seller not possessing Full Capacity Deliverability Status as to one-hundred percent (100%) of the Installed Capacity, or other limitations on transfer capability under the Interconnection Agreement; or

(e) a curtailment resulting from the operation of any Storage Facility capacity in excess of the Storage Contract Capacity installed pursuant to Section 4.5(f).

“Curtailment Period” means the period of time, as measured using current Settlement Intervals, during which Seller reduces Facility Energy from the Facility pursuant to a Curtailment Order; provided that the Curtailment Period shall be inclusive of the time required for the Facility to ramp down and ramp up.

“Daily Delay Damages” means an amount equal to (a) the Development Security amount required hereunder, divided by (b) one hundred twenty (120).

“Damage Payment” means the dollar amount that equals the amount of the Development Security.

“Day-Ahead Forecast” has the meaning set forth in Section 4.3(c).

“Day-Ahead Market” has the meaning set forth in the CAISO Tariff.

“Day-Ahead Schedule” has the meaning set forth in the CAISO Tariff.

“Deemed Delivered Energy” means the amount of Energy expressed in MWh that the Generating Facility would have produced and delivered to the Storage Facility or the Delivery Point, but that is not produced by the Generating Facility during a Buyer Curtailment Period, which amount shall, for any time period, be equal to (a) the Real-Time Forecast (of the hourly expected Energy) provided pursuant to Section 4.3(d) for the period of time during the Buyer Curtailment Period (or other relevant period), minus (b) the amount of Energy that the Generating Facility produced and delivered to the Storage Facility or the Delivery Point during the Buyer Curtailment Period (or other relevant period); provided that, if the applicable difference between the foregoing clauses (a) and (b) is negative, the Deemed Delivered Energy shall be zero (0). If the LMP for the Facility’s PNode during such Settlement Interval was less than zero, Deemed Delivered Energy shall be reduced in any Settlement Interval by the amount of any Charging Energy that was not able to be delivered to the Storage Facility during such Settlement Interval due to the unavailability of the Storage Facility due to a Forced Facility Outage.

“Defaulting Party” has the meaning set forth in Section 11.1(a).

“Deficient Month” has the meaning set forth in Section 4.10(e).

“Delivery Cessation Date” has the meaning set forth in Section 3.10(a).

“Delivery Point” has the meaning set forth in Exhibit A.
“Delivery Term” shall mean the period of Contract Years set forth on the Cover Sheet beginning on the Commercial Operation Date, unless terminated earlier in accordance with the terms and conditions of this Agreement.

“Delivery Year” has the meaning set forth in Section 3.10(b).

“Development Cure Period” has the meaning set forth in Exhibit B.

“Development Security” means (a) cash or (b) a Letter of Credit in the amount set forth on the Cover Sheet.

“Discharging Energy” means all Energy delivered to the Delivery Point from the Storage Facility, net of the Electrical Losses, as measured at the Storage Facility Metering Points by the Storage Facility Meter. For the avoidance of doubt, all Discharging Energy will have originally been delivered to the Storage Facility as Charging Energy.

“Discharging Notice” means the operating instruction, and any subsequent updates, given by Buyer to Seller, directing the Storage Facility to discharge Discharging Energy at a specific MW rate to a specified Stored Energy Level, provided that any such operating instruction or updates shall be in accordance with the Operating Procedures. For the avoidance of doubt, except as otherwise provided in this Agreement, such as in the definition of Buyer Curtailment Order, any Discharging Notice shall not constitute a Buyer Bid Curtailment, Buyer Curtailment Order or Curtailment Order.

“Disclosing Party” has the meaning set forth in Section 18.2.

“Early Termination Date” has the meaning set forth in Section 11.2(a).

“Effective Date” has the meaning set forth on the Preamble.

“Electrical Losses” means all transmission or transformation losses between the Facility and the Delivery Point, including losses associated with (a) delivery of PV Energy to the Delivery Point, (b) delivery of Charging Energy to the Storage Facility, (c) conversion of Charging Energy into Discharging Energy, and (d) delivery of Discharging Energy to the Delivery Point.

“Eligible Renewable Energy Resource” has the meaning set forth in California Public Utilities Code Section 399.12(e) and California Public Resources Code Section 25741(a), as either code provision is amended or supplemented from time to time.

“Energy” means electrical energy generated by the Generating Facility.

“Energy Supply Bid” has the meaning set forth in the CAISO Tariff.

“Environmental Costs” means costs incurred in connection with acquiring and maintaining all environmental permits and licenses for the Product, and the Product’s and Facility’s compliance with all applicable environmental Laws, rules and regulations, including capital costs for pollution mitigation or installation of emissions control equipment required to permit or license the Product or Facility, all operating and maintenance costs for operation of
pollution mitigation or control equipment, costs of permit maintenance fees and emission fees as applicable, and the costs of all emission reduction credits, marketable emission trading credits, and any costs related to greenhouse gas emissions, required by any applicable environmental Laws, rules, regulations, and permits to operate, and costs associated with the disposal and clean-up of hazardous substances introduced to a Site or the Facility.

“Event of Default” has the meaning set forth in Section 11.1.

“Excess MWh” has the meaning set forth in Exhibit C.

“Executed Interconnection Agreement Milestone” means the date for completion of execution of the Interconnection Agreement by Seller (or its Affiliate) and the PTO as set forth on the Cover Sheet.

“Expected Commercial Operation Date” is the date set forth on the Cover Sheet by which Seller reasonably expects to achieve Commercial Operation.

“Expected Construction Start Date” is the date set forth on the Cover Sheet by which Seller reasonably expects to achieve Construction Start.

“Expected Energy” means the quantity of Energy that Seller expects to be able to deliver to Buyer from the Generating Facility during each Contract Year or other time period (assuming no Charging Energy or Discharging Energy during such Contract Year or time period) in the quantity specified on the Cover Sheet.

“Facility” means the Generating Facility and the Storage Facility.

“Facility Energy” means the sum of PV Energy and Discharging Energy during any Settlement Interval or Settlement Period, net of Electrical Losses and Station Use, as measured by the Facility Meter, which Facility Meter will be adjusted in accordance with CAISO meter requirements and Prudent Operating Practices to account for Electrical Losses and Station Use.

“Facility Meter” means the CAISO Approved Meter that will measure all Facility Energy.

“FERC” means the Federal Energy Regulatory Commission or any successor government agency.

“Fitch” means Fitch Ratings Ltd., or its successor.

“Force Majeure Event” has the meaning set forth in Section 10.1.

“ Forced Facility Outage” means an unexpected failure of one or more components of the Facility that prevents Seller from generating Energy or making Facility Energy available at the Delivery Point and that is not the result of a Force Majeure Event.

“Forecasting Penalty” means for each hour in which Seller does not provide the forecast required in Section 4.3(d) and Buyer incurs a loss or penalty resulting from Seller’s failure and Buyer’s scheduling activities in such hour with respect to Facility Energy, the product of (a) the
absolute difference (if any) between (i) the expected Energy for such hour (which, for the avoidance of doubt, assumes no Charging Energy or Discharging Energy in such hour) set forth in the Monthly Delivery Forecast, and (ii) the actual Energy produced by the Generating Facility (absent any Charging Energy and Discharging Energy), multiplied by (b) the absolute value of the Real-Time Price in such hour.

“Forward Certificate Transfers” has the meaning set forth in Section 4.10(a).

“Full Capacity Deliverability Status” has the meaning set forth in the CAISO Tariff as applicable to the Storage Facility.

“Future Environmental Attributes” shall mean any and all generation attributes (other than Green Attributes or Renewable Energy Incentives) under the RPS regulations or under any and all other international, federal, regional, state or other law, rule, regulation, bylaw, treaty or other intergovernmental compact, decision, administrative decision, program (including any voluntary compliance or membership program), competitive market or business method (including all credits, certificates, benefits, and emission measurements, reductions, offsets and allowances related thereto) that are attributable, now, or in the future, to the generation of electrical energy by the Facility and its displacement of conventional energy generation. Future Environmental Attributes do not include investment tax credits or production tax credits associated with the construction or operation of the Facility, or other financial incentives in the form of credits, reductions, or allowances associated with the Facility that are applicable to a state or federal income taxation obligation.

“Gains” means, with respect to any Party, an amount equal to the present value of the economic benefit to it, if any (exclusive of Costs), resulting from the termination of this Agreement for the remaining Contract Term, determined in a commercially reasonable manner. Factors used in determining the economic benefit to a Party may include, without limitation, reference to information supplied by one or more third parties, which shall exclude Affiliates of the Non-Defaulting Party, including without limitation, quotations (either firm or indicative) of relevant rates, prices, yields, yield curves, volatilities, spreads or other relevant market data in the relevant markets, comparable transactions, forward price curves based on economic analysis of the relevant markets, settlement prices for comparable transactions at liquid trading hubs (e.g., SP-15), all of which should be calculated for the remaining Contract Term, and include the value of Green Attributes and Capacity Attributes.

“Generating Facility” means the solar photovoltaic generating facility described on the Cover Sheet and in Exhibit A, located at the Site and including mechanical equipment and associated facilities and equipment required to deliver (a) PV Energy to the Delivery Point, and (b) Charging Energy to the Storage Facility; provided, that the “Generating Facility” does not include the Storage Facility or the Shared Facilities.

“Governmental Authority” means any federal, state, provincial, local or municipal government, any political subdivision thereof or any other governmental, congressional or parliamentary, regulatory, or judicial instrumentality, authority, body, agency, department, bureau, or entity with authority to bind a Party at law, including CAISO; provided, however, that “Governmental Authority” shall not in any event include any Party.
“Green Attributes” means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from the Facility and its displacement of conventional energy generation. Green Attributes include but are not limited to Renewable Energy Credits, as well as: (a) any avoided emissions of pollutants to the air, soil or water such as sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO) and other pollutants; (b) any avoided emissions of carbon dioxide (CO2), methane (CH4), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere; and (c) the reporting rights to these avoided emissions, such as Green Tag Reporting Rights. Green Tags are accumulated on a MWh basis and one Green Tag represents the Green Attributes associated with one (1) MWh of Energy. Green Attributes do not include (i) any energy, capacity, reliability or other power attributes from the Facility, (ii) production tax credits associated with the construction or operation of the Facility and other financial incentives in the form of credits, reductions, or allowances associated with the Facility that are applicable to a state or federal income taxation obligation, (iii) fuel-related subsidies or “tipping fees” that may be paid to Seller to accept certain fuels, or local subsidies received by the generator for the destruction of particular preexisting pollutants or the promotion of local environmental benefits, or (iv) emission reduction credits encumbered or used by the Facility for compliance with local, state, or federal operating or air quality permits. If the Facility is a biomass or landfill gas facility and Seller receives any tradable Green Attributes based on the greenhouse gas reduction benefits or other emission offsets attributed to its fuel usage, it shall provide Buyer with sufficient Green Attributes to ensure that there are zero net emissions associated with the production of electricity from the Facility.

“Green Tag Reporting Rights” means the right of a purchaser of renewable energy to report ownership of accumulated “green tags” in compliance with and to the extent permitted by applicable Law and include, without limitation, rights under Section 1605(b) of the Energy Policy Act of 1992, and any present or future federal, state or local certification program or emissions trading program, including pursuant to the WREGIS Operating Rules.

“Guaranteed Capacity” means the amount of generating capacity of the Generating Facility, as measured in MW at the Delivery Point, set forth on the Cover Sheet, as the same may be adjusted pursuant to Section 5(a) of Exhibit B.

“Guaranteed Commercial Operation Date” means the Expected Commercial Operation Date, as such date may be extended by the Development Cure Period.

“Guaranteed Construction Start Date” means the Expected Construction Start Date, as such date may be extended by the Development Cure Period.

“Guaranteed Energy Production” means an amount of Adjusted Facility Energy, as measured in MWh, equal to eighty-five percent (85%) of the total Expected Energy (as set forth on the Cover Sheet) for the applicable Performance Measurement Period.

“Guaranteed Storage Availability” has the meaning set forth in Section 4.8.
“Guarantor” means, with respect to Seller, (a) Ultimate Parent or (b) any Person that (i) Buyer does not already have any material credit exposure to under any other agreements, guarantees, or other arrangements at the time its Guaranty is issued, (ii) is an Affiliate of Seller, or other third party reasonably acceptable to Buyer, (iii) has an Investment Grade Credit Rating, (iv) has a tangible net worth of at least One Hundred Fifty Million Dollars ($150,000,000), (v) is incorporated or organized in a jurisdiction of the United States and is in good standing in such jurisdiction, and (vi) executes and delivers a Guaranty for the benefit of Buyer.

“Guaranty” means a guaranty from a Guarantor provided for the benefit of Buyer substantially in the form attached as Exhibit L.

“Hazardous Substance” means, collectively, (a) any chemical, material or substance that is listed or regulated under applicable Laws as a “hazardous” or “toxic” substance or waste, or as a “contaminant” or “pollutant” or words of similar import, (b) any petroleum or petroleum products, flammable materials, explosives, radioactive materials, asbestos, urea formaldehyde foam insulation, and transformers or other equipment that contain polychlorinated biphenyls, and (c) any other chemical or other material or substance, exposure to which is prohibited, limited or regulated by any Laws.

“Imbalance Energy” means the amount of energy in MWh, in any given Settlement Period or Settlement Interval, by which the amount of Facility Energy deviates from the amount of Scheduled Energy.

“Indemnifiable Loss(es)” has the meaning set forth in Section 16.1(a).

“Indemnified Group” has the meaning set forth in Section 16.1(a).

“Indemnified Party” has the meaning set forth in Section 16.1(a).

“Indemnifying Party” has the meaning set forth in Section 16.1(a).

“Initial Notice” has the meaning set forth in Section 3.10(c).

“Initial Synchronization” means the initial delivery of Facility Energy to the Delivery Point.

“Installed Battery Capacity” means the maximum dependable operating capability of the Storage Facility to discharge electric energy, as measured in MW(ac) at the Delivery Point, that achieves Commercial Operation (up to but not in excess of the Storage Contract Capacity), adjusted for ambient conditions on the date of the performance test, and as evidenced by a certificate substantially in the form attached as Exhibit I hereto.

“Installed Capacity” means the sum of (x) the Installed PV Capacity and (y) the Installed Battery Capacity.

“Installed PV Capacity” means the actual generating capacity of the Generating Facility, as measured in MW(ac) at the Delivery Point, that achieves Commercial Operation (up to but not in excess of the Guaranteed Capacity), adjusted for ambient conditions on the date of the
performance test, and as evidenced by a certificate substantially in the form attached as Exhibit I hereto.

“Interconnection Agreement” means the interconnection agreement entered into by Seller (or its Affiliate) pursuant to which the Facility will be interconnected with the Transmission System, and pursuant to which Seller’s Interconnection Facilities and any other Interconnection Facilities will be constructed, operated and maintained during the Contract Term.

“Interconnection Facilities” means the interconnection facilities, control and protective devices and metering facilities required to connect the Facility with the Transmission System in accordance with the Interconnection Agreement.

“Interest Rate” has the meaning set forth in Section 8.2.

“Interim Deliverability Status” has the meaning set forth in the CAISO Tariff.

“Inter-SC Trade” or “IST” has the meaning set forth in the CAISO Tariff.

“Investment Grade Credit Rating” means a Credit Rating of BBB- or higher by S&P, BBB- or higher by Fitch, or Baa3 or higher by Moody’s.

“ITC” means the investment tax credit established pursuant to Section 48 of the United States Internal Revenue Code of 1986.


“Joint Powers Agreement” means that certain Joint Powers Agreement dated March 31, 2016, as amended from time to time, under which Buyer is organized as a Joint Powers Authority in accordance with the Joint Powers Act.

“Law” means any applicable law, statute, rule, regulation, decision, writ, order, decree or judgment, permit or any interpretation thereof, promulgated or issued by a Governmental Authority.

“Lender” means, collectively, any Person (a) providing senior or subordinated construction, interim, development, mezzanine, back leverage or long-term debt, or tax equity financing or refinancing for or in connection with the development, construction, purchase, installation, operation or repair of the Facility, whether that financing or refinancing takes the form of private debt (including back-leverage debt), public debt, tax equity or any other form (including financing or refinancing provided to a member or other direct or indirect owner of Seller), including any Person providing financing or refinancing for the Facility, and any trustee or agent or similar representative acting on their behalf, (b) providing interest rate or commodity protection under an agreement hedging or otherwise mitigating the cost of any of the foregoing obligations or (c) participating in a lease financing (including a sale leaseback or leveraged leasing structure) with respect to the Facility.
“Letter(s) of Credit” means one or more irrevocable, standby letters of credit issued by a U.S. commercial bank or a foreign bank with a U.S. branch with such bank (a) having a Credit Rating of at least A- with an outlook designation of “stable” from S&P, A- with an outlook designation of “stable” from Fitch, or A3 with an outlook designation of “stable” from Moody’s or (b) being reasonably acceptable to Buyer, in a form substantially similar to the letter of credit set forth in Exhibit K.

“Licensed Professional Engineer” means an independent, professional engineer selected by Seller and reasonably acceptable to Buyer, licensed in the State of California.

“Local Capacity Area Resources” has the meaning set forth in the CAISO Tariff.

“Locational Marginal Price” or “LMP” has the meaning set forth in the CAISO Tariff.

“Losses” means, with respect to any Party, an amount equal to the present value of the economic loss to it, if any (exclusive of Costs), resulting from termination of this Agreement for the remaining Contract Term, determined in a commercially reasonable manner. Factors used in determining economic loss to a Party may include, without limitation, reference to information supplied by one or more third parties, which shall exclude Affiliates of the Non-Defaulting Party, including without limitation, quotations (either firm or indicative) of relevant rates, prices, yields, yield curves, volatilities, spreads or other relevant market data in the relevant markets, comparable transactions, forward price curves based on economic analysis of the relevant markets, settlement prices for comparable transactions at liquid trading hubs (e.g., SP-15), all of which should be calculated for the remaining Contract Term and must include the value of Green Attributes, Capacity Attributes, and Renewable Energy Incentives.

“Lost Output” has the meaning set forth in Section 4.7.

“Maintenance Protocol” has the meaning set forth in Section Error! Reference source not found..

“Major Project Development Milestone” has the meaning set forth in Exhibit B.

“Master File” has the meaning set forth in the CAISO Tariff.

“Maximum Charging Capacity” has the meaning set forth in Exhibit A.

“Maximum Discharging Capacity” has the meaning set forth in Exhibit A.

“Milestones” means the development activities for significant permitting, interconnection, financing and construction milestones set forth on the Cover Sheet.

“Monthly Delivery Forecast” has the meaning set forth in Section 4.3(b).

“Monthly Storage Availability” has the meaning set forth in Exhibit P.

“Moody’s” means Moody’s Investors Service, Inc., or its successors.
“MW” means megawatts in alternating current, unless expressly stated in terms of direct current.

“MWh” means megawatt-hour measured in alternating current, unless expressly stated in terms of direct current.

“Negative LMP” means, in any Settlement Period or Settlement Interval, the Day-Ahead Market or Real-Time Market at the Facility’s PNode is less than zero dollars ($0).

“NERC” means the North American Electric Reliability Corporation or any successor entity performing similar functions.

“Net Qualifying Capacity” has the meaning set forth in the CAISO Tariff.

“Network Upgrades” has the meaning set forth in the CAISO Tariff.

“Non-Defaulting Party” has the meaning set forth in Section 11.2.

“Notice” shall, unless otherwise specified in the Agreement, mean written communications by a Party to be delivered by hand delivery, United States mail, overnight courier service, or electronic messaging (e-mail).

“Notice of Claim” has the meaning set forth in Section 16.2.

“NP-15” means the Existing Zone Generation Trading Hub for Existing Zone region NP15 as set forth in the CAISO Tariff.

“On-Peak Hour” means any hour from hour-ending 0700 to hour-ending 2200 (i.e., 6:00 AM to 9:59 PM) on Monday through Saturday, Pacific Prevailing Time, excluding North American Electric Reliability Council (NERC) holidays.

“Operating Procedures” or “Operating Restrictions” means those rules, requirements, and procedures set forth on Exhibit Q.

“Participating Transmission Owner” or “PTO” means an entity that owns, operates and maintains transmission or distribution lines and associated facilities or has entitlements to use certain transmission or distribution lines and associated facilities where the Facility is interconnected. For purposes of this Agreement, the Participating Transmission Owner is set forth in Exhibit A.

“Party” or “Parties” has the meaning set forth in the Preamble.

“Performance Measurement Period” means each two (2) consecutive Contract Year period during the Delivery Term.

“Performance Security” means (a) cash or (b) a Letter of Credit or (c) a Guaranty in the amount set forth on the Cover Sheet.
“Permitted Transferee” means (a) any Affiliate of Seller or (b) any entity that has, or is controlled by another Person that satisfies (or has a parent that satisfies) the following requirements:

(i) A tangible net worth of not less than one hundred fifty million dollars ($150,000,000) or a Credit Rating of at least BBB- from S&P, BBB- from Fitch, or Baa3 from Moody’s; and

(ii) At least two (2) years of experience in the ownership and operations of utility scale solar power generation facilities, and reasonable experience in the ownership and operation of utility scale energy storage facilities, or has retained a third-party with such experience.

“Person” means any individual, sole proprietorship, corporation, limited liability company, limited or general partnership, joint venture, association, joint-stock company, trust, incorporated organization, institution, public benefit corporation, unincorporated organization, government entity or other entity.

“PNode” has the meaning set forth in the CAISO Tariff.

“Planned Outage” has the meaning set forth in Section 4.6(a).

“Portfolio Content Category” means PCC1, PCC2 or PCC3, as applicable.

“Portfolio Content Category 1” or “PCC1” means any Renewable Energy Credit associated with the generation of electricity from an Eligible Renewable Energy Resource consisting of the portfolio content set forth in California Public Utilities Code Section 399.16(b)(1), as may be amended from time to time or as further defined or supplemented by Law.

“Portfolio Content Category 2” or “PCC2” means any Renewable Energy Credit associated with the generation of electricity from an Eligible Renewable Energy Resource consisting of the portfolio content set forth in California Public Utilities Code Section 399.16(b)(2), as may be amended from time to time or as further defined or supplemented by Law.

“Portfolio Content Category 3” or “PCC3” means any Renewable Energy Credit associated with the generation of electricity from an Eligible Renewable Energy Resource consisting of the portfolio content set forth in California Public Utilities Code Section 399.16(b)(3), as may be amended from time to time or as further defined or supplemented by Law.

“Prevailing Wage Requirement” has the meaning set forth in Section 13.4.

“Product” has the meaning set forth on the Cover Sheet.

“Progress Report” means a progress report including the items set forth in Exhibit E.
“**Prudent Operating Practice**” means (a) the applicable practices, methods and acts required by or consistent with applicable Laws and reliability criteria, and otherwise engaged in or approved by a significant portion of the electric utility industry during the relevant time period with respect to grid-interconnected, utility-scale generating facilities with integrated storage in the Western United States, or (b) any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Prudent Operating Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to acceptable practices, methods or acts generally accepted in the industry with respect to grid-interconnected, utility-scale generating facilities with integrated storage in the Western United States. Prudent Operating Practice includes compliance with applicable Laws, applicable reliability criteria, and the criteria, rules and standards promulgated in the National Electric Safety Code and the National Electrical Code, as they may be amended or superseded from time to time, including the criteria, rules and standards of any successor organizations.

“**PTC**” means the production tax credit established pursuant to Section 45 of the United States Internal Revenue Code of 1986.

“**PV Energy**” means that portion of Energy that is delivered from the Generating Facility directly to the Delivery Point, net of Electrical Losses, and is not Charging Energy.

“**RA Deficiency Amount**” means the liquidated damages payment that Seller shall pay to Buyer for an applicable RA Shortfall Month as calculated in accordance with Section 3.8(b).

“**RA Guarantee Date**” means the Commercial Operation Date.

“**RA Shortfall Amount**” means, for purposes of calculating an RA Deficiency Amount under Section 3.8(b), the extent, expressed in kW, to which during any month commencing after the RA Guarantee Date, the Net Qualifying Capacity of the Storage Facility for such month able to be shown on Buyer’s monthly or annual RA Plan to the CAISO and CPUC and counted as Resource Adequacy was less than the Qualifying Capacity of the Storage Facility for such month due to (a) the Storage Facility not having achieved Full Capacity Deliverability Status, (b) a Storage Facility Planned Outage, (c) a Storage Facility Forced Facility Outage, or (d) the CAISO’s reduction in the Net Qualify Capacity of the Storage Facility due to the Storage Facility’s actual Forced Facility Outage rate (i.e., past performance).

“**RA Shortfall Month**” means, for purposes of calculating an RA Deficiency Amount under Section 3.8(b), any month during the Delivery Term during which there is an RA Shortfall Amount.

“**Real-Time Forecast**” means any Notice of any change to the Available Generating Capacity, Storage Capacity, or hourly expected Energy delivered by or on behalf of Seller pursuant to Section 4.3(d).

“**Real-Time Market**” has the meaning set forth in the CAISO Tariff.
“Real-Time Price” means the Resource-Specific Settlement Interval LMP as defined in the CAISO Tariff. If there is more than one applicable Real-Time Price for the same period of time, Real-Time Price shall mean the price associated with the smallest time interval.

“Receiving Party” has the meaning set forth in Section 18.2.

“Remedial Action Plan” has the meaning set forth in Section 2.4.

“Renewable Energy Credit” has the meaning set forth in California Public Utilities Code Section 399.12(h), as may be amended from time to time or as further defined or supplemented by Law.

“Renewable Energy Incentives” means: (a) all federal, state, or local Tax credits or other Tax benefits (including cash grants) associated with the construction, ownership, or production of electricity from the Facility (including credits under Sections 38, 45, 46 and 48 of the Internal Revenue Code of 1986, as amended); (b) any federal, state, or local grants, subsidies or other like benefits relating in any way to the Facility; and (c) any other form of incentive relating in any way to the Facility that is not a Green Attribute or a Future Environmental Attribute.

“Renewable Rate” has the meaning set forth on the Cover Sheet.

“Replacement RA” means Resource Adequacy Benefits, if any, equivalent to those that would have been provided by the Facility with respect to the applicable month in which a RA Deficiency Amount is due to Buyer.

“Resource Adequacy Benefits” means the rights and privileges attached to the Facility that satisfy any entity’s resource adequacy obligations, as those obligations are set forth in any Resource Adequacy Rulings and includes any local, zonal or otherwise locational attributes associated with the Facility, in addition to flex attributes.

“Resource Adequacy Rulings” means CPUC Decisions 04-01-050, 04-10-035, 05-10-042, 06-04-040, 06-06-064, 06-07-031 06-07-031, 07-06-029, 08-06-031, 09-06-028, 10-06-036, 11-06-022, 12-06-025, 13-06-024 and any other existing or subsequent ruling or decision, or any other resource adequacy Law, however described, as such decisions, rulings, Laws, rules or regulations may be amended or modified from time-to-time throughout the Delivery Term.

“S&P” means the Standard & Poor’s Financial Services, LLC (a subsidiary of The McGraw-Hill Companies, Inc.) or its successor.

“Schedule” has the meaning set forth in the CAISO Tariff, and “Scheduled” and “Scheduling” have corollary meanings.

“Scheduled Energy” means the Facility Energy that clears under the applicable CAISO market based on the final Day-Ahead Schedule, FMM Schedule (as defined in the CAISO Tariff), or any other financially binding Schedule, market instruction or dispatch for the Facility for a given period of time implemented in accordance with the CAISO Tariff.
“Scheduling Coordinator” or “SC” means an entity certified by the CAISO as qualifying as a Scheduling Coordinator pursuant to the CAISO Tariff for the purposes of undertaking the functions specified in “Responsibilities of a Scheduling Coordinator,” of the CAISO Tariff, as amended from time to time.

“Security Interest” has the meaning set forth in Section 8.9.

“Self-Schedule” has the meaning set forth in the CAISO Tariff.

“Seller” has the meaning set forth on the Cover Sheet.

“Seller’s WREGIS Account” has the meaning set forth in Section 4.10(a).

“Settlement Amount” means the Non-Defaulting Party’s Costs and Losses, on the one hand, netted against its Gains, on the other. If the Non-Defaulting Party’s Costs and Losses exceed its Gains, then the Settlement Amount shall be an amount owing to the Non-Defaulting Party. If the Non-Defaulting Party’s Gains exceed its Costs and Losses, then the Settlement Amount shall be zero dollars ($0). The Settlement Amount does not include consequential, incidental, punitive, exemplary or indirect or business interruption damages.

“Settlement Interval” has the meaning set forth in the CAISO Tariff.

“Settlement Period” has the meaning set forth in the CAISO Tariff.

“Shared Facilities” means the gen-tie lines, transformers, substations, or other equipment, permits, contract rights, and other assets and property (real or personal), in each case, as necessary to enable delivery of energy from the Facility (which is excluded from Shared Facilities) to the point of interconnection, including the Interconnection Agreement itself, that are used in common with third parties.

“Site” means the real property on which the Facility is or will be located, as further described in Exhibit A.

“Site Control” means that Seller (or, prior to the Delivery Term, its Affiliate): (a) owns or has the option to purchase the Site; (b) is the lessee or has the option to lease the Site; or (c) is the holder of an easement or an option for an easement, right-of-way grant, or similar instrument with respect to the Site.

“Station Use” means the following, without any double-counting:

(a) The Energy produced or discharged by the Facility that is used within the Facility to power the lights, motors, control systems and other electrical loads that are necessary for operation of the Facility; and

(b) The Energy produced or discharged by the Facility that is consumed within the Facility’s electric energy distribution system as losses.
“Storage Capacity” means (a) the maximum dependable operating capability of the Storage Facility to discharge electric energy that can be sustained for three (3) consecutive hours and (b) any other products that may be developed or evolve from time to time during the Term that the Storage Facility is able to provide as the Facility is configured on the Commercial Operation Date (subject to the terms of this Agreement, including the Operating Restrictions) and that relate to the maximum dependable operating capability of the Storage Facility to discharge electric energy.

“Storage Capacity Test” means any test or retest of the capacity of the Storage Facility conducted in accordance with the testing procedures, requirements and protocols set forth in Section 4.9 and Exhibit O.

“Storage Contract Capacity” means the total capacity (in MW) of the Storage Facility initially equal to the amount set forth on the Cover Sheet, as the same may be adjusted from time to time pursuant to Section 5(b) of Exhibit B or Section 4.9 and Exhibit O to reflect the results of the most recently performed Storage Capacity Test.

“Storage Facility” means the energy storage facility described on the Cover Sheet and in Exhibit A (including the operational requirements of the energy storage facility), located at the Site and including mechanical equipment and associated facilities and equipment required to deliver Storage Product (but excluding any Shared Facilities), and as such storage facility may be expanded or otherwise modified from time to time in accordance with the terms of this Agreement.

“Storage Facility Loss Factor” is set forth on the Cover Sheet.

“Storage Facility Meter(s)” means the bi-directional revenue quality meter or meters (with a 0.3 accuracy class), along with a compatible data processing gateway or remote intelligence gateway, telemetering equipment and data acquisition services sufficient for monitoring, recording and reporting, in real time, the amount of Charging Energy delivered to the Storage Facility Metering Points and the amount of Discharging Energy discharged from the Storage Facility at the Storage Facility Metering Points to the Delivery Point for the purpose of invoicing in accordance with Section 8.1. For clarity, the Facility may contain multiple measurement devices that will make up the Storage Facility Meter, and, unless otherwise indicated, references to the Storage Facility Meter shall mean all such measurement devices and the aggregated data of all such measurement devices, taken together.

“Storage Facility Metering Points” means the location(s) of the Storage Facility Meter(s) shown on Exhibit R.

“Storage Product” means (a) Discharging Energy, (b) Capacity Attributes, if any, (c) Storage Capacity, and (d) Ancillary Services, if any, in each case arising from or relating to the Storage Facility.

“Storage Rate” has the meaning set forth on the Cover Sheet.

“Stored Energy Level” means, at a particular time, the amount of electric energy in the Storage Facility available to be discharged to the Delivery Point as Discharging Energy, expressed in MWh.
“**System Emergency**” means any condition that requires, as determined and declared by CAISO or the PTO, automatic or immediate action to (a) prevent or limit harm to or loss of life or property, (b) prevent loss of transmission facilities or generation supply in the immediate vicinity of the Facility, or (c) to preserve Transmission System reliability.

“**Tax**” or “**Taxes**” means all U.S. federal, state and local and any foreign taxes, levies, assessments, surcharges, duties and other fees and charges of any nature imposed by a Governmental Authority, whether currently in effect or adopted during the Contract Term, including ad valorem, excise, minimum, consumption, value added, transaction, privilege, franchise, gross receipts, import/export, license, property, sales and use, stamp, transfer, payroll, unemployment, income, and any and all items of withholding, deficiency, penalty, additions, interest or assessment related thereto.

“**Tax Credits**” means the PTC, ITC and any other state, local or federal production tax credit, depreciation benefit, tax deduction or investment tax credit specific to the production of renewable energy or investments in renewable energy facilities.

“**Terminated Transaction**” has the meaning set forth in Section 11.2(a).

“**Termination Payment**” has the meaning set forth in Section 11.3.

“**Test Energy**” means Facility Energy delivered (a) commencing on the later of (i) the first date that the CAISO informs Seller in writing that Seller may deliver Facility Energy to the CAISO and (ii) the first date that the PTO informs Seller in writing that Seller has conditional or temporary permission to parallel and (b) ending upon the occurrence of the Commercial Operation Date.

“**Test Energy Rate**” has the meaning set forth in Section 3.6.

“**Transmission Provider**” means any entity or entities transmitting or transporting the Facility Energy on behalf of Seller or Buyer to or from the Delivery Point.

“**Transmission System**” means the transmission facilities operated by the CAISO, now or hereafter in existence, which provide energy transmission service within the CAISO grid from the Delivery Point.

“**Ultimate Parent**” means 8minutenergy US Solar, LLC.

“**Variable Energy Resource**” or “**VER**” has the meaning set forth in the CAISO Tariff.

“**WREGIS**” means the Western Renewable Energy Generation Information System or any successor renewable energy tracking program.

“**WREGIS Certificate Deficit**” has the meaning set forth in Section 4.10(e).

“**WREGIS Certificates**” has the same meaning as “Certificate” as defined by WREGIS in the WREGIS Operating Rules and are designated as eligible for complying with the California Renewables Portfolio Standard.
“WREGIS Operating Rules” means those operating rules and requirements adopted by WREGIS as of May 1, 2018, as subsequently amended, supplemented or replaced (in whole or in part) from time to time.

1.2 **Rules of Interpretation.** In this Agreement, except as expressly stated otherwise or unless the context otherwise requires:

(a) headings and the rendering of text in bold and italics are for convenience and reference purposes only and do not affect the meaning or interpretation of this Agreement;

(b) words importing the singular include the plural and vice versa and the masculine, feminine and neuter genders include all genders;

(c) the words “hereof”, “herein”, and “hereunder” and words of similar import shall refer to this Agreement as a whole and not to any particular provision of this Agreement;

(d) a reference to an Article, Section, paragraph, clause, Party, or Exhibit is a reference to that Section, paragraph, clause of, or that Party or Exhibit to, this Agreement unless otherwise specified;

(e) a reference to a document or agreement, including this Agreement means such document, agreement or this Agreement including any amendment or supplement to, or replacement, novation or modification of this Agreement, but disregarding any amendment, supplement, replacement, novation or modification made in breach of such document, agreement or this Agreement;

(f) a reference to a Person includes that Person’s successors and permitted assigns;

(g) the term “including” means “including without limitation” and any list of examples following such term shall in no way restrict or limit the generality of the work or provision in respect of which such examples are provided;

(h) references to any statute, code or statutory provision are to be construed as a reference to the same as it may have been, or may from time to time be, amended, modified or reenacted, and include references to all bylaws, instruments, orders and regulations for the time being made thereunder or deriving validity therefrom unless the context otherwise requires;

(i) in the event of a conflict, a mathematical formula or other precise description of a concept or a term shall prevail over words providing a more general description of a concept or a term;

(j) references to any amount of money shall mean a reference to the amount in United States Dollars;

(k) words, phrases or expressions not otherwise defined herein that (i) have a generally accepted meaning in Prudent Operating Practice shall have such meaning in this Agreement or (ii) do not have well known and generally accepted meaning in Prudent Operating
Practice but that have well known and generally accepted technical or trade meanings, shall have such recognized meanings; and

(l) each Party acknowledges that it was represented by counsel in connection with this Agreement and that it or its counsel reviewed this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.

ARTICLE 2
TERM; CONDITIONS PRECEDENT

2.1 Contract Term.

(a) The term of this Agreement shall commence on the Effective Date and shall remain in full force and effect until the conclusion of the Delivery Term, subject to any early termination provisions and any contract term extension provisions set forth herein (“Contract Term”); provided, however, that subject to Buyer’s obligations in Section 3.6, Buyer’s obligations to pay for or accept any Product are subject to Seller’s completion of the conditions precedent pursuant to Section 2.2.

(b) Applicable provisions of this Agreement shall continue in effect after termination, including early termination, to the extent necessary to enforce or complete the duties, obligations or responsibilities of the Parties arising prior to termination. The confidentiality obligations of the Parties under Article 18 and all indemnity and audit rights shall remain in full force and effect for two (2) years following the termination of this Agreement.

2.2 Conditions Precedent. The Delivery Term shall not commence until Seller completes each of the following conditions:

(a) Seller has delivered to Buyer (i) a completion certificate from a Licensed Professional Engineer substantially in the form of Exhibit H and (ii) a certificate from a Licensed Professional Engineer substantially in the form of Exhibit I setting forth the Installed Capacity on the Commercial Operation Date;

(b) A Participating Generator Agreement and a Meter Service Agreement between Seller and CAISO shall have been executed and delivered and be in full force and effect, and a copy of each such agreement delivered to Buyer;

(c) An Interconnection Agreement between Seller and the PTO shall have been executed and delivered and be in full force and effect and a copy of the Interconnection Agreement delivered to Buyer;

(d) All required regulatory authorizations, approvals and permits for the commencement of operation of the Facility have been obtained and all required conditions thereof for commencement of operation of the Facility have been satisfied and shall be in full force and effect;
(e) Seller has received CEC Precertification of the Facility or the Generating Facility, as applicable, (and reasonably expects to receive final CEC Certification and Verification in no more than one hundred eighty (180) days from the Commercial Operation Date);

(f) Seller (with the reasonable participation of Buyer) shall have completed all applicable WREGIS registration requirements that are reasonably capable of being completed prior to the Commercial Operation Date under WREGIS rules, including (as applicable) the completion and submittal of all applicable registration forms and supporting documentation, which may include applicable interconnection agreements, informational surveys related to the Facility, QRE service agreements, and other appropriate documentation required to effect Facility registration with WREGIS and to enable Renewable Energy Credit transfers related to the Facility within the WREGIS system;

(g) Seller has delivered the Performance Security to Buyer in accordance with Section 8.8; and

(h) Seller has paid Buyer for all amounts owing under this Agreement, if any, including Daily Delay Damages and Commercial Operation Delay Damages.

2.3 Development; Construction; Progress Reports. Within fifteen (15) days after the close of (i) each calendar quarter from the first calendar quarter following the Effective Date until the Construction Start Date, and (ii) each calendar month from the first calendar month following the Construction Start Date until the Commercial Operation Date, Seller shall provide to Buyer a Progress Report and agree to regularly scheduled meetings between representatives of Buyer and Seller to review such monthly reports and discuss Seller’s construction progress. The form of the Progress Report is set forth in Exhibit E. Seller shall also provide Buyer with any reasonable requested documentation (subject to confidentiality restrictions) directly related to the achievement of Milestones within ten (10) Business Days of receipt of such request by Seller. For the avoidance of doubt, as between Seller and Buyer, Seller is solely responsible for the design and construction of the Facility, including the location of the Site, obtaining all permits and approvals to build the Facility, the Facility layout, and the selection and procurement of the equipment comprising the Facility.

2.4 Remedial Action Plan. If Seller misses the Guaranteed Construction Start Date, misses three (3) or more Milestones (other than the Guaranteed Construction Start Date), or misses any one (1) Milestone (other than the Guaranteed Construction Start Date) by more than ninety (90) days, except as the result of Force Majeure Event or Buyer Default, Seller shall submit to Buyer, within ten (10) Business Days of such missed Milestone completion date, a remedial action plan (“Remedial Action Plan”), which will describe in detail any delays (actual or anticipated) beyond the scheduled Milestone dates, including the cause of the delay, if known (e.g., governmental approvals, financing, property acquisition, design activities, equipment procurement, project construction, interconnection, or any other factor), Seller’s detailed description of its proposed course of action to achieve the missed Milestones and all subsequent Milestones by the Guaranteed Commercial Operation Date; provided, that delivery of any Remedial Action Plan shall not relieve Seller of its obligation to provide Remedial Action Plans with respect to any subsequent Milestones and to achieve the Guaranteed Commercial Operation Date in accordance with the terms of this Agreement. Subject to the provisions of Exhibit B, so
long as Seller complies with its obligations under this Section 2.4, Seller shall not be considered in default of its obligations under this Agreement solely as a result of missing any Milestone.

ARTICLE 3
PURCHASE AND SALE

3.1 Purchase and Sale of Product. Subject to the terms and conditions of this Agreement, during the Delivery Term, Buyer will purchase all of the Product produced by or associated with the Facility at the Contract Price and in accordance with Exhibit C, and Seller shall supply and deliver to Buyer all Product produced by or associated with the Facility (net of applicable losses). At its sole discretion, Buyer may during the Delivery Term re-sell or use for another purpose all or a portion of the Product, provided that no such re-sale or use shall relieve Buyer of any obligations hereunder. During the Delivery Term, Buyer will have exclusive rights to offer, bid, or otherwise submit the Product, or any component thereof, from the Facility after the Delivery Point for resale into the market or to any third party, and retain and receive any and all related revenues. Subject to Buyer’s obligation to purchase Product in accordance with this Section 3.1 and Exhibit C, Buyer has no obligation to pay Seller the Renewable Rate for any Product for which the associated Facility Energy is not or cannot be delivered to the Delivery Point as a result of an outage of the Facility, a Force Majeure Event, or a Curtailment Order.

3.2 Sale of Green Attributes. During the Delivery Term, Seller shall sell and deliver to Buyer, and Buyer shall purchase from Seller, all Green Attributes attributable to the Facility Energy generated by the Facility.

3.3 Imbalance Energy. Buyer and Seller recognize that in any given Settlement Period there may be Imbalance Energy. To the extent there is any Imbalance Energy, whether positive or negative, any and all costs, liabilities, revenue and payments related to such Imbalance Energy shall be for the account of Buyer.

3.4 Ownership of Renewable Energy Incentives. Seller shall have all right, title and interest in and to all Renewable Energy Incentives. Buyer acknowledges that any Renewable Energy Incentives belong to Seller. If any Renewable Energy Incentives, or values representing the same, are initially credited or paid to Buyer, Buyer shall cause such Renewable Energy Incentives or values relating to same to be assigned or transferred to Seller without delay. Buyer shall reasonably cooperate with Seller, at Seller’s sole expense, in Seller’s efforts to meet the requirements for any certification, registration, or reporting program relating to Renewable Energy Incentives.

3.5 Future Environmental Attributes.

(a) The Parties acknowledge and agree that as of the Effective Date, environmental attributes sold under this Agreement are restricted to Green Attributes; however, Future Environmental Attributes may be created by a Governmental Authority through Laws enacted after the Effective Date. Subject to the final sentence of this Section 3.5(a), and Sections 3.5(b), in such event, Buyer shall bear all costs and risks associated with the transfer, qualification, verification, registration and ongoing compliance for such Future Environmental Attributes, but there shall be no increase in the Contract Price. Upon Seller’s receipt of Notice from Buyer of
Buyer’s intent to claim such Future Environmental Attributes, the Parties shall determine the necessary actions and additional costs associated with such Future Environmental Attributes. Seller shall have no obligation to bear any costs, losses or liability, or alter the Facility, unless the Parties have agreed on all necessary terms and conditions relating to such alteration and Buyer has agreed to reimburse Seller for all costs, losses, and liabilities associated with such alteration.

(b) If Buyer elects to receive Future Environmental Attributes pursuant to Section 3.5(a), the Parties agree to negotiate in good faith with respect to the development of further agreements and documentation necessary to effectuate the transfer of such Future Environmental Attributes, including agreement with respect to (i) appropriate transfer, delivery and risk of loss mechanisms, and (ii) appropriate allocation of any additional costs to Buyer, as set forth above; provided, that the Parties acknowledge and agree such terms are not intended to alter the other material terms of this Agreement.

3.6 **Test Energy.** No less than fourteen (14) days prior to the first day on which Test Energy is expected to be available from the Facility, Seller shall notify Buyer of the availability of the Test Energy. If and to the extent the Facility generates Test Energy, Seller shall sell and Buyer shall purchase from Seller all Test Energy and any associated Products from the Generating Facility on an as-available basis. As compensation for such Test Energy and associated Product, Buyer shall remit to Seller all CAISO revenues arising from such Test Energy (the “**Test Energy Rate**”). For the avoidance of doubt, the conditions precedent in Section 2.2 are not applicable to the Parties’ obligations under this Section 3.6.

3.7 **Capacity Attributes.** Seller has requested Full Capacity Deliverability Status for the Storage Facility in the CAISO generator interconnection process. As between Buyer and Seller, Seller shall be responsible for the cost and installation of any Network Upgrades associated with obtaining such Full Capacity Deliverability Status.

(a) Throughout the Delivery Term, Seller grants, pledges, assigns and otherwise commits to Buyer all the Capacity Attributes actually available from the Facility. 

(b) Subject to Section 3.12, throughout the Delivery Term Seller shall use commercially reasonable efforts to maintain eligibility for Full Capacity Deliverability Status for the Storage Facility from the CAISO and shall perform all actions necessary to ensure that the Storage Facility qualifies to provide Resource Adequacy Benefits to Seller. Throughout the Delivery Term, Seller hereby covenants and agrees to transfer all Resource Adequacy Benefits to Buyer.

(c) For the duration of the Delivery Term, Seller shall take all commercially reasonable administrative actions, including complying with all applicable registration and reporting requirements, and execute all documents or instruments necessary to enable Buyer to use all of the Capacity Attributes committed by Seller to Buyer pursuant to this Agreement.

(d) If at any point in the Contract Term, it is possible to increase the Net Qualifying Capacity of the Storage Facility or the Facility, as applicable, without Seller incurring out of pocket costs or expenses, or if Buyer agrees to pay or reimburse Seller for such out of pocket
costs or expenses, Seller agrees to take all commercially reasonable actions to increase the Net Qualifying Capacity of the Storage Facility or the Facility, as applicable.

3.8 **Resource Adequacy Failure.**

(a) **RA Deficiency Determination.** For each RA Shortfall Month, Seller shall pay to Buyer the RA Deficiency Amount as liquidated damages or provide Replacement RA, in each case, as the sole remedy for the Capacity Attributes Seller failed to convey to Buyer.

(b) **RA Deficiency Amount Calculation.** Commencing on the Commercial Operation Date, for each RA Shortfall Month, Seller shall pay to Buyer an amount (the “RA Deficiency Amount”) equal to the product of (i) the RA Shortfall Amount, and (ii) $10.00/kW-mo.; provided that Seller may, as an alternative to paying RA Deficiency Amounts, provide Replacement RA in the amount of the RA Shortfall Amount, provided that any Replacement RA capacity is communicated by Seller to Buyer with Replacement RA product information in a Notice substantially in the form of Exhibit M at least seventy-five (75) days before the applicable CPUC operating month for the purpose of monthly RA reporting.

3.9 **CEC Certification and Verification.** Seller shall, subject to Section 3.12, take all necessary steps, including but not limited to making or supporting timely filings with the CEC to obtain and maintain CEC Certification and Verification for the Facility or the Generating Facility, as applicable, throughout the Delivery Term, including compliance with all applicable requirements for certified facilities set forth in the current version of the RPS Eligibility Guidebook (or its successor). Seller shall obtain CEC Precertification by the Commercial Operation Date. Within thirty (30) days after the Commercial Operation Date, Seller shall apply with the CEC for final CEC Certification and Verification. Within one hundred eighty (180) days after the Commercial Operation Date, Seller shall obtain and maintain throughout the remainder of the Delivery Term the final CEC Certification and Verification. Seller must promptly notify Buyer and the CEC of any changes to the information included in Seller’s application for CEC Certification and Verification for the Facility or the Generating Facility, as applicable.

3.10 **Bridge Product.** In addition to the Parties’ rights and obligations under this Agreement with respect to the Facility, Seller agrees to deliver and Buyer agrees to purchase the following bundled renewable energy product (the “Bridge Product”) in accordance with the following terms and conditions:

(a) The “Bridge Product Delivery Term” shall commence on January 1, 2021, and continue through the earlier of the termination of this Agreement in accordance with its terms, or December 31, 2023 (the “Delivery Cessation Date”); provided that the Bridge Product Delivery Term shall be extended solely for the purpose of transferring the WREGIS Certificates associated with the Bridge Product Delivered to Buyer prior to the Delivery Cessation Date.

(b) The “Contract Quantity of Bridge Product” is equal to the amount set forth in the table below for each applicable calendar year (each calendar year, a “Delivery Year”).
Within thirty (30) days of Buyer’s Notice of intent to purchase Bridge Product from Seller for a Delivery Year (“Initial Notice”), Seller shall provide Buyer the “Contract Price for Bridge Product”, which will be equal to the current market price, as reasonably determined by Seller, and the quantity available at the Contract Price for Bridge Product for such Delivery Year (“Bridge Product Offer”). Seller shall use commercially reasonable efforts to offer the maximum Contract Quantity of Bridge Product (up to the amount in the chart above), provided, however, the Bridge Product Offer shall be based on market conditions at that time and the inability to source the maximum Contract Quantity of Bridge Product will not be an Event of Default of Seller. If the Parties have not previously agreed upon a form of agreement for the purchase of the Bridge Product, Seller will provide a proposed form of agreement (e.g., a confirmation under the WSPP Agreement) that is acceptable to Seller at the same time that it delivers the Bridge Product Offer to Buyer. Following receipt of the Bridge Product Offer, Buyer shall provide Notice to Seller within three (3) Business Days as to whether Buyer will accept the Bridge Product Offer, or any portion of the quantity thereof (not less than a reasonable minimum amount set forth in such offer, and not to exceed the amount offered by Seller), and subject to timely receipt of Buyer’s Notice and execution of the accompanying agreement (subject to any mutually acceptable modifications), Seller shall thereupon procure and deliver the Bridge Product in accordance with the Bridge Product Offer, Buyer’s Notice, and the executed accompanying agreement.

Notwithstanding subsection (c) above, if Buyer fails to send its Initial Notice to Seller on or before January 1 of a Delivery Year, neither Party shall have any further obligation with respect to the Bridge Product for such Delivery Year.

Other terms and conditions regarding the Bridge Product:

(i) The Bridge Product shall meet the RPS compliance requirements for Portfolio Content Category 1 as set forth in California Public Utilities Code Section 399.16(b)(1)(A) and CPUC Decision 11-12-052 and as set forth in Section 3.11 below.

(ii) The Parties intend that the Bridge Product shall meet the requirements of California Public Utilities Code 399.13(b) and CPUC Decision D.17-06-026.

(iii) Seller, or its designated scheduling coordinator, will perform all scheduling requirements applicable to the Bridge Product. All scheduling shall be performed consistent with all applicable CAISO and WECC prevailing protocols.

(iv) For each month during the Bridge Product Delivery Term, Buyer will pay Seller an amount equal to the Contract Price for Bridge Product as multiplied by the portion of the Contract Quantity of Bridge Product transferred.
from Seller to Buyer through WREGIS.

(v) This Bridge Product is intended to qualify as a long-term contract pursuant to California Public Utilities Code 399.13(b) and CPUC Decision D.17-06-026.

(vi) Seller makes no representation or warranty as to the Bridge Product requirements set forth in subparts (ii) and (v) above and the failure to meet such requirements shall not affect the Parties’ rights and obligations hereunder.

3.11 **RPS Standard Terms and Conditions.**

(a) Seller warrants that all necessary steps to allow the Renewable Energy Credits transferred to Buyer to be tracked in WREGIS will be taken prior to the first delivery under this Agreement.

(b) Seller, and, if applicable, its successors, represents and warrants that throughout the Delivery Term of this Agreement that: (i) the Facility qualifies and is certified by the CEC as an Eligible Renewable Energy Resource as such term is defined in Public Utilities Code Section 399.12 or Section 399.16; and (ii) the Facility’s electrical energy output delivered to Buyer qualifies under the requirements of the California Renewables Portfolio Standard. To the extent a change in Law occurs after execution of this Agreement that causes this representation and warranty to be materially false or misleading, it shall not be an Event of Default if Seller has used commercially reasonable efforts to comply with such change in Law. The term “commercially reasonable efforts” as used in this Section 3.11(b) means efforts consistent with and subject to Section 3.12. As used in this Section 3.11(b) “Facility” shall have the meaning of either Facility or Generating Facility, as applicable.

(c) Seller and, if applicable, its successors, represents and warrants that throughout the Delivery Term of this Agreement the renewable energy credits transferred to Buyer conform to the definition and attributes required for compliance with the California Renewables Portfolio Standard, as set forth in California Public Utilities Commission Decision 08-08-028, and as may be modified by subsequent decision of the California Public Utilities Commission or by subsequent legislation. To the extent a change in Law occurs after execution of this Agreement that causes this representation and warranty to be materially false or misleading, it shall not be an Event of Default if Seller has used commercially reasonable efforts to comply with such change in Law. The term “commercially reasonable efforts” as used in this Section 3.11(c) means efforts consistent with and subject to Section 3.12.

(d) This Agreement and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of Law. To the extent enforceable at such time, each Party waives its respective right to any jury trial with respect to any litigation arising under or in connection with this Agreement.

3.12 **Compliance Expenditure Cap.** If a change in Law occurring after the Effective Date has increased Seller’s known or reasonably expected costs to comply with Seller’s obligations
under this Agreement with respect to obtaining, maintaining, conveying or effectuating Buyer’s use of (as applicable) any Product, then the Parties agree that the maximum aggregate amount of out-of-pocket costs and expenses ("Compliance Costs") Seller shall be required to bear during the Delivery Term to comply with all of such obligations shall be capped at twenty-five thousand dollars \( \Box \) of Guaranteed Capacity ("Compliance Expenditure Cap"). Seller’s internal administrative costs associated with obtaining, maintaining, conveying or effectuating, Buyer’s use of (as applicable) any Product are excluded from the Compliance Expenditure Cap.

Any actions required for Seller to comply with its obligations set forth in the first paragraph above, the Compliance Costs of which will be included in the Compliance Expenditure Cap, shall be referred to collectively as the "Compliance Actions."

If Seller reasonably anticipates the need to incur Compliance Costs in excess of the Compliance Expenditure Cap in order to take any Compliance Action, Seller shall provide Notice to Buyer of such anticipated Compliance Costs.

Buyer will have sixty (60) days to evaluate such Notice (during which time period Seller is not obligated to take any Compliance Actions described in the Notice) and shall, within such time, either (1) agree to reimburse Seller for all or some portion of the Compliance Costs that exceed the Compliance Expenditure Cap (such Buyer-agreed upon costs, the “Accepted Compliance Costs”), or (2) waive Seller’s obligation to take such Compliance Actions, or any part thereof for which Buyer has not agreed to reimburse Seller.

If Buyer agrees to reimburse Seller for the Accepted Compliance Costs, then Seller shall take such Compliance Actions covered by the Accepted Compliance Costs as agreed upon by the Parties and Buyer shall reimburse Seller for Seller’s actual costs to effect the Compliance Actions, not to exceed the Accepted Compliance Costs, within sixty (60) days from the time that Buyer receives an invoice and documentation of such costs from Seller.

3.13 Project Configuration. In order to optimize the benefits of the Facility, Buyer and Seller each agree that if requested by the other Party, then Buyer and Seller will discuss in good faith potential reconfiguration of the Facility or Interconnection Facilities (including enabling the Storage Facility to be charged from the grid); provided that neither Party shall be obligated to agree to any changes under this Agreement, or to incur any expense in connection with such changes, except under terms mutually acceptable to both Parties (and Seller’s Lenders) as set forth in a written agreement; provided further that no such changes shall jeopardize or adversely affect Seller’s right to claim the ITC on the full cost of the Facility.

ARTICLE 4 OBLIGATIONS AND DELIVERIES

4.1 Delivery.

(a) Energy. Subject to the provisions of this Agreement, commencing on the Commercial Operation Date through the end of the Contract Term, Seller shall supply and deliver the Product to Buyer at the Delivery Point, and Buyer shall take delivery of the Facility Energy at the Delivery Point in accordance with the terms of this Agreement. Seller will be responsible for

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paying or satisfying when due any costs or charges imposed in connection with the delivery of Facility Energy to the Delivery Point, including without limitation (but without limiting Buyer’s obligation to pay amounts associated with the Storage Facility Loss Factor as expressly provided herein), Station Use, Electrical Losses, any costs associated with delivering the Charging Energy from the Generating Facility to the Storage Facility, and any operation and maintenance charges imposed by the Transmission Provider directly relating to the Facility’s operations. Buyer shall be responsible for all costs, charges and penalties, if any, imposed in connection with the delivery of Facility Energy at and after the Delivery Point, including without limitation transmission costs and transmission line losses and imbalance charges. The Facility Energy will be scheduled to the CAISO by Buyer (or Buyer’s designated Scheduling Coordinator) in accordance with Exhibit D.

(b) **Green Attributes.** All Green Attributes associated with the Facility during the Delivery Term are exclusively dedicated to and vested in Buyer. Seller represents and warrants that Seller holds the rights to all Green Attributes from the Facility, and Seller agrees to convey and hereby conveys all such Green Attributes to Buyer as included in the delivery of the Product from the Facility.

4.2 **Title and Risk of Loss.**

(a) **Energy.** Title to and risk of loss related to the Facility Energy, shall pass and transfer from Seller to Buyer at the Delivery Point. Seller warrants that all Product delivered to Buyer is free and clear of all liens, security interests, claims and encumbrances of any kind.

(b) **Green Attributes.** Title to and risk of loss related to the Green Attributes shall pass and transfer from Seller to Buyer upon the transfer of such Green Attributes in accordance with WREGIS.

4.3 **Forecasting.** Seller shall provide the forecasts described below at its sole expense and in a format reasonably acceptable to Buyer (or Buyer’s designee). Seller shall use reasonable efforts to provide forecasts that are accurate and, to the extent not inconsistent with the requirements of this Agreement, shall prepare such forecasts, or cause such forecasts to be prepared, in accordance with Prudent Operating Practices.

(a) **Annual Forecast of Energy.** No less than forty-five (45) days before (i) the first day of the first Contract Year of the Delivery Term and (ii) at the beginning of each calendar year for every subsequent Contract Year during the Delivery Term, Seller shall provide to Buyer and the SC (if applicable) a non-binding forecast of each month’s average-day Expected Energy, by hour, for the following calendar year in a form substantially similar to the table found in Exhibit F-1, or as reasonably requested by Buyer.

(b) **Monthly Forecast of Energy and Available Generating Capacity.** No less than thirty (30) days before the beginning of Commercial Operation, and thereafter ten (10) Business Days before the beginning of each month during the Delivery Term, Seller shall provide to Buyer and the SC (if applicable) a non-binding forecast of the hourly expected Energy, Available Generating Capacity and Storage Capacity for each day of the following month in a form substantially similar to the table found in Exhibit F-2 (**Monthly Delivery Forecast**).
(c) **Day-Ahead Forecast.** By 5:30 AM Pacific Prevailing Time on the Business Day immediately preceding the date of delivery, or as otherwise specified by Buyer consistent with Prudent Operating Practice, Seller shall provide Buyer with a non-binding forecast of (i) Available Generating Capacity and (ii) Storage Capacity and (iii) hourly expected Energy, in each case, for each hour of the immediately succeeding day (“**Day-Ahead Forecast**”). A Day-Ahead Forecast provided in a day prior to any non-Business Day(s) shall include non-binding forecasts for the immediate day, each succeeding non-Business Day and the next Business Day. Each Day-Ahead Forecast shall clearly identify, for each hour, Seller’s best estimate of (i) the Available Generating Capacity and (ii) the Storage Capacity and (iii) the hourly expected Energy. These Day-Ahead Forecasts shall be sent to Buyer’s on-duty Scheduling Coordinator. If Seller fails to provide Buyer with a Day-Ahead Forecast as required herein for any period, then for such unscheduled delivery period only Buyer shall rely on any Real-Time Forecast provided in accordance with Section 4.3(d) or the Monthly Delivery Forecast or Buyer’s best estimate based on information reasonably available to Buyer.

(d) **Real-Time Forecasts.** During the Delivery Term, Seller shall notify Buyer of any changes from the Day-Ahead Forecast of one (1) MW or more in (i) Available Generating Capacity or (ii) Storage Capacity or (iii) hourly expected Energy, in each case, whether due to Forced Facility Outage, Force Majeure or other cause, as soon as reasonably possible, but no later than one (1) hour prior to the deadline for submitting Schedules to the CAISO in accordance with the rules for participation in the Real-Time Market. If the Available Generating Capacity, Storage Capacity, or hourly expected Energy changes by at least one (1) MW as of a time that is less than one (1) hour prior to the Real-Time Market deadline, but before such deadline, then Seller must notify Buyer as soon as reasonably possible. Such Real-Time Forecasts of Energy shall be provided by an Approved Forecast Vendor and shall contain information regarding the beginning date and time of the event resulting in the change in Available Generating Capacity, Storage Capacity, or hourly expected Energy, as applicable, the expected end date and time of such event, and any other information required by the CAISO or reasonably requested by Buyer. With respect to any Forced Facility Outage, Seller shall use commercially reasonable efforts to notify Buyer of such outage within ten (10) minutes of the commencement of the Forced Facility Outage. Seller shall inform Buyer of any developments that will affect either the duration of such outage or the availability of the Facility during or after the end of such outage. These Real-Time Forecasts shall be communicated in a method reasonably acceptable to Buyer; provided that Buyer specifies the method no later than twenty (20) Business Days prior to the effective date of such requirement. In the event Buyer fails to provide Notice of an acceptable method for communications under this Section 4.3(d), then Seller shall send such communications by telephone and e-mail to Buyer.

(e) **Forced Facility Outages.** Notwithstanding anything to the contrary herein, Seller shall promptly notify Buyer’s on-duty Scheduling Coordinator of Forced Facility Outages and Seller shall keep Buyer informed of any developments that will affect either the duration of the outage or the availability of the Facility during or after the end of the outage.

(f) **Forecasting Penalties.** Subject to a Force Majeure Event, in the event Seller does not in a given hour provide the forecast required in Section 4.3(d) and Buyer incurs a loss or penalty resulting from Seller’s failure and Buyer’s scheduling activities with respect to Facility Energy during such hour, Seller shall be responsible for a Forecasting Penalty for each such hour. Settlement of Forecasting Penalties shall occur as set forth in Article 8 of this Agreement.
(g) **CAISO Tariff Requirements.** To the extent such obligations are applicable to the Facility, Seller will comply with all applicable obligations for Variable Energy Resources under the CAISO Tariff and the Eligible Intermittent Resource Protocol, including providing appropriate operational data and meteorological data, and will fully cooperate with Buyer, Buyer’s SC, and CAISO, in providing all data, information, and authorizations required thereunder.

4.4 **Dispatch Down/Curtailment.**

(a) **General.** Seller agrees to reduce the amount of Facility Energy produced by the Facility, by the amount and for the period set forth in any Curtailment Order, Buyer Curtailment Order, or notice received from CAISO in respect of a Buyer Bid Curtailment, provided that Seller is not required to reduce such amount to the extent such reduction or any such Curtailment Order, Buyer Curtailment Order or notice is inconsistent with the limitations of the Facility set out in the Operating Restrictions.

(b) **Buyer Curtailment.** Buyer shall have the right to order Seller to curtail deliveries of Facility Energy through Buyer Curtailment Orders, provided that Buyer shall pay Seller for all Deemed Delivered Energy associated with a Buyer Curtailment Period in accordance with Exhibit C.

(c) **Failure to Comply.** If Seller fails to comply with a Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order, then, for each MWh of Facility Energy that is delivered by the Facility to the Delivery Point in contradiction to the Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order, Seller shall pay Buyer for each such MWh at an amount equal to the sum of (A) + (B) + (C), where: (A) is the amount, if any, paid to Seller by Buyer for delivery of such excess MWh and, (B) is the sum, for all Settlement Intervals with a Negative LMP during the Buyer Curtailment Period or Curtailment Period, of the absolute value of the product of such excess MWh in each Settlement Interval and the Negative LMP for such Settlement Interval, and (C) is any penalties assessed by the CAISO or other charges assessed by the CAISO resulting from Seller’s failure to comply with the Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order.

(d) **Seller Equipment Required for Curtailment Instruction Communications.** Seller shall acquire, install, and maintain such facilities, communications links and other equipment, and implement such protocols and practices, as necessary to respond and follow instructions, including an electronic signal conveying real time and intra-day instructions, to operate the Facility as reasonably directed by the Buyer in accordance with this Agreement or a Governmental Authority, including to implement a Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order in accordance with the then-current methodology used to transmit such instructions as it may change from time to time. If at any time during the Delivery Term Seller’s facilities, communications links or other equipment, protocols or practices are not in compliance with then-current methodologies, Seller shall take the steps necessary to become compliant as soon as reasonably possible. Seller shall be liable pursuant to Section 4.4(c) for failure to comply with a Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order, during the time that Seller’s facilities, communications links or other equipment, protocols or practices are not in compliance with then-current methodologies. For the avoidance of doubt, a Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order communication via such
systems and facilities shall have the same force and effect on Seller as any other form of communication.

4.5 **Charging Energy Management.**

(a) Upon receipt of a valid Charging Notice, Seller shall take any and all action necessary to deliver the Charging Energy from the Generating Facility to the Storage Facility in order to deliver the Storage Product in accordance with the terms of this Agreement (including the Operating Restrictions), including maintenance, repair or replacement of equipment in Seller’s possession or control used to deliver the Charging Energy from the Generating Facility to the Storage Facility.

(b) To the extent there is available energy, Buyer will have the right to charge the Storage Facility seven (7) days per week and twenty-four (24) hours per day (including holidays), by providing Charging Notices to Seller electronically, provided, that Buyer’s right to issue Charging Notices is subject to Prudent Operating Practice and the requirements and limitations set forth in this Agreement, including the Operating Restrictions and Maintenance Protocol and the provisions of Section 4.5(a). No Charging Notice may provide for the delivery of Charging Energy from any source except the Generating Facility. Each Charging Notice issued in accordance with this Agreement will be effective unless and until Buyer modifies such Charging Notice by providing Seller with an updated Charging Notice.

(c) Seller shall not charge the Storage Facility during the Term other than pursuant to a valid Charging Notice, or in connection with a Storage Capacity Test or as permitted under the Maintenance Protocol, or pursuant to a notice from CAISO, the PTO, Transmission Provider, or any other Governmental Authority. If, during the Delivery Term, Seller (a) charges the Storage Facility to a Stored Energy Level greater than the Stored Energy Level provided for in the Charging Notice or (b) charges the Storage Facility in violation of the first sentence of this Section 4.5(c), then, the Parties acknowledge for the avoidance of doubt, (x) Seller shall be responsible for all energy costs associated with such charging of the Storage Facility, (y) Buyer shall not be required to pay for the charging of such energy (i.e., Charging Energy), and (z) Buyer shall be entitled to discharge such energy and entitled to all of the benefits (including Storage Product) associated with such discharge.

(d) Buyer will have the right to discharge the Storage Facility seven (7) days per week and twenty-four (24) hours per day (including holidays), by providing Discharging Notices to Seller electronically, and subject to the requirements and limitations set forth in this Agreement, including the Operating Procedures and Maintenance Protocol. Each Discharging Notice issued in accordance with this Agreement will be effective unless and until Buyer modifies such Discharging Notice by providing Seller with an updated Discharging Notice.

(e) Notwithstanding anything in this Agreement to the contrary, during any Settlement Interval, Curtailment Orders, Buyer Curtailment Orders, and Buyer Bid Curtailments applicable to such Settlement Interval shall have priority over any Charging Notices and Discharging Notices applicable to such Settlement Interval, and Seller shall have no liability for violation of this Section 4.5 or any Charging Notice or Discharging Notice if and to the extent such violation is caused by Seller’s compliance with any Curtailment Order, Buyer Curtailment Order,
Buyer Bid Curtailment or other instruction or direction from a Governmental Authority or the PTO or the Transmission Provider. Buyer shall have the right, but not the obligation, to provide Seller with updated Charging Notices and Discharging Notices during any Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order consistent with the Operating Procedures.

(f) It is acknowledged that Seller shall have the right and option in its sole discretion to install Storage Facility capacity in excess of the Storage Contract Capacity, provided that for all purposes of this Agreement the amount of Storage Capacity shall never be deemed to exceed the Storage Contract Capacity, and (for the avoidance of doubt) Buyer shall have no rights to charge energy into or make use of any such excess capacity.

(g) Additionally, the Parties acknowledge that, taking into account Electrical Losses, the actual amount of Energy (expressed in MWh) physically stored in the Storage Facility at any moment in time shall be greater than the Stored Energy Level as defined in Article 1 hereof, and the Facility’s energy management system shall provide a continuous monitoring and read out of the Stored Energy Level as defined in Article 1 hereof. Although the Stored Energy Level will be expressed, as aforesaid, in MWh, in certain circumstances the Parties may find it useful to also express the Stored Energy Level as a percentage of the Facility’s maximum Stored Energy Level, which maximum Stored Energy Level at any point in time shall be equal to the then effective Storage Capacity (expressed in MW) multiplied by three (3) hours.

4.6 Reduction in Delivery Obligation. For the avoidance of doubt, and in no way limiting Section 3.1 or Exhibit G:

(a) Facility Maintenance. Subject to providing Buyer one-hundred twenty (120) days’ prior Notice, Seller shall be permitted to reduce deliveries of Product during any period of scheduled maintenance on the Facility (including during Approved Maintenance Hours), provided, that (i) no notice is required for scheduled maintenance or any changes or extensions thereto which do not result in a shutdown of the Storage Facility or Generating Facility in an amount less than the greater of one (1) MW or three percent (3%) of the Installed PV Capacity or the Installed Battery Capacity, respectively, and (ii) Seller may adjust the dates of any scheduled maintenance (including during Approved Maintenance Hours) with fewer than one hundred and twenty (120) days’ prior Notice to Buyer so long as (X) Seller makes its request more than three (3) days prior to the expected start date of such scheduled maintenance and (Y) the requested alternate date is reasonably acceptable to Buyer. To the extent notice is not already required under the terms hereof, Seller shall notify Buyer as soon as practicable of any extensions to scheduled maintenance (including Approved Maintenance Hours) and expected end dates thereof. Between June 1st and September 30th, Seller shall not schedule non-emergency maintenance that reduces the Energy generation of the Facility by more than ten percent (10%), unless (i) such outage is required to avoid damage to the Facility, (ii) such maintenance is necessary to maintain equipment warranties and cannot be scheduled outside the period of June 1st to September 30th, (iii) such outage is required in accordance with Prudent Operating Practices, or (iv) the Parties agree otherwise in writing (each scheduled maintenance permitted under this clause (a) and each of the foregoing outages described in foregoing clauses (a)(i) – (a)(iv), a “Planned Outage”).
(b)  **Forced Facility Outage.** Seller shall be permitted to reduce deliveries of Product during any Forced Facility Outage. Seller shall provide Buyer with Notice and expected duration (if known) of any Forced Facility Outage.

(c)  **System Emergencies and other Interconnection Events.** Seller shall be permitted to reduce deliveries of Product during any period of System Emergency, Buyer Curtailment Period or upon Notice of a Curtailment Order pursuant to the terms of this Agreement, the Interconnection Agreement or applicable tariff.

(d)  **Force Majeure Event.** Seller shall be permitted to reduce deliveries of Product during any Force Majeure Event.

(e)  **Health and Safety.** Seller shall be permitted to reduce deliveries of Product as necessary to maintain health and safety pursuant to Section 6.2.

4.7 **Guaranteed Energy Production.** Seller shall be required to deliver to Buyer no less than the Guaranteed Energy Production in each Performance Measurement Period. Seller shall be excused from achieving the Guaranteed Energy Production during any Performance Measurement Period only to the extent of any Force Majeure Events, System Emergency, Storage Capacity Tests, Buyer’s Default or other failure to perform, and Curtailment Periods or Buyer Curtailment Periods. For purposes of determining whether Seller has achieved the Guaranteed Energy Production, Seller shall be deemed to have delivered to Buyer (1) any Deemed Delivered Energy and (2) Energy in the amount it could reasonably have delivered to Buyer but was prevented from delivering to Buyer by reason of any Force Majeure Events, System Emergency, Storage Capacity Tests, Buyer’s Default or other failure to perform, and Curtailment Periods ("**Lost Output**"). If Seller fails to achieve the Guaranteed Energy Production amount in any Performance Measurement Period, Seller shall pay Buyer damages calculated in accordance with Exhibit G.

4.8 **Storage Availability.**

(a)  During the Delivery Term, the Storage Facility shall maintain a Monthly Storage Availability during each month of no less than ninety-seven percent (97%) (the **"Guaranteed Storage Availability"**), which Monthly Storage Availability shall be calculated in accordance with Exhibit P.

(b)  If, the Monthly Storage Availability during any month is less than the Guaranteed Storage Availability, then Buyer’s payment for the Storage Product shall be calculated by reference to the Availability Adjusted Storage Contract Capacity (as determined in accordance with Exhibit P), which shall be Buyer’s sole and exclusive remedy for such shortfall.

4.9 **Storage Capacity Tests.**

(a)  Prior to the Commercial Operation Date, Seller shall schedule and complete a Storage Capacity Test in accordance with Exhibit Q. Thereafter, Seller and Buyer shall have the right to run additional Storage Capacity Tests in accordance with Exhibit O.
(b) Buyer shall have the right to send one or more representative(s) to witness all Storage Capacity Tests. Alternatively, to the extent that any Storage Capacity Tests are done remotely, and no representatives are needed on site, Seller shall arrange for both Parties to have access to all data and other information arising out of such tests. Buyer shall be responsible for all costs, expenses and fees payable or reimbursable to its representative(s) witnessing any Storage Capacity Test. Except as otherwise specified in Exhibit O, all other costs or revenues associated with any Storage Capacity Test shall be borne by, or accrue to, Seller, as applicable.

(c) Following each Storage Capacity Test, Seller shall submit a testing report in accordance with Exhibit O. If the actual capacity determined pursuant to a Storage Capacity Test varies from the then current Storage Contract Capacity, then the actual capacity determined pursuant to a Storage Capacity Test (not to exceed the original Storage Contract Capacity set forth on the Cover Sheet, as such original Storage Contract Capacity on the Cover Sheet may have been adjusted (if at all) pursuant to Exhibit B) shall become the new Storage Contract Capacity at the beginning of the day following the completion of the test for all purposes under this Agreement, including compensation under Exhibit C.

4.10 WREGIS. Seller shall, at its sole expense, but subject to Section 3.12, take all actions and execute all documents or instruments necessary to ensure that all WREGIS Certificates associated with all Renewable Energy Credits corresponding to all Facility Energy are issued and tracked for purposes of satisfying the requirements of the California Renewables Portfolio Standard and transferred in a timely manner to Buyer for Buyer’s sole benefit. Seller shall transfer the Renewable Energy Credits to Buyer. Seller shall comply with all Laws, including the WREGIS Operating Rules, regarding the certification and transfer of such WREGIS Certificates to Buyer and Buyer shall be given sole title to all such WREGIS Certificates. Seller shall be deemed to have satisfied the warranty in Section 3.11(a) provided that Seller fulfills its obligations under Sections 4.10(a) through (f) below. In addition:

(a) Prior to the Commercial Operation Date, Seller shall register the Facility with WREGIS and establish an account with WREGIS (“Seller’s WREGIS Account”), which Seller shall maintain until the end of the Delivery Term. Seller shall transfer the WREGIS Certificates using “Forward Certificate Transfers” (as described in the WREGIS Operating Rules) from Seller’s WREGIS Account to the WREGIS account(s) of Buyer or the account(s) of a designee that Buyer identifies by Notice to Seller (“Buyer’s WREGIS Account”). Seller shall be responsible for all expenses associated with registering the Facility with WREGIS, establishing and maintaining Seller’s WREGIS Account, paying WREGIS Certificate issuance and transfer fees, and transferring WREGIS Certificates from Seller’s WREGIS Account to Buyer’s WREGIS Account.

(b) Seller shall cause Forward Certificate Transfers to occur on a monthly basis in accordance with the certification procedure established by the WREGIS Operating Rules. Since WREGIS Certificates will only be created for whole MWh amounts of Facility Energy generated, any fractional MWh amounts (i.e., kWh) will be carried forward until sufficient generation is accumulated for the creation of a WREGIS Certificate.
(c) Seller shall, at its sole expense, ensure that the WREGIS Certificates for a given calendar month correspond with the Facility Energy for such calendar month as evidenced by the Facility’s metered data.

(d) Due to the ninety (90) day delay in the creation of WREGIS Certificates relative to the timing of invoice payment under Section 8.2, Buyer shall make an invoice payment for a given month in accordance with Section 8.2 before the WREGIS Certificates for such month are formally transferred to Buyer in accordance with the WREGIS Operating Rules and this Section 4.10. Notwithstanding this delay, Buyer shall have all right and title to all such WREGIS Certificates upon payment to Seller in accordance with Section 8.2.

(e) A “WREGIS Certificate Deficit” means any deficit or shortfall in WREGIS Certificates delivered to Buyer for a calendar month as compared to the Facility Energy for the same calendar month (taking into account the timing of WREGIS’ issuance of WREGIS Certificates in the normal course) (“Deficient Month”). If any WREGIS Certificate Deficit is caused, or the result of any action or inaction by Seller, and remains uncured following thirty (30) days after notice from Buyer thereof, then the amount of Adjusted Facility Energy in the Deficient Month shall be reduced by two times the amount of the WREGIS Certificate Deficit for purposes of calculating Buyer’s payment next coming due to Seller under Article 8 and the Guaranteed Energy Production for the applicable Contract Year. Without limiting Seller’s obligations under this Section 4.10, if a WREGIS Certificate Deficit is caused solely by an error or omission of WREGIS, the Parties shall cooperate in good faith to cause WREGIS to correct its error or omission.

(f) If (i) WREGIS changes the WREGIS Operating Rules after the Effective Date or applies the WREGIS Operating Rules in a manner inconsistent with this Section 4.10 after the Effective Date, or (ii) the Parties enable the Storage Facility to be charged from the grid in accordance with Section 3.13, the Parties promptly shall modify this Section 4.10 as reasonably required to cause and enable Seller to transfer to Buyer’s WREGIS Account a quantity of WREGIS Certificates for each given calendar month that corresponds to the Facility Energy in the same calendar month.

ARTICLE 5
TAXES

5.1 Allocation of Taxes and Charges. Seller shall pay or cause to be paid all Taxes on or with respect to the Facility or on or with respect to the sale and making available of Product to Buyer, that are imposed on Product prior to its delivery to Buyer at the Delivery Point. Buyer shall pay or cause to be paid all Taxes on or with respect to the delivery to and purchase by Buyer of Product that are imposed on Product at and after its delivery to Buyer at the Delivery Point (other than withholding or other Taxes imposed on Seller’s income, revenue, receipts or employees), if any. If a Party is required to remit or pay Taxes that are the other Party’s responsibility hereunder, such Party shall promptly pay the Taxes due and then seek and receive
reimbursement from the other for such Taxes. In the event any sale of Product hereunder is exempt from or not subject to any particular Tax, Buyer shall provide Seller with all necessary documentation within thirty (30) days after the Effective Date to evidence such exemption or exclusion, and Seller may rely on such documentation to the extent permitted by Law. If Buyer does not provide such documentation or does provide it but it proves to be insufficient or inaccurate, then Buyer shall indemnify, defend, and hold Seller harmless from any liability with respect to Taxes from which Buyer claims it is exempt.

5.2 **Cooperation.** Each Party shall use reasonable efforts to implement the provisions of and administer this Agreement in accordance with the intent of the Parties to minimize all Taxes, so long as no Party is materially adversely affected by such efforts. The Parties shall cooperate to minimize Tax exposure; provided, however, that neither Party shall be obligated to incur any financial or operational burden to reduce Taxes for which the other Party is responsible hereunder without receiving due compensation therefor from the other Party. Buyer represents to Seller that all Product delivered by Seller to Buyer hereunder shall be a sale made at wholesale, with Buyer reselling such Product.

**ARTICLE 6**

**MAINTENANCE OF THE FACILITY**

6.1 **Maintenance of the Facility.** Seller shall comply with Law and Prudent Operating Practice relating to the operation and maintenance of the Facility and the generation and sale of Product. No later than sixty (60) days prior to commencing Facility construction, Seller shall deliver to Buyer for its review and approval (such approval not to be unreasonably delayed or withheld) a supplement to this Agreement with additional and supplementary details, procedures and requirements for planning and carrying out Facility maintenance, testing and related activities (including for warranty maintenance and to maximize equipment longevity and performance), and including the scheduling of such activities, all based on the then current design of the Facility (“Maintenance Protocol”). Thereafter, from time to time, Seller may deliver to Buyer for its review and approval (such approval not to be unreasonably delayed or withheld) any Seller recommended updates to the then current Maintenance Protocol. The initial Maintenance Protocol (and each update thereto), once approved by Buyer, shall be deemed an amendment to this Agreement. The Maintenance Protocol shall, among other items, include provisions allowing for up to sixty (60) hours per Contract Year for scheduled Facility maintenance during days and hours as designated by Seller (“Approved Maintenance Hours”).

6.2 **Maintenance of Health and Safety.** Seller shall take reasonable safety precautions with respect to the operation, maintenance, repair and replacement of the Facility. If Seller becomes aware of any circumstances relating to the Facility that create an imminent risk of damage or injury to any Person or any Person’s property, Seller shall take prompt, reasonable action to prevent such damage or injury and shall give Notice to Buyer’s emergency contact identified on Exhibit N of such condition. Such action may include, to the extent reasonably necessary, disconnecting and removing all or a portion of the Facility, or suspending the supply of Energy or Discharging Energy to Buyer.

6.3 **Shared Facilities.** The Parties acknowledge and agree that certain of the Interconnection Facilities (including, potentially, transformers or related facilities), and Seller’s
ARTICLE 7
METERING

7.1 **Metering.** Seller shall measure the amount of Facility Energy using the Facility Meter, which will be subject to adjustment in accordance with applicable CAISO meter requirements and Prudent Operating Practices, including to account for Electrical Losses and Station Use, as applicable. Seller shall measure the Charging Energy and the Discharging Energy using the Storage Facility Meters. All meters will be operated pursuant to applicable CAISO-approved calculation methodologies and maintained as Seller’s cost. Subject to meeting any applicable CAISO requirements, the meters shall be programmed to adjust for Electrical Losses and Station Use, as applicable, from the Facility to the Delivery Point in a manner subject to Buyer’s prior written approval, not to be unreasonably withheld. Seller intends to obtain and maintain a single CAISO resource ID dedicated exclusively to the Generating Facility and a single CAISO resource ID dedicated exclusively to the Storage Facility. Seller shall not obtain additional CAISO resource IDs for the Generating Facility, the Storage Facility, or the Facility without the prior written consent of Buyer, which shall not be unreasonably withheld. In addition, upon the reasonable request of Buyer, Seller shall obtain one or more additional CAISO resource IDs, provided that any out-of-pocket costs associated with obtaining such additional CAISO resource IDs incurred by Seller shall be reimbursed by Buyer. Metering will be consistent with the Metering Diagram set forth as Exhibit R, a final version of which shall be provided to Buyer at least thirty (30) days before the Commercial Operation Date. Each meter shall be kept under seal, such seals to be broken only when the meters are to be tested, adjusted, modified or relocated. In the event Seller breaks a seal, Seller shall notify Buyer as soon as practicable. In addition, Seller hereby agrees to provide all meter data to Buyer in a form reasonably acceptable to Buyer, and consents to Buyer obtaining from CAISO the CAISO meter data directly relating to the Facility and all inspection, testing and calibration data and reports. Seller and Buyer, or Buyer’s Scheduling Coordinator, shall cooperate to allow both Parties to retrieve the meter reads from the CAISO Market Results Interface – Settlements (MRI-S) (or its successor) or directly from the CAISO meter(s) at the Facility.

7.2 **Meter Verification.** Annually, if Seller has reason to believe there may be a meter malfunction, or upon Buyer’s reasonable request, Seller shall test the meter. The tests shall be conducted by independent third parties qualified to conduct such tests. Buyer shall be notified seven (7) days in advance of such tests and have a right to be present during such tests. If a meter is inaccurate it shall be promptly repaired or replaced.
ARTICLE 8
INVOICING AND PAYMENT; CREDIT

8.1 **Invoicing.** Seller shall make good faith efforts to deliver an invoice to Buyer for Product within fifteen (15) Business Days after the end of the prior monthly billing period. Each invoice shall (a) reflect records of metered data, including CAISO metering and transaction data sufficient to document and verify the amount of Product delivered by the Facility for any Settlement Period during the preceding month, including the amount of PV Energy produced by the Generating Facility as read by the Facility Meter, the amount of Charging Energy charged by the Storage Facility and the amount of Discharging Energy delivered from the Storage Facility to the Delivery Point, in each case, as read by the Storage Facility Meter, the amount of Replacement RA delivered to Buyer (if any), the calculation of Adjusted Facility Energy, Deemed Delivered Energy and Adjusted Energy Production, the LMP prices at the Delivery Point for each Settlement Period, and the Renewable Rate or Storage Rate applicable to such Product in accordance with Exhibit C; (b) reflect access to any records, including invoices or settlement data from the CAISO, necessary to verify the accuracy of any amount; (c) include any Taxes for which Buyer is liable for under Section 5.1; and (d) be in a format reasonably specified by Buyer, covering the services provided in the preceding month determined in accordance with the applicable provisions of this Agreement. Buyer shall, and shall cause its Scheduling Coordinator to, provide Seller with all reasonable access (including, in real time, to the maximum extent reasonably possible) to any records, including invoices or settlement data from the CAISO, forecast data and other information, all as may be necessary from time to time for Seller to prepare and verify the accuracy of all invoices.

8.2 **Payment.** Buyer shall make payment to Seller for Product by wire transfer or ACH payment to the bank account provided on each monthly invoice. Buyer shall pay undisputed invoice amounts within thirty (30) days after receipt of the invoice or the end of the prior monthly billing period, whichever is later. If such due date falls on a weekend or legal holiday, such due date shall be the next Business Day. Payments made after the due date will bear interest on the unpaid balance. If the amount due is not paid on or before the due date or if any other payment that is due and owing from one Party to another is not paid on or before its applicable due date, a late payment charge shall be applied to the unpaid balance and shall be added to the next billing statement. Such late payment charge shall be calculated based on the 3-Month LIBOR rate published on the date of the invoice in The Wall Street Journal, or, if The Wall Street Journal is not published on that day, the next succeeding date of publication, plus two percent (2%) (the “Interest Rate”). If the due date occurs on a day that is not a Business Day, the late payment charge shall begin to accrue on the next succeeding Business Day.

8.3 **Books and Records.** To facilitate payment and verification, each Party shall maintain all books and records necessary for billing and payments, including copies of all invoices under this Agreement, for a period of at least two (2) years or as otherwise required by Law. Upon ten (10) Business Days’ Notice to the other Party, either Party shall be granted reasonable access to the accounting books and records within the possession or control of the other Party pertaining to all invoices generated pursuant to this Agreement. Seller acknowledges that in accordance with California Government Code Section 8546.7, Seller may be subject to audit by the California State Auditor with regard to Seller’s performance of this Agreement because the compensation under this Agreement exceeds $10,000.
8.4 Payment Adjustments; Billing Errors. Payment adjustments shall be made if Buyer or Seller discovers there have been good faith inaccuracies in invoicing that are not otherwise disputed under Section 8.5 or an adjustment to an amount previously invoiced or paid is required due to a correction of data by the CAISO; provided, however, that there shall be no adjustments to prior invoices based upon meter inaccuracies. If the required adjustment is in favor of Buyer, Buyer’s next monthly payment shall be credited in an amount equal to the adjustment. If the required adjustment is in favor of Seller, Seller shall add the adjustment amount to Buyer’s next monthly invoice. Adjustments in favor of either Buyer or Seller shall bear interest, until settled in full, in accordance with Section 8.2, accruing from the date on which the adjusted amount should have been due.

8.5 Billing Disputes. A Party may, in good faith, dispute the correctness of any invoice or any adjustment to an invoice rendered under this Agreement or adjust any invoice for any arithmetic or computational error within twelve (12) months of the date the invoice, or adjustment to an invoice, was rendered. In the event an invoice or portion thereof, or any other claim or adjustment arising hereunder, is disputed, payment of the undisputed portion of the invoice shall be required to be made when due. Any invoice dispute or invoice adjustment shall be in writing and shall state the basis for the dispute or adjustment. Payment of the disputed amount shall not be required until the dispute is resolved. Upon resolution of the dispute, any required payment shall be made within five (5) Business Days of such resolution along with interest accrued at the Interest Rate from and including the original due date to but excluding the date paid. Inadvertent overpayments shall be returned via adjustments in accordance with Section 8.4. Any dispute with respect to an invoice is waived if the other Party is not notified in accordance with this Section 8.5 within twelve (12) months after the invoice is rendered or subsequently adjusted, except to the extent any misinformation was from a third party not affiliated with any Party and such third party corrects its information after the twelve (12)-month period. If an invoice is not rendered within twelve (12) months after the close of the month during which performance occurred, the right to payment for such performance is waived.

8.6 Netting of Payments. The Parties hereby agree that they shall discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts owed by each Party to the other Party for the purchase and sale of Product during the monthly billing period under this Agreement or otherwise arising out of this Agreement, including any related damages calculated pursuant to Exhibits B and P, interest, and payments or credits, shall be netted so that only the excess amount remaining due shall be paid by the Party who owes it.

8.7 Seller’s Development Security. To secure its obligations under this Agreement, Seller shall deliver Development Security to Buyer within thirty (30) days of the Effective Date. Subject to Section 11.7, Seller shall maintain the Development Security in full force and effect and Seller shall within five (5) Business Days after any draw thereon replenish the Development Security in the event Buyer collects or draws down any portion of the Development Security for any reason permitted under this Agreement other than to satisfy a Damage Payment or a Termination Payment. Upon the earlier of (i) Seller’s delivery of the Performance Security, or (ii) sixty (60) days after termination of this Agreement, Buyer shall return the Development Security to Seller, less the amounts drawn in accordance with this Agreement. If the Development Security is a Letter of Credit and the issuer of such Letter of Credit (i) fails to maintain the minimum Credit

Appendix A
Rating specified in the definition of Letter of Credit, (ii) indicates its intent not to renew such Letter of Credit and such Letter of Credit expires prior to the Commercial Operation Date, or (iii) fails to honor Buyer’s properly documented request to draw on such Letter of Credit by such issuer, Seller shall have ten (10) Business Days to either post cash or deliver a substitute Letter of Credit in the amount of the Development Security and that otherwise meets the requirements set forth in the definition of Development Security.

8.8 **Seller’s Performance Security.** To secure its obligations under this Agreement, Seller shall deliver Performance Security to Buyer on or before the Commercial Operation Date. If the Performance Security is not in the form of cash or Letter of Credit, it shall be substantially in the form set forth in Exhibit L. Seller shall maintain the Performance Security in full force and effect, subject to any draws made by Buyer in accordance with this Agreement, until the following have occurred: (A) the Delivery Term has expired or terminated early; and (B) all payment obligations of the Seller then due and payable under this Agreement, including compensation for penalties, Termination Payment, indemnification payments or other damages are paid in full (whether directly or indirectly such as through set-off or netting). Following the occurrence of both events, Buyer shall promptly return to Seller the unused portion of the Performance Security. If the Performance Security is a Letter of Credit and the issuer of such Letter of Credit (i) fails to maintain the minimum Credit Rating set forth in the definition of Letter of Credit, (ii) indicates its intent not to renew such Letter of Credit and such Letter of Credit expires prior to the Commercial Operation Date, or (iii) fails to honor Buyer’s properly documented request to draw on such Letter of Credit by such issuer, Seller shall have ten (10) Business Days to either post cash or deliver a substitute Letter of Credit that meets the requirements set forth in the definition of Performance Security. Seller may at its option exchange one permitted form of Development Security or Performance Security for another permitted form of Development Security or Performance Security, as applicable.

8.9 **First Priority Security Interest in Cash or Cash Equivalent Collateral.** To secure its obligations under this Agreement, and until released as provided herein, Seller hereby grants to Buyer a present and continuing first-priority security interest ("Security Interest") in, and lien on (and right to net against), and assignment of the Development Security, Performance Security, any other cash collateral and cash equivalent collateral posted pursuant to Sections 8.7 and 8.8 and any and all interest thereon or proceeds resulting therefrom or from the liquidation thereof, whether now or hereafter held by, on behalf of, or for the benefit of Buyer, and Seller agrees to take all action as Buyer reasonably requires in order to perfect Buyer’s Security Interest in, and lien on (and right to net against), such collateral and any and all proceeds resulting therefrom or from the liquidation thereof.

Upon or any time after the occurrence and continuation of an Event of Default caused by Seller, an Early Termination Date resulting from an Event of Default caused by Seller, or an occasion provided for in this Agreement where Buyer is authorized to retain all or a portion of the Development Security or Performance Security, Buyer may do any one or more of the following (in each case subject to the final sentence of this Section 8.9):

(a) Exercise any of its rights and remedies with respect to the Development Security and Performance Security, including any such rights and remedies under Law then in effect;
(b) Draw on any outstanding Letter of Credit issued for its benefit and retain any cash held by Buyer as Development Security or Performance Security; and

c) Liquidate all Development Security or Performance Security (as applicable) then held by or for the benefit of Buyer free from any claim or right of any nature whatsoever of Seller, including any equity or right of purchase or redemption by Seller.

Buyer shall apply the proceeds of the collateral realized upon the exercise of any such rights or remedies to reduce Seller’s obligations under this Agreement (Seller remains liable for any amounts owing to Buyer after such application), subject to Buyer’s obligation to return any surplus proceeds remaining after these obligations are satisfied in full.

8.10 Financial Statements. In the event a Guaranty is provided as Performance Security in lieu of cash or a Letter of Credit, Seller shall provide to Buyer, or cause the Guarantor to provide to Buyer, unaudited quarterly and annual audited financial statements of the Guarantor (including a balance sheet and statements of income and cash flows), all prepared in accordance with generally accepted accounting principles in the United States, consistently applied.

8.11 Buyer Information. Buyer shall provide to Seller both upon request and as indicated as follows: (a) within forty-five (45) days following the end of its first, second and third fiscal quarters, unaudited quarterly financial statements of Buyer prepared in accordance with generally accepted accounting principles in the United States, consistently applied; (b) within one hundred eighty (180) days following the end of each fiscal year, annual audited financial statements of Buyer prepared in accordance with generally accepted accounting principles in the United States, consistently applied; (c) as available, Buyer’s annual report; (d) committed, unused bank line of credit as of the end of each fiscal quarter; (e) reporting on total customer load and count (including opt out rates and related information) during the prior fiscal quarter as may be reasonably requested by Seller’s financing parties; and (f) other similar financial and operational information for the prior fiscal quarter as may be reasonably requested by Seller’s financing parties.

ARTICLE 9
NOTICES

9.1 Addresses for the Delivery of Notices. Except as provided in Exhibit D, any Notice required, permitted, or contemplated hereunder shall be in writing, shall be addressed to the Party to be notified at the address set forth on Exhibit N or at such other address or addresses as a Party may designate for itself from time to time by Notice hereunder.

9.2 Acceptable Means of Delivering Notice. Each Notice required, permitted, or contemplated hereunder shall be deemed to have been validly served, given or delivered as follows: (a) if sent by United States mail with proper first class postage prepaid, three (3) Business Days following the date of the postmark on the envelope in which such Notice was deposited in the United States mail; (b) if sent by a regularly scheduled overnight delivery carrier with delivery fees either prepaid or an arrangement with such carrier made for the payment of such fees, the next Business Day after the same is delivered by the sending Party to such carrier; (c) if sent by electronic communication (including electronic mail or other electronic means) and if concurrently
with the transmittal of such electronic communication the sending Party provides a copy of such
electronic Notice by hand delivery or express courier, at the time indicated by the time stamp upon
delivery; or (d) if delivered in person, upon receipt by the receiving Party. Notwithstanding the
foregoing, Notices of outages or other scheduling or dispatch information or requests, may be sent
by electronic communication and shall be considered delivered upon successful completion of
such transmission.

ARTICLE 10
FORCE MAJEUERE

10.1 **Definition.**

(a) **“Force Majeure Event”** means any act or event that delays or prevents a
Party from timely performing all or a portion of its obligations under this Agreement or from
complying with all or a portion of the conditions under this Agreement if such act or event, despite
the exercise of commercially reasonable efforts, cannot be avoided by and is beyond the reasonable
control (whether direct or indirect) of and without the fault or negligence of the Party relying
thereon as justification for such delay, nonperformance, or noncompliance.

(b) Without limiting the generality of the foregoing, so long as the following
events, despite the exercise of commercially reasonable efforts, cannot be avoided by, and are
beyond the reasonable control (whether direct or indirect) of and without the fault or negligence
of the Party relying thereon as justification for such delay, nonperformance or noncompliance, a
Force Majeure Event may include an act of God or the elements, such as flooding, lightning,
hurricanes, tornadoes, or ice storms; explosion; fire; volcanic eruption; flood; epidemic or
pandemic, including COVID-19; landslide; mudslide; sabotage; terrorism; earthquake; or other
cataclysmic events; an act of public enemy; war; blockade; civil insurrection; riot; civil
disturbance; or strikes or other labor difficulties caused or suffered by a Party or any third party
except as set forth below.

(c) Notwithstanding the foregoing, the term **“Force Majeure Event”** does not
include (i) economic conditions that render a Party’s performance of this Agreement at the
Contract Price unprofitable or otherwise uneconomic (including an increase in component costs
for any reason, including foreign or domestic tariffs, Buyer’s ability to buy electric energy at a
lower price, or Seller’s ability to sell the Product, or any component thereof, at a higher price, than
under this Agreement); (ii) Seller’s inability or delay to obtain permits or approvals of any type
for the construction, operation, or maintenance of the Facility, except to the extent such inability
is caused by a Force Majeure Event; (iii) the inability or delay of a Party to make payments when
due under this Agreement, unless the cause of such inability is an event that would otherwise
constitute a Force Majeure Event as described above; (iv) a Curtailment Order; (v) Seller’s
inability or delay to obtain sufficient labor, equipment, materials, or other resources (including
financing) to build or operate the Facility except to the extent such inability is caused by a Force
Majeure Event; (vi) any equipment failure except if such equipment failure is caused by a Force
Majeure Event; or (vii) Seller’s inability or delay to achieve Construction Start of the Facility
following the Guaranteed Construction Start Date or achieve Commercial Operation following the
Guaranteed Commercial Operation Date unless the cause of such inability is an event that would
otherwise constitute a Force Majeure Event as described above; it being understood and agreed,
for the avoidance of doubt, that the occurrence of a Force Majeure Event may give rise to a Development Cure Period.

10.2 **No Liability If a Force Majeure Event Occurs.** Neither Seller nor Buyer shall be liable to the other Party in the event it is prevented from or delayed in performing its obligations hereunder in whole or in part due to a Force Majeure Event. The Party rendered unable (or delayed) to fulfill any obligation by reason of a Force Majeure Event shall take commercially reasonable actions necessary to remove such inability or delay. Nothing herein shall be construed as permitting that Party to continue to fail to perform after said cause has been removed. Neither Party shall be considered in breach or default of this Agreement if and to the extent that any failure or delay in the Party’s performance of one or more of its obligations hereunder is caused by a Force Majeure Event. Notwithstanding the foregoing, the occurrence and continuation of a Force Majeure Event shall not (a) suspend or excuse the obligation of a Party to make any payments due hereunder, (b) suspend or excuse the obligation of Seller to achieve the Guaranteed Construction Start Date or the Guaranteed Commercial Operation Date beyond the extensions provided in Exhibit B, or (c) limit Buyer’s right to declare an Event of Default pursuant to Section 11.1(b)(ii) or (iv) and receive a Damage Payment upon exercise of Buyer’s default right pursuant to Section 11.2.

10.3 **Notice.** In the event of any delay or nonperformance resulting from a Force Majeure Event, the Party suffering the Force Majeure Event shall (a) as soon as practicable, notify the other Party in writing of the nature, cause, estimated date of commencement thereof, and the anticipated extent of any delay or interruption in performance, and (b) notify the other Party in writing of the cessation or termination of such Force Majeure Event, all as known or estimated in good faith by the affected Party; *provided, however,* that, except as provided in Exhibit B, a Party’s failure to give timely Notice shall not affect such Party’s ability to assert that a Force Majeure Event has occurred unless the delay in giving Notice materially prejudices the other Party.

10.4 **Termination Following Force Majeure Event.** If a Force Majeure Event has occurred after the Commercial Operation Date that has caused either Party to be wholly or partially unable to perform its obligations hereunder, for a consecutive twelve (12) month period, then the non-claiming Party may terminate this Agreement upon Notice to the other Party with respect to the Facility experiencing the Force Majeure Event. Upon any such termination, neither Party shall have any liability to the other Party, save and except for those obligations specified in Section 2.1(b), and Buyer shall promptly return to Seller any Performance Security then held by Buyer, less any amounts drawn in accordance with this Agreement.

**ARTICLE 11**

**DEFAULTS; REMEDIES; TERMINATION**

11.1 **Events of Default.** An “**Event of Default**” shall mean,

(a) with respect to a Party (the “**Defaulting Party**”) that is subject to the Event of Default the occurrence of any of the following:
(i) the failure by such Party to make, when due, any payment required pursuant to this Agreement and such failure is not remedied within ten (10) Business Days after Notice thereof;

(ii) any representation or warranty made by such Party herein is false or misleading in any material respect when made or when deemed made or repeated, and such default is not remedied within thirty (30) days after Notice thereof (or such longer additional period, not to exceed an additional sixty (60) days, if the Defaulting Party is unable to remedy such default within such initial thirty (30) days period despite exercising commercially reasonable efforts);

(iii) the failure by such Party to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Event of Default set forth in this Section 11.1; and except for (1) failure to achieve Full Capacity Deliverability Status by the RA Guarantee Date, the exclusive remedies for which are set forth in Section 3.8, (2) failure to provide the forecast required in Section 4.3(d), the exclusive remedies for which are set forth in Section 4.3(f), (3) failure to comply with a Buyer Curtailment Order, Buyer Bid Curtailment or Curtailment Order, the exclusive remedies for which are set forth in Section 4.4(c), (4) failure to remedy a WREGIS Certificate Deficit caused by any action or inaction of Seller within thirty (30) days after notice from Buyer, the exclusive remedies for which are set forth in Section 4.10(e), (5) failures related to the Adjusted Energy Production that do not trigger the provisions of Section 11.1(b)(iv) or (vi), the exclusive remedies for which are set forth in Section 4.7, (6) failures related to the Monthly Storage Availability that do not trigger the provisions of Section 11.1(b)(v), the exclusive remedies for which are set forth in Section 4.8, (7) failure to achieve Construction Start by the Guaranteed Construction Start Date or failure to sign the Interconnection Agreement by the Executed Interconnection Agreement Milestone, the exclusive remedies for which are set forth in Section 1(a) of Exhibit B, and (8) failure to achieve Commercial Operation by the Guaranteed Commercial Operation Date that does not trigger the provisions of Section 11.1(b)(ii), the exclusive remedies for which are set forth in Section 2 of Exhibit B) and such failure is not remedied within thirty (30) days after Notice thereof (or such longer additional period, not to exceed an additional ninety (90) days, if the Defaulting Party is unable to remedy such default within such initial thirty (30) days period despite exercising commercially reasonable efforts);

(iv) such Party becomes Bankrupt;

(v) such Party assigns this Agreement or any of its rights hereunder other than in compliance with Section 14.2 or Error! Reference source not found., as appropriate; or

(vi) such Party consolidates or amalgamates with, or merges with or into, or transfers all or substantially all of its assets to, another entity and, at the time of such consolidation, amalgamation, merger or transfer, the resulting, surviving or transferee entity fails to assume all the obligations of such Party under this Agreement to which it or its predecessor was a party by operation of Law or pursuant to an agreement reasonably satisfactory to the other Party.

(b) with respect to Seller as the Defaulting Party, the occurrence of any of the following:

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Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020

(i) if at any time, Seller delivers or attempts to deliver electric energy
to the Delivery Point for sale under this Agreement that was not generated or discharged by the
Facility;

(ii) the failure by Seller to achieve Commercial Operation within sixty
(60) days of the Guaranteed Commercial Operation Date;

(iii) if not remedied within ten (10) Business Days after Notice thereof,
the failure by Seller to deliver a reasonable Remedial Action Plan required under Section 2.4;

(iv) if, in any consecutive six (6) month period, the Adjusted Energy
Production amount (calculated in accordance with Exhibit G) for such period is not at least ten
percent (10%) of the Expected Energy amount for such period (adjusted for seasonality according
to the monthly forecast provided annually by Seller under Section 4.3), and Seller fails to either
(x) demonstrate to Buyer’s reasonable satisfaction, within fifteen (15) Business Days after Notice
from Buyer, a legitimate reason for the failure to meet the ten percent (10%) minimum; or
(y) deliver to Buyer within fifteen (15) Business Days after Notice from Buyer a plan or report
developed by Seller that describes the cause of the failure to meet the ten percent (10%) and the
actions that Seller has taken, is taking, or proposes to take in an effort to cure such condition along
with the written confirmation of a Licensed Professional Engineer that such plan or report is in
accordance with Prudent Operating Practices and capable of cure within a reasonable period of
time, not to exceed one-hundred eighty (180) days;

(v) if, in any two consecutive Contract Years, the average Monthly
Storage Availability is, on an annual basis, less than seventy percent (70%) in each Contract Year;

(vi) if, in any two consecutive Contract Years during the Delivery Term,
the Adjusted Energy Production amount is not at least sixty-five percent (65%) of the Expected
Energy amount;

(vii) failure by Seller to satisfy the collateral requirements pursuant to
Sections 8.7 or 8.8 after Notice and expiration of the cure periods set forth therein, the
Development Security or Performance Security amount in accordance with this Agreement in the
event Buyer draws against either for any reason other than to satisfy a Damage Payment or a
Termination Payment;

(viii) with respect to any Guaranty provided for the benefit of Buyer, the
failure by Seller to provide for the benefit of Buyer either (1) cash, (2) a replacement Guaranty
from a different Guarantor meeting the criteria set forth in the definition of Guarantor, or (3) a
replacement Letter of Credit from an issuer meeting the criteria set forth in the definition of Letter
of Credit, in each case, in the amount required hereunder within ten (10) Business Days after Seller
receives Notice of the occurrence of any of the following events:

(A) if any representation or warranty made by the Guarantor in
connection with this Agreement is false or misleading in any material
respect when made or when deemed made or repeated, and such default is
not remedied within thirty (30) days after Notice thereof;
(B) the failure of the Guarantor to make any payment required or to perform any other material covenant or obligation in any Guaranty;

(C) the Guarantor becomes Bankrupt;

(D) the Guarantor shall fail to meet the criteria for an acceptable Guarantor as set forth in the definition of Guarantor;

(E) the failure of the Guaranty to be in full force and effect (other than in accordance with its terms) prior to the indefeasible satisfaction of all obligations of Seller hereunder; or

(F) the Guarantor shall repudiate, disaffirm, disclaim, or reject, in whole or in part, or challenge the validity of any Guaranty; or

(ix) with respect to any outstanding Letter of Credit provided for the benefit of Buyer that is not then required under this Agreement to be canceled or returned, the failure by Seller to provide for the benefit of Buyer either (1) cash, or (2) a substitute Letter of Credit from a different issuer meeting the criteria set forth in the definition of Letter of Credit, in each case, in the amount required hereunder within ten (10) Business Days after Seller receives Notice of the occurrence of any of the following events:

(A) the issuer of the outstanding Letter of Credit shall fail to maintain a Credit Rating of at least A- by S&P, A- by Fitch, or A3 by Moody’s;

(B) the issuer of such Letter of Credit becomes Bankrupt;

(C) the issuer of the outstanding Letter of Credit shall fail to comply with or perform its obligations under such Letter of Credit and such failure shall be continuing after the lapse of any applicable grace period permitted under such Letter of Credit;

(D) the issuer of the outstanding Letter of Credit shall fail to honor a properly documented request to draw on such Letter of Credit;

(E) the issuer of the outstanding Letter of Credit shall disaffirm, disclaim, repudiate or reject, in whole or in part, or challenge the validity of, such Letter of Credit;

(F) such Letter of Credit fails or ceases to be in full force and effect at any time; or

(G) Seller shall fail to renew or cause the renewal of each outstanding Letter of Credit on a timely basis as provided in the relevant Letter of Credit and as provided in accordance with this Agreement, and in no event less than sixty (60) days prior to the expiration of the outstanding Letter of Credit.
11.2 **Remedies; Declaration of Early Termination Date.** If an Event of Default with respect to a Defaulting Party shall have occurred and be continuing, the other Party ("**Non-Defaulting Party**") shall have the following rights:

(a) to send Notice, designating a day, no earlier than the day such Notice is deemed to be received and no later than twenty (20) days after such Notice is deemed to be received, as an early termination date of this Agreement ("**Early Termination Date**") that terminates this Agreement (the "**Terminated Transaction**") and ends the Delivery Term effective as of the Early Termination Date;

(b) to accelerate all amounts owing between the Parties, and to collect as liquidated damages (i) the Damage Payment (in the case of an Event of Default by Seller occurring before the Commercial Operation Date, including an Event of Default under Section 11.1(b)(ii)) subject to the limitations in Section 11.7, or (ii) the Termination Payment calculated in accordance with Section 11.3 below (in the case of any other Event of Default by either Party);

(c) to withhold any payments due to the Defaulting Party under this Agreement;

(d) to suspend performance; or

(e) to exercise any other right or remedy available at law or in equity, including specific performance or injunctive relief, except to the extent such remedies are expressly limited under this Agreement;

provided, that payment by the Defaulting Party of the Damage Payment or Termination Payment, as applicable, shall constitute liquidated damages and the Non-Defaulting Party’s sole and exclusive remedy for the Terminated Transaction and the Event of Default related thereto.

11.3 **Termination Payment.** The Termination Payment ("**Termination Payment**") for the Terminated Transaction shall be the aggregate of all Settlement Amounts plus any or all other amounts due to or from the Non-Defaulting Party (as of the Early Termination Date) netted into a single amount. If the Non-Defaulting Party’s aggregate Gains exceed its aggregate Losses and Costs, if any, resulting from the termination of this Agreement, the net Settlement Amount shall be zero. The Non-Defaulting Party shall calculate, in a commercially reasonable manner, a Settlement Amount for the Terminated Transaction as of the Early Termination Date. Third parties supplying information for purposes of the calculation of Gains or Losses may include, without limitation, dealers in the relevant markets, end-users of the relevant product, information vendors and other sources of market information. The Settlement Amount shall not include consequential, incidental, punitive, exemplary, indirect or business interruption damages. Without prejudice to the Non-Defaulting Party’s duty to mitigate, the Non-Defaulting Party shall not have to enter into replacement transactions to establish a Settlement Amount. Each Party agrees and acknowledges that (a) the actual damages that the Non-Defaulting Party would incur in connection with the Terminated Transaction would be difficult or impossible to predict with certainty, (b) the Damage Payment or Termination Payment described in Section 11.2 or this Section 11.3 (as applicable) is a reasonable and appropriate approximation of such damages, and (c) the Damage Payment or Termination Payment described in Section 11.2 or this Section 11.3 (as applicable) is the exclusive remedy of the Non-Defaulting Party in connection with the Terminated Transaction but shall not
otherwise act to limit any of the Non-Defaulting Party’s rights or remedies if the Non-Defaulting Party does not elect a Terminated Transaction as its remedy for an Event of Default by the Defaulting Party.

11.4 **Notice of Payment of Termination Payment.** As soon as practicable after a Terminated Transaction, Notice shall be given by the Non-Defaulting Party to the Defaulting Party of the amount of the Damage Payment or Termination Payment and whether the Termination Payment is due to or from the Non-Defaulting Party. The Notice shall include a written statement explaining in reasonable detail the calculation of such amount and the sources for such calculation. The Termination Payment shall be made to or from the Non-Defaulting Party, as applicable, within ten (10) Business Days after such Notice is effective.

11.5 **Disputes With Respect to Termination Payment.** If the Defaulting Party disputes the Non-Defaulting Party’s calculation of the Termination Payment, in whole or in part, the Defaulting Party shall, within five (5) Business Days of receipt of the Non-Defaulting Party’s calculation of the Termination Payment, provide to the Non-Defaulting Party a detailed written explanation of the basis for such dispute. Disputes regarding the Termination Payment shall be determined in accordance with Article 15.

11.6 **Rights And Remedies Are Cumulative.** Except where an express and exclusive remedy or measure of liquidated damages is provided, the rights and remedies of a Party pursuant to this Article 11 shall be cumulative and in addition to the rights of the Parties otherwise provided in this Agreement. Any Non-Defaulting Party shall be obligated to mitigate its Costs, Losses and damages resulting from or arising out of any Event of Default of the other Party under this Agreement.

11.7 **Seller Pre-COD Liability Limitations.** Notwithstanding any other provision of this Agreement, Seller’s liability under or arising out of a termination of this Agreement prior to the Commercial Operation Date shall be limited to an amount equal to the Damage Payment.

**ARTICLE 12**

**LIMITATION OF LIABILITY AND EXCLUSION OF WARRANTIES.**

12.1 **No Consequential Damages.** EXCEPT TO THE EXTENT PART OF AN EXPRESS REMEDY OR MEASURE OF DAMAGES HEREIN, OR INCLUDED IN A LIQUIDATED DAMAGES CALCULATION, OR ARISING FROM FRAUD OR INTENTIONAL MISREPRESENTATION, NEITHER PARTY SHALL BE LIABLE TO THE OTHER OR ITS INDEMNIFIED PERSONS FOR ANY SPECIAL, PUNITIVE, EXEMPLARY, INDIRECT, OR CONSEQUENTIAL DAMAGES, OR LOSSES OR DAMAGES FOR LOST REVENUE OR LOST PROFITS, WHETHER FORESEEABLE OR NOT, ARISING OUT OF, OR IN CONNECTION WITH THIS AGREEMENT, BY STATUTE, IN TORT OR CONTRACT.

12.2 **Waiver and Exclusion of Other Damages.** EXCEPT AS EXPRESSLY SET FORTH HEREIN, THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY AND ALL IMPLIED WARRANTIES ARE DISCLAIMED. THE PARTIES CONFIRM THAT THE EXPRESS REMEDIES AND
MEASURES OF DAMAGES PROVIDED IN THIS AGREEMENT SATISFY THE ESSENTIAL PURPOSES HEREOF. ALL LIMITATIONS OF LIABILITY CONTAINED IN THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, THOSE PERTAINING TO SELLER’S LIMITATION OF LIABILITY AND THE PARTIES’ WAIVER OF CONSEQUENTIAL DAMAGES, SHALL APPLY EVEN IF THE REMEDIES FOR BREACH OF WARRANTY PROVIDED IN THIS AGREEMENT ARE DEEMED TO “FAIL OF THEIR ESSENTIAL PURPOSE” OR ARE OTHERWISE HELD TO BE INVALID OR UNENFORCEABLE.

FOR BREACH OF ANY PROVISION FOR WHICH AN EXPRESS AND EXCLUSIVE REMEDY OR MEASURE OF DAMAGES IS PROVIDED, SUCH EXPRESS REMEDY OR MEASURE OF DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY, THE OBLIGOR’S LIABILITY SHALL BE LIMITED AS SET FORTH IN SUCH PROVISION, AND ALL OTHER REMEDIES OR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. IF NO REMEDY OR MEASURE OF DAMAGES IS EXPRESSLY PROVIDED HEREIN, THE OBLIGOR’S LIABILITY SHALL BE LIMITED TO DIRECT DAMAGES ONLY.

TO THE EXTENT ANY DAMAGES REQUIRED TO BE PAID HEREUNDER ARE LIQUIDATED, INCLUDING UNDER SECTIONS 3.8, 4.3(f), 4.4(c), 4.7, 4.8, 4.10(e), 11.2 AND 11.3, AND AS PROVIDED IN EXHIBIT B, EXHIBIT G, AND EXHIBIT P THE PARTIES ACKNOWLEDGE THAT THE DAMAGES ARE DIFFICULT OR IMPOSSIBLE TO DETERMINE, THAT OTHERWISE OBTAINING AN ADEQUATE REMEDY IS INCONVENIENT, AND THAT THE LIQUIDATED DAMAGES CONSTITUTE A REASONABLE APPROXIMATION OF THE ANTICIPATED HARM OR LOSS. IT IS THE INTENT OF THE PARTIES THAT THE LIMITATIONS HEREIN IMPOSED ON REMEDIES AND THE MEASURE OF DAMAGES BE WITHOUT REGARD TO THE CAUSE OR CAUSES RELATED THERETO, INCLUDING THE NEGLIGENCE OF ANY PARTY, WHETHER SUCH NEGLIGENCE BE SOLE, JOINT OR CONCURRENT, OR ACTIVE OR PASSIVE. THE PARTIES HEREBY WAIVE ANY RIGHT TO CONTEST SUCH PAYMENTS AS AN UNREASONABLE PENALTY.

THE PARTIES ACKNOWLEDGE AND AGREE THAT MONEY DAMAGES AND THE EXPRESS REMEDIES PROVIDED FOR HEREIN ARE AN ADEQUATE REMEDY FOR THE BREACH BY THE OTHER OF THE TERMS OF THIS AGREEMENT, AND EACH PARTY WAIVES ANY RIGHT IT MAY HAVE TO SPECIFIC PERFORMANCE WITH RESPECT TO ANY OBLIGATION OF THE OTHER PARTY UNDER THIS AGREEMENT.

ARTICLE 13
REPRESENTATIONS AND WARRANTIES; AUTHORITY

13.1 Seller’s Representations and Warranties. As of the Effective Date, Seller represents and warrants as follows:

(a) Seller is a limited liability company, duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation, and is qualified to conduct business in the state of California and each jurisdiction where the failure to so qualify would have a material adverse effect on the business or financial condition of Seller.
(b) Seller has the power and authority to enter into and perform this Agreement and is not prohibited from entering into this Agreement or discharging and performing all covenants and obligations on its part to be performed under and pursuant to this Agreement, except where such failure does not have a material adverse effect on Seller’s performance under this Agreement. The execution, delivery and performance of this Agreement by Seller has been duly authorized by all necessary limited liability company action on the part of Seller and does not and will not require the consent of any trustee or holder of any indebtedness or other obligation of Seller or any other party to any other agreement with Seller.

(c) The execution and delivery of this Agreement, consummation of the transactions contemplated herein, and fulfillment of and compliance by Seller with the provisions of this Agreement will not conflict with or constitute a breach of or a default under any Law presently in effect having applicability to Seller, subject to any permits that have not yet been obtained by Seller, the documents of formation of Seller or any outstanding trust indenture, deed of trust, mortgage, loan agreement or other evidence of indebtedness or any other agreement or instrument to which Seller is a party or by which any of its property is bound.

(d) This Agreement has been duly executed and delivered by Seller. This Agreement is a legal, valid and binding obligation of Seller enforceable in accordance with its terms, except as limited by laws of general applicability limiting the enforcement of creditors’ rights or by the exercise of judicial discretion in accordance with general principles of equity.

(e) The Facility is located in the State of California.

(f) As between Buyer and Seller, Seller will be responsible for obtaining all permits necessary to construct and operate the Facility and Seller, or an Affiliate on behalf of Seller if permitted under CEQA, will be the applicant on any CEQA documents.

13.2 **Buyer’s Representations and Warranties.** As of the Effective Date, Buyer represents and warrants as follows:

(a) Buyer is a joint powers authority and a validly existing community choice aggregator, duly organized, validly existing and in good standing under the laws of the State of California and the rules, regulations and orders of the California Public Utilities Commission, and is qualified to conduct business in each jurisdiction of the Joint Powers Agreement members. All Persons making up the governing body of Buyer are the elected or appointed incumbents in their positions and hold their positions in good standing in accordance with the Joint Powers Agreement and other Law.

(b) Buyer has the power and authority to enter into and perform this Agreement and is not prohibited from entering into this Agreement or discharging and performing all covenants and obligations on its part to be performed under and pursuant to this Agreement, except where such failure does not have a material adverse effect on Buyer’s performance under this Agreement. The execution, delivery and performance of this Agreement by Buyer has been duly authorized by all necessary action on the part of Buyer and does not and will not require the consent of any trustee or holder of any indebtedness or other obligation of Buyer or any other party to any other agreement with Buyer.
(c) The execution and delivery of this Agreement, consummation of the transactions contemplated herein, and fulfillment of and compliance by Buyer with the provisions of this Agreement will not conflict with or constitute a breach of or a default under any Law presently in effect having applicability to Buyer, the documents of formation of Buyer or any outstanding trust indenture, deed of trust, mortgage, loan agreement or other evidence of indebtedness or any other agreement or instrument to which Buyer is a party or by which any of its property is bound.

(d) This Agreement has been duly executed and delivered by Buyer. This Agreement is a legal, valid and binding obligation of Buyer enforceable in accordance with its terms, except as limited by laws of general applicability limiting the enforcement of creditors’ rights or by the exercise of judicial discretion in accordance with general principles of equity.

(e) Buyer warrants and covenants that with respect to its contractual obligations under this Agreement, it will not claim immunity on the grounds of sovereignty or similar grounds with respect to itself or its revenues or assets from (1) suit, (2) jurisdiction of court (provided that such court is limited within a venue permitted in law and under the Agreement), (3) relief by way of injunction, order for specific performance or recovery of property, (4) attachment of assets, or (5) execution or enforcement of any judgment; provided, however that nothing in this Agreement shall waive the obligations or rights set forth in the California Tort Claims Act (Government Code Section 810 et seq.)

(f) Buyer is a “local public entity” as defined in Section 900.4 of the Government Code of the State of California.

(g) Buyer’s purchase of the Product under this Agreement is for resale to its customers in the ordinary course of its business.

13.3 General Covenants. Each Party covenants that commencing on the Effective Date and continuing throughout the Contract Term:

(a) It shall continue to be duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation and to be qualified to conduct business in California and each jurisdiction where the failure to so qualify would have a material adverse effect on its business or financial condition;

(b) It shall maintain (or obtain from time to time as required) all regulatory authorizations, approvals and permits necessary for the operation of the Facility and for Seller to legally perform its obligations under this Agreement; and

(c) It shall perform its obligations under this Agreement in compliance with all terms and conditions in its governing documents and in material compliance with any Law.

13.4 Prevailing Wage. Seller shall comply with all federal, state and local laws, statutes, ordinances, rules and regulations, and orders and decrees of any courts or administrative bodies or tribunals, including without limitation employment discrimination laws and prevailing wage laws. In addition, Seller shall use reasonable efforts to ensure that all employees hired by Seller, and its contractors and subcontractors, that will perform construction work or provide
services at the Site related to construction of the Facility are paid wages at rates not less than those prevailing for workers performing similar work in the locality as provided by applicable California law, if any (“Prevailing Wage Requirement”). Nothing herein shall require Seller, its contractors and subcontractors to comply with, or assume liability created by other inapplicable provisions of any California labor laws. Buyer agrees that Seller’s obligations under this Section 13.4 with respect to the Prevailing Wage Requirement will be satisfied upon the execution of a project labor agreement related to construction of the Facility.

ARTICLE 14
ASSIGNMENT

14.1 General Prohibition on Assignments. Neither Party may voluntarily assign this Agreement or its rights or obligations under this Agreement, without the prior written consent of the other Party, except as provided below. Any assignment made without required written consent, or in violation of the conditions to assignment set out below, shall be null and void. Seller shall be responsible for Buyer’s reasonable costs associated with the preparation, review, execution and delivery of documents in connection with any assignment of this Agreement, including without limitation reasonable attorneys’ fees.

14.2 Collateral Assignment. Subject to the provisions of this Section 14.2, Seller has the right to assign this Agreement as collateral for any financing or refinancing of the Facility without the consent of Buyer. In connection with any financing or refinancing of the Facility by Seller, Buyer shall in good faith cooperate and work with Seller and Lender to agree upon a consent to collateral assignment of this Agreement (“Collateral Assignment Agreement”). The Collateral Assignment Agreement must be in form and substance agreed to by Buyer, Seller and Lender, with such agreement not to be unreasonably withheld, and must include, among others, the following provisions:

(a) Buyer shall give Notice of an Event of Default by Seller to the Person(s) to be specified by Lender in the Collateral Assignment Agreement, before exercising its right to terminate this Agreement as a result of such Event of Default and expiration of applicable cure periods (including any extended cure periods provided to Lender); provided that such notice shall be provided to Lender at the time such notice is provided to Seller and any additional cure period of Lender agreed to in the Collateral Assignment Agreement shall not commence until Lender has received notice of such Event of Default;

(b) Following an Event of Default by Seller under this Agreement, Buyer may require Seller or Lender (if Lender has provided the notice set forth in subsection (c) below) to provide to Buyer a report concerning:

(i) The status of efforts by Seller or Lender to develop a plan to cure the Event of Default;

(ii) Impediments to the cure plan or its development;
(iii) If a cure plan has been adopted, the status of the cure plan’s implementation (including any modifications to the plan as well as the expected timeframe within which any cure is expected to be implemented); and

(iv) Any other information which Buyer may reasonably require related to the development, implementation and timetable of the cure plan.

Seller or Lender must provide the report to Buyer within ten (10) Business Days after receipt of Notice from Buyer requesting the report. Buyer will have no further right to require the report with respect to a particular Event of Default after that Event of Default has been cured;

(c) Lender will have the right to cure an Event of Default on behalf of Seller, only if Lender sends a written notice to Buyer indicating Lender’s or its designee’s intention to attempt to cure such Event of Default before the later of (i) the expiration of any cure period under this Agreement, and (ii) fifteen (15) Business Days after Lender’s receipt of notice of such Event of Default from Buyer. Buyer will have the right to exercise its remedies with respect to such Event of Default unless Lender or its designee remedies or cures such Event of Default within the cure period under this Agreement and any additional cure periods agreed in the Collateral Assignment Agreement up to a maximum of one hundred twenty (120) days (or one hundred eighty (180) days (or as required by law, if longer) in the event of a bankruptcy of Seller or any foreclosure or similar proceeding if required by Lender to cure any Event of Default);

(d) In addition to Lender’s rights in the case of an Event of Default, Lender will have the right to consent before any termination of this Agreement which does not arise out of an Event of Default;

(e) Lender will receive prior Notice of and the right to approve material amendments, waivers or supplements to this Agreement, which approval will not be unreasonably withheld, delayed or conditioned;

(f) If Lender, directly or indirectly, takes possession of, or title to the Facility (including possession by a receiver or title by foreclosure or deed in lieu of foreclosure), Lender must assume all of Seller’s obligations arising under this Agreement and all related agreements (subject to such limits on liability as are mutually agreed to by Seller, Buyer and Lender as set forth in the Collateral Assignment Agreement); provided, before such assumption, if Buyer advises Lender that Buyer will require that Lender cure (or cause to be cured) any Event of Default existing as of the possession date (other than any non-payment Event of Default that is not reasonably capable of cure) in order to avoid the exercise by Buyer (in its sole discretion) of Buyer’s right to terminate this Agreement with respect to such Event of Default, then Lender at its option, and in its sole discretion, may elect to either:

(i) Cause such Event of Default to be cured within the time frames provided above, or

(ii) Not assume this Agreement;

(g) If Lender elects to sell or transfer the Facility (after Lender directly or indirectly, takes possession of, or title to the Facility), or sale of the Facility occurs through the
actions of Lender (for example, a foreclosure sale where a third party is the buyer, or otherwise), then Lender must cause the transferee or buyer to assume all of Seller’s obligations arising under this Agreement and all related agreements as a condition of the sale or transfer (other than obligations relating to any non-payment Event of Default that is not reasonably capable of cure). Such sale or transfer may be made only to an entity that (i) meets the definition of Permitted Transferee and (ii) is an entity that Buyer is permitted to contract with under applicable Law; and

(h) Subject to Lender’s cure of any Events of Defaults under the Agreement in accordance with Section 14.2(f) (to the extent required therein), if (i) this Agreement is rejected in Seller’s Bankruptcy or otherwise terminated in connection therewith Lender shall have the right to elect within forty-five (45) days after such rejection or termination, to enter into a replacement agreement with Buyer having substantially the same terms as this Agreement for the remaining term thereof, or (ii) if Lender or its designee, directly or indirectly, takes possession of, or title to, the Facility (including possession by a receiver or title by foreclosure or deed in lieu of foreclosure) after any such rejection or termination of this Agreement, promptly after Buyer’s written request, Lender must itself or must cause its designee to promptly enter into a new agreement with Buyer having substantially the same terms as this Agreement for the remaining term thereof, provided that in the event a designee of Lender, directly or indirectly, takes possession of, or title to, the Facility (including possession by a receiver or title by foreclosure or deed in lieu of foreclosure), such designee must meet the requirements of Section 14.2(g).

(i) In the event the financing transaction is or includes a tax equity transaction, Buyer shall in good faith work with Seller and Lender to agree upon a Buyer estoppel certificate containing customary terms and conditions reasonably acceptable to Buyer, Seller and Lender.

14.3 **Permitted Assignment by Seller.** Buyer’s written consent shall be required for the transfer or assignment of this Agreement, including through a Change of Control or to any Person succeeding to all or substantially all of the assets of Seller, such consent not to be unreasonably withheld.

**ARTICLE 15**

**DISPUTE RESOLUTION**

15.1 **Venue.** The Parties agree that any suit, action or other legal proceeding by or against any party (or its affiliates or designees) with respect to or arising out of this Agreement shall be brought in the federal courts of the United States or the courts of the State of California sitting in Santa Clara County, California.

15.2 **Dispute Resolution.** In the event of any dispute arising under this Agreement, within ten (10) days following the receipt of a Notice from either Party identifying such dispute, the Parties shall meet, negotiate and attempt, in good faith, to resolve the dispute quickly, informally and inexpensively. If the Parties are unable to resolve a dispute arising hereunder within the earlier of either thirty (30) days of initiating such discussions, or within forty (40) days after Notice of the dispute, the parties shall submit the dispute to mediation prior to seeking any and all remedies available to it at Law in or equity. The Parties will cooperate in selecting a qualified neutral mediator selected from a panel of neutrals and in scheduling the time and place of the mediation as soon as reasonably possible, but in no event later than thirty (30) days after the request
for mediation is made. The Parties agree to participate in the mediation in good faith and to share the costs of the mediation, including the mediator’s fee, equally, but such shared costs shall not include each Party’s own attorneys’ fees and costs, which shall be borne solely by such Party. If the mediation is unsuccessful, then either Party may seek any and all remedies available to it at law or in equity, subject to the limitations set forth in this Agreement.

**ARTICLE 16**
**INDEMNIFICATION**

16.1 **Mutual Indemnity.**

(a) Each Party (the “**Indemnifying Party**”) agrees to defend, indemnify and hold harmless the other Party, its directors, officers, agents, attorneys, employees and representatives (each an “**Indemnified Party**” and collectively, the “**Indemnified Group**”) from and against all third party claims, demands, losses, liabilities, penalties, and expenses, including reasonable attorneys’ and expert witness fees, for personal injury or death to Persons and damage to the property of any third party to the extent arising out of, resulting from, or caused by the negligent or willful misconduct of the Indemnifying Party, its Affiliates, its directors, officers, employees or agents (collectively, “**Indemnifiable Losses**”).

(b) Nothing in this Section shall enlarge or relieve Seller or Buyer of any liability to the other for any breach of this Agreement. Neither Party shall be indemnified for its damages resulting from its sole negligence, intentional acts, or willful misconduct. These indemnity provisions shall not be construed to relieve any insurer of its obligations to pay claims consistent with the provisions of a valid insurance policy.

16.2 **Notice of Claim.** Subject to the terms of this Agreement and upon obtaining knowledge of an Indemnifiable Loss for which it is entitled to indemnity under this Article 16, the Indemnified Party will promptly notify the Indemnifying Party in writing of any damage, claim, loss, liability or expense which Indemnified Party has determined has given or could give rise to an Indemnifiable Loss under Section 16.1 (“**Claim**”). The Notice is referred to as a “**Notice of Claim**”. A Notice of Claim will specify, in reasonable detail, the facts known to Indemnified Party regarding the Indemnifiable Loss.

16.3 **Failure to Provide Notice.** A failure to give timely Notice or to include any specified information in any Notice as provided in this Section 16.3 will not affect the rights or obligations of any Party hereunder except and only to the extent that, as a result of such failure, any Party which was entitled to receive such Notice was deprived of its right to recover any payment under its applicable insurance coverage or was otherwise materially damaged as a direct result of such failure and, provided further, Indemnifying Party is not obligated to indemnify any member of the Indemnified Group for the increased amount of any Indemnifiable Loss which would otherwise have been payable to the extent that the increase resulted from the failure to deliver timely a Notice of Claim.

16.4 **Defense of Claims.** If, within ten (10) Business Days after giving a Notice of Claim regarding a Claim to Indemnifying Party pursuant to Section 16.2, Indemnified Party receives Notice from Indemnifying Party that Indemnifying Party has elected to assume the defense of such

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Claim, Indemnifying Party will not be liable for any legal expenses subsequently incurred by Indemnified Party in connection with the defense thereof; provided, however, that if Indemnifying Party fails to take reasonable steps necessary to defend diligently such Claim within ten (10) Business Days after receiving Notice from Indemnifying Party that Indemnifying Party believes Indemnifying Party has failed to take such steps, or if Indemnifying Party has not undertaken fully to indemnify Indemnified Party in respect of all Indemnifiable Losses relating to the matter, Indemnified Party may assume its own defense, and Indemnifying Party will be liable for all reasonable costs or expenses, including attorneys’ fees, paid or incurred in connection therewith. Without the prior written consent of Indemnified Party, Indemnifying Party will not enter into any settlement of any Claim which would lead to liability or create any financial or other obligation on the part of Indemnified Party for which Indemnified Party is not entitled to indemnification hereunder; provided, however, that Indemnifying Party may accept any settlement without the consent of Indemnified Party if such settlement provides a full release to Indemnified Party and no requirement that Indemnified Party acknowledge fault or culpability. If a firm offer is made to settle a Claim without leading to liability or the creation of a financial or other obligation on the part of Indemnified Party for which Indemnified Party is not entitled to indemnification hereunder and Indemnifying Party desires to accept and agrees to such offer, Indemnifying Party will give Notice to Indemnified Party to that effect. If Indemnified Party fails to consent to such firm offer within ten (10) calendar days after its receipt of such Notice, Indemnified Party may continue to contest or defend such Claim and, in such event, the maximum liability of Indemnifying Party to such Claim will be the amount of such settlement offer, plus reasonable costs and expenses paid or incurred by Indemnified Party up to the date of such Notice.

16.5 Subrogation of Rights. Upon making any indemnity payment, Indemnifying Party will, to the extent of such indemnity payment, be subrogated to all rights of Indemnified Party against any Third Party in respect of the Indemnifiable Loss to which the indemnity payment relates; provided that until Indemnified Party recovers full payment of its Indemnifiable Loss, any and all claims of Indemnifying Party against any such Third Party on account of said indemnity payment are hereby made expressly subordinated and subjected in right of payment to Indemnified Party’s rights against such Third Party. Without limiting the generality or effect of any other provision hereof, Buyer and Seller shall execute upon request all instruments reasonably necessary to evidence and perfect the above-described subrogation and subordination rights.

16.6 Rights and Remedies are Cumulative. Except for express remedies already provided in this Agreement, the rights and remedies of a Party pursuant to this Article 16 are cumulative and in addition to the rights of the Parties otherwise provided in this Agreement.

ARTICLE 17
INSURANCE

17.1 Insurance.

(a) General Liability. Seller shall maintain, or cause to be maintained at its sole expense, (i) commercial general liability insurance, including products and completed operations and personal injury insurance, with a minimum amount of Two Million Dollars ($2,000,000) per occurrence, and an annual aggregate of not less than Five Million Dollars ($5,000,000), and including Buyer as an additional insured but only to the extent of the liabilities assumed hereunder
by Seller; and (ii) an umbrella insurance policy in a minimum amount of liability of Ten Million Dollars ($10,000,000). The coverage required under this Section 17.1(a) may be provided through a combination of general liability, umbrella liability and/or excess liability policies. Defense costs shall be provided as an additional benefit and not included with the limits of liability. Such insurance shall contain standard cross-liability and severability of interest provisions.

(b) **Employer’s Liability Insurance.** If Seller has any employees, employers’ liability insurance shall be One Million Dollars ($1,000,000.00) for injury or death occurring as a result of each accident. With regard to bodily injury by disease, the One Million Dollar ($1,000,000) policy limit will apply to each employee.

(c) **Workers Compensation Insurance.** Seller, if it has employees, shall also maintain at all times during the Contract Term workers’ compensation and employers’ liability insurance coverage in accordance with applicable requirements of California Law.

(d) **Business Auto Insurance.** Seller shall maintain at all times during the Contract Term business auto insurance for bodily injury and property damage with limits of One Million Dollars ($1,000,000) per occurrence. Such insurance shall cover liability arising out of Seller’s use of all owned (if any), non-owned and hired vehicles, including trailers or semi-trailers in the performance of the Agreement.

(e) **Construction All-Risk Insurance.** Seller shall maintain or cause to be maintained during the construction of the Facility, but only after major electrical generating equipment as arrived at the Facility, prior to the Commercial Operation Date, construction all-risk form property insurance covering the Facility during such construction periods with limits and deductibles consistent with standard industry practices, and naming the Seller (and Lender if any) as the loss payee.

(f) **Pollution Liability.** Seller shall maintain or cause to be maintained during the construction of the Facility prior to the Commercial Operation Date, Pollution Liability Insurance in the amount of Two Million Dollars ($2,000,000) per occurrence and in the aggregate, naming the Seller (and Lender if any) as additional named insured. This coverage may be provided by an endorsement to the general liability policy to include time element pollution liability.

(g) **Subcontractor Insurance.** Seller shall require all of its subcontractors to carry the same levels of insurance as Seller. All subcontractors shall include Seller as an additional insured to (i) comprehensive general liability insurance; (ii) workers’ compensation insurance and employers’ liability coverage; and (iii) business auto insurance for bodily injury and property damage. All subcontractors shall provide a primary endorsement and a waiver of subrogation to Seller for the required coverage pursuant to this Section 17.1(g).

(h) **Evidence of Insurance.** Within ten (10) days after execution of the Agreement (except in the case of construction all risk insurance as provided in Section 17.1(e), which will be provided prior to the start of construction) and upon annual renewal thereafter, Seller shall deliver to Buyer certificates of insurance evidencing such coverage. These certificates shall specify that Buyer shall be given at least thirty (30) days (ten (10) days for nonpayment of premiums) prior Notice by Seller in the event of any material modification, cancellation or
termination of coverage. Such insurance shall be primary coverage without right of contribution from any insurance of Buyer. Any other insurance maintained by Seller is for the exclusive benefit of Seller and shall not in any manner inure to the benefit of Buyer.

ARTICLE 18
CONFIDENTIAL INFORMATION

18.1 Definition of Confidential Information. The following constitutes “Confidential Information” whether oral or written which is delivered by Seller to Buyer or by Buyer to Seller including: (a) the terms and conditions of, and proposals and negotiations related to, this Agreement, and (b) information that either Seller or Buyer stamps or otherwise identifies as “confidential” or “proprietary” before disclosing it to the other. Confidential Information does not include (i) information that was publicly available at the time of the disclosure, other than as a result of a disclosure in breach of this Agreement; (ii) information that becomes publicly available through no fault of the recipient after the time of the delivery; (iii) information that was rightfully in the possession of the recipient (without confidential or proprietary restriction) at the time of delivery or that becomes available to the recipient from a source not subject to any restriction against disclosing such information to the recipient; and (iv) information that the recipient independently developed without a violation of this Agreement.

18.2 Duty to Maintain Confidentiality. Confidential Information will retain its character as Confidential Information but may be disclosed by the recipient (the “Receiving Party”) if and to the extent such disclosure is required (a) to be made by any requirements of Law, (b) pursuant to an order of a court or (c) in order to enforce this Agreement. If the Receiving Party becomes legally compelled (by interrogatories, requests for information or documents, subpoenas, summons, civil investigative demands, or similar processes or otherwise in connection with any litigation or to comply with any applicable law, order, regulation, ruling, regulatory request, accounting disclosure rule or standard or any exchange, control area or independent system operator rule) to disclose any Confidential Information of the disclosing Party (the “Disclosing Party”), Receiving Party shall provide Disclosing Party with prompt Notice so that Disclosing Party, at its sole expense, may seek an appropriate protective order or other appropriate remedy. If the Disclosing Party takes no such action after receiving the foregoing Notice from the Receiving Party, the Receiving Party is not required to defend against such request and shall be permitted to disclose such Confidential Information of the Disclosing Party, with no liability for any damages that arise from such disclosure. Each Party hereto acknowledges and agrees that information and documentation provided in connection with this Agreement may be subject to the California Records Act (Government Code Section 6250 et seq.).

18.3 Irreparable Injury; Remedies. Receiving Party acknowledges that its obligations hereunder are necessary and reasonable in order to protect Disclosing Party and the business of Disclosing Party, and expressly acknowledges that monetary damages would be inadequate to compensate Disclosing Party for any breach or threatened breach by Receiving Party of any covenants and agreements set forth herein. Accordingly, Receiving Party acknowledges that any such breach or threatened breach will cause irreparable injury to Disclosing Party and that, in addition to any other remedies that may be available, in law, in equity or otherwise, Disclosing Party will be entitled to obtain injunctive relief against the threatened breach of this Agreement or the continuation of any such breach, without the necessity of proving actual damages.
18.4 **Disclosure to Lenders, Etc.** Notwithstanding anything to the contrary in this Article 18, Confidential Information may be disclosed by Seller to any actual or potential Lender or any of its Affiliates, and Seller’s actual or potential agents, consultants, contractors, or trustees, so long as the Person to whom Confidential Information is disclosed agrees in writing to be bound by the confidentiality provisions of this Article 18 to the same extent as if it were a Party.

18.5 **Press Releases.** Neither Party shall issue (or cause its Affiliates to issue) a press release regarding the transactions contemplated by this Agreement unless both Parties have agreed upon the contents of any such public statement.

**ARTICLE 19**
**MISCELLANEOUS**

19.1 **Entire Agreement; Integration; Exhibits.** This Agreement, together with the Cover Sheet and Exhibits attached hereto constitutes the entire agreement and understanding between Seller and Buyer with respect to the subject matter hereof and supersedes all prior agreements relating to the subject matter hereof, which are of no further force or effect. The Exhibits attached hereto are integral parts hereof and are made a part of this Agreement by reference. The headings used herein are for convenience and reference purposes only. In the event of a conflict between the provisions of this Agreement and those of the Cover Sheet or any Exhibit, the provisions of first the Cover Sheet, and then this Agreement shall prevail, and such Exhibit shall be corrected accordingly. This Agreement shall be considered for all purposes as prepared through the joint efforts of the Parties and shall not be construed against one Party or the other Party as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof.

19.2 **Amendments.** This Agreement may only be amended, modified or supplemented by an instrument in writing executed by duly authorized representatives of Seller and Buyer; *provided*, that, for the avoidance of doubt, this Agreement may not be amended by electronic mail communications.

19.3 **No Waiver.** Waiver by a Party of any default by the other Party shall not be construed as a waiver of any other default.

19.4 **No Agency, Partnership, Joint Venture or Lease.** Seller and the agents and employees of Seller shall, in the performance of this Agreement, act in an independent capacity and not as officers or employees or agents of Buyer. Under this Agreement, Seller and Buyer intend to act as energy seller and energy purchaser, respectively, and do not intend to be treated as, and shall not act as, partners in, co-venturers in or lessor/lessee with respect to the Facility or any business related to the Facility. This Agreement shall not impart any rights enforceable by any third party (other than a permitted successor or assignee bound to this Agreement or, to the extent set forth herein, any Lender) or Indemnified Party.

19.5 **Severability.** In the event that any provision of this Agreement is unenforceable or held to be unenforceable, the Parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby. The Parties shall, however, use their best endeavors to agree on the replacement of the void, illegal or unenforceable provision(s) with legally
acceptable clauses which correspond as closely as possible to the sense and purpose of the affected provision and this Agreement as a whole.

19.6 **Mobile-Sierra.** Notwithstanding any other provision of this Agreement, neither Party shall seek, nor shall they support any third party seeking, to prospectively or retroactively revise the rates, terms or conditions of service of this Agreement through application or complaint to FERC pursuant to the provisions of Section 205, 206 or 306 of the Federal Power Act, or any other provisions of the Federal Power Act, absent prior written agreement of the Parties. Further, absent the prior written agreement in writing by both Parties, the standard of review for changes to the rates, terms or conditions of service of this Agreement proposed by a Party shall be the “public interest” standard of review set forth in United Gas Pipe Line Co. v. Mobile Gas Service Corp., 350 U.S. 332 (1956) and Federal Power Commission v. Sierra Pacific Power Co., 350 U.S. 348 (1956). Changes proposed by a non-Party or FERC acting *sua sponte* shall be subject to the most stringent standard permissible under applicable law.

19.7 **Counterparts; Electronic Signatures.** This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument and each of which shall be deemed an original. The Parties may rely on electronic, facsimile or scanned signatures as originals.

19.8 **Electronic Delivery.** Delivery of an executed signature page of this Agreement by electronic format (including portable document format (.pdf)) shall be the same as delivery of an original executed signature page.

19.9 **Binding Effect.** This Agreement shall inure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns.

19.10 **No Recourse to Members of Buyer.** Buyer is organized as a Joint Powers Authority in accordance with the Joint Exercise of Powers Act of the State of California (Government Code Section 6500, et seq.) pursuant to its Joint Powers Agreement and is a public entity separate from its constituent members. Buyer shall solely be responsible for all debts, obligations and liabilities accruing and arising out of this Agreement. Seller shall have no rights and shall not make any claims, take any actions or assert any remedies against any of Buyer’s constituent members, or the employees, directors, officers, consultants or advisors or Buyer or its constituent members, in connection with this Agreement.

19.11 **Forward Contract.** The Parties acknowledge and agree that this Agreement constitutes a “forward contract” within the meaning of the U.S. Bankruptcy Code, and Buyer and Seller are “forward contract merchants” within the meaning of the U.S. Bankruptcy Code. Each Party further agrees that, for all purposes of this Agreement, each Party waives and agrees not to assert the applicability of the provisions of 11 U.S.C. § 366 in any bankruptcy proceeding wherein such Party is a debtor. In any such proceeding, each Party further waives the right to assert that the other Party is a provider of last resort to the extent such term relates to 11 U.S.C. §366 or another provision of 11 U.S.C. § 101-1532.

19.12 **Further Assurances.** Each of the Parties hereto agree to provide such information, execute and deliver any instruments and documents and to take such other actions as may be
necessary or reasonably requested by the other Party which are not inconsistent with the provisions of this Agreement and which do not involve the assumptions of obligations other than those provided for in this Agreement, to give full effect to this Agreement and to carry out the intent of this Agreement.

19.13 **Change in Electric Market Design.** If a change in the CAISO Tariff renders this Agreement or any provisions hereof incapable of being performed or administered, then any Party may request that Buyer and Seller enter into negotiations to make the minimum changes to this Agreement necessary to make this Agreement capable of being performed and administered, while attempting to preserve to the maximum extent possible the benefits, burdens, and obligations set forth in this Agreement as of the Effective Date. Upon delivery of such a request, Buyer and Seller shall engage in such negotiations in good faith. If Buyer and Seller are unable, within sixty (60) days after delivery of such request, to agree upon changes to this Agreement or to resolve issues relating to changes to this Agreement, then any Party may submit issues pertaining to changes to this Agreement to the dispute resolution process set forth in Article 15. Notwithstanding the foregoing, (i) a change in cost shall not in and of itself be deemed to render this Agreement or any of the provisions hereof incapable of being performed or administered, or constitute, or form the basis of, a Force Majeure Event, and (ii) all of unaffected provisions of this Agreement shall remain in full force and effect during any period of such negotiation or dispute resolution.

[Signatures on following page]
IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the Effective Date.

91MC 8MK, LLC

By: [Signature]
Name: Thomas Buttgenbach
Title: President

SILICON VALLEY CLEAN ENERGY AUTHORITY, a California joint powers authority

By: [Signature]
Name: [Name]
Title: [Title]
IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the Effective Date.

**91MC 8ME, LLC**

By: __________________________
Name: _________________________
Title: _________________________

**SILICON VALLEY CLEAN ENERGY AUTHORITY, a California joint powers authority**

By: Girish Balachandran
Name: Girish Balachandran
Title: CEO
EXHIBIT A

FACILITY DESCRIPTION

Site Name: Aratina Solar Center 1B ("ASC1B")

Site includes all or some of the following APNs: 244-010-01, 244-010-02, 244-010-33, 244-040-03, 244-010-04, 244-010-36, 244-010-19, 244-010-20, 244-010-21, 244-010-22, 244-040-10, 244-040-11, 244-040-12, 244-040-14, 244-040-15, 244-040-17, 244-040-19, 244-040-20, and 244-040-21.

County: Kern County, California

CEQA Lead Agency: Kern County

Type of Generating Facility: Solar Photovoltaic

Operating Characteristics of Generating Facility: 80 MW as-available solar photovoltaic

Type of Storage Facility: Battery energy storage facility

Operating Characteristics of Storage Facility:

  Maximum Stored Energy Level at COD (MWh):

  Maximum Charging Capacity at COD:

  Maximum Discharging Capacity at COD:

Operating Restrictions of Storage Facility: See Exhibit Q

Guaranteed Capacity: See definition in Section 1.1

Storage Contract Capacity: See definition in Section 1.1

Interconnection Capacity:

Delivery Point: Facility Pnode

Facility Meter: See Exhibit R

Storage Facility Meter Locations: See Exhibit R

Facility Interconnection Point: Kramer 220 kV Substation.

Facility pNode: KRAMER_2_B1

Participating Transmission Owner: Southern California Edison Company
EXHIBIT B

MAJOR PROJECT DEVELOPMENT MILESTONES AND COMMERCIAL OPERATION

1. **Major Project Development Milestones.**

   (a) **“Construction Start”** will occur upon Seller’s execution of an engineering, procurement, and construction contract (or similar agreement) and issuance thereunder of a notice to proceed that authorizes the contractor to commence all activities thereunder, including to mobilize at the Site and to begin physical construction at the Site. The date of Construction Start will be evidenced by and subject to Seller’s delivery to Buyer of a certificate substantially in the form attached as Exhibit J hereto, and the date certified therein by Seller shall be the “Construction Start Date.” The Seller shall cause Construction Start to occur no later than the Guaranteed Construction Start Date.

   (b) **“Major Project Development Milestone”** means either the Guaranteed Construction Start Date or the Executed Interconnection Agreement Milestone. If Construction Start is not achieved by the Guaranteed Construction Start Date, or the Interconnection Agreement is not signed by Seller on or before the Executed Interconnection Agreement Milestone, Seller shall pay Daily Delay Damages to Buyer for each day for which a Major Project Development Milestone has not been completed. Daily Delay Damages will be calculated separately and accrue independently for each Major Project Development Milestone. Daily Delay Damages shall be payable to Buyer by Seller until Seller completes both Major Project Development Milestones. If Seller fails to achieve Commercial Operation on or before the Guaranteed Commercial Operation Date, Buyer shall be entitled to collect all accrued Daily Delay Damages on the Guaranteed Commercial Operation Date and Buyer shall invoice Seller for all accrued Daily Delay Damages, and, within ten (10) Business Days following Seller’s receipt of such invoice, Seller shall pay Buyer the full amount of the Daily Delay Damages set forth in such invoice. The Parties agree that Buyer’s receipt of Daily Delay Damages shall be Buyer’s sole and exclusive remedy for Seller’s unexcused delay in achieving the Major Project Development Milestones, but shall (x) not be construed as Buyer’s declaration that an Event of Default has occurred under any provision of Section 11.1 and (y) not limit Buyer’s right to declare an Event of Default pursuant to Section 11.1(b)(ii) and receive a Damage Payment upon exercise of Buyer’s default right pursuant to Section 11.2.

2. **Commercial Operation of the Facility.** **“Commercial Operation”** means the condition existing when (i) Seller has fulfilled all of the conditions precedent in Section 2.2 of the Agreement and provided Notice to Buyer substantially in the form of Exhibit H (the “COD Certificate”) and (ii) Seller has notified Buyer in writing that it has provided the required documentation to Buyer and met the conditions for achieving Commercial Operation, and (iii) Buyer has acknowledged to Seller in writing that Buyer agrees that Commercial Operation has been achieved, such acknowledgement not to be unreasonably withheld or delayed. Buyer’s failure to respond to Seller’s Notice within five (5) Business Days shall be deemed approval of Seller’s COD Certificate. If Buyer disagrees that Commercial Operation has occurred following receipt of the Notice, it shall within such five (5) Business Day period, deliver to Seller a valid detailed explanation as to why it believes that Commercial Operation has not occurred. Seller shall then
remedy Buyer’s concern, if valid, and the Notice process of above shall repeat until Buyer has approved Seller’s COD Certificate or a deemed approval occurs. Upon Buyer’s approval or deemed approval, Buyer shall provide Seller with written acknowledgement of the Commercial Operation Date upon request. The “Commercial Operation Date” shall be the later of (x) sixty (60) days before the Expected Commercial Operation Date or (y) the date on which Commercial Operation is achieved.

(a) Seller shall cause Commercial Operation for the Facility to occur by the Guaranteed Commercial Operation Date. Seller shall notify Buyer that it intends to achieve Commercial Operation at least sixty (60) days before the anticipated Commercial Operation Date.

(b) If Seller does not achieve Commercial Operation by the Guaranteed Commercial Operation Date, Seller shall pay Commercial Operation Delay Damages to Buyer for each day after the Guaranteed Commercial Operation Date until the Commercial Operation Date. Commercial Operation Delay Damages shall be payable to Buyer by Seller until the Commercial Operation Date. Commercial Operation Delay Damages shall be paid in advance on a monthly basis by Seller to Buyer. A prorated amount of Commercial Operation Delay Damages will be returned to Seller if the Commercial Operation Date occurs during a month in which the Commercial Operation Delay Damages were paid in advance. The Parties agree that Buyer’s receipt of Commercial Operation Delay Damages shall be Buyer’s sole and exclusive remedy for Seller’s unexcused delay in achieving the Commercial Operation Date on or before the Guaranteed Commercial Operation Date, but shall (x) not be construed as Buyer’s declaration that an Event of Default has occurred under any provision of Section 11.1 and (y) not limit Buyer’s right to declare an Event of Default under Section 11.2(b)(ii) and receive a Damage Payment upon exercise of Buyer’s default right pursuant to Section 11.2.

3. **Termination for Failure to Achieve Commercial Operation.** If the Facility has not achieved Commercial Operation within sixty (60) days after the Guaranteed Commercial Operation Date, Buyer may elect to terminate this Agreement in accordance with Sections 11.1(b)(ii) and 11.2.

4. **Extension of the Guaranteed Dates.** The Guaranteed Construction Start Date and the Guaranteed Commercial Operation Date both shall, subject to notice and documentation requirements set forth below, be automatically extended on a day-by-day basis (the “Development Cure Period”) for the duration of any and all delays arising out of the following circumstances:

   (a) a Force Majeure Event occurs; or

   (b) the Interconnection Facilities or Network Upgrades are not complete and ready for the Facility to connect and sell Product at the Delivery Point by the date for completion of the Network Upgrades Completed Milestone, despite the exercise of commercially reasonable efforts by Seller; or

   (c) Seller has not obtained all permits and approvals from Governmental Authorities necessary to construct, interconnect and operate the Facility by the date for completion of the Conditional Use Permit Milestone, despite the exercise of commercially reasonable efforts by Seller; or

Exhibit B - 2

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(d) Buyer has not made all necessary arrangements to receive the Facility Energy at the Delivery Point by the Guaranteed Commercial Operation Date.

Notwithstanding anything in this Agreement to the contrary, the cumulative extensions granted under Section 4(a), 4(b) and 4(c) above under the Development Cure Period shall not exceed one hundred eighty (180) days, for any reason, including a Force Majeure Event; provided, however, that such one hundred eighty (180) day period shall be extended on a day-for-day basis (up to an additional sixty (60) days maximum) for each day of delay that is based on a COVID-19 Force Majeure Event claim; and provided, further, that the total of cumulative extensions granted under Section 4(a), 4(b) and 4(c) under the Development Cure Period shall not exceed two hundred forty (240) days. Notwithstanding the foregoing, no extension under the Development Cure Period shall be given if (i) the delay was the result of Seller’s failure to take all commercially reasonable actions to meet its requirements and deadlines, (ii) Seller failed to provide requested documentation as provided below, or (iii) Seller failed to provide Notice to Buyer as required in the next sentence. Seller shall provide prompt Notice to Buyer of a delay, but in no case more than thirty (30) days after Seller became aware of such delay, except that in the case of a delay occurring within sixty (60) days of the Expected Commercial Operation Date, or after such date, Seller must provide Notice within five (5) Business Days of Seller becoming aware of such delay. Upon request from Buyer, Seller shall promptly provide documentation demonstrating to Buyer’s reasonable satisfaction that the delays described above did not result from Seller’s actions or failure to take reasonable actions.

5. **Failure to Reach Guaranteed Capacity or Storage Contract Capacity.**

   (a) **Guaranteed Capacity.** If, at Commercial Operation, the Installed PV Capacity is less than one hundred percent (100%) of the Guaranteed Capacity, Seller shall have one hundred twenty (120) days after the Commercial Operation Date to install additional capacity or Network Upgrades such that the Installed PV Capacity is equal to (but not greater than) the Guaranteed Capacity, and Seller shall provide to Buyer a new certificate substantially in the form attached as Exhibit I hereto specifying the new Installed PV Capacity. If Seller fails to construct the Guaranteed Capacity by such date, Seller shall pay “Capacity Damages” to Buyer, in an amount equal to Two Hundred Fifty Thousand Dollars ($250,000) for each MW that the Guaranteed Capacity exceeds the Installed PV Capacity, and the Guaranteed Capacity and other applicable portions of the Agreement shall be adjusted accordingly.

   (b) **Storage Contract Capacity.** If, at Commercial Operation, the Installed Battery Capacity is less than one hundred percent (100%) of the Storage Contract Capacity, Seller shall have one hundred twenty (120) days after the Commercial Operation Date to install additional capacity or Network Upgrades such that the Installed Battery Capacity is equal to (but not greater than) one hundred percent (100%) of the Storage Contract Capacity, and Seller shall provide to Buyer a new certificate substantially in the form attached as Exhibit I hereto specifying the new Installed Battery Capacity. If Seller fails to construct the Storage Contract Capacity by such date, Seller shall pay Capacity Damages to Buyer, in an amount equal to Two Hundred Fifty Thousand Dollars ($250,000) for each MW that the Storage Contract Capacity exceeds the Installed Battery Capacity, and the Storage Contract Capacity and other applicable portions of the Agreement shall be adjusted accordingly.
EXHIBIT C

COMPENSATION

Buyer shall compensate Seller for the Product in accordance with this Exhibit C.

(a) Renewable Rate. Except as provided below, for each MWh of Adjusted Facility Energy in each Settlement Period, Buyer shall pay Seller the Renewable Rate.

(b) Deemed Delivered Energy. Except as provided below, for each MWh of Deemed Delivered Energy in each Settlement Period, Buyer shall pay Seller the Renewable Rate.

(c) Excess Contract Year Deliveries.

(i) If at any point in any Contract Year the amount of Adjusted Facility Energy plus the amount of Deemed Delivered Energy exceeds one hundred fifteen percent (115%) of the Expected Energy for such Contract Year, the price to be paid for any additional Adjusted Facility Energy or Deemed Delivered Energy during such Contract Year shall be equal to the lesser of (a) the Delivery Point LMP for the Real-Time Market for the applicable Settlement Interval or (b) seventy-five percent (75%) of the Renewable Rate, but not less than zero dollars ($0).

(ii) If at any point in any Contract Year the amount of Adjusted Facility Energy plus the amount of Deemed Delivered Energy exceeds one hundred twenty-five percent (125%) of the Expected Energy for such Contract Year, the price to be paid for additional Adjusted Facility Energy or Deemed Delivered Energy during such Contract Year shall be equal to the Delivery Point LMP for the Real Time Market for the applicable Settlement Interval, but not less than zero dollars ($0).

(d) Excess Settlement Interval Deliveries. If during any Settlement Interval, Seller delivers Product amounts, as measured by the amount of Facility Energy, in excess of the product of the Guaranteed Capacity and the duration of the Settlement Interval, expressed in hours (“Excess MWh”), then the price applicable to all such Excess MWh in such Settlement Interval shall be zero dollars ($0), and if there is a Negative LMP during such Settlement Interval, Seller shall pay to Buyer an amount equal to the absolute value of the Negative LMP times such Excess MWh.

(e) Curtailment Payments. Seller shall receive no compensation from Buyer for Facility Energy, Adjusted Facility Energy or Deemed Delivered Energy during any Curtailment Period.

(f) Storage Rate. All Storage Product shall be paid on a monthly basis at the Storage Rate multiplied by current Storage Contract Capacity, as adjusted by the Availability Adjusted Storage Contract Capacity of the Storage Facility, as determined under Exhibit P. Without limiting Buyer’s obligation to pay Seller for Discharging Energy included in Adjusted Facility Energy, such payment constitutes the entirety of the amount due to Seller from Buyer for the Storage Product.

(g) Test Energy. Test Energy is compensated in accordance with Section 3.6.
(h) **Tax Credits.** The Parties agree that the neither the Renewable Rate, the Storage Rate nor the Test Energy Rate are subject to adjustment or amendment if Seller fails to receive any Tax Credits, or if any Tax Credits expire, are repealed or otherwise cease to apply to Seller or the Facility in whole or in part, or Seller or its investors are unable to benefit from any Tax Credits. Seller shall bear all risks, financial and otherwise, throughout the Contract Term, associated with Seller’s or the Facility’s eligibility to receive Tax Credits or to qualify for accelerated depreciation for Seller’s accounting, reporting or Tax purposes. The obligations of the Parties hereunder, including those obligations set forth herein regarding the purchase and price for and Seller’s obligation to deliver Facility Energy and Product, shall be effective regardless of whether the sale of Facility Energy is eligible for, or receives Tax Credits during the Contract Term.
EXHIBIT D

SCHEDULING COORDINATOR RESPONSIBILITIES

Scheduling Coordinator Responsibilities.

(a) Buyer as Scheduling Coordinator for the Facility. Upon Initial Synchronization of the Facility to the CAISO Grid, Buyer shall be the Scheduling Coordinator or designate a qualified third party to provide Scheduling Coordinator services with the CAISO for the Facility for the delivery and the receipt of Test Energy and the Product at the Delivery Point and for the purposes of conducting Storage Capacity Tests. At least thirty (30) days prior to the Initial Synchronization of the Facility to the CAISO Grid, (i) Seller shall take all actions and execute and deliver to Buyer and the CAISO all documents necessary to authorize or designate Buyer (or Buyer’s designee) as the Scheduling Coordinator for the Facility effective as of the Initial Synchronization of the Facility to the CAISO Grid, and (ii) Buyer shall, and shall cause its designee to, take all actions and execute and deliver to Seller and the CAISO all documents necessary to authorize or designate Buyer or its designee as the Scheduling Coordinator for the Facility effective as of the Initial Synchronization of the Facility to the CAISO Grid. On and after Initial Synchronization of the Facility to the CAISO Grid, Seller shall not authorize or designate any other party to act as the Facility’s Scheduling Coordinator, nor shall Seller perform for its own benefit the duties of Scheduling Coordinator, and Seller shall not revoke Buyer’s authorization to act as the Facility’s Scheduling Coordinator unless agreed to by Buyer. Buyer (as the Facility’s SC) shall submit Schedules to the CAISO in accordance with this Agreement and the applicable CAISO Tariff, protocols and Scheduling practices for Product on a day-ahead, hour-ahead, fifteen-minute market or real time basis, as determined by Buyer.

(b) Notices. Buyer (as the Facility’s SC) shall provide Seller with access to a web-based system through which Seller shall submit to Buyer and the CAISO all notices and updates required under the CAISO Tariff regarding the Facility’s status, including, but not limited to, all outage requests, forced outages, forced outage reports, clearance requests, or must offer waiver forms. Seller will cooperate with Buyer to provide such notices and updates. If the web-based system is not available, Seller shall promptly submit such information to Buyer and the CAISO (in order of preference) telephonically, by electronic mail, transmission to the personnel designated to receive such information.

(c) CAISO Costs and Revenues. Except during a Storage Capacity Test or as otherwise set forth below, Buyer (as Scheduling Coordinator for the Facility) shall be responsible for CAISO costs (including penalties, Imbalance Energy costs, and other charges) and shall, except as expressly set forth in the Agreement, be entitled to all CAISO revenues (including credits, Imbalance Energy revenues, and other payments), including revenues associated with CAISO dispatches, bid cost recovery, Inter-SC Trade credits, or other credits in respect of the Product Scheduled or delivered from the Facility. Seller shall be responsible for all CAISO penalties resulting from any failure by Seller to abide by the CAISO Tariff or the outage notification requirements set forth in this Agreement (except to the extent such non-compliance is caused by Buyer’s failure to perform its duties as Scheduling Coordinator for the Facility). The Parties agree that any Availability Incentive Payments (as defined in the CAISO Tariff) are for the benefit of the Seller and for Seller’s account and that any Non-Availability Charges (as defined in the CAISO Tariff) are for the benefit of Buyer.

Exhibit D - 1

Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
Tariff) are the responsibility of the Seller and for Seller’s account. In addition, if during the Delivery Term, the CAISO implements or has implemented any sanction or penalty related to scheduling, outage reporting, or generator operation, and any such sanctions or penalties are imposed upon the Facility or to Buyer as Scheduling Coordinator due to failure by Seller to abide by the CAISO Tariff or the outage notification requirements set forth in this Agreement, the cost of the sanctions or penalties shall be the Seller’s responsibility.

(d) **CAISO Settlements.** Buyer (as the Facility’s SC) shall be responsible for all settlement functions with the CAISO related to the Facility. Buyer shall render a separate invoice to Seller for any CAISO payments, charges or penalties (“**CAISO Charges Invoice**”) for which Seller is responsible under this Agreement. CAISO Charges Invoices shall be rendered after settlement information becomes available from the CAISO that identifies any CAISO charges. Notwithstanding the foregoing, Seller acknowledges that the CAISO will issue additional invoices reflecting CAISO adjustments to such CAISO charges. Buyer will review, validate, and if requested by Seller under paragraph (e) below, dispute any charges that are the responsibility of Seller in a timely manner and consistent with Buyer’s existing settlement processes for charges that are Buyer’s responsibilities. Subject to Seller’s right to dispute and to have Buyer pursue the dispute of any such invoices, Seller shall pay the amount of CAISO Charges Invoices within ten (10) Business Days of Seller’s receipt of the CAISO Charges Invoice. If Seller fails to pay such CAISO Charges Invoice within that period, Buyer may net or offset any amounts owing to it for these CAISO Charges Invoices against any future amounts it may owe to Seller under this Agreement. The obligations under this Section with respect to payment of CAISO Charges Invoices shall survive the expiration or termination of this Agreement.

(e) **Dispute Costs.** Buyer (as the Facility’s SC) may be required by Seller to dispute CAISO settlements in respect of the Facility. Seller agrees to pay Buyer’s costs and expenses (including reasonable attorneys’ fees) associated with its involvement with such CAISO disputes to the extent they relate to CAISO charges payable by Seller with respect to the Facility that Seller has directed Buyer to dispute.

(f) **Terminating Buyer’s Designation as Scheduling Coordinator.** At least thirty (30) days prior to expiration of this Agreement or as soon as reasonably practicable upon an earlier termination of this Agreement, the Parties will take all actions necessary to terminate the designation of Buyer as Scheduling Coordinator for the Facility as of 11:59 p.m. on such expiration date.

(g) **Master Data File and Resource Data Template.** Seller shall provide the data to the CAISO (and to Buyer) that is required for the CAISO’s Master Data File and Resource Data Template (or successor data systems) for the Facility consistent with this Agreement. Neither Party shall change such data without the other Party’s prior written consent.

(h) **NERC Reliability Standards.** Buyer (as Scheduling Coordinator) shall cooperate reasonably with Seller to the extent necessary to enable Seller to comply, and for Seller to demonstrate Seller’s compliance with, NERC reliability standards. This cooperation shall include the provision of information in Buyer’s possession that Buyer (as Scheduling Coordinator) has provided to the CAISO related to the Facility or actions taken by Buyer (as Scheduling Coordinator) related to Seller’s compliance with NERC reliability standards.
EXHIBIT E

PROGRESS REPORTING FORM

Each Progress Report must include the following items:

1. Executive Summary.
2. Facility description.
3. Site plan of the Facility.
4. Description of any material planned changes to the Facility or the site.
5. Gantt chart schedule showing progress on achieving each of the Milestones.
6. Summary of activities during the previous calendar quarter or month, as applicable, including any OSHA labor hour reports.
7. Forecast of activities scheduled for the current calendar quarter.
8. Written description about the progress relative to Seller’s Milestones, including whether Seller has met or is on target to meet the Milestones.
9. List of issues that are likely to potentially affect Seller’s Milestones.
10. A status report of start-up activities including a forecast of activities ongoing and after start-up, a report on Facility performance including performance projections for the next twelve (12) months.
11. Prevailing wage reports as required by Law and reporting on small business activities pursuant to the Small Business Section of the RFP.
12. Progress and schedule of all major agreements, contracts, permits, approvals, technical studies, financing agreements and major equipment purchase orders showing the start dates, completion dates, and completion percentages.
13. Pictures, in sufficient quantity and of appropriate detail, in order to document construction and startup progress of the Facility, the interconnection into the Transmission System and all other interconnection utility services.
14. Supplier Diversity Reporting (if applicable). Format to be provided by Buyer.
15. Any other documentation reasonably requested by Buyer.
## EXHIBIT F-1

**FORM OF AVERAGE EXPECTED ENERGY REPORT**

|       | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| JAN   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FEB   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| MAR   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| APR   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| MAY   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| JUN   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| JUL   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| AUG   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| SEP   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| OCT   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| NOV   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| DEC   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

The foregoing table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.
EXHIBIT F-2

FORM OF MONTHLY AVAILABLE GENERATING CAPACITY REPORT

The following tables are provided for informational purposes only, and shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

Available Generating Capacity, MW Per Hour – January

|       | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Day 1 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Day 2 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Day 3 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Day 4 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Day 5 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

[insert additional rows for each day in the month]

|       | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Day 29|      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Day 30|      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Day 31|      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
Available Generating Capacity, MW Per Hour – February

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Available Generating Capacity, MW Per Hour – April

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

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|---|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
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| 5 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 6 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 7 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 9 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|10 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|11 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|12 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|13 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|14 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|15 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|16 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|17 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|18 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|19 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|20 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|21 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|22 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|23 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|24 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|25 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|26 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|27 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|28 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|29 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|30 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
Available Generating Capacity, MW Per Hour – May

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

| 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 2    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 3    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 4    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 6    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 7    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 8    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 9    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 10   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 11   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 12   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 13   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 14   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 15   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 16   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 17   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 18   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 19   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 22   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 27   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 28   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 29   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 31   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
Available Generating Capacity, MW Per Hour – June

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Available Generating Capacity, MW Per Hour – July

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Available Generating Capacity, MW Per Hour – August

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

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|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    |
| 1   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 3   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 4   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 5   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 6   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 7   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 8   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 9   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 10  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 11  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 12  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 13  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 14  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 15  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 16  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 17  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 18  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 19  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 21  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 22  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 23  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 24  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 25  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 26  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 27  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 28  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 29  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 31  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
Available Generating Capacity, MW Per Hour – September

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

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Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
Available Generating Capacity, MW Per Hour October

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

| 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 2    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 3    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 4    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 6    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 7    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 8    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 9    |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 11   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 13   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 14   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 15   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 16   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 17   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 18   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 19   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 21   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 22   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 23   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 24   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 25   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 27   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 28   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 29   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 31   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
Available Generating Capacity, MW Per Hour – November

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

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Available Generating Capacity, MW Per Hour December

The following table is provided for informational purposes only, and it shall not constitute, or be deemed to constitute, an obligation of any of the Parties to this Agreement.

|       | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 2     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 3     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 4     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 5     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 6     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| 12    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 13    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 14    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 15    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 16    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 17    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 18    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 19    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 21    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 22    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 23    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 24    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 25    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 26    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 27    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 28    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 29    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 31    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
EXHIBIT G

GUARANTEED ENERGY PRODUCTION DAMAGES CALCULATION

In accordance with Section 4.7, if Seller fails to achieve the Guaranteed Energy Production during any Performance Measurement Period, a liquidated damages payment shall be due from Seller to Buyer, calculated as follows:

\[ ((A - B) \times (C - D)) \]

where:

\[ A = \] the Guaranteed Energy Production amount for the Performance Measurement Period, in MWh

\[ B = \] the Adjusted Energy Production amount for the Performance Measurement Period, in MWh

\[ C = \] The replacement price in $/MWh, which shall be equal to the simple average of the On-Peak NP-15 hourly LMP for the Day-Ahead Market during the applicable Performance Measurement Period, plus $15/MWh.

\[ D = \] the Renewable Rate for the Contract Year, in $/MWh

“Adjusted Energy Production” shall mean the sum of the following: Adjusted Facility Energy + Deemed Delivered Energy + Lost Output.

“Lost Output” has the meaning given in Section 4.7 of the Agreement. The Lost Output shall be calculated in the same manner as Deemed Delivered Energy is calculated, in accordance with the definition thereof.

No payment shall be due if the calculation of \((A - B)\) or \((C - D)\) yields a negative number.

Within sixty (60) days after each Contract Year, Buyer will send Seller Notice of the amount of damages owing, if any, which shall be payable to Buyer before the later of (a) thirty (30) days of such Notice and (b) ninety (90) days after each Performance Measurement Period.
EXHIBIT H

FORM OF COMMERCIAL OPERATION DATE CERTIFICATE

This certification (“Certification”) of Commercial Operation is delivered by _______ [licensed professional engineer] (“Engineer”) to Silicon Valley Clean Energy Authority, a California joint powers authority (“Buyer”) in accordance with the terms of that certain Renewable Power Purchase Agreement dated _______ (“Agreement”) by and between [Seller] and Buyer. All capitalized terms used in this Certification but not otherwise defined herein shall have the respective meanings assigned to such terms in the Agreement.

As of __[DATE]__, Engineer hereby certifies and represents to Buyer the following:

1. The Generating Facility is fully operational, reliable and interconnected, fully integrated and synchronized with the Transmission System.

2. Seller has installed equipment for the Generating Facility with a nameplate capacity of no less than ninety-five percent (95%) of the Guaranteed Capacity.

3. Seller has installed equipment for the Storage Facility with a nameplate capacity of no less than ninety-five percent (95%) of the Storage Contract Capacity.

4. The Generating Facility’s testing included a performance test demonstrating peak electrical output of no less than ninety-five percent (95%) of the Guaranteed Capacity for the Generating Facility at the Delivery Point, as adjusted for ambient conditions on the date of the Facility testing, and such peak electrical output, as adjusted, was [peak output in MW].

5. The Storage Facility is fully capable of charging, storing and Discharging Energy up to no less than ninety-five percent (95%) of the Storage Contract Capacity and receiving instructions to charge, store and discharge energy, all within the operational constraints and subject to the applicable Operating Restrictions.

6. Authorization to parallel the Facility was obtained by the Participating Transmission Provider, [Name of Participating Transmission Owner as appropriate] on __[DATE]__.

7. The Transmission Provider has provided documentation supporting full unrestricted release for Commercial Operation by [Name of Participating Transmission Owner as appropriate] on __[DATE]__.

8. The CAISO has provided notification supporting Commercial Operation, in accordance with the CAISO Tariff on __[DATE]__.
EXECUTED by [LICENSED PROFESSIONAL ENGINEER]

this _______ day of ____________, 20__.  

[LICENSED PROFESSIONAL ENGINEER]

By: ______________________________

Its: ______________________________

Date: ______________________________
EXHIBIT I

FORM OF INSTALLED CAPACITY CERTIFICATE

This certification (“Certification”) of Installed Capacity is delivered by [licensed professional engineer] ("Engineer") to Silicon Valley Clean Energy Authority, a California joint powers authority ("Buyer") in accordance with the terms of that certain Renewable Power Purchase Agreement dated __________ (“Agreement”) by and between [SELLER ENTITY] and Buyer. All capitalized terms used in this Certification but not otherwise defined herein shall have the respective meanings assigned to such terms in the Agreement.

I hereby certify the following:

1. The performance test for the Generating Facility demonstrated peak electrical output of __ MW AC at the Delivery Point, as adjusted for ambient conditions on the date of the performance test ("Installed PV Capacity");

2. The Storage Capacity Test demonstrated a maximum dependable operating capability that can be sustained for three (3) consecutive hours to discharge electric energy of __ MW AC to the Delivery Point, in accordance with the testing procedures, requirements and protocols set forth in Section 4.9 and Exhibit O (the “Installed Battery Capacity”); and

3. The sum of (a) and (b) is __ MW AC and shall be the “Installed Capacity”.

EXECUTED by [LICENSED PROFESSIONAL ENGINEER]

this ______ day of ____________, 20__.

[LICENSED PROFESSIONAL ENGINEER]

By:______________________________

Its:______________________________

Date:______________________________
EXHIBIT J

FORM OF CONSTRUCTION START DATE CERTIFICATE

This certification of Construction Start Date (“Certification”) is delivered by [SELLER ENTITY] (" Seller") to Silicon Valley Clean Energy Authority, a California joint powers authority ("Buyer") in accordance with the terms of that certain Renewable Power Purchase Agreement dated __________ ("Agreement") by and between Seller and Buyer. All capitalized terms used in this Certification but not otherwise defined herein shall have the respective meanings assigned to such terms in the Agreement.

Seller hereby certifies and represents to Buyer the following:

1. Construction Start (as defined in Exhibit B of the Agreement) has occurred, and a copy of the notice to proceed that Seller issued to its contractor as part of Construction Start is attached hereto;

2. the Construction Start Date occurred on ___________ (the “Construction Start Date”); and

3. the precise Site on which the Facility is located is, which must be within the boundaries of the previously identified Site: _________________.

IN WITNESS WHEREOF, the undersigned has executed this Certification on behalf of Seller as of the ___ day of __________.

[SELLER ENTITY]

By: ____________________________

Its: ____________________________

Date: ____________________________
EXHIBIT K

FORM OF LETTER OF CREDIT

[Issuing Bank Letterhead and Address]

IRREVOCABLE STANDBY LETTER OF CREDIT NO. [XXXXXXX]

Date: ____________________________
Bank Ref.: ____________________________
Amount: US$[XXXXXXX]
Expiry Date: ____________________________

Beneficiary:

Silicon Valley Clean Energy Authority
Attn: Girish Balachandran, CEO
333 W. El Camino Real, Suite 290
Sunnyvale, CA 94087

Ladies and Gentlemen:

By the order of ____________________________ (“Applicant”), we, [insert bank name and address] (“Issuer”) hereby issue our Irrevocable Standby Letter of Credit No. [XXXXXXX] (the “Letter of Credit”) in favor of Silicon Valley Clean Energy Authority, a California joint powers authority (“Beneficiary”), for an amount not to exceed the aggregate sum of U.S. $[XXX] (United States Dollars XXX) and 00/100, pursuant to that certain Renewable Power Purchase Agreement dated as of ________ and as amended (the “Agreement”) between Applicant and Beneficiary. This Letter of Credit shall become effective immediately and shall expire on [Insert Date] which is one year after the issue date of this Letter of Credit, or any expiration date extended in accordance with the terms hereof (the “Expiration Date”).

Funds under this Letter of Credit are available to Beneficiary by presentation on or before the Expiration Date of a dated statement purportedly signed by your duly authorized representative, in the form attached hereto as Exhibit A, containing one of the two alternative paragraphs set forth in paragraph 2 therein, referencing our Letter of Credit No. [XXXXXXX] (“Drawing Certificate”).

The Drawing Certificate may be presented by (a) physical delivery, (b) as a PDF attachment to an e-mail to [bank email address] or (c) facsimile to [bank fax number XXX-XXX-XXXX] confirmed by [e-mail to [bank email address]] Transmittal by facsimile or email shall be deemed delivered when received.

The original of this Letter of Credit (and all amendments, if any) is not required to be presented in connection with any presentment of a Drawing Certificate by Beneficiary hereunder in order to Exhibit K - 1

Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
receive payment.

We hereby agree with the Beneficiary that all documents presented under and in compliance with the terms of this Letter of Credit, that such drafts will be duly honored upon presentation to the Issuer on or before the Expiration Date. All payments made under this Letter of Credit shall be made with Issuer’s own immediately available funds by means of wire transfer in immediately available United States dollars to Beneficiary’s account as indicated by Beneficiary in its Drawing Certificate or in a communication accompanying its Drawing Certificate.

Partial draws are permitted under this Letter of Credit, and this Letter of Credit shall remain in full force and effect with respect to any continuing balance.

It is a condition of this Letter of Credit that the Expiration Date shall be deemed automatically extended without an amendment for a one year period beginning on the present Expiration Date hereof and upon each anniversary for such date, unless at least one hundred twenty (120) days prior to any such Expiration Date we have sent to you written notice by overnight courier service that we elect not to extend this Letter of Credit, in which case it will expire on the date specified in such notice. No presentation made under this Letter of Credit after such Expiration Date will be honored.

Notwithstanding any reference in this Letter of Credit to any other documents, instruments or agreements, this Letter of Credit contains the entire agreement between Beneficiary and Issuer relating to the obligations of Issuer hereunder.

This Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits (2007 Revision) International Chamber of Commerce Publication No. 600 (the “UCP”), except to the extent that the terms hereof are inconsistent with the provisions of the UCP, including but not limited to Articles 14(b) and 36 of the UCP, in which case the terms of this Letter of Credit shall govern. In the event of an act of God, riot, civil commotion, insurrection, war or any other cause beyond Issuer’s control (as defined in Article 36 of the UCP) that interrupts Issuer’s business and causes the place for presentation of the Letter of Credit to be closed for business on the last day for presentation, the Expiration Date of the Letter of Credit will be automatically extended without amendment to a date thirty (30) calendar days after the place for presentation reopens for business.

Please address all correspondence regarding this Letter of Credit to the attention of the Letter of Credit Department at [insert bank address information], referring specifically to Issuer’s Letter of Credit No. [XXXXXXXX]. For telephone assistance, please contact Issuer’s Standby Letter of Credit Department at [XXX-XXX-XXXX] and have this Letter of Credit available.

[Bank Name]

[Insert officer name]
[Insert officer title]
(DRAW REQUEST SHOULD BE ON BENEFICIARY’S LETTERHEAD)

Drawing Certificate

[Insert Bank Name and Address]

The undersigned, a duly authorized representative of Silicon Valley Clean Energy Authority, a California joint powers authority, as beneficiary (the “Beneficiary”) of the Irrevocable Letter of Credit No. [XXXXXXX] (the “Letter of Credit”) issued by [insert bank name] (the “Bank”) by order of __________ (the “Applicant”), hereby certifies to the Bank as follows:

1. Applicant and Beneficiary are party to that certain Renewable Power Purchase Agreement dated as of ___________, 20__ (the “Agreement”).

2. Beneficiary is making a drawing under this Letter of Credit in the amount of U.S. $__________, because a Seller Event of Default (as such term is defined in the Agreement) has occurred or other occasion provided for in the Agreement where Beneficiary is authorized to draw on the letter of credit has occurred.

OR

Beneficiary is making a drawing under this Letter of Credit in the amount of U.S. $__________, which equals the full available amount under the Letter of Credit, because Applicant is required to maintain the Letter of Credit in force and effect beyond the expiration date of the Letter of Credit but has failed to provide Beneficiary with a replacement Letter of Credit or other acceptable instrument within thirty (30) days prior to such expiration date.

3. The undersigned is a duly authorized representative of Silicon Valley Clean Energy Authority and is authorized to execute and deliver this Drawing Certificate on behalf of Beneficiary.

You are hereby directed to make payment of the requested amount to Silicon Valley Clean Energy Authority by wire transfer in immediately available funds to the following account:

[Specify account information]

Silicon Valley Clean Energy Authority

Name and Title of Authorized Representative

Date___________________________

Appendix A
EXHIBIT L

FORM OF GUARANTY

This Guaranty (this “Guaranty”) is entered into as of [_____] (the “Effective Date”) by and between [____], a [______] (“Guarantor”), and Silicon Valley Clean Energy Authority, a California joint powers authority (together with its successors and permitted assigns, “Buyer”).

Recitals

A. Buyer and [SELLER ENTITY], a _____________________ (“Seller”), entered into that certain Renewable Power Purchase Agreement (as amended, restated or otherwise modified from time to time, the “PPA”) dated as of [____], 20___.

B. Guarantor is entering into this Guaranty as Performance Security to secure Seller’s obligations under the PPA, as required by Section 8.8 of the PPA.

C. It is in the best interest of Guarantor to execute this Guaranty inasmuch as Guarantor will derive substantial direct and indirect benefits from the execution and delivery of the PPA.

D. Initially capitalized terms used but not defined herein have the meaning set forth in the PPA.

Agreement

1. Guaranty. For value received, Guarantor does hereby unconditionally, absolutely and irrevocably guarantee, as primary obligor and not as a surety, to Buyer the full, complete and prompt payment by Seller of any and all amounts and payment obligations now or hereafter owing from Seller to Buyer under the PPA, including, without limitation, compensation for penalties, the Termination Payment, indemnification payments or other damages, as and when required pursuant to the terms of the PPA (the “Guaranteed Amount”), provided, that Guarantor’s aggregate liability under or arising out of this Guaranty shall not exceed ________ Dollars ($___________).

The Parties understand and agree that any payment by Guarantor or Seller of any portion of the Guaranteed Amount shall thereafter reduce Guarantor’s maximum aggregate liability hereunder on a dollar-for-dollar basis. This Guaranty is an irrevocable, absolute, unconditional and continuing guarantee of the full and punctual payment and performance, and not of collection, of the Guaranteed Amount and, except as otherwise expressly addressed herein, is in no way conditioned upon any requirement that Buyer first attempt to collect the payment of the Guaranteed Amount from Seller, any other guarantor of the Guaranteed Amount or any other Person or entity or resort to any other means of obtaining payment of the Guaranteed Amount. In the event Seller shall fail to duly, completely or punctually pay any Guaranteed Amount as required pursuant to the PPA, Guarantor shall promptly pay such amount as required herein.

2. Demand Notice. For avoidance of doubt, a payment shall be due for purposes of this Guaranty only when and if a payment is due and payable by Seller to Buyer under the terms and conditions of the Agreement. If Seller fails to pay any Guaranteed Amount as required pursuant to the PPA for five (5) Business Days following Seller’s receipt of Buyer’s written notice of such...
failure (the “Demand Notice”), then Buyer may elect to exercise its rights under this Guaranty and may make a demand upon Guarantor (a “Payment Demand”) for such unpaid Guaranteed Amount. A Payment Demand shall be in writing and shall reasonably specify in what manner and what amount Seller has failed to pay and an explanation of why such payment is due and owing, with a specific statement that Buyer is requesting that Guarantor pay under this Guaranty. Guarantor shall, within five (5) Business Days following its receipt of the Payment Demand, pay the Guaranteed Amount to Buyer.

3. Scope and Duration of Guaranty. This Guaranty applies only to the Guaranteed Amount. This Guaranty shall continue in full force and effect from the Effective Date until the earlier of the following: (x) all Guaranteed Amounts have been paid in full (whether directly or indirectly through set-off or netting of amounts owed by Buyer to Seller), or (y) replacement Performance Security is provided in an amount and form required by the terms of the PPA. Further, this Guaranty (a) shall remain in full force and effect without regard to, and shall not be affected or impaired by any invalidity, irregularity or unenforceability in whole or in part of this Guaranty, and (b) subject to the preceding sentence, shall be discharged only by complete performance of the undertakings herein. Without limiting the generality of the foregoing, the obligations of the Guarantor hereunder shall not be released, discharged, or otherwise affected and this Guaranty shall not be invalidated or impaired or otherwise affected for the following reasons:

(i) the extension of time for the payment of any Guaranteed Amount, or

(ii) any amendment, modification or other alteration of the PPA, or

(iii) any indemnity agreement Seller may have from any party, or

(iv) any insurance that may be available to cover any loss, except to the extent insurance proceeds are used to satisfy the Guaranteed Amount, or

(v) any voluntary or involuntary liquidation, dissolution, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, arrangement, composition or readjustment of, or other similar proceeding affecting, Seller or any of its assets, including but not limited to any rejection or other discharge of Seller’s obligations under the PPA imposed by any court, trustee or custodian or any similar official or imposed by any law, statute or regulation, in each such event in any such proceeding, or

(vi) the release, modification, waiver or failure to pursue or seek relief with respect to any other guaranty, pledge or security device whatsoever, or

(vii) any payment to Buyer by Seller that Buyer subsequently returns to Seller pursuant to court order in any bankruptcy or other debtor-relief proceeding, or

(viii) those defenses based upon (A) the legal incapacity or lack of power or authority of any Person, including Seller and any representative of Seller to enter into the PPA or perform its obligations thereunder, (B) lack of due execution, delivery, validity or enforceability, including of the PPA, or (C) Seller’s inability to pay any Guaranteed Amount or perform its obligations under the PPA, or
(ix) any other event or circumstance that may now or hereafter constitute a defense to payment of the Guaranteed Amount, including, without limitation, statute of frauds and accord and satisfaction;

provided that Guarantor reserves the right to assert for itself any defenses, setoffs or counterclaims that Seller is or may be entitled to assert against Buyer (except for such defenses, setoffs or counterclaims that may be asserted by Seller with respect to the PPA, but that are expressly waived under any provision of this Guaranty).

4. Waivers by Guarantor. Guarantor hereby unconditionally waives as a condition precedent to the performance of its obligations hereunder, with the exception of the requirements in Paragraph 2, (a) notice of acceptance, presentment or protest with respect to the Guaranteed Amounts and this Guaranty, (b) notice of any action taken or omitted to be taken by Buyer in reliance hereon, (c) any requirement that Buyer exhaust any right, power or remedy or proceed against Seller under the PPA, and (d) any event, occurrence or other circumstance which might otherwise constitute a legal or equitable discharge of a surety. Without limiting the generality of the foregoing waiver of surety defenses, it is agreed that the occurrence of any one or more of the following shall not affect the liability of Guarantor hereunder:

(i) at any time or from time to time, without notice to Guarantor, the time for payment of any Guaranteed Amount shall be extended, or such performance or compliance shall be waived;

(ii) the obligation to pay any Guaranteed Amount shall be modified, supplemented or amended in any respect in accordance with the terms of the PPA;

(iii) subject to Section 10, any (a) sale, transfer or consolidation of Seller into or with any other entity, (b) sale of substantial assets by, or restructuring of the corporate existence of, Seller or (c) change in ownership of any membership interests of, or other ownership interests in, Seller; or

(iv) the failure by Buyer or any other Person to create, preserve, validate, perfect or protect any security interest granted to, or in favor of, Buyer or any Person.

5. Subrogation. Notwithstanding any payments that may be made hereunder by the Guarantor, Guarantor hereby agrees that until the earlier of payment in full of all Guaranteed Amounts or expiration of the Guaranty in accordance with Section 3, it shall not be entitled to, nor shall it seek to, exercise any right or remedy arising by reason of its payment of any Guaranteed Amount under this Guaranty, whether by subrogation or otherwise, against Seller or seek contribution or reimbursement of such payments from Seller.

6. Representations and Warranties. Guarantor hereby represents and warrants that (a) it has all necessary and appropriate limited liability company powers and authority and the legal right to execute and deliver, and perform its obligations under, this Guaranty, (b) this Guaranty constitutes its legal, valid and binding obligations enforceable against it in accordance with its terms, except as enforceability may be limited by bankruptcy, insolvency, moratorium and other similar laws affecting enforcement of creditors’ rights or general principles of equity, (c) the execution, delivery and performance of this Guaranty does not and will not contravene Guarantor’s organizational
documents, any applicable Law or any contractual provisions binding on or affecting Guarantor, (d) there are no actions, suits or proceedings pending before any court, governmental agency or arbitrator, or, to the knowledge of the Guarantor, threatened, against or affecting Guarantor or any of its properties or revenues which may, in any one case or in the aggregate, adversely affect the ability of Guarantor to enter into or perform its obligations under this Guaranty, and (e) no consent or authorization of, filing with, or other act by or in respect of, any arbitrator or Governmental Authority, and no consent of any other Person (including, any stockholder or creditor of the Guarantor), that has not heretofore been obtained is required in connection with the execution, delivery, performance, validity or enforceability of this Guaranty by Guarantor.

7. Notices. Notices under this Guaranty shall be deemed received if sent to the address specified below: (i) on the day received if served by overnight express delivery, and (ii) four Business Days after mailing if sent by certified, first class mail, return receipt requested. If transmitted by facsimile, such notice shall be deemed received when the confirmation of transmission thereof is received by the party giving the notice. Any party may change its address or facsimile to which notice is given hereunder by providing notice of the same in accordance with this Paragraph 8.

If delivered to Buyer, to it at

[____]
Attn: [____]
Fax: [____]

If delivered to Guarantor, to it at

[____]
Attn: [____]
Fax: [____]

8. Governing Law and Forum Selection. This Guaranty shall be governed by, and interpreted and construed in accordance with, the laws of the United States and the State of California, excluding choice of law rules. The Parties agree that any suit, action or other legal proceeding by or against any party (or its affiliates or designees) with respect to or arising out of this Guaranty shall be brought in the federal courts of the United States or the courts of the State of California sitting in the County of Santa Clara, California.

9. Miscellaneous. This Guaranty shall be binding upon Guarantor and its successors and assigns and shall inure to the benefit of Buyer and its successors and permitted assigns pursuant to the PPA. No provision of this Guaranty may be amended or waived except by a written instrument executed by Guarantor and Buyer. This Guaranty is not assignable by Guarantor without the prior written consent of Buyer. No provision of this Guaranty confers, nor is any provision intended to confer, upon any third party (other than Buyer’s successors and permitted assigns) any benefit or right enforceable at the option of that third party. This Guaranty embodies the entire agreement and understanding of the parties hereto with respect to the subject matter hereof and supersedes all prior or contemporaneous agreements and understandings of the parties hereto, verbal or written, relating to the subject matter hereof. If any provision of this Guaranty is determined to be illegal or unenforceable (i) such provision shall be deemed restated in accordance with applicable Laws to

Exhibit L - 4

Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
reflect, as nearly as possible, the original intention of the parties hereto and (ii) such determination shall not affect any other provision of this Guaranty and all other provisions shall remain in full force and effect. This Guaranty may be executed in any number of separate counterparts, each of which when so executed shall be deemed an original, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. This Guaranty may be executed and delivered by electronic means with the same force and effect as if the same was a fully executed and delivered original manual counterpart.

[Signature on next page]
IN WITNESS WHEREOF, the undersigned has caused this Guaranty to be duly executed and delivered by its duly authorized representative on the date first above written.

GUARANTOR:

[______]

By:____________________________

Printed Name:__________________

Title:__________________________

BUYER:

[______]

By:____________________________

Printed Name:__________________

Title:__________________________
EXHIBIT M

FORM OF REPLACEMENT RA NOTICE

This Replacement RA Notice (this “Notice”) is delivered by [SELLER ENTITY] (“Seller”) to Silicon Valley Clean Energy Authority, a California joint powers authority (“Buyer”) in accordance with the terms of that certain Renewable Power Purchase Agreement dated _________ (“Agreement”) by and between Seller and Buyer. All capitalized terms used in this Notice but not otherwise defined herein shall have the respective meanings assigned to such terms in the Agreement.

Pursuant to Section 3.8(b) of the Agreement, Seller hereby provides the below Replacement RA product information:

**Unit Information**:  

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<th>Feature</th>
<th>Value</th>
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<tr>
<td>Name</td>
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<tr>
<td>Location</td>
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<tr>
<td>CAISO Resource ID</td>
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<tr>
<td>Unit SCID</td>
<td></td>
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<tr>
<td>Prorated Percentage of Unit Factor</td>
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<td>Resource Type</td>
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<tr>
<td>Point of Interconnection with the CAISO Controlled Grid (“substation or transmission line”)</td>
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<tr>
<td>Path 26 (North or South)</td>
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<tr>
<td>LCR Area (if any)</td>
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<tr>
<td>Deliverability restrictions, if any, as described in most recent CAISO deliverability assessment</td>
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<td>Run Hour Restrictions</td>
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<td>Delivery Period</td>
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<th>Unit Contract Quantity (MW)</th>
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<tr>
<td>December</td>
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</tbody>
</table>

1 To be repeated for each unit if more than one.
[SELLER ENTITY]

By: ____________________________
Its: ____________________________
Date: ____________________________
# EXHIBIT N

## NOTICES

<table>
<thead>
<tr>
<th>91MC 8me, LLC (“Seller”)</th>
<th>Silicon Valley Clean Energy Authority (“Buyer”)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Notices:</strong></td>
<td><strong>All Notices:</strong></td>
</tr>
<tr>
<td>Street: 4370 Town Center Blvd., Ste. 110</td>
<td>Street: 333 W. El Camino Real, Suite 290</td>
</tr>
<tr>
<td>City: El Dorado Hills, CA 95762</td>
<td>City: Sunnyvale, California Zip: 94087</td>
</tr>
<tr>
<td>Attn: Transactions</td>
<td>Attn: Girish Balachandran, CEO</td>
</tr>
<tr>
<td>c/o 8minute Solar Energy LLC</td>
<td>Phone: (408) 721-5301</td>
</tr>
<tr>
<td>Phone: (916) 608-9060</td>
<td>Email: <a href="mailto:girish@svcleanenergy.org">girish@svcleanenergy.org</a></td>
</tr>
<tr>
<td>Facsimile: (916) 608-9861</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:transactions@8minute.com">transactions@8minute.com</a></td>
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<td><strong>Reference Numbers:</strong></td>
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<td><strong>Invoices:</strong></td>
</tr>
<tr>
<td>Attn: Accounts Payable</td>
<td>Attn: Power Supply Group</td>
</tr>
<tr>
<td>c/o 8minute Solar Energy LLC</td>
<td>Phone: (408) 721-5301</td>
</tr>
<tr>
<td>Phone: (323) 525-0900</td>
<td>Email: <a href="mailto:SVCEpowersettlements@svcleanenergy.org">SVCEpowersettlements@svcleanenergy.org</a></td>
</tr>
<tr>
<td>Facsimile: (310) 424-7112</td>
<td></td>
</tr>
<tr>
<td>E-mail: <a href="mailto:invoice@8minute.com">invoice@8minute.com</a></td>
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<td><strong>Scheduling:</strong></td>
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<td>Attn: Transactions</td>
<td>Attn: ZGlobal</td>
</tr>
<tr>
<td>c/o 8minute Solar Energy LLC</td>
<td>Phone: (916) 221-4327</td>
</tr>
<tr>
<td>Phone: (323) 525-0900</td>
<td>Email: <a href="mailto:eric@zglobal.biz">eric@zglobal.biz</a></td>
</tr>
<tr>
<td>Facsimile: (310) 424-7112</td>
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<tr>
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<tr>
<td><strong>Confirmations:</strong></td>
<td><strong>Confirmations:</strong></td>
</tr>
<tr>
<td>Attn: Transactions</td>
<td>Attn: Monica Padilla, Director of Power Resources</td>
</tr>
<tr>
<td>c/o 8minute Solar Energy LLC</td>
<td>Phone: (408) 721-5301 x1009</td>
</tr>
<tr>
<td>Phone: (323) 525-0900</td>
<td>Email: <a href="mailto:monica.padilla@svcleanenergy.org">monica.padilla@svcleanenergy.org</a></td>
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<td><strong>Payments:</strong></td>
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<tr>
<td>Attn: Accounts Receivable</td>
<td>Attn: Finance Group</td>
</tr>
<tr>
<td>c/o 8minute Solar Energy LLC</td>
<td>Phone: (408) 721-5301</td>
</tr>
<tr>
<td>Phone: (323) 525-0900</td>
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</tr>
<tr>
<td>E-mail: <a href="mailto:ap@8minute.com">ap@8minute.com</a></td>
<td></td>
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<tr>
<td><strong>Wire Transfer:</strong></td>
<td><strong>Wire Transfer:</strong></td>
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</table>
### 91MC 8me, LLC (“Seller”)

<table>
<thead>
<tr>
<th>With additional Notices of an Event of Default to:</th>
<th>Silicon Valley Clean Energy Authority (“Buyer”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attn: Transactions</td>
<td>Attn: Hall Energy Law PC</td>
</tr>
<tr>
<td>Phone: (323) 525-0900</td>
<td>Attn: Stephen Hall</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:transactions@8minute.com">transactions@8minute.com</a></td>
<td>Phone: (503) 313-0755</td>
</tr>
<tr>
<td>With a copy to:</td>
<td>Email: <a href="mailto:steve@hallenergylaw.com">steve@hallenergylaw.com</a></td>
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<td>8minute Solar Energy LLC</td>
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<tr>
<td>c/o Transactions</td>
<td></td>
</tr>
<tr>
<td>5455 Wilshire Blvd., Suite 2010</td>
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<tr>
<td>Los Angeles, CA 90036</td>
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</tbody>
</table>

### Emergency Contact:

| Attn: Transactions                               | Attn: Monica Padilla, Director of Power Resources |
| Phone: (323) 525-0900                             | Phone: (408) 721-5301 x1009                      |
| Facsimile: (310) 424-7112                         | Email: monica.padilla@svcleanenergy.org          |
| E-mail: transactions@8minute.com                  |                                                  |
EXHIBIT O

STORAGE CAPACITY TESTS

Storage Capacity Test Notice and Frequency

A. Commercial Operation Date Storage Capacity Test. Upon no less than ten (10) Business Days prior Notice to Buyer, Seller shall schedule and complete a Storage Capacity Test prior to the Commercial Operation Date. Such initial Storage Capacity Test shall be performed in accordance with this Exhibit O and shall establish the initial Storage Contract Capacity hereunder based on the actual capacity of the Storage Facility determined by such Storage Capacity Test.

B. Subsequent Storage Capacity Tests. Following the Commercial Operation Date, but not more than once per Contract Year within the first quarter of each Contract Year, upon no less than ten (10) Business Days prior Notice to Seller, Buyer shall have the right to require Seller to schedule and complete a Storage Capacity Test. In addition, Buyer shall have the right to require a retest of the most recent Storage Capacity Test at any time upon no less than five (5) Business Days prior Notice to Seller if Buyer provides data with such Notice reasonably indicating that the Storage Capacity has varied materially from the results of the most recent Storage Capacity Test. Seller shall have the right to perform a Storage Capacity Test or run a retest of any Storage Capacity Test at any time during any Contract Year upon one (1) Business Days’ prior Notice to Buyer (or any shorter period reasonably acceptable to Buyer consistent with Prudent Operating Practice). Notwithstanding anything herein to the contrary, any revenues associated with a Storage Capacity Test that is initiated by Seller shall accrue to Buyer.

C. Test Results and Re-Setting of Storage Capacity. No later than five (5) days following any Storage Capacity Test, Seller shall submit a testing report detailing results and findings of the test. The report shall include meter readings and plant log sheets verifying the operating conditions and output of the Storage Facility. In accordance with Section 4.9(c) of the Agreement and Part II(I) below, the actual capacity determined pursuant to a Storage Capacity Test (up to, but not in excess of, the original Storage Contract Capacity set forth on the Cover Sheet, as such original Storage Contract Capacity on the Cover Sheet may have been adjusted (if at all) pursuant to Exhibit B) shall become the new Storage Contract Capacity at the beginning of the day following the completion of the test for calculating the Storage Rate and all other purposes under this Agreement.

Storage Capacity Test Procedures

PART I. GENERAL.

Each Storage Capacity Test (including the initial Storage Capacity Test, each subsequent Storage Capacity Test, and all re-tests thereof permitted under paragraph B above) shall be conducted in accordance with Prudent Operating Practices and the provisions of this Exhibit O. For ease of reference, a Storage Capacity Test is sometimes referred to in this Exhibit O as a “SCT”. Buyer or its representative may be present for the SCT and may, for informational purposes only, use its own metering equipment (at Buyer’s sole cost).
PART II. REQUIREMENTS APPLICABLE TO ALL STORAGE CAPACITY TESTS.

A. Purpose of Test. Each SCT shall:

(1) Determine an updated Storage Contract Capacity;

(2) Determine the amount of Energy required to fully charge the Storage Facility;

(3) Determine the Storage Facility charge ramp rate;

(4) Determine the Storage Facility discharge ramp rate.

B. Parameters. During each SCT, the following parameters shall be measured and recorded simultaneously for the Storage Facility, at a minimum of ten (10) minute intervals:

(1) discharge time (minutes);

(2) charging energy (MWh);

(3) discharging energy (MWh);

(4) Stored Energy Level (MWh).

C. Site Conditions. During each SCT, the following conditions at the Site shall be measured and recorded simultaneously at thirty (30) minute intervals:

(1) Relative humidity (%);

(2) Barometric pressure (inches Hg) near the horizontal centerline of the Storage Facility; and

(3) Ambient air Temperature (°F).

D. Test Elements and Sequence. Each SCT shall include the following test elements:

(1) The discharging of the Storage Facility from 100% state of charge at a constant power discharge rate equal to the Storage Contract Capacity as of the commencement of the Storage Capacity Test;

(2) The measurement of the time from when the discharge signal is received until the constant power discharge rate is achieved (dividing the constant power charge rate by this measurement will determine the updated discharging ramp rate);

(3) The measurement of Energy, as measured by the Storage Facility Meter, that is discharged from the Storage Facility to the Delivery Point until either a 0% Stored Energy Level is achieved or the constant power charge rate.
starts to de-rate by more than 5% (the Energy discharged divided by three (3) will determine the new Storage Contract Capacity).

(4) The discharging of the Storage Facility to 0% Stored Energy Level;

(5) The charging of the Storage Facility at a constant power charge rate equal to the lesser of the Storage Contract Capacity as of the commencement of the Storage Capacity Test and the Facility solar generation power (MW);

(6) The measurement of the time from when the charge signal is received until 90% of the constant power charge rate is achieved (dividing the constant power charge rate by this measurement will determine the updated charging ramp rate);

(7) The measurement of Energy, as measured by the Storage Facility Meter, that is required to charge the Storage Facility until either a 100% Stored Energy Level is achieved or the constant power charge rate starts to de-rate by more than 50%;

E. Test Conditions.

(1) General. At all times during a SCT, the Storage Facility shall be operated in compliance with Prudent Operating Practices and all operating protocols recommended, required or established by the manufacturer for operation. Prior to beginning a Storage Capacity Test, the Storage Facility shall have discharged at least 90% of the Storage Contract Output during the prior 24 hour period, will be charged from less than 20% state of charge to a 100% state of charge using PV Energy on the day of the SCT, and will be maintained at a 100% state of charge for at least two (2) hours until commencement of the Storage Capacity Test. The Storage Capacity Test will commence within one (1) hour after sunset with the solar generation disconnected.

(2) Abnormal Conditions. If abnormal operating conditions that prevent the recordation of any required parameter occur during a SCT (including a level of irradiance that does not permit the Generating Facility to produce sufficient Charging Energy), Seller may postpone or reschedule all or part of such SCT in accordance with Part II.F below. The SCT will not be postponed or rescheduled for insufficient irradiance if the Generating Facility produces sufficient power to demonstrate charging at the Storage Contract Capacity at some point during the SCT and sufficient energy for the BESS to reach a 100% Stored Energy Level prior to sunset. The SCT shall be rescheduled or adjusted for ambient temperature if onsite conditions exceed 35 degrees Celsius at any time during the SCT.

(3) Instrumentation and Metering. Seller shall provide all instrumentation, metering and data collection equipment required to perform the SCT. The
instrumentation, metering and data collection equipment electrical meters shall be calibrated in accordance with Prudent Operating Practice.

F. **Incomplete Test.** If any SCT is not completed in accordance herewith, Buyer may in its sole discretion: (i) accept the results up to the time the SCT stopped; (ii) require that the portion of the SCT not completed, be completed within a reasonable specified time period; or (iii) require that the SCT be entirely repeated. Notwithstanding the above, if Seller is unable to complete a SCT due to a Force Majeure Event or the actions or inactions of Buyer or the CAISO or the PTO or the Transmission Provider, Seller shall be permitted to reconduct such SCT on dates and at times reasonably acceptable to the Parties.

G. **Final Report.** Within fifteen (15) Business Days after the completion of any SCT, Seller shall prepare and submit to Buyer a written report of the results of the SCT, which report shall include:

1. a record of the personnel present during the SCT that served in an operating, testing, monitoring or other such participatory role;

2. the measured data for each parameter set forth in Part II.A through D, as applicable, including copies of the raw data taken during the test;

3. the current level of Storage Contract Capacity, the amount of Energy required to fully charge the battery, the current charge and discharge ramp rate, and the maximum Stored Energy Level, each determined by the SCT, including supporting calculations; and

4. Seller’s statement of either Seller’s acceptance of the SCT or Seller’s rejection of the SCT results and reason(s) therefor.

Within ten (10) Business Days after receipt of such report, Buyer shall notify Seller in writing of either Buyer’s acceptance of the SCT results or Buyer’s rejection of the SCT and reason(s) therefor.

If either Party reasonably rejects the results of any SCT, such SCT shall be repeated in accordance with Part II.F.

H. **Supplementary Storage Capacity Test Protocol.** No later than sixty (60) days prior to commencing Facility construction, Seller shall deliver to Buyer for its review and approval (such approval not to be unreasonably delayed or withheld) a supplement to this Exhibit O with additional and supplementary details, procedures and requirements applicable to Storage Capacity Tests based on the then current design of the Facility (“Supplementary Storage Capacity Test Protocol”). Thereafter, from time to time, Seller may deliver to Buyer for its review and approval (such approval not to be unreasonably delayed or withheld) any Seller recommended updates to the then current Supplementary Storage Capacity Test Protocol. The initial Supplementary Storage Capacity Test Protocol (and each update thereto), once approved by Buyer, shall be deemed an amendment to this Exhibit O.
Exhibit O. If Buyer requests a repeat SCT project compensation shall acknowledge the Seller’s SCT results until proven otherwise.

I. **Adjustment to Storage Contract Capacity.** The total amount of discharged Energy delivered to the Delivery Point (expressed in MWh AC) during each of the first three (3) hours of discharge (up to, but not in excess of, the product of (i) the original Storage Contract Capacity set forth on the Cover Sheet, as such original Storage Contract Capacity on the Cover Sheet may have been adjusted (if at all) under this Agreement, multiplied by (ii) three (3) hours) shall be divided by three (3) hours to determine the Storage Contract Capacity, which shall be expressed in MW AC, and shall be the new Storage Contract Capacity in accordance with Section 4.9(c) of the Agreement.
EXHIBIT P

STORAGE FACILITY AVAILABILITY

Monthly Storage Availability

(a) Calculation of Monthly Storage Availability. Seller shall calculate the “Monthly Storage Availability” in a given month using the formula set forth below:

\[
\text{Monthly Storage Availability (\%)} = \frac{\text{[MNTHHRS}_m - \text{UNAVAILHRS}_m]}{\text{MNTHHRS}_m}
\]

where:

\( m \) = relevant month “m” in which availability is calculated;

\( \text{MNTHHRS}_m \) is the total number of On-Peak Hours for the month;

\( \text{UNAVAILHRS}_m \) is the total number of On-Peak Hours in the month during which the Storage Facility was unavailable to deliver Storage Product for any reason other than the occurrence of any of the following (each, an “Excused Event”): a Force Majeure Event, Buyer Bid Curtailment, Buyer Curtailment Orders, Curtailment Orders, Buyer Default, Storage Capacity Tests, Approved Maintenance Hours, System Emergencies, or the Operating Restrictions in Exhibit Q. To be clear, hours of unavailability caused by any Excused Event will not be included in \( \text{UNAVAILHRS}_m \) for such month. Any other event that results in unavailability of the Storage Facility for less than a full hour or that results in unavailability of less than all of the Storage Facility will count as an equivalent percentage of the applicable hour(s) for this calculation. For example, if the Storage Facility is 50% unavailable for 50% of an hour (but fully available the other 50% of the hour), it will be considered to be unavailable for 25% of the hour.

If the Storage Facility or any component thereof was previously deemed unavailable for an hour or part of an hour, and Seller provides a revised Notice indicating the Storage Facility is available for that hour or part of an hour by 5:00 a.m. of the morning Buyer schedules or bids the Storage Facility in the Day-Ahead Market, the Storage Facility will be deemed to be available to the extent set forth in the revised Notice.

If the Storage Facility or any component thereof was previously deemed unavailable for an hour or part of an hour and Seller provides a revised Notice indicating the Storage Facility is available for that hour or part of an hour at least sixty (60) minutes prior to the time the Buyer is required to schedule or bid the Storage Facility in the Real-Time Market, and the Storage Facility is dispatched in the Real-Time Market, the Storage Facility will be deemed to be available to the extent set forth in the revised Notice.
**Availability Adjustment**

The applicable “**Availability Adjusted Storage Contract Capacity**” is calculated by multiplying the Storage Contract Capacity by the Availability Adjustment (“**Availability Adjustment**” or “**AA**”), which is calculated as follows:

(i) If the Monthly Storage Availability is greater than or equal to the Guaranteed Storage Availability, then:

$$AA = 100\%$$

(ii) If the Monthly Storage Availability is less than the Guaranteed Storage Availability, but greater than or equal to 70%, then:

$$AA = 100\% - [(97\% - \text{Monthly Storage Availability}) \times 2]$$

(iii) If the Monthly Storage Availability is less than 70%, then:

$$AA = 0$$
EXHIBIT Q

OPERATING RESTRICTIONS

The Storage Facility shall be subject to the following Operating Restrictions:

1. If the year-to-date average Stored Energy Level exceeds [REDACTED] at any time during the second half of a Contract Year, then the maximum allowed Stored Energy Level shall be limited to the Stored Energy Level that, if held for the rest of the Contract Year, would equal an annual averaged Stored Energy Level of [REDACTED]. If the allowable Stored Energy Level has been limited, the Stored Energy Level limitation will be released once the year-to-date average Stored Energy Level is less than [REDACTED].

2. An annual limit on Storage Facility discharged Energy of [REDACTED]/Contract Year.

3. The Storage Facility shall only charge from Facility solar generation.

4. The Storage Facility shall not be available for use by Buyer prior to the Commercial Operations Date.

5. Maximum ambient operating temperature without de-rate: 40 degrees Celsius. Linear de-rate power and energy rating reduced by 5% respectively for each degree Celsius after 40 degrees Celsius until 42 degrees Celsius.

6. Maximum combined output of Generating Facility and Storage Facility at the Delivery Point: [REDACTED].

Exhibit Q – 1

Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
EXHIBIT R

METERING DIAGRAM

PV Array

... additional MV circuits...

Generating Facility Meter

PV MV Collection

... additional MV circuits...

BESS

BESS MV Collection

Storage Facility Meter (bidirectional)

HV Transformer

Gentie (220kV)

Delivery Point

Facility Meter (bidirectional)

Facility Meter

Facility Meter Point is located at the low side of HV transformer and shall measure both Charging Energy and Discharging Energy of the Storage Facility.

Facility Meter shall measure Facility Energy, inclusive of PV Energy and Discharging Energy.

Delivery Point is at Kramer 220kV Substation.

Metering shall be compliant with Article 7.

Renewable Power Purchase Agreement
91MC 8me, LLC / Silicon Valley Clean Energy Authority - June 2020
EEI MASTER POWER PURCHASE AND SALE AGREEMENT
SHORT TERM SALES CONFIRMATION
BETWEEN
PACIFIC GAS AND ELECTRIC COMPANY
AND
SILICON VALLEY CLEAN ENERGY AUTHORITY

This confirmation ("Confirmation") confirms the transaction ("Transaction") between Pacific Gas and Electric Company, a California corporation, but limited for all purposes hereunder to its electric procurement and electric fuels functions ("Seller" or "Party B"), and Silicon Valley Clean Energy Authority, a California joint powers authority ("Buyer" or "Party A"), each individually a "Party" and together the "Parties", dated as of the Execution Date, for the sale and purchase of the Product defined herein.

Except as otherwise expressly stated herein, this Confirmation is subject to, and incorporates by reference with the same force and effect as if set forth herein, all of the terms and provisions of the Parties’ EEI Master Power Purchase and Sale Agreement, together with the Cover Sheet, dated as of 10/25/2017 (collectively, "Master Agreement"), and the corresponding Collateral Annex and Paragraph 10 to the Collateral Annex thereto. Such Collateral Annex and Paragraph 10 to the Collateral Annex shall be referred to collectively herein as the "Collateral Annex". The Master Agreement and the Collateral Annex shall be referred to collectively herein as the "EEI Agreement". The EEI Agreement and this Confirmation shall be referred to collectively herein as the "Confirmation."

Capitalized terms used but not defined in this Confirmation shall have the meanings ascribed to them in the EEI Agreement, the RPS (defined herein), or the Tariff (defined herein). If there is a conflict between the terms in this Confirmation and those in the EEI Agreement, this Confirmation shall control.

[Standard contract terms and conditions shown in shaded text are those that “may not be modified” per CPUC Decisions ("D.") 07-11-025; D.10-03-021, as modified by D.11-01-025; and D.13-11-024.]

<table>
<thead>
<tr>
<th>Seller: Pacific Gas and Electric Company, limited for all purposes hereunder to its electric procurement and electric fuels functions</th>
<th>Buyer: SILICON VALLEY CLEAN ENERGY AUTHORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong> Pacific Gas and Electric Company, limited for all purposes hereunder to its electric procurement and electric fuels functions (&quot;Seller&quot; or &quot;Party B&quot;)</td>
<td><strong>Name:</strong> SILICON VALLEY CLEAN ENERGY AUTHORITY (&quot;Buyer&quot; or &quot;Party A&quot;)</td>
</tr>
<tr>
<td><strong>Contact Information:</strong></td>
<td><strong>All Notices:</strong></td>
</tr>
<tr>
<td>P.O. Box 770000, Mail Code N12E San Francisco, CA 94177 Attn: Candice Chan Director, Energy Contract Management &amp; Settlements Phone: (415) 973-7780 E-mail: <a href="mailto:CWW9@pge.com">CWW9@pge.com</a></td>
<td>Street: 333 W, El Camino Real, Suite 290 Sunnyvale, CA 94087 Zip: 94087 Attn: Girish Balachandran, CEO Phone: (408) 721-5301 E-mail: <a href="mailto:girish@svcleanenergy.org">girish@svcleanenergy.org</a></td>
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PG&E Spring 2020 Bundled RPS Energy Sale Solicitation
Short Term RPS Sales Confirmation

1
<table>
<thead>
<tr>
<th>Invoices:</th>
<th>Invoices:</th>
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</table>
| Attn: Amol Patel  
Senior Manager, Electric Settlements  
Phone: (415) 973-6510  
Email: AXPX@pge.com | Attn: Power Supply Group  
Phone: (408) 721-5301  
Email: SVCEpowersettlements@svcleanenergy.org |

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| Attn: Amol Patel  
Senior Manager, Electric Settlements  
Phone: (415) 973-6510  
Email: AXPX@pge.com | Attn: Finance Group  
Phone: (408) 721-5301  
Email: SVCEpowersettlements@svcleanenergy.org |

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| Attn: Manager, Credit Risk Management  
Phone: (415) 972-5188  
Email: PGERiskCredit@pge.com | Attn: Finance Group  
Phone: (408) 721-5301  
Email: SVCEpowersettlements@svcleanenergy.org |

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| Attn: Finance Group  
Phone: (408) 721-5301  
Email: SVCEpowersettlements@svcleanenergy.org | |

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</table>
| With additional Notices of an Event of Default or Potential Event of Default to:  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B30A  
San Francisco, CA 94105  
Attn: Legal Department  
Email: routinelaw@pge.com | With additional Notices of an Event of Default or Potential Event of Default to:  
Address: Hall Energy Law PC  
(503) 313-0755  
Attn: Stephen Hall  
Email: steve@hallenergylaw.com |
ARTICLE 1
COMMERCIAL TERMS

<table>
<thead>
<tr>
<th>Seller: PACIFIC GAS AND ELECTRIC COMPANY, limited for all purposes hereunder to its electric procurement and electric fuels functions</th>
<th>Buyer: SILICON VALLEY CLEAN ENERGY AUTHORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product: The Product shall consist of Electric Energy and associated Green Attributes from the Project, as further described and subject to the provisions herein.</td>
<td></td>
</tr>
<tr>
<td>Project: All Product sold hereunder shall be generated from one or more facilities, listed in Appendix A to this Confirmation or identified pursuant to Section 8.2 herein, each meeting the requirements set forth in 6.1 (collectively, the “Project”). Seller shall have sole discretion throughout the Term to designate and re-designate, as applicable, the Project by selecting one or more of the facilities from Appendix A or pursuant to Section 8.2 herein. Buyer shall not be entitled to, and shall not receive, any amount of Green Attributes produced by the Project that is in excess of the Total Quantity. Buyer shall not be entitled to, and shall not receive, any amount of Electric Energy produced by the Project that is in excess of the Energy Quantity.</td>
<td></td>
</tr>
</tbody>
</table>
| Quantity: (a) For Green Attributes: “Total Quantity”, with respect to an applicable year, shall be equal to those volumes of Green Attributes specified for that applicable year in the Delivery Term Quantity Schedule set forth below and shall be conveyed during the Green Attributes Delivery Period to Buyer as provided herein.
(b) For Electric Energy: “Energy Quantity”, with respect to an applicable year, shall be equal to those volumes of Electric Energy produced by the Project specified for that applicable year in the Delivery Term Quantity Schedule set forth below and shall be delivered during the Energy Delivery Period to Buyer as provided herein. | |
<p>| Delivery Term Quantity Schedule | |</p>
<table>
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<tr>
<th>Year</th>
<th>Green Attributes (MWh)</th>
<th>Electric Energy (MWh)</th>
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<tbody>
<tr>
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<tr>
<td>Energy Price: The Energy Price shall mean the Index Price for each MWh of Delivered Energy delivered to Buyer under this Agreement.</td>
<td></td>
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</tbody>
</table>
The Green Attributes Price shall mean, with respect to an applicable year, that price in dollars for each MWh of Green Attributes conveyed to Buyer under this Agreement, as specified in the table below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Green Attributes Price ($)</th>
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</table>

Except for the obligations in Sections 4 (CPUC Filing and Approval) and 9 (Confidentiality) which shall be effective and binding as of the Execution Date, the term of the Transaction shall commence upon the Effective Date and shall continue until the end of the Delivery Term, provided that this Agreement shall thereafter remain in effect as to those terms and conditions that expressly survive termination or expiration of the Agreement (“Term”).

This Confirmation, and the Transaction and Term hereunder, shall terminate early in the event of a failure to satisfy the Green Attributes Condition Precedent defined below or as otherwise provided in the Agreement.

Termination because of a failure to satisfy the Green Attributes Condition Precedent shall terminate all of the Parties’ obligations under the Confirmation as of the Transaction Termination Date as provided in Section 4.2, except for the Parties’ confidentiality obligations under Article 9 herein.

(a) This Confirmation’s credit requirements for the Electric Energy portion of the Product shall be governed by the EEI Agreement.

(b) This Confirmation’s credit requirements for the Green Attributes portion of the Product shall be governed by the EEI Agreement.

The “Delivery Term” shall consist of both the Energy Delivery Period and the Green Attributes Delivery Period.

Subject to the satisfaction, or waiver in writing by both Parties, of the Green Attributes Condition Precedent, the “Energy Delivery Period” shall

1. commence as of the later of 01/01/2021 and that date upon which CPUC Approval occurs, and

2. end on the earlier of the conclusion of hour ending 2400 (PPT) on 12/31/2021 and that date upon which the amount of Electric Energy delivered by Seller satisfies the Energy Quantity.

Subject to the satisfaction, or waiver in writing by both Parties, of the Green Attributes Condition Precedent, the “Green Attributes Delivery Period” shall commence on the first day that Seller conveys Green Attributes to Buyer and shall end on that date upon which the amount of Green Attributes conveyed to Buyer satisfies the Total Quantity.

Seller shall convey Green Attributes to Buyer in the form of WREGIS Certificates. Seller shall transfer WREGIS Certificates into Buyer’s WREGIS account in an amount required to satisfy the Total Quantity.

The “Delivery Point” shall be any of the following as selected by Seller in its discretion: NP15, SP15, and/or ZP26. Buyer shall take title and risk of loss of the Electric Energy from the Project at the applicable Delivery Point selected by Seller.
Scheduling Obligations: Seller, or a qualified third party designated by Seller, shall act as Scheduling Coordinator for the Project. Buyer hereby authorizes Seller, or its third party Scheduling Coordinator designee, to deliver the Electric Energy to the CAISO at the Delivery Point.

Condition Precedent to the Green Attributes Obligations: Notwithstanding any other provision of this Confirmation to the contrary, all of the Parties’ obligations except for the Parties’ confidentiality obligations under Article 9 herein, are conditioned upon (a) Seller’s receipt, or the Parties’ written waiver, of CPUC Approval as defined below; and (b) Seller’s receipt of the Performance Assurance from Buyer no later than five (5) Business Days following Seller’s Notice to Buyer of CPUC Approval (defined below) (collectively, “Green Attributes Condition Precedent”).

ARTICLE 2
DEFINITIONS

2.1 “Balancing Authority” has the meaning set forth in the Tariff.

2.2 “Balancing Authority Area” has the meaning set forth in the Tariff.

2.3 “Bankruptcy Code” means title 11 of the United States Code, as amended from time to time, as applicable to the Chapter 11 Cases.

2.4 “Bankruptcy Court” means the United States Bankruptcy Court for the Northern District of California, having subject matter jurisdiction over the Chapter 11 Cases.

2.5 “Broker or Index Quotes” means quotations solicited or obtained in good faith from (a) regularly published and widely-distributed daily forward price assessments from a broker that is not an Affiliate of either Party and who is actively participating in markets for the relevant Products or (b) end-of-day prices for the relevant Products published by exchanges which transact in the relevant markets.

2.6 “Business Day” means all calendar days other than those days on which the Federal Reserve member banks in New York City are authorized or required by law to be closed, and shall be between the hours of 8:00 a.m. and 5:00 p.m. Pacific Prevailing Time for the relevant Party’s principal place of business where the relevant Party, in each instance unless otherwise specified, shall be the Party from whom the Notice, payment or delivery is being sent and by whom the Notice or payment or delivery is to be received.

2.7 “CAISO” means the California Independent System Operator Corporation or any successor entity performing similar functions.

2.8 “CAISO Grid” has the same meaning as “CAISO Controlled Grid” as defined in the Tariff.

2.9 “California Renewables Portfolio Standard” or “RPS” means the renewable energy program and policies established by California State Senate Bills 1078, XI - 2 and 350, codified in California Public Utilities Code Sections 399.11 through 399.32 and California Public Resources Code Sections 25740 through 25751, as such provisions are amended or supplemented from time to time.

2.10 “CARB” means the California Air Resources Board or its successor agency.

2.11 “CEC” means the California Energy Commission or its successor agency.
2.12 “Chapter 11 Cases” means Party B’s Chapter 11 bankruptcy cases pending before the United States Bankruptcy Court for the Northern District of California, Case Nos. 19-30088 (DM) and 19-30089 (DM), which are being jointly administered.


2.14 “CPUC” means the California Public Utilities Commission or its successor entity.

2.15 “CPUC Approval” means a final and non-appealable order of the CPUC, without conditions or modifications unacceptable to the Parties, or either of them, which contains the following terms:

(a) approves this Agreement in its entirety, including payments to be made by the Buyer, subject to CPUC review of the Buyer's administration of the Agreement; and

(b) finds that any procurement pursuant to this Agreement is procurement from an eligible renewable energy resource for purposes of determining Buyer's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California Renewables Portfolio Standard [Public Utilities Code Section 399.11 et seq.], Decision 05-06-071, or other applicable law.

CPUC Approval will be deemed to have occurred on the date that a CPUC decision containing such findings becomes final and non-appealable.

For the purpose of this Section 2.15, a CPUC Energy Division disposition which contains such findings, or deems approved an advice letter requesting such findings, shall be deemed to satisfy the CPUC decision requirement set forth above.

Also, for the purpose of this Section 2.15 only, the references therein to “Buyer” shall mean “Seller”.

2.16 “Credit Rating” means, with respect to any entity, (a) the rating then assigned to such entity’s unsecured, senior long-term debt obligations (not supported by third party credit enhancements), or (b) if such entity does not have a rating for its unsecured, senior long-term debt obligations, then the rating assigned to such entity as an issuer rating by S&P and/or Moody’s. If the entity is rated by both S&P and Moody’s and such ratings are not equivalent, the lower of the two ratings shall determine the Credit Rating. If the entity is rated by either S&P or Moody’s, but not both, then the available rating shall determine the Credit Rating.

2.17 “Delivered Energy” means the Electric Energy from the Project that is delivered by Seller to Buyer at the Delivery Point.

2.18 “Electric Energy” means three-phase, 60-cycle alternating current electric energy measured in MWh and net of auxiliary loads and station electrical uses (unless otherwise specified).

2.19 “Eligible Renewable Energy Resource” or “ERR” has the meaning set forth in California Public Utilities Code Section 399.12 and California Public Resources Code Section 25741, as either code provision is amended or supplemented from time to time.

2.20 “Execution Date” means the latest signature date found on the signature page of this Agreement.
2.21 "Effective Date" is the same as the Execution Date.

2.22 "Force Majeure" means an event or circumstance which prevents one Party from performing its obligations under this Agreement, which event or circumstance was not anticipated as of the Execution Date, which is not within the reasonable control of, or the result of the negligence of, the Claiming Party, and which, by the exercise of due diligence, the Claiming Party is unable to overcome or avoid or cause to be avoided. Force Majeure shall not be based on (a) the loss of Buyer’s markets; (b) Buyer’s inability economically to use or resell the Product purchased hereunder; (c) the loss or failure of Seller’s supply unless caused by a force majeure event at the Project; or (d) Seller’s ability to sell the Product at a price greater than the Contract Price. Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment by a Transmission Provider unless (i) such Party has contracted for firm transmission with a Transmission Provider for the Product to be delivered to or received at the Delivery Point and (ii) such curtailment is due to “force majeure” or “uncontrollable force” or a similar term as defined under the Transmission Provider’s tariff; provided, however, that existence of the two foregoing factors shall not be sufficient to conclusively or presumptively prove the existence of a Force Majeure absent a showing of other facts and circumstances which in the aggregate with such factors establish that a Force Majeure as defined in the first sentence hereof has occurred.

2.23 "Governmental Authority" means any federal, state, local or municipal government, governmental department, commission, board, bureau, agency, or instrumentality, or any judicial, regulatory or administrative body, having jurisdiction as to the matter in question.

2.24 "Green Attributes" means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from the Project, and its avoided emission of pollutants. Green Attributes include but are not limited to Renewable Energy Credits, as well as: (a) any avoided emission of pollutants to the air, soil or water such as sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO) and other pollutants; (b) any avoided emissions of carbon dioxide (CO2), methane (CH4), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by Law, to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere; (c) the reporting rights to these avoided emissions, such as Green Tag Reporting Rights. Green Tag Reporting Rights are the right of a Green Tag Purchaser to report the ownership of accumulated Green Tags in compliance with federal or state Law, if applicable, and to a federal or state agency or any other party at the Green Tag Purchaser’s discretion, and include without limitation those Green Tag Reporting Rights accruing under Section 1605(b) of The Energy Policy Act of 1992 and any present or future federal, state, or local Law, regulation or bill, and international or foreign emissions trading program. Green Tags are accumulated on a MWh basis and one Green Tag represents the Green Attributes associated with one (1) MWh of Electric Energy. Green Attributes do not include (i) any Electric Energy, capacity, reliability or other power attributes from the Project, (ii) production tax credits associated with the construction or operation of the Project and other financial incentives in the form of credits, reductions, or allowances associated with the Project that are applicable to a state or federal income taxation obligation, (iii) fuel-related subsidies or “tipping fees” that may be paid to Seller to accept certain fuels, or local subsidies received by the generator for the destruction of particular preexisting pollutants or the promotion of local environmental benefits, or (iv) emission reduction credits encumbered or used by the Project for compliance with local, state, or federal operating and/or air quality permits. If the Project is a biomass or biogas facility and Seller receives any tradable Green Attributes based on the greenhouse gas reduction benefits or other emission offsets

1 Avoided emissions may or may not have any value for GHG compliance purposes. Although avoided emissions are included in the list of Green Attributes, this inclusion does not create any right to use those avoided emissions to comply with any GHG regulatory program.
attributed to its fuel usage, it shall provide Buyer with sufficient Green Attributes to ensure that there are zero net emissions associated with the production of electricity from the Project.

2.25 “Index Price” means the Trading Hub price (as defined in the Tariff) associated with the Delivered Energy to the Delivery Point for each applicable hour as published by the CAISO on the CAISO website or any successor thereto, unless a substitute publication and/or index is mutually agreed to by the Parties.

2.26 “Law” means any statute, law, treaty, rule, regulation, CEC guidance document, ordinance, code, permit, enactment, injunction, order, writ, decision, authorization, judgment, decree or other legal or regulatory determination or restriction by a court or Governmental Authority of competent jurisdiction, including any of the foregoing that are enacted, amended, or issued after the Execution Date, and which becomes effective after the Execution Date; or any binding interpretation of the foregoing. For the purposes of the definition of “CPUC Approval” in Section 2.15 and Sections 6.1(a), 6.1(b) and 8.3(b) in this Confirmation, the term “law” shall have the meaning set forth in this definition.

2.27 “Letter of Credit” means an irrevocable, non-transferable, standby letter of credit the form of which shall be substantially as contained in Appendix B to this Agreement; provided that, if the issuer is a U.S. branch of a foreign commercial bank, the intended beneficiary may require changes to such form; and the issuer must be a Qualified Institution on the date of delivery of the Letter of Credit to the Secured Party. In case of a conflict of this definition with any other definition of “Letter of Credit” contained in the EEI Agreement or any exhibit or annex thereto, this definition shall supersede any such other definition for purposes of the Transaction to which this Agreement applies.

2.28 “Market Quotation Average Price” means the arithmetic mean of the quotations solicited in good faith from not less than three (3) Reference Market-Makers (as hereinafter defined); provided, however, that the Party obtaining the quotes shall use reasonable efforts to obtain good faith quotations from at least five (5) Reference Market-Makers and, if at least five (5) such quotations are obtained, the Market Quotation Average Price shall be determined by disregarding the highest and lowest quotations and taking the arithmetic mean of the remaining quotations. The quotations shall be based on the offers to sell or bids to buy, as applicable, obtained for transactions substantially similar to each Terminated Transaction. The quote must be obtained assuming that the Party obtaining the quote will provide sufficient credit support for the proposed transaction. Each quotation shall be obtained, to the extent reasonably practicable, as of the same day and time (without regard to different time zones) on or as soon as reasonably practicable after the relevant Early Termination Date. The day and time as of which those quotations are to be obtained will be selected in good faith by the Party obtaining the quotations and in accordance with the Notice provided pursuant to Section 5.2 of the EEI Agreement, which designates the Early Termination Date. If fewer than three quotations are obtained, it will be deemed that the Market Quotations Average Price in respect of such Terminated Transaction or group of Terminated Transactions cannot be determined. For purposes of this Section 2.28, “Reference Market-Maker” means a leading dealer in the relevant market selected by a Party determining its exposure in good faith from among dealers of the highest credit standing which satisfy all the criteria that such Party applies generally at the time in deciding whether to offer or to make an extension of credit.

2.29 “Notice” means written communications by a Party to be delivered by hand delivery, United States mail, overnight courier service, or electronic messaging (e-mail). The contacts table of this Confirmation contains the names and addresses to be used for Notices.

2.30 “Qualified Institution” means either a U.S. commercial bank, or a U.S. branch of a foreign bank acceptable to the Beneficiary Party in its sole discretion; and in each case such bank must (i) have a Credit Rating of at least: (a) “A-”, with a stable designation” from S&P and “A3, with a stable
designation” from Moody’s, if such bank is rated by both S&P and Moody’s; or (b) “A-, with a stable designation” from S&P or “A3, with a stable designation” from Moody’s, if such bank is rated by either S&P or Moody’s, but not both, even if such bank was rated by both S&P and Moody’s as of the date of issuance of the Letter of Credit but ceases to be rated by either, but not both of those ratings agencies, and (ii) have assets of at least $10 billion US Dollars.

2.31 “Real-Time Market” has the meaning set forth in the Tariff and shall include any market that CAISO may establish prior to or during the Term that clears at an interval between the Day-Ahead Market and the Real-Time Market.

2.32 “Renewable Energy Credit” or “REC” has the meaning set forth in California Public Utilities Code Section 399.12(h) and CPUC Decision 08-08-028, as may be amended from time to time or as further defined or supplemented by Law.

2.33 “Replacement Price” means the price at which Buyer, acting in a commercially reasonable manner, purchases for delivery at the Delivery Point a replacement for any Product specified in a Transaction but not delivered by Seller, plus (a) costs reasonably incurred by Buyer in purchasing such substitute Product and (b) additional transmission charges, if any, reasonably incurred by Buyer to the Delivery Point, or absent a purchase, the market price at the Delivery Point for such Product not delivered as determined by Buyer in a commercially reasonable manner; provided, however, in no event shall such price include any penalties, ratcheted demand or similar charges, nor shall Buyer be required to utilize or change its utilization of its owned or controlled assets or market positions to minimize Seller’s liability. For the purposes of this definition, Buyer shall be considered to have purchased replacement Product to the extent Buyer shall have entered into one or more arrangements in a commercially reasonable manner whereby Buyer repurchases its obligation to sell and deliver the Product to another party at the Delivery Point.

2.34 “Sales Price” means the price at which Seller, acting in a commercially reasonable manner, resells any Product not received by Buyer, deducting from such proceeds any (a) costs reasonably incurred by Seller in reselling such Product and (b) additional transmission charges, if any, reasonably incurred by Seller in delivering such Product to the third party purchasers, or absent a sale, the market price at the Delivery Point for such Product not received as determined by Seller in a commercially reasonable manner; provided, further, that in no event shall such price include any penalties, ratcheted demand or similar charges, nor shall Seller be required to utilize or change its utilization of its owned or controlled assets, including contractual assets, or market positions to minimize Buyer’s liability. For purposes of this definition, Seller shall be considered to have resold such Product to the extent Seller shall have entered into one or more arrangements in a commercially reasonable manner whereby Seller repurchases its obligation to purchase and receive the Product from another party at the Delivery Point.

2.35 “Tariff” means the CAISO Fifth Replacement FERC Electric Tariff and protocol provisions, including any CAISO-published procedures or business practice manuals, as they may be amended, supplemented or replaced (in whole or in part) from time to time.

2.36 “Transactions” as used in the EEI Agreement shall mean the “Transaction” as defined in the preamble above.

2.37 “WREGIS” means the Western Renewable Energy Generation Information System or any successor renewable energy tracking program.
2.38 “WREGIS Certificate” has the same meaning as “Certificate” as defined by WREGIS in the WREGIS Operating Rules and are designated as eligible for complying with the California Renewables Portfolio Standard.

2.39 “WREGIS Operating Rules” means the operating rules and requirements adopted by WREGIS.

ARTICLE 3
CONVEYANCE OF ELECTRIC ENERGY AND GREEN ATTRIBUTES

3.1 Seller’s Delivery of Electric Energy.

Subject to the terms and conditions of this Agreement, beginning on the first day of the Energy Delivery Period and continuing until the last day of the Energy Delivery Period, Seller shall deliver and sell, and Buyer shall purchase and receive, the Delivered Energy.

3.2 Seller’s Conveyance of Green Attributes.

(a) Green Attributes. Subject to the terms and conditions of this Agreement, beginning on the first day of the Green Attributes Delivery Period and continuing until the last day of the Green Attributes Delivery Period, Seller shall convey and sell, and Buyer shall purchase and receive, those Green Attributes associated with the Delivered Energy,

(i) Seller represents and warrants that Seller holds the rights to such Green Attributes from the Project and Seller agrees to convey such Green Attributes to Buyer as included in the delivery of the Product from the Project subject to the terms and conditions of this Agreement.

(ii) As set forth above, Seller shall convey only that amount of Green Attributes required to meet the Total Quantity and shall do so only during the Green Attributes Delivery Period.

(b) The Green Attributes in the amount of the Total Quantity shall be deemed to be conveyed to and received by Buyer under this Confirmation as set forth herein. During the Green Attributes Delivery Period, Seller shall convey to Buyer the Green Attributes associated with the Delivered Energy within: twenty-five (25) Business Days following the occurrence of both (i) the deposit into Seller’s WREGIS account of the WREGIS Certificates for the Green Attributes for the applicable Calculation Period and (ii) Buyer’s payment of the Monthly Cash Settlement Amount in accordance with Article 5 herein. Seller shall transfer such WREGIS Certificates in an amount equivalent to the Total Quantity to Buyer’s WREGIS account such that all right, title and interest in and to the WREGIS Certificates shall transfer from Seller to Buyer.

ARTICLE 4
CPUC FILING AND APPROVAL

4.1 Filing for CPUC Approval.

Within sixty (60) days after the Execution Date, Seller shall file with the CPUC a request for CPUC Approval. Buyer shall use commercially reasonable efforts to support Seller in obtaining CPUC Approval. Seller shall have no obligation to seek rehearing or to appeal a CPUC decision which fails to approve this Confirmation or which contains findings required for CPUC Approval with conditions or modifications unacceptable to either Party. Notwithstanding anything to the contrary in the Confirmation,
Seller shall not have any obligation or liability to Buyer or any third party for any action or inaction of the CPUC or other Governmental Authority affecting the approval or status of this Confirmation as a transaction eligible for portfolio content category 1, as defined in California Public Utilities Code Section 399.16(b)(1).

4.2 **Termination Right and Transaction Termination Date.**

In the event that: (a) the CPUC issues a final and non-appealable order not approving this Agreement in its entirety, (b) the CPUC issues a final and non-appealable order which contains conditions or modifications unacceptable to either Party, or (c) approval by the CPUC has not been received by Seller on or before sixty (60) days from the date on which Seller files for CPUC Approval, then either Party may, in its sole discretion, elect to terminate this Agreement upon Notice to the other Party provided in accordance with Article 10.7 of the EEI Agreement. Such Notice shall become effective one (1) Business Day after its provision. The effective date of the Notice shall constitute the “Transaction Termination Date”. Any termination elected and noticed in accordance with this Section 4.2 shall terminate all of the Parties’ rights and obligations under the Agreement as of the Transaction Termination Date.

4.3 **Effect of Termination.**

Any termination of the Agreement properly exercised by a Party under Section 4.2 shall be without liability or obligation, except for the Parties’ confidentiality obligations under Article 9 herein and in the EEI Agreement and shall have no effect on the status of the EEI Agreement.

**ARTICLE 5**

**COMPENSATION**

5.1 **Calculation Period.**

The “Calculation Period” shall be each calendar month or portion thereof that Delivered Energy was conveyed to Buyer and for which associated Green Attributes will be transferred to Buyer under this Confirmation as described in Section 3.2(b).

5.2 **Monthly Cash Settlement Amount.**

Buyer shall pay Seller the Monthly Cash Settlement Amount, in arrears, for each Calculation Period. The “Monthly Cash Settlement Amount” for a particular Calculation Period shall be equal to the sum of (a) plus (b) minus (c), where:

(a) equals the sum, over all hours of the Calculation Period, of the applicable Energy Price for each hour of Delivered Energy, multiplied by the quantity of Delivered Energy during that hour; and

(b) equals the Green Attributes Price multiplied by the quantity of Green Attributes (in MWhs) that will be conveyed as described in Section 3.2(b) and that are associated with the Delivered Energy in the Calculation Period; and

(c) equals the sum, over all hours of the Calculation Period, of the applicable Energy Price for each hour of Delivered Energy, multiplied by the quantity of Delivered Energy during that hour.
5.3 **Payment Date.**

Notwithstanding anything to the contrary in Article Six of the EEI Agreement, payment of each Monthly Cash Settlement Amount by Buyer to Seller under this Confirmation shall be due and payable four (4) calendar months following the applicable Calculation Period and on or before the later of: (a) the twentieth (20th) day of the month in which the Buyer receives from Seller an invoice for the Calculation Period to which the Monthly Cash Settlement Amount pertains, and (b) ten (10) days following the date of Buyer’s receipt of an invoice issued by Seller for such applicable Calculation Period; provided that, if such payment due date is not a Business Day, then on the next Business Day. Payment to Seller shall be made by wire transfer pursuant to the Notices section of this Agreement. This provision shall survive termination or expiration of the Agreement for all amounts due prior to such termination or expiration.

5.4 **Invoices.**

The invoice shall include a statement detailing the amount of Delivered Energy, and associated Green Attributes, transferred to Buyer during the applicable Calculation Period. For purposes of this Confirmation, Buyer shall be deemed to have received an invoice upon Buyer’s receipt by e-mail of such invoice in PDF format from Seller. Invoices to Buyer shall be sent by email to set forth in the Notices section of this Agreement.

**ARTICLE 6**

**REPRESENTATIONS, WARRANTIES AND COVENANTS**

6.1 **Seller’s Representations, Warranties and Covenants.**

(a) **Seller Representations and Warranties.** Seller, and, if applicable, its successors, represents and warrants that throughout the Delivery Term of this Agreement that: (i) the Project qualifies and is certified by the CEC as an Eligible Renewable Energy Resource (“ERR”) as such term is defined in Public Utilities Code Section 399.12 or Section 399.16; and (ii) the Project’s output delivered to Buyer qualifies under the requirements of the California Renewables Portfolio Standard. To the extent a change in law occurs after execution of this Agreement that causes this representation and warranty to be materially false or misleading, it shall not be an Event of Default if Seller has used commercially reasonable efforts to comply with such change in law.

(b) **Seller and, if applicable, its successors, represents and warrants that throughout the Delivery Term of this Agreement the Renewable Energy Credits transferred to Buyer conform to the definition and attributes required for compliance with the California Renewables Portfolio Standard, as set forth in California Public Utilities Commission Decision 08-08-028, and as may be modified by subsequent decision of the California Public Utilities Commission or by subsequent legislation. To the extent a change in law occurs after execution of this Agreement that causes this representation and warranty to be materially false or misleading, it shall not be an Event of Default if Seller has used commercially reasonable efforts to comply with such change in law.

(c) **Seller warrants that all necessary steps to allow the Renewable Energy Credits transferred to Buyer to be tracked in the Western Renewable Energy Generation Information System will be taken prior to the first delivery under the contract.**

(i) For the avoidance of doubt, the term “contract” as used in the immediately preceding paragraph means this Confirmation.

(ii) For further clarity, the phrase “first delivery” as used in the immediately
preceding paragraph means the first date of the Green Attributes Delivery Period.

(d) In addition to the foregoing, Seller warrants, represents and covenants, as of the Execution Date and throughout the Delivery Term, that:

(i) Seller has the contractual rights to sell all right, title, and interest in the Product required to be delivered hereunder;

(ii) Seller has not sold the Product required to be delivered hereunder to any other person or entity;

(iii) at the time of delivery, all rights, title, and interest in the Product required to be delivered hereunder are free and clear of all liens, taxes, claims, security interests, or other encumbrances of any kind whatsoever;

(iv) Seller shall not substitute or purchase any Product from any generating resource other than the Project or the market for delivery hereunder; and

(v) the facility(s) designated by Seller as the Project and all electrical output from the facility(s) designated as the Project are, or will be, by the first date of the Green Attributes Delivery Period, registered with WREGIS as RPS-eligible.

(e) As of the Execution Date and throughout the Energy Delivery Period, Seller represents, warrants and covenants that the Project meets the criteria in either (i) or (ii):

(i) The Project either has a first point of interconnection with a California Balancing Authority, or a first point of interconnection with distribution facilities used to serve end users within a California Balancing Authority Area; or

(ii) The Project has an agreement to dynamically transfer electricity to a California Balancing Authority.

(f) If and to the extent that the Product sold by Seller is a resale of part or all of a PPA between Seller and one or more third parties, Seller represents, warrants and covenants that the resale complies with the following conditions in (i) through (iv) below as of the Effective Date and throughout the Energy Delivery Period:

(i) The original upstream third party contract(s) meets the criteria of California Public Utilities Code Section 399.16(b)(1)(A);

(ii) This Agreement transfers only Electric Energy and Green Attributes that have not yet been generated prior to the commencement of the Energy Delivery Period;

(iii) The Delivered Energy transferred hereunder is transferred to Buyer in real time; and

(iv) If the Project has an agreement to dynamically transfer electricity to a California Balancing Authority, the transactions implemented under this Agreement are not contrary to any condition imposed by a Balancing Authority participating in the dynamic transfer arrangement.

6.2 To the extent a change in Law occurs after the Effective Date that causes the representations,
warranties, and/or covenants in Section 6.1 that continue beyond the Effective Date to be materially false or misleading, it shall not be an Event of Default if Seller has used commercially reasonable efforts to comply with such change in Law.

6.3 “Commercially reasonable efforts” as set forth in this Article 6 and as applicable to Seller only shall not require Seller to incur out-of-pocket expenses in excess of twenty-five thousand dollars ($25,000.00) in the aggregate during the Term.

6.4 The Parties agree that the following sections of the EEI Agreement shall not be applicable to this Confirmation or Transactions hereunder until the effective date of the Seller’s plan of reorganization under the Chapter 11 Cases: Sections 5.1(d), 5.1(e), 5.1(f), 10.2(v), 10.2(vi), and 10.10. Notwithstanding anything to the contrary contained in the Agreement with respect to Seller: Buyer acknowledges and agrees that (i) representations and warranties under Section 10.2(x) of the EEI Agreement are made subject to the provisions of the Bankruptcy Code and any order of the Bankruptcy Court; and (ii) until effective date of the Seller’s plan of reorganization under the Chapter 11 Cases has occurred, the existence or continuation of Seller being Bankrupt is not an Event of Default with respect to Seller under this Agreement (including pursuant to Section 5.1(g) of the EEI Agreement) and does not entitle Buyer to terminate this Agreement solely because of such existence or continuation.

ARTICLE 7
TERMINATION AND CALCULATION OF TERMINATION PAYMENT

In the event this Transaction becomes a Terminated Transaction pursuant to Section 5.2 of the EEI Agreement, then the Settlement Amount with respect to this Transaction shall not be calculated in accordance with the EEI Agreement, but instead shall be calculated as follows:

The Non-Defaulting Party shall determine its Gains and Losses by determining the Market Quotation Average Price for the Terminated Transaction. In the event the Non-Defaulting Party is not able, after commercially reasonable efforts, to obtain the Market Quotation Average Price with respect to the Terminated Transaction, then the Non-Defaulting Party shall calculate its Gains and Losses for the Terminated Transaction in a commercially reasonable manner by calculating the arithmetic mean of the quotes of at least three (3) Broker or Index Quotes based on the offers to sell or bids to buy, as applicable, obtained for transactions substantially similar to the Terminated Transaction. Such Broker or Index Quotes must be obtained assuming that the Party obtaining the quote will provide sufficient credit support for the proposed transaction. In the event the Non-Defaulting Party is not able, after commercially reasonable efforts to obtain at least three (3) such Broker or Index Quotes with respect to the Terminated Transaction, then the Non-Defaulting Party shall calculate its Gains and Losses for such Terminated Transaction in a commercially reasonable manner by reference to information supplied to it by one or more third parties including, without limitation, quotations (either firm or indicative) of relevant rates, prices, yields, yield curves, volatilities, spreads or other relevant market data in the relevant markets. Third parties supplying such information may include, without limitation, dealers in the relevant markets, end-users of the relevant product, information vendors and other sources of market information: provided, however, that such third parties shall not be Affiliates of either Party. Only in the event the Non-Defaulting Party is not able, after using commercially reasonable efforts, to obtain such third party information, then the Non-Defaulting Party shall calculate its Gains and Losses for such Terminated Transaction in a commercially reasonable manner using relevant market data it has available to it internally.
ARTICLE 8
GENERAL PROVISIONS

8.1 Buyer Audit Rights.

In addition to any audit rights provided under the EEI Agreement, Seller shall, during the Term as may be requested by Buyer, provide documentation (which may include, for example, meter data as recorded by a meter approved by the Project’s governing Balancing Authority) sufficient to demonstrate that the Product has been conveyed and delivered to Buyer.

8.2 Facility Identification.

If Seller determines that any Product to be delivered in a calendar month shall be from a facility or facilities other than those in Appendix A, then Seller shall provide Notice to Buyer identifying the facility or facilities that constitute the Project within three (3) Business Days prior to the delivery of Electric Energy from such facility or facilities in such calendar month.

8.3 Governing Law.

(a) Notwithstanding any provision to the contrary in the EEI Agreement, the Governing Law applicable to this Agreement shall be as set forth herein. This Section 8.3 does not change the Governing Law applicable to any other confirmation or transaction entered into between the Parties under the EEI Agreement.

(b) Governing Law. This agreement and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of law. To the extent enforceable at such time, each party waives its respective right to any jury trial with respect to any litigation arising under or in connection with this Agreement.

For the purposes of Section 8.3(b) above, the words “party” and “parties” shall have the meaning ascribed to them in the preamble of this Confirmation, and the word “agreement” shall mean the term “Agreement” as defined in the preamble of this Confirmation.

ARTICLE 9
CONFIDENTIALITY

9.1 The confidentiality provisions in Section 10.11 of the EEI Agreement shall apply herein, except that each of Buyer and Seller may disclose the following information regarding this Confirmation, without prior Notice or consent of the other Party:

(a) Party names;
(b) Resource(s);
(c) Term;
(d) Project name, location(s), and information in Appendix A;
(e) Capacity of each facility designated as the Project;
(f) The fact that a facility designated as the Project is on-line and delivering;
(g) Delivery Point;
(h) The quantity of Product expected or actually delivered under this Confirmation; and
(i) Information provided by Seller pursuant to Section 8.1 of this Confirmation.

9.2 The Parties agree that the Agreement may be shared on a confidential basis, without prior Notice
or consent of the other Party, with the Parties’ counsel and advisors, the United States Trustee for the Northern District of California, and on a confidential professional eyes only basis with counsel and advisors engaged by any official committee of creditors appointed by the United States Trustee for the Northern District of California pursuant to section 1102(a)(1) of the Bankruptcy Code.

9.3 Except as set forth in this Article 9 and the EEI Agreement, each Party shall provide prior Notice to the other Party of disclosure of confidential information of such other Party for purposes of compliance with any applicable regulation, rule, or order of the CPUC, Federal Energy Regulatory Commission, CEC, the Bankruptcy Court, or other Governmental Authorities.
ACKNOWLEDGED AND AGREED TO BY EACH PARTY'S DULY AUTHORIZED REPRESENTATIVE OR OFFICER:

<table>
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<tr>
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<th>PACIFIC GAS AND ELECTRIC COMPANY, a California corporation, limited for all purposes hereunder to its electric procurement and electric fuels functions.</th>
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<td>Girish Balachandran</td>
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DocuSign by: [Signature]

Name: [Name]
Title: [Title]
Date: [Date]
APPENDIX A to
EEI Master Power Purchase and Sale Agreement
Short Term Sales Confirmation

**PROJECT**

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</tbody>
</table>
APPENDIX B

FORM OF LETTER OF CREDIT

Issuing Bank Letterhead and Address

STANDBY LETTER OF CREDIT NO. XXXXXXX

Date: [insert issue date]

Beneficiary: Pacific Gas and Electric Company

77 Beale Street, Mail Code B28L
San Francisco, CA 94105
Attention: Credit Risk Management

Applicant: [Insert name and address of Applicant]

Letter of Credit Amount: [insert amount]

Expiry Date: [insert expiry date]

Ladies and Gentlemen:

By order of [insert name of Applicant] (“Applicant”), we hereby issue in favor of Pacific Gas and Electric Company (the “Beneficiary”) our irrevocable standby letter of credit No. [insert number of letter of credit] (“Letter of Credit”), for the account of Applicant, for drawings up to but not to exceed the aggregate sum of U.S. $[insert amount in figures followed by (amount in words)] (“Letter of Credit Amount”). This Letter of Credit is available with [insert name of issuing bank, and the city and state in which it is located] by sight payment, at our offices located at the address stated below, effective immediately, and it will expire at our close of business on [insert expiry date] (the “Expiry Date”).

Funds under this Letter of Credit are available to the Beneficiary against presentation of the following documents:

1. Beneficiary’s signed and dated sight draft in the form of Exhibit A hereto, referencing this Letter of Credit No. [insert number] and stating the amount of the demand; and

2. One of the following statements signed by an authorized representative or officer of Beneficiary:

   A. “Pursuant to the terms of that certain EEI Power Purchase and Sale Agreement (the “Agreement”), dated [insert date of the Agreement], between Beneficiary and [insert name of Seller under the Agreement], or any Confirmation thereunder or related thereto, Beneficiary is entitled to draw under Letter of Credit No. [insert number] amounts owed by [insert name of Seller under the Agreement] under the Agreement; or

   B. “Letter of Credit No. [insert number] will expire in thirty (30) days or less and (insert name of Seller under the Agreement) has not provided replacement security acceptable to Beneficiary.

Special Conditions:

1. Partial and multiple drawings under this Letter of Credit are allowed;

2. All banking charges associated with this Letter of Credit are for the account of the Applicant;

PG&E Spring 2020 Bundled RPS Energy Sale Solicitation
Short Term RPS Sales Confirmation
3. This Letter of Credit is not transferable; and
4. The Expiry Date of this Letter of Credit shall be automatically extended without a written amendment hereto for a period of one (1) year and on each successive Expiry Date, unless at least sixty (60) days before the then current Expiry Date we notify you by registered mail or courier that we elect not to extend the Expiry Date of this Letter of Credit for such additional period.

We engage with you that drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored upon presentation, on or before the Expiry Date (or after the Expiry Date in case of an interruption of our business as stated below), at our offices at [insert issuing bank’s address for drawings].

All demands for payment shall be made by presentation of original drawing documents and a copy of this Letter of Credit; or by facsimile transmission of documents to [insert fax number]. Attention: [insert name of issuing bank’s receiving department], with original drawing documents and a copy of this Letter of Credit to follow by overnight mail. If presentation is made by facsimile transmission, you may contact us at [insert phone number] to confirm our receipt of the transmission. Your failure to seek such a telephone confirmation does not affect our obligation to honor such a presentation.

Our payments against complying presentations under this Letter of Credit will be made no later than on the sixth (6th) banking day following a complying presentation.

Except as stated herein, this Letter of Credit is not subject to any condition or qualification. It is our individual obligation, which is not contingent upon reimbursement and is not affected by any agreement, document, or instrument between us and the Applicant or between the Beneficiary and the Applicant or any other party.

Except as otherwise specifically stated herein, this Letter of Credit is subject to and governed by the Uniform Customs and Practice for Documentary Credits, 2007 Revision. International Chamber of Commerce (ICC) Publication No. 600 (the “UCP 600”); provided that, if this Letter of Credit expires during an interruption of our business as described in Article 36 of the UCP 600, we will honor drafts presented in compliance with this Letter of Credit, if they are presented within thirty (30) days after the resumption of our business, and will effect payment accordingly.

The law of the State of New York shall apply to any matters not covered by the UCP 600.
For telephone assistance regarding this Letter of Credit, please contact us at [insert number and any other necessary details].

Very truly yours,

[insert name of issuing bank]

By: ______________________
    Authorized Signature

Name: ______________________
    [print or type name!]

Title: ______________________
    [print or type title!]

[Note: All pages must contain the Letter of Credit number and page number for identification purposes.]
APPENDIX B
FORM OF LETTER OF CREDIT
EXHIBIT A – SIGHT DRAFT

TO
[INSERT NAME AND ADDRESS OF PAYING BANK]

AMOUNT: $____________________ DATE: ____________________

AT SIGHT OF THIS DEMAND PAY TO THE ORDER OF PACIFIC GAS AND ELECTRIC COMPANY THE AMOUNT OF U.S.$________ (__________ U.S. DOLLARS)

DRAWN UNDER [INSERT NAME OF ISSUING BANK] / LETTER OF CREDIT NO. XXXXXX.

REMIT FUNDS AS FOLLOWS:
[INSERT PAYMENT INSTRUCTIONS]

DRAWER

BY: ______________________________ NAME AND TITLE
MASTER POWER PURCHASE AND SALE AGREEMENT
CARBON FREE ENERGY ALLOCATION CONFIRMATION LETTER
BETWEEN
SILICON VALLEY CLEAN ENERGY AUTHORITY ("PARTY A")
AND
PACIFIC GAS AND ELECTRIC COMPANY ("PARTY B")

This confirmation letter ("Confirmation") confirms the Transaction between Party A, as Buyer, and Party B, as Seller, which becomes effective on the date fully executed by both Parties (the "Confirmation Effective Date"), in which Seller agrees to provide to Buyer the Product, as such term is defined in this Confirmation. This Transaction is governed by the Master Power Purchase and Sale Agreement between the Parties, effective as of 10/25/17 of EEI Master between Parties, together with the Cover Sheet, the Collateral Annex and Paragraph 10 to the Collateral Annex, and any other annexes thereto (collectively, as amended, restated, supplemented, or otherwise modified from time to time, the "Master Agreement"). The Master Agreement and this Confirmation are collectively referred to herein as the "Agreement". Capitalized terms used but not otherwise defined in this Confirmation, have the meanings specified for such terms in the Master Agreement or the Tariff (defined below), as applicable. Section references herein are to this Confirmation unless otherwise noted.

ARTICLE 1
TRANSACTION AND CONDITIONS PRECEDENT

1.1 Transaction. Buyer, as an Eligible LSE, shall accept and Seller shall deliver the Total Allocation Amount in consideration for Buyer’s agreement in this Transaction that (a) the sale and delivery of the Product is a reasonable manner for the Seller to manage the Resource Pools and (b) through December 31, 2020, Buyer waives its ability to make petitions, arguments, or filings to the California Public Utilities Commission or California Legislature asserting Seller has not offered any allocation, sale, or transfer of Carbon Free Energy or environmental attributes associated with such Carbon Free Energy.

ARTICLE 2
PRODUCT AND ALLOCATION AMOUNT

2.1 Product. The "Product" shall mean Buyer’s exclusive right (a) to the Carbon Free Energy, and (b) to account for or report to a Governmental Entity its Allocation Amount of the Carbon Free Energy. Carbon Free Energy shall mean the Energy generated from Seller’s Resources in the Resource Pools as selected by Buyer below in this Section 2.1. The list of Resources in each Resource Pool is in Appendix B.

[X] Large Hydroelectric; and/or

[X] Nuclear

2.2 Changes to Resource Pool(s). Seller has no obligation to retain Resources that are within a Resource Pool. Seller may remove a Resource from a Resource Pool for the following reasons: (i) if the power purchase agreement corresponding to the Resource has expired or is
terminated, (ii) if the Resource is no longer in Seller’s portfolio for some other reason, or (iii) if the Resource is owned by Seller, but ceases operation for Seller. Seller shall retain the sole and absolute discretion to enforce or terminate its power purchase agreements for Resources during the Delivery Period. Buyer shall not have any right to or discretion to request changes to Buyer’s selected Resource Pool or the Resource(s) during the Delivery Period.

2.3 Allocation Amount. The “Allocation Amount” shall mean the quantity of Product to be delivered to Buyer each calendar month during the Delivery Period corresponding to each Buyer’s Allocation Ratio. The Allocation Amount is calculated with the monthly Allocation Ratio multiplied by the Carbon Free Energy generated and delivered by the Resources in the Buyer selected Resource Pool(s) in each month during the Delivery Period. If the Delivery Period commences after the first of the month, then the Allocation Amount for that month shall equal the total daily Carbon Free Energy from the Resources within the Resource Pool from the first day of the Delivery Period through the end of the month, multiplied by the allocation ratio for that month. The “Total Allocation Amount” shall mean the sum of the monthly Allocation Amounts during the Delivery Period.

\[
\text{Allocation Amount} = \text{Allocation Ratio}_{\text{month}n} \times \text{Resource Pool generation} \ (\text{MWh})_{\text{month}n}
\]

2.4 Allocation Ratio. The Allocation Ratio is a monthly percentage of the Buyer’s PCLA Load Share, calculated by dividing the Buyer’s monthly PCIA-eligible load during the Delivery Period by the total PG&E distribution service territory PCIA-eligible load during each month of the Delivery Period, using the load forecast volumes recorded in Table 2-2 and Table 2-3 of PG&E’s most recent ERRA Forecast Application as of the Execution Date. Buyer’s monthly Allocation Ratios are as set forth below:

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<thead>
<tr>
<th>Month</th>
<th>Allocation Ratio (AR) [Seller to fill in using ERRA Forecast Data]</th>
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</table>

2.5 Fixed Allocation Ratio. If Buyer gains or loses PCIA Load Share during the Delivery Period, Seller will not change the Allocation Ratio for the Delivery Period.

ARTICLE 3
DELIVERY

3.1 Delivery. Throughout the Delivery Period, Seller shall deliver, and Buyer shall receive the Product in accordance with the Confirmation. Seller will act as Scheduling Coordinator to deliver the Product in each hour to the CAISO at the Delivery Point. Title to the Product shall be deemed to pass from Seller to Buyer at the Delivery Point.
3.2 **Delivery Point.** The Delivery Point is and shall mean where Seller shall deliver to, and Buyer shall take possession of, the Product, which shall be NP 15.

3.3 **Delivery Period.** The Delivery Period shall commence on [June 15th, 2020 or July 1st, 2020] through and until December 31, 2020.

**ARTICLE 4**

**REPORTING REQUIREMENTS**

4.1 **Quarterly Reports.** Seller shall provide to Buyer a Quarterly Report that includes the Allocation Amount within the Resource Pool for each month using the most accurate settlement information of the Resources available at the time. Each Quarterly Report shall be cumulative, and the Allocation Amount for each month will be updated with the most accurate settlement information of the Resources. The final Quarterly Report may be combined with the Final Report.

4.2 **Final Report.** Seller shall provide to Buyer the Total Allocation Amount with an attestation confirming the monthly Carbon Free Energy from the Resources within the Resource Pools in a final report following the Delivery Period (the “Final Report”). The Final Report will include the Product delivered from Seller to Buyer from each Resource from the selected Resource Pool(s) as indicated in Section 2.1. Seller will provide Buyer with the Final Report by May 15, 2021.

4.3 **Notification to the California Energy Commission.** Seller shall notify the California Energy Commission (CEC) pursuant to the then-current CEC regulations of the sale of the Total Allocation Amount of Carbon Free Energy for purposes of Power Content Label (PCL) reporting. Seller will report as a “sale” in its Power Source Disclosure Report the Total Allocation Amount from the Resources consistent with the Final Report. Buyer may report as a “purchase” in its Power Source Disclosure Report the Total Allocation Amount from the Resources consistent with the Final Report.

**ARTICLE 5**

**COMPENSATION**

5.1 **One-Time Cash Settlement Amount.** Buyer shall pay Seller the One-Time Cash Settlement Amount, in arrears, for the Delivery Period.

The “One-Time Cash Settlement Amount” for the Delivery Period shall be equal to (a) minus (b), where:

(a) equals the sum, over all hours of the Delivery Period, of the Index Price multiplied by the quantity of Product delivered to the Delivery Point during that hour; and
(b) equals the sum, over all hours of the Delivery Period, of the Index Price multiplied by the quantity of Product delivered to the Delivery Point during that hour.

5.2 Payment. Notwithstanding anything to the contrary in Article Six of the Master Agreement, Buyer shall pay Seller the One-Time Cash Settlement Amount on or before the later of (a) the twentieth (20th) day of the month in which the Buyer receives from Seller an invoice for the Delivery Period to which the One-Time Cash Settlement Amount pertains, or (b) within ten (10) days following receipt of an invoice issued by Seller for the Delivery Period or, if such day is not a Business Day, then on the next Business Day.

ARTICLE 6
CREDIT TERMS

The credit and collateral terms set forth in the Master Agreement shall not apply to either Party to this Confirmation.

ARTICLE 7
SELLER'S REPRESENTATIONS, WARRANTIES, AND COVENANTS

7.1 Seller represents and warrants the following:

7.1.1 that it has the contractual rights to sell all rights, title, and interest in the Product to be delivered hereunder;

7.1.2 it has not sold the Product required to be delivered hereunder, or any attribute thereof, to any other person or entity;

7.1.3 it will not substitute or purchase any Product from any generating resource other than from the Resources in the Resource Pool for delivery hereunder; and

7.1.4 it will not include the Product in any of its own Power Content Label (PCL) reporting except to allow it to provide the Product to Seller consistent with Section 4.3.

7.1.5 it will provide all reasonable information to Buyer necessary for Buyer to timely comply with periodic compliance reporting requirements as set forth herein and as otherwise required by applicable law with respect to this Product, including documents that Buyer is required to maintain or provide to the California Air Resources Board (CARB) in accordance with Assembly Bill (AB) 32. Seller shall maintain adequate records to reasonably assist Buyer in meeting any reporting, verification, transfer, registration, or retirement requirements of a Governmental Authority associated with the Confirmation.

7.2 Seller makes no representation, warranty or covenant with respect to the following:
7.2.1 Characterization, qualities, presence, or non-presence of any greenhouse gas (GHG) emissions of the Resources in the Resource Pools, including whether Resources in the Resource Pools emit GHGs, the type of GHGs, the carbon intensity of the Resources or Resource Pool or anything related to the environmental attributes of the Resources within the Resource Pools.

7.2.2 The ability of Buyer to use the Product for any compliance, regulatory, or reporting purpose.

[Signatures on following page.]
ACKNOWLEDGED AND AGREED TO:

Buyer, or Party A:
SILICON VALLEY CLEAN ENERGY AUTHORITY, a California joint powers authority

Signed by:

Sign: Girish Balachandran
Print: Girish Balachandran
Title: CEO
Date: 6/10/2020

Seller, or Party B:
PACIFIC GAS AND ELECTRIC COMPANY, a California corporation

Sign: [Signature]
Print: Scott Ranzal
Title: Director, Portfolio Management
Date: 6/15/2020
APPENDIX A

DEFINED TERMS

Any capitalized terms used in this Confirmation but not otherwise defined below shall have the meaning ascribed to such term in the Master Agreement:

“Allocation Amount” has the meaning set forth in Section 2.3.

“Allocation Ratio” has the meaning set forth in Section 2.4.

“Applicable Law” means any statute, law, treaty, rule, tariff, regulation, ordinance, code, permit, enactment, injunction, order, writ, decision, authorization, judgment, decree or other legal or regulatory determination or restriction by a court or Governmental Authority of competent jurisdiction, or any binding interpretation of the foregoing, as any of them is amended or supplemented from time to time, that apply to either or both of the Parties, the Product, or the terms of the Agreement.

“Buyer” means Party A.

“CAISO” means the California Independent System Operator Corporation or the successor organization to the functions thereof.

“CEC” means the California Energy Commission.

“CPUC” means the California Public Utilities Commission.


“Carbon Free Energy” means the Energy generated from Resources from the selected Resource Pool. Carbon Free Energy does not include any California RPS-eligible Energy generated from any Resource in the Resource Pool, nor does it include any California RPS-eligible attributes or any other current or future attributes associated with the Product.

“CEC” means the California Energy Commission.

“CPUC” means the California Public Utilities Commission.

“Delivery Period” has the meaning set forth in Section 3.3.

“Delivery Point” has the meaning set forth in Section 3.2.
“Eligible LSE” means a load serving entity that (1) has forecasted load identified in the PG&E’s ERRA Forecast Application for the calendar year in which the Allocation Amount is accepted; and (2) serves customers who pay the PCIA departing load charges for the above market costs of the Resource Pools.

“Energy” means electrical energy, measured in MWh.

“ERRA Forecast Application” means the Energy Resource Recovery Account Forecast proceedings filed by PG&E each year on June 1, to set generation rates for the subsequent calendar year.

“FERC” means the Federal Energy Regulatory Commission.

“Final Report” has the meaning set forth in Section 4.2.

“Governmental Authority” means any federal, state, local or municipal government, governmental department, commission, board, bureau, agency, or instrumentality, or any judicial, regulatory or administrative body, or the CAISO or any other transmission authority, having or asserting jurisdiction over a Party or the Agreement.

“Index Price” means the NP 15 Trading Hub price (as defined in the Tariff) measured in $/MWh, for each MWh of Product, and associated with the Product to the Delivery Point for each applicable hour as published by the CAISO on the CAISO website; or any successor thereto, unless a substitute publication and/or index is mutually agreed to by the Parties.

“Large Hydroelectric” has the meaning set forth in Cal. Code Regs., Title 20, § 1391(k)

“MW” means megawatt.

“MWh” means megawatt-hour.

“NP 15” means the transmission area north of Path 15.

“Notice” means written communications by a Party to be delivered by hand delivery, United States mail, overnight courier service, or electronic messaging (e-mail). The contacts table of this Confirmation contains the names and addresses to be used for Notices.

“Nuclear” means the Diablo Canyon Power Plant.

“One-Time Cash Settlement Amount” has the meaning set forth in Section 5.1.

“PG&E” means the Pacific Gas and Electric Company, its successors and assigns.

“PCIA” or “Power Charge Indifference Adjustment” means the mechanism to recover the above market costs associated with Buyer’s generation resource portfolio, as set forth in the CPUC’s Rulemaking 17-06-026.

“PCIA Load Share” has the meaning set forth in Section 2.4.
"Power Content Label" has the meaning set forth in Cal. Code Regs., Title 20, § 1393(a)(3).


"Product" has the meaning set forth in Section 2.1.

"Quarterly Report" has the meaning set forth in Section 4.1.

"Resource" means generation units contracted for through power purchase agreement by Seller or owned by Seller, which corresponding costs are recovered through the PCIA.

"Resource Pool" means aggregate of all Large Hydroelectric generation facilities or Nuclear generation facilities that are Resources.

"Scheduling Coordinator (SC)" means an entity certified by the CAISO to perform the functions as described in the Tariff.

"Seller" means Party B.

"Tariff" means the FERC-approved California Independent System Operator Tariff, including any current CAISO-published "Operating Procedures" and "Business Practice Manuals," as may be amended, supplemented or replaced from time to time.

"Total Allocation Amount" has the meaning set forth in Section 2.3.

"Transaction" has the meaning set forth in Section 1.1.
APPENDIX B  
LIST OF RESOURCES BY RESOURCE POOL

Resource Pool: Large Hydroelectric

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<th>Resource Name</th>
<th>CAISO Resource ID</th>
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## DRAFT - CONFIDENTIAL

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RESOURCE ADEQUACY CONFIRMATION LETTER

This Confirmation Letter ("Confirmation") confirms the Transaction agreed to on June 19, 2020 (the “Confirmation Date”), between Silicon Valley Clean Energy Authority, a California joint powers authority ("Buyer") and Mariposa Energy, LLC, a Delaware limited liability company ("Seller"), by which Seller agrees to sell and deliver, and Buyer agrees to purchase and receive, the Product, and is governed by the Edison Electric Institute Master Power Purchase and Sale Agreement between the Parties, effective as of June 19, 2020, together with the Cover Sheet to the EEI Agreement, and any other annexes thereto (collectively, as amended, restated, supplemented, or otherwise modified from time to time, the “Master Agreement”). Capitalized terms not otherwise defined in this Confirmation or the Master Agreement are defined in the Tariff. References to Sections are references to Sections of this Confirmation unless stated to be references to Sections of the Master Agreement or a statute.

ARTICLE 1
TRANSACTION TERMS

Product, Delivery Period, Quantity, Contract Price and other specifics of the Product are in Appendix B. Appendices A and B are incorporated into this Confirmation.

ARTICLE 2
DELIVERY OBLIGATIONS AND ADJUSTMENTS

2.1 Sale and Delivery of Product

(a) For each Showing Month of the Delivery Period, Seller will sell and deliver to Buyer, and Buyer will purchase and receive from Seller, the Quantity of the Product from the Shown Unit(s).

(b) Seller will deliver the Quantity by submitting to CAISO in its Supply Plan the Shown Unit and the characteristics of the Shown Unit and Product for Buyer, as further specified in Appendix B, all in compliance with this Confirmation.

(c) Seller will cause all Supply Plans to meet and be filed in conformance with the requirements of the CPUC and the Tariff. Seller will submit, or cause the Unit’s SC to submit, on a timely basis with respect to each applicable Showing Month, Supply Plans in accordance with the Tariff and CPUC requirements to identify and confirm the Product delivered to Buyer for each Showing Month of the Delivery Period. The total amount of Product identified and confirmed for each day of such Showing Month will equal the Quantity, less any excused deductions to the Quantity in the case of Flexible RA Capacity for excused reductions in Unit EFC.

(d) Seller may sell and deliver from a Shown Unit that meets requirements set forth in Appendix B. Seller will identify the Shown Unit(s) and Quantity by providing Buyer with the specific Unit information contemplated in Appendix B no later than the Notification Deadline for the relevant Showing Month. If during any period the
Shown Unit described on Appendix B is not available to provide the full amount of the Quantity as a result of any Planned Outage of the Unit, or reduction in the Unit EFC or Unit NQC of such Unit, or for reason of Force Majeure, then (i) Seller shall notify Buyer by the Notification Deadline of the amount, if any, of the Quantity that Seller will not sell and deliver, or will sell and deliver from a different Shown Unit that meets requirements of this Confirmation, during such period, and (ii) Seller will be excused from providing the Quantity of the Product in excess of that of which Seller notified Buyer pursuant to Section 2.1(d)(i) of this Confirmation, and Seller will not be liable to Buyer for amounts due under Section 2.2 of this Confirmation or Section 4.1 of the Master Agreement, or for any other penalties or damages. for providing less than the full Quantity, for the amount of the Quantity of the Product in excess of that of which Seller notified Buyer pursuant to Section 2.1(d)(i) of this Confirmation that it would deliver.

In the case of reduction in the Unit EFC or Unit NQC, such reduction shall be calculated in accordance with the following formulas:

In the case of reduction in the Unit EFC:

\[ \text{Amount of reduction in the Unit EFC} \times \text{Prorated Percentage of Unit Flexible Factor} \]

In the case of reduction in the Unit NQC:

\[ \text{Amount of reduction in the Unit NQC} \times \text{Prorated Percentage of Unit Factor} \]

(e) If CAISO rejects either the Supply Plan or the Resource Adequacy Plan with respect to any part of the Quantity for the Shown Unit in any Showing Month, the Parties will confer, make such corrections as are necessary for acceptance, and resubmit the corrected Supply Plan or Resource Adequacy Plan for validation before the applicable deadline for the Showing Month.

(f) The Product is delivered and received when the CIRA Tool shows the Supply Plan accepted for the Product from the Shown Unit by CAISO or Seller complies with Buyer’s instruction to withhold all or part of the Quantity from Seller’s Supply Plan for any Showing Month during the Delivery Period. Seller has failed to deliver the Product if (i) Buyer has elected to submit the Product from the Shown Unit in its Resource Adequacy Plan and such submission is accepted by the CPUC and the CAISO but the Supply Plan and Resource Adequacy Plan are not matched in the CIRA Tool and are rejected by CAISO notwithstanding performance of Section 2.1(e) or (ii) Seller fails to submit the volume of Quantity for any Showing Month in such amount as instructed by Buyer for the applicable Showing Month. Buyer will have received the Quantity if (i) Seller’s Supply Plan is accepted by the CAISO for the applicable Showing Month or (ii) Seller complies with Buyer’s instruction to withhold all or part of the Quantity from Seller’s Supply Plan for the applicable Showing Month. Seller will not have failed to deliver the Quantity if Buyer fails
or chooses not to submit the Shown Unit and the Product in its Resource Adequacy Plan with the CPUC or CAISO.

(g) The Shown Unit must not have characteristics that would trigger the need for Buyer or Seller to file an advice letter or other request for authorization with the CPUC or for Buyer to make a compliance filing pursuant to California Public Utilities Code Section 380.

(h) Excused Reductions in Unit EFC: If the Product includes FCR Attributes, then Seller’s failure to deliver any of the Quantity of FCR Attributes during the Delivery Period will be excused if the Unit experiences a reduction in Unit EFC after the Confirmation Date as determined by CAISO and Seller has provided notice of such reduction to Buyer by the Notification Deadline for the applicable Showing Month. The extent to which Seller’s failure is excused will be calculated in accordance with Section 2.1(d). If the Unit experiences such a reduction in Unit EFC, then Seller may, but is not obligated to, provide the applicable part of the Quantity of FCR Attributes for such day from the Shown Unit.

2.2 Buyer’s Remedies for Seller’s Failure to Deliver Quantity

(a) If Seller fails to deliver any part of the Quantity as required herein for any Showing Month, Seller is liable for damages pursuant to Section 4.1 of the Master Agreement.

(b) Seller agrees to indemnify, defend and hold harmless Buyer from any penalties, fines or costs, including Environmental Costs, assessed against Buyer by the CPUC, CAISO or other Governmental Body resulting from Seller’s failure to deliver the Product. The Parties will use commercially reasonable efforts to minimize such penalties, fines or costs; provided, that in no event will Buyer be required to use or change its utilization of its owned or controlled assets or market positions to minimize these penalties, fines or costs. If Seller fails to pay the foregoing penalties, fines or costs, or fails to reimburse Buyer for those penalties, fines or costs, then, without prejudice to its other rights and remedies, Buyer may setoff and recoup those penalties, fines or costs against any future amounts it may owe to Seller under this Confirmation or the Master Agreement.

2.3 Buyer’s Re-Sale of Product

(a) Buyer may re-sell all or part of the Product; provided that any such re-sale must not increase Seller’s obligations hereunder other than as set forth in this Section 2.3(a). For any such a resale, Resource Adequacy Plan of Buyer as used herein will refer to the Resource Adequacy Plan of Subsequent Buyer. Seller will, or will cause the Unit’s SC, to follow Buyer’s instructions with respect to providing such resold Product to Subsequent Buyers, to the extent such instructions are consistent with Seller’s obligations under this Confirmation. Seller will, and will cause the Unit’s SC, to take all commercially reasonable actions and execute all documents or
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instruments reasonably necessary to allow such Subsequent Buyers to use such resold Product in a manner consistent with Buyer’s rights under this Confirmation. If Buyer incurs any liability to a Subsequent Buyer due to the failure of Seller or the Unit’s SC to comply with this Confirmation, Seller will be liable to Buyer for the same amounts Seller would have owed Buyer under this Confirmation if Buyer had not resold the Product.

(b) Buyer will notify Seller in writing of any resale of Product and the Subsequent Buyer no later than two Business Days before the Notification Deadline for the Showing Month. Buyer will notify Seller of any subsequent changes or further resales no later than two Business Days before the Notification Deadline for the Showing Month.

ARTICLE 3
PAYMENTS

3.1 Payment

Buyer shall pay for the Product as provided in Article Six of the Master Agreement and this Confirmation. Buyer shall make a Monthly RA Capacity Payment to Seller for each Unit by the later of (a) ten (10) Calendar Days after Buyer’s receipt of Seller’s invoice (which may be given upon first day of the Showing Month) and (b) the twentieth (20th) of the Showing Month, or if the twentieth (20th) is not a Business Day the next following Business Day (“Monthly RA Capacity Payment”). The Monthly RA Capacity Payment shall equal the product of (i) the applicable Contract Price for that Showing Month, (ii) the Expected Contract Quantity for the Showing Month and (iii) 1,000, rounded to the nearest penny (i.e., two decimal places); provided, however, that the Monthly RA Capacity Payment shall be adjusted to reflect any portion of Expected Contract Quantity for the Showing Month that was not delivered in accordance with Section 2.1 for such Showing.

3.2 Allocation of Other Payments and Costs

(a) Seller will receive any revenues from, and must pay all costs charged by, CAISO or any other third party with respect to the Unit for (i) start-up, shutdown, and minimum load costs, (ii) capacity for ancillary services, (iii) energy sales, (iv) flexible ramping product, or (v) black start or reactive power services. Buyer must promptly report receipt of any such revenues to Seller. Buyer must pay to Seller any such amounts described in this Section 3.2(a) received by Buyer or a Subsequent Buyer. Without prejudice to its other rights and remedies, Seller may setoff and recoup any such amounts that are not paid to it against any amounts owed to Buyer under the Master Agreement.

(b) Buyer is to receive and retain all revenues associated with the Quantity of Product during the Delivery Period, including any capacity and availability revenues from the Capacity Procurement Mechanism, or its successor, RUC Availability Payments, or its successor, but excluding payments described in Section 3.2(a)(i)-
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(v) or 3.2(d). Seller must promptly report receipt of any such revenues to Buyer. Seller must pay to Buyer any such amounts received by Seller, or a Unit’s SC, owner, or operator. Without prejudice to its other rights, Buyer may set off and recoup any such amounts that are not paid to it against amounts owed to Seller under the Master Agreement.

(c) If CAISO designates any part of the Quantity as Capacity Procurement Mechanism Capacity, then Seller will, or will cause the Unit’s SC to, within one Business Day of the time Seller receives notification from CAISO, notify Buyer and not accept any such designation by CAISO unless and until Buyer has agreed to accept such designation.

(d) Any Availability Incentive Payments or Non-Availability Charges are for Seller to receive and pay.

ARTICLE 4

OTHER BUYER AND SELLER COVENANTS

4.1 CAISO Requirements

Seller must schedule or cause the Unit’s SC to schedule or make available to CAISO the Quantity of the Product during the Delivery Period, in compliance with the Tariff, and perform all, or cause the Unit’s SC, owner, or operator to perform all, obligations under applicable law and the Tariff relating to the Product. Buyer is not liable for, and Seller will indemnify and hold Buyer harmless from, the failure of Seller or the Unit’s SC, owner, or operator to comply with the Tariff, and for any penalties, fines or costs imposed on Seller or the Unit’s SC, owner, or operator for noncompliance.

4.2 Seller’s and Buyer’s Duties to Take Actions to Allow Product Utilization

Throughout the Delivery Period, Buyer and Seller will take all commercially reasonable actions and execute all documents reasonably necessary, to enable (a) Buyer’s rights to the Expected Contract Quantity for the sole benefit of Buyer, or any Subsequent Buyer, and (b) Buyer, or any Subsequent Buyer, to use the Expected Contract Quantity to meet its Compliance Obligations. Such commercially reasonable efforts shall include cooperating with and providing, and causing each Shown Unit’s SC, owner, or operator to cooperate with and provide, requested supporting documentation to the CAISO, the CPUC, or any other Governmental Body responsible for administering the applicable Compliance Obligations, including supporting documentation demonstrating that the Expected Contract Quantity can be delivered to the CAISO controlled grid for the minimum hours required to satisfy RAR pursuant to the “deliverability” standards established by the CAISO or other Governmental Body of competent jurisdiction. If necessary, the Parties further agree to negotiate in good faith to amend this Confirmation to conform this Transaction to subsequent clarifications, revisions, or decisions rendered by CAISO or an applicable Governmental Body to maintain the benefits of the Transaction.
4.3 **Seller’s Representations and Warranties**

Seller represents and warrants to Buyer throughout the Delivery Period that:

(a) no part of the Quantity during the Delivery Period has been committed by Seller to any third party to satisfy Compliance Obligations or analogous obligations in any CAISO or non-CAISO markets;

(b) the Unit qualifies under the Tariff for the Product, and the Unit and Seller are capable of delivering the Product;

(c) the aggregation of all amounts of Capacity Attributes that Seller has sold, assigned, or transferred for the Unit during the Delivery Period does not exceed the Unit NQC and, if applicable, the Unit EFC, for that Unit;

(d) if applicable, Seller has notified either the Unit’s SC or the entity from which Seller purchased the Product that Seller has transferred the Quantity of Product for the Delivery Period to Buyer; and

(e) Seller has notified or will notify the Unit’s SC that Buyer is entitled to the revenues set forth in Section 3.2(b), and such SC is obligated to promptly deliver those revenues to Buyer, along with appropriate documentation supporting the amount of those revenues.

**ARTICLE 5**

**ADDITIONAL MASTER AGREEMENT AMENDMENTS; GENERAL PROVISIONS**

5.1 **Termination Payment**

For this Transaction, the following is added to the end of Section 5.3 of the Master Agreement:

“If Buyer is the Non-Defaulting Party and Buyer reasonably expects to incur or be liable for any penalties, fines or costs from CAISO, or any Governmental Body, because Buyer or a Subsequent Buyer is not able to include the applicable Quantity in a Compliance Showing due to Seller’s Event of Default, then Buyer may, in good faith, estimate the amount of those penalties, fines or costs and include the estimate in its determination of the Termination Payment, subject to accounting to Seller when those penalties, fines or costs are finally ascertained. If this accounting establishes that Buyer’s estimate exceeds the actual amount of penalties, fines or costs, Buyer must promptly remit to Seller the excess amount with interest in accordance with Section 6.2 of the Master Agreement. The rights and obligations with respect to determining and paying any Termination Payment, and any dispute resolution provisions with respect thereto, survive the termination of this Transaction and continue until after those penalties, fines or costs are finally ascertained.”

6
5.2  Confidentiality

Notwithstanding Section 10.11 of the Master Agreement, (i) Buyer may disclose information in order to support its Compliance Showings or otherwise show it has met its Compliance Obligations; (ii) Seller may disclose to a Unit’s SC or as necessary for Supply Plans; (iii) each Party may disclose information to the independent evaluator or other administrator of any competitive solicitation process of Buyer, which in turn may disclose such information to CAISO or any Governmental Body; and (iv) Buyer may disclose information to any Subsequent Buyer.

5.3  Dodd-Frank Act

Without limiting Section 10.10 of the Master Agreement, the Parties intend this Transaction to be a “customary commercial arrangement” as described in Section II.A.1 of Commodity Futures Trading Commission, Proposed Guidance, Certain Natural Gas and Electric Power Contracts, 81 Fed. Reg. 20583 at 20586 (Apr. 8, 2016) and a “Forward Capacity Transaction” within the meaning of Commodity Futures Trading Commission, Final Order in Response to a Petition From Certain Independent System Operators and Regional Transmission Organizations To Exempt Specified Transactions Authorized by a Tariff or Protocol Approved by the Federal Energy Regulatory Commission, 78 Fed. Reg. 19,880 (Apr. 2, 2013).

5.4  Governing Law

Nothing contained in this Confirmation shall be construed as a grant of CPUC jurisdiction over a Party not otherwise subject to such jurisdiction by law.

5.5  Counterparts

This Confirmation may be signed in any number of counterparts with the same effect as if the signatures to the counterparts were upon a single instrument. The Parties may rely on facsimile or scanned signatures as originals under this Confirmation. Delivery of an executed signature page of this Confirmation by facsimile or electronic mail transmission (including PDF) shall be the same as delivery of a manually executed signature page.

5.6  Entire Agreement; No Oral Agreements or Modifications

This Confirmation sets forth the terms of the Transaction into which the Parties have entered and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of the Product. Notwithstanding any other provision of the Agreement to the contrary, this Transaction may be confirmed only through a written document executed by both Parties, and no amendment or modification to this Transaction shall be enforceable except through a written document executed by both Parties.
AGREED AS OF THE CONFIRMATION DATE:

SILICON VALLEY CLEAN ENERGY AUTHORITY, a California joint powers authority

By: Girish Balachandran
Name: Girish Balachandran
Title: CEO

MARIPOSA ENERGY, LLC

By: Paul Shepard
Name: Paul Shepard
Title: Asset Management Representative
APPENDIX A
DEFINED TERMS

“CAISO” means the California ISO.

“Capacity Attributes” means attributes of the Unit that may be counted toward Compliance Obligations, including: flexibility, dispatchability, physical location or point of electrical interconnection of the Unit; Unit ability to generate at a given capacity level, provide ancillary services, or ramp up or down at a given rate; any current or future defined characteristics, certificates, tags, credits, or accounting constructs of the Unit, howsoever entitled, identified from time to time by the CAISO or a Governmental Body having jurisdiction over Compliance Obligations.

“CIRA Tool” means the CAISO Customer Interface for Resource Adequacy.

“Compliance Obligations” means, as applicable, RAR, Local RAR and FCR.

“Compliance Showings” means the applicable LSE’s compliance with the resource adequacy requirements of the CPUC for an applicable Showing Month.

“CPUC Decisions” means any currently effective or future decisions, resolutions, or rulings related to resource adequacy.

“Environmental Costs” means (i) costs incurred in connection with acquiring and maintaining all environmental permits and licenses for the Product, (ii) the Product’s compliance with all applicable environmental laws, rules, and regulations, including capital costs for pollution mitigation or installation of emissions control equipment required to permit or license the Product, (iii) all operating and maintenance costs for operation of pollution mitigation or control equipment, (iv) costs of permit maintenance fees and emission fees as applicable, (v) the costs of all emission reductions that have been authorized by a local air pollution control district or emissions trading credits or units pursuant to the California Health & Safety Code, market based incentive programs such as the South Coast Air Quality Management District’s Regional Clean Air Incentives Market, authorizations to emit sulfur dioxide and oxides of nitrogen by the Environmental Protection Agency, and any costs related to greenhouse gas emissions required by any applicable environmental laws, rules, regulations, or permits to operate, and (vi) costs associated with the disposal, clean-up, decontamination or remediation, on or off site, of hazardous substances.

“Expected Contract Quantity” means, with respect to any particular day of any Showing Month of the Delivery Period, the Contract Quantity of Product for such Showing Month, including the amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to such day, less any reductions to Contract Quantity for such day consistent with Section 2.1(d) and 2.1(h) with respect to which Seller has not elected to provide Alternate Capacity.

“FCR” means the Flexible Capacity requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, the CAISO pursuant to the Tariff, or other Governmental Body having
jurisdiction over Compliance Obligations and includes any non-binding advisory showing which an LSE is required to make with respect to flexible capacity.

“FCR Attributes” means, with respect to a Unit, any and all resource adequacy attributes of the Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s FCR.

“Governmental Body” means any federal, state, local, municipal or other government; any governmental, regulatory or administrative agency, commission or other authority lawfully exercising or entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power; and any court or governmental tribunal.

“Local RAR” means the local resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“LSE” means “Load Serving Entity” as such term is used in Section 40.9 of the Tariff.

“MW” means megawatt.

“Notification Deadline” is twenty (20) Business Days before the relevant deadlines for the corresponding Compliance Showings applicable to the relevant Showing Month.

“Product” means RAR, Local RAR and FCR, for the Delivery Period, Unit, Quantity, Contract Price and other specifications contained in Appendix B.

“Prorated Percentage of Unit Factor” means the percentage, as specified in Appendix B, of the Unit NQC as of the Confirmation Date that is dedicated to Buyer under this Transaction.

“Prorated Percentage of Unit Flexible Factor” means the percentage, as specified in Appendix B, of the Unit EFC as of the Confirmation Date that is dedicated to Buyer under this Transaction.

“RAR” means the resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“SC” means Scheduling Coordinator as defined in the Tariff.

“Showing Month” means the calendar month of the Delivery Period that is the subject of the related Compliance Showing.

“Shown Unit” means a Unit specified by Seller in a Supply Plan, but not necessarily identified by Seller to Buyer on the Confirmation Date.

“Subsequent Buyer” means the buyer of Product from Buyer in a re-sale of Product by Buyer.
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“Tariff” means the CAISO Tariff, including any current CAISO-published “Operating Procedures” and “Business Practice Manuals,” in each case as amended or supplemented from time to time.

“Unit” means the generation unit described in Appendix B and any Shown Unit.

“Unit EFC” means Unit Effective Capacity and is the lesser of that of the Unit as set by CAISO as of the Confirmation Date and that of the Unit on a subsequent date of determination.

“Unit NQC” means Unit Net Qualifying Capacity and is the lesser of that of the Unit as set by CAISO as of the Confirmation Date and that of the Unit on a subsequent date of determination.
APPENDIX B
PRODUCT AND UNIT INFORMATION

Product:

☐ RAR  ☑ Local RAR  ☑ Flexible Capacity
and all Capacity Attributes related to such Product.

Additional Product Information (fill in all that apply):
CAISO Zone: NP15
MCC Bucket: 4
CPUC Local Area (if applicable): Greater Bay Area
Flexible Capacity Category (if applicable): 1

Delivery period: 

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<td>Unit NQC by month</td>
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<td>Unit EFC by month</td>
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<td>Resource Type (e.g., gas, hydro, solar, etc.)</td>
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<td>Prorated Percentage of Unit Flexible Factor</td>
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<td>Resource Category as defined by the CPUC (DR, 1, 2, 3, 4)</td>
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WSPP RESOURCE ADEQUACY CONFIRMATION

This Confirmation under the WSPP Agreement confirms the transaction between Silicon Valley Clean Energy Authority, a California joint powers authority, (“Seller”) and Peninsula Clean Energy, a California joint powers authority (“Purchaser”), and each individually a “Party” and together the “Parties”, dated as of July 9, 2020 (the “Effective Date”), by which Seller agrees to sell and deliver, and Purchaser agrees to purchase and receive, the Product (the “Transaction”). This Transaction is governed by the WSPP Agreement dated January 25, 2020 (the “WSPP Agreement”). The WSPP Agreement and this Confirmation, including any applicable appendices, exhibits or amendments thereto, shall be collectively referred to herein as the “Agreement” and will constitute a single agreement between the Parties with respect to the Transaction. Capitalized terms not otherwise defined in this Confirmation or the WSPP Agreement are defined in the Tariff.

ARTICLE 1
TRANSACTION TERMS

Product, Delivery Period, Contract Quantity, Contract Price and other specifics of the Product are in Appendix B. Appendices A, B, C, and D are incorporated into this Confirmation.

☐ Firm RA Product:

Seller shall provide Purchaser with the Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity for any reason, then Seller shall have the option to supply Alternate Capacity pursuant to Section 2.3 to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Contract Quantity and has failed to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period, then Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.

☒ Contingent Firm RA Product:

Seller shall provide Purchaser with Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any reduction of the Contract Quantity of the Unit in accordance with Section 2.2, Seller shall have the option to notify Purchaser that either (a) Seller will not provide the portion of the Contract Quantity attributable to such reduction during the period of such non-availability; or (b) Seller will supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period pursuant to Section 2.3. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any reason other than as provided in Section 2.2, then Seller shall have the option to supply Alternate Capacity pursuant to Section 2.3 to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Expected Contract Quantity from the Unit and has failed to supply Alternate Capacity to fulfill the remainder of the Expected Contract Quantity during such period, then Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.
ARTICLE 2
DELIVERY OBLIGATIONS AND ADJUSTMENTS

2.1 Sale and Delivery of Product

(a) For each Showing Month of the Delivery Period, Seller shall sell and deliver to Purchaser, and Purchaser shall purchase and receive from Seller, the Expected Contract Quantity of the Product from the Shown Unit(s). Seller’s obligation to deliver the Expected Contract Quantity of Product for each day of the Delivery Period is firm and will not be excused for any reason.

(b) Seller shall deliver the Expected Contract Quantity by submitting to CAISO in its Supply Plan the Shown Unit(s) and the characteristics of the Shown Unit(s) and Product for Purchaser, as further specified in Appendix B, all in compliance with this Confirmation.

(c) Seller shall cause all Supply Plans to meet and be filed in conformance with the requirements of the CPUC and the Tariff. Seller shall submit, or cause the Shown Unit’s SC to submit, on a timely basis with respect to each applicable Showing Month, Supply Plans in accordance with the Tariff and CPUC requirements to identify and confirm the Product delivered to Purchaser for each Showing Month of the Delivery Period. The total amount of Product identified and confirmed for each day of such Showing Month shall equal the Expected Contract Quantity.

(d) Seller may sell and deliver Product from a Shown Unit that meets the requirements set forth in Appendix B. In no event shall a Shown Unit utilize coal or coal materials as a source of fuel. 1 A Shown Unit must be a specific resource that is connected directly to the CAISO controlled grid or be under the operational control of CAISO. A Shown Unit may not be an unspecified import. Seller shall identify the Shown Unit(s) and Expected Contract Quantity by providing Purchaser with the specific information contemplated in Appendix B no later than the Notification Deadline for the relevant Showing Month.

(e) If CAISO rejects either the Supply Plan or the Resource Adequacy Plan with respect to any part of the Expected Contract Quantity for the Shown Unit(s) in any Showing Month, the Parties shall confer, make such corrections as are necessary for acceptance, and resubmit the corrected Supply Plan or Resource Adequacy Plan for validation before the applicable deadline for the Showing Month.

(f) The Product is delivered and received when the CIRA Tool shows that the Supply Plan submitted in compliance with Purchaser’s instructions, including Purchaser’s instructions to withhold all or part of the Expected Contract Quantity from Seller’s Supply Plan for any Showing Month during the Delivery Period, has been accepted for the Product from the Shown Unit(s) by CAISO. Seller has failed to deliver the Product if (i) Purchaser has elected to submit the Product from the Shown Unit in

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1 Note to draft: Seller to revise as appropriate.
its Resource Adequacy Plan and such submission is accepted by the CPUC and the CAISO but the Supply Plan and Resource Adequacy Plan are not matched in the CIRA Tool and are rejected by CAISO notwithstanding performance of Section 2.1(e) or (ii) Seller fails to submit the volume of Expected Contract Quantity for any Showing Month in such amount as instructed by Purchaser for the applicable Showing Month. Seller will not have failed to deliver the Expected Contract Quantity if Purchaser fails or chooses not to submit the Shown Unit(s) and the Product in its Resource Adequacy Plan with the CPUC or CAISO.

(g) The Shown Unit(s) must not have characteristics that would trigger the need for Purchaser or Seller to file an advice letter or other request for authorization with the CPUC or for Purchaser to make a compliance filing pursuant to California Public Utilities Code Section 380.²

2.2 Reductions in Contract Quantity

(a) If Seller is providing Contingent Firm RA Product, Seller’s obligation to deliver the Contract Quantity for each day of each Showing Month may be reduced at Seller’s option by the amount of any Planned Outages which exist with respect to any portion of the Unit during the applicable Showing Month for the applicable days of such Planned Outages; provided, (i) Seller notifies Purchaser by the Notification Deadline applicable to that Showing Month of the amount of Product from the Unit that Purchaser may include in Purchaser’s Compliance Showings applicable to that month as a result of such Planned Outage, and (ii) such reduction is able to be reflected on the Supply Plans in accordance with the Tariff.

(b) In the event Seller is unable to provide the Contract Quantity for any portion of a Showing Month because of a Planned Outage of a Unit, Seller has the option, but not the obligation, to provide Product for such portions of such Showing Month from Replacement Units, provided Seller provides and identifies such Replacement Units in accordance with Section 2.3.

2.3 Seller’s Option To Provide Alternate Capacity

If Seller is unable to provide the full Contract Quantity for each day of each Showing Month for any reason, including, without limitation, as provided in Section 2.2, or Seller desires to provide a portion of the Contract Quantity for any day of a Showing Month from a different generating unit other than the Unit, then Seller may, at no cost to Purchaser, provide Purchaser with replacement Product from one or more Replacement Units in an amount such that the total amount of Product provided to Purchaser from the Unit and any Replacement Unit(s) for each day of the Showing Month is not more than the Contract Quantity, provided that in each case:

(a) Seller shall notify Purchaser in writing of its intent to provide Alternate Capacity

² For example, contracts with Once-Through Cooling resources that terminate one year or less before the State Water Resources Control Board compliance deadline require an advice letter filing under CPUC Decision 12-04-046
and shall identify the Replacement Units from which such Alternate Capacity shall be provided before the Notification Deadline for Purchaser’s Compliance Showings related to such Showing Month; and

(b) The designation of any Replacement Unit(s) by Seller shall be subject to Purchaser’s prior written approval, which shall not be unreasonably withheld.

Once Seller has identified in writing any Replacement Units that meet the requirements of this Section 2.3 and Purchaser has approved such Replacement Units as consistent with this Confirmation, then any such Replacement Units shall be deemed a Unit for purposes of this Confirmation for that Showing Month. Purchaser’s approval of a Replacement Unit as to a given Showing Month shall not be construed as approval of such Replacement Unit for any subsequent Showing Month.

2.4 Planned Outages

As of the Confirmation Effective Date, Seller and Purchaser have agreed to all Planned Outages as specified in Appendix D (“Planned Outage Schedule”) for all relevant Showing Months for the following calendar year, or until the end of the Delivery Period, whichever is shorter. Seller may provide Purchaser with proposed changes to the Planned Outage Schedule from time to time. Within ten (10) Business Days after Purchaser’s receipt of any Seller proposed changes, Purchaser shall notify Seller in writing of any reasonable requests for modifications to such Seller proposed changes, and Seller shall, to the extent consistent with Prudent Operating Practice, accommodate Purchaser’s requests regarding the timing of any Seller proposed changes to the Planned Outage Schedule.

2.5 Purchaser’s Remedies for Seller’s Failure to Deliver Expected Contract Quantity

(a) If Seller fails to deliver any part of the Expected Contract Quantity as required herein for any Showing Month, Seller shall be liable for damages pursuant to Section 21.3 of the WSPP Agreement, without reference to the word “hourly” therein.

(b) Seller shall indemnify, defend and hold harmless Purchaser from any penalties, fines or costs, including Environmental Costs, assessed against Purchaser by the CPUC, CAISO or other Governmental Body resulting from Seller’s failure to deliver the Product or a Shown Unit’s SC’s failure to timely or accurately submit Supply Plans in accordance with the Tariff and this Confirmation. The Parties shall use commercially reasonable efforts to minimize such penalties, fines or costs; provided, that in no event will Purchaser be required to use or change its utilization of its owned or controlled assets or market positions to minimize these penalties, fines or costs. If Seller fails to pay the foregoing penalties, fines or costs, or fails to reimburse Purchaser for those penalties, fines or costs, then, without prejudice to its other rights and remedies, Purchaser may setoff and recoup those penalties, fines or costs against any future amounts it may owe to Seller under this Confirmation or the WSPP Agreement.
2.6 **Purchaser’s Re-Sale of Product**

(a) Purchaser may re-sell all or part of the Product; provided that any such re-sale must not increase Seller’s obligations hereunder other than as set forth in this Section 2.6(a). For any such a resale, the Resource Adequacy Plan of Purchaser as used herein will refer to the Resource Adequacy Plan of Subsequent Purchaser. Seller shall, or shall cause the Shown Unit’s SC, to follow Purchaser’s instructions with respect to providing such resold Product to Subsequent Purchasers, to the extent such instructions are consistent with Seller’s obligations under this Confirmation. Seller shall, and shall cause the Shown Unit’s SC, to take all commercially reasonable actions and execute all documents or instruments reasonably necessary to allow such Subsequent Purchasers to use such resold Product in a manner consistent with Purchaser’s rights under this Confirmation. If Purchaser incurs any liability to a Subsequent Purchaser due to the failure of Seller or the Shown Unit’s SC to comply with this Confirmation, Seller will be liable to Purchaser for the amounts Seller would have owed Purchaser under this Confirmation if Purchaser had not resold the Product.

(b) Purchaser shall notify Seller in writing of any resale of Product and the Subsequent Purchaser no later than two (2) Business Days before the Notification Deadline for each Showing Month for which Purchaser has resold the Product. Purchaser shall notify Seller of any subsequent changes or further resales no later than two (2) Business Days before the Notification Deadline for the Showing Month.

(c) If CAISO or CPUC develops a centralized capacity market, Purchaser will have exclusive rights to direct the Seller or the Unit’s SC to offer, bid, or otherwise submit the Expected Contract Quantity of Product for re-sale in such market, Seller and the Unit’s SC shall comply with Purchaser’s direction and Purchaser shall retain and receive all revenues from such re-sale.

**ARTICLE 3**

**PAYMENTS**

3.1 **Payment**

Purchaser shall pay for the Product as provided in Article 9 of the WSPP Agreement and this Confirmation; except that under Section 9.4 of the WSPP Agreement, in case any portion of any bill is in dispute, then only the undisputed portion of the bill shall be paid when due. The disputed portion of the bill shall be adjusted or paid upon final resolution of the dispute. Purchaser shall make a monthly payment to Seller for each Unit by the later of (i) ten (10) Calendar Days after Purchaser’s receipt of Seller’s invoice (which may be given upon first day of the Showing Month) and (ii) the twentieth (20th) of the Showing Month, or if the twentieth (20th) is not a Business Day the next following Business Day (“Monthly RA Capacity Payment”). The Monthly RA Capacity Payment shall equal the product of (a) the applicable Contract Price for that Showing Month, (b) the Expected Contract Quantity for the Showing Month and (c) 1,000, rounded to the nearest penny.
(i.e., two decimal places); provided, however, that the Monthly RA Capacity Payment shall be adjusted to reflect any portion of Expected Contract Quantity for the Showing Month that was not delivered in accordance with Section 2.1 for such Showing Month.

3.2 **Allocation of Other Payments and Costs**

(a) Seller will receive any revenues from, and must pay all costs charged by, CAISO or any other third party with respect to the Shown Unit(s) for (i) start-up, shutdown, and minimum load costs, (ii) capacity for ancillary services, (iii) energy sales, (iv) flexible ramping product, or (v) black start or reactive power services. Purchaser must promptly report receipt of any such revenues to Seller. Purchaser must pay to Seller any such amounts described in this Section 3.2(a) received by Purchaser or a Subsequent Purchaser. Without prejudice to its other rights and remedies, Seller may setoff and recoup any such amounts that are not paid to it pursuant to this Section 3.2(a) against any amounts owed to Purchaser under the WSPP Agreement.

(b) Purchaser is to receive and retain all revenues associated with the Expected Contract Quantity of Product during the Delivery Period, including any capacity and availability revenues from the Capacity Procurement Mechanism, or its successor, RUC Availability Payments, or its successor, but excluding payments described in Section 3.2(a)(i)-(v) or 3.2(d). Seller shall promptly report receipt of any such revenues to Purchaser. Seller shall pay to Purchaser within thirty (30) days of receipt any such amounts received by Seller, or a Shown Unit’s SC, owner, or operator. Without prejudice to its other rights, Purchaser may setoff and recoup any such amounts that are not paid to it against amounts owed to Seller under the WSPP Agreement.

(c) If CAISO designates any part of the Contract Quantity as Capacity Procurement Mechanism Capacity, then Seller shall, or shall cause the Shown Unit’s SC to, within one (1) Business Day of the time Seller receives notification from CAISO, notify Purchaser and not accept any such designation by CAISO unless and until Purchaser has agreed to accept such designation.

(d) Any Availability Incentive Payments or Non-Availability Charges are for Seller to receive and pay.

**ARTICLE 4**

**OTHER PURCHASER AND SELLER COVENANTS**

4.1 **CAISO Requirements**

Seller shall schedule or cause the Shown Unit’s SC to schedule or make available to CAISO the Expected Contract Quantity of the Product during the Delivery Period, in compliance with the Tariff, and perform all, or cause the Shown Unit’s SC, owner, or operator to perform all, obligations under applicable law and the Tariff relating to the Product. Purchaser is not liable for,
and Seller shall indemnify and hold Purchaser harmless from, the failure of Seller or the Shown Unit’s SC, owner, or operator to comply with the Tariff, and for any penalties, fines or costs imposed on Seller or the Shown Unit’s SC, owner, or operator for noncompliance.

4.2 **Seller’s and Purchaser’s Duties to Take Actions to Allow Product Utilization**

Throughout the Delivery Period, Purchaser and Seller shall take all commercially reasonable actions and execute all documents or instruments reasonably necessary to ensure (a) Purchaser’s rights to the Expected Contract Quantity for the sole benefit of Purchaser or any Subsequent Purchaser and (b) that Purchaser may use the Expected Contract Quantity to meet its Compliance Obligations. Such commercially reasonable actions shall include, without limitation cooperating with and providing, and causing each Shown Unit’s SC, owner, or operator to cooperate with and provide, requested supporting documentation to the CAISO, the CPUC, or any other Governmental Body responsible for administering the applicable Compliance Obligations, including to demonstrate that the Expected Contract Quantity can be delivered to the CAISO controlled grid for the minimum hours required to satisfy RAR pursuant to the “deliverability” standards established by the CAISO or other Governmental Body of competent jurisdiction.

If necessary, the Parties further agree to negotiate in good faith to amend this Confirmation to conform this Transaction to subsequent clarifications, revisions, or decisions rendered by CAISO or an applicable Governmental Body to maintain the benefits of the Transaction.

4.3 **Seller’s Representations and Warranties**

Seller represents and warrants to Purchaser throughout the Delivery Period that:

(a) No part of the Contract Quantity during the Delivery Period has been committed by Seller to any third party to satisfy Compliance Obligations or analogous obligations in any CAISO or non-CAISO markets;

(b) The Shown Unit(s) qualify to provide the Product under the Tariff, and the Shown Unit(s) and Seller are capable of delivering the Product;

(c) the aggregation of all amounts of Capacity Attributes that Seller has sold, assigned, or transferred for the Shown Unit(s) during the Delivery Period does not exceed the Shown Unit’s Net Qualifying Capacity and, if applicable, the Effective Flexible Capacity for that Shown Unit;

(d) if applicable, Seller has notified either the Shown Unit’s SC or the entity from which Seller purchased the Product that Seller has transferred the Contract Quantity of Product for the Delivery Period to Purchaser; and

(e) Seller has notified or will notify the Shown Unit’s SC that Purchaser is entitled to the revenues set forth in Section 3.2(b), and such Shown Unit’s SC is obligated to promptly deliver those revenues to Purchaser, along with appropriate documentation supporting the amount of those revenues.
4.4 Market Based Rate Authority

Upon Purchaser’s written request, Seller shall, in accordance with FERC Order No. 697, submit a letter of concurrence in support of any affirmative statement by Purchaser that this contractual arrangement does not transfer “ownership or control of generation capacity” from Seller to Purchaser as the term “ownership or control of generation capacity” is used in 18 CFR Section 35.42. Seller shall not, in filings, if any, made subject to Order Nos. 652 and 697, claim that this contractual arrangement conveys ownership or control of generation capacity from Seller to Purchaser.

ARTICLE 5
ADDITIONAL WSPP AGREEMENT AMENDMENTS; GENERAL PROVISIONS

5.1 Termination Payment

For this Transaction, the following is inserted as a penultimate paragraph in Section 22.2(b) of the WSPP Agreement:

“If Purchaser is the Non-Defaulting Party and Purchaser reasonably expects to incur or be liable for any penalties, fines or costs from CAISO, or any Governmental Body, because Purchaser or a Subsequent Purchaser is not able to include the applicable Expected Contract Quantity in a Compliance Showing due to Seller’s Event of Default, then Purchaser may, in good faith, estimate the amount of those penalties, fines or costs and include the estimate in its determination of the Termination Payment, subject to accounting to Seller when those penalties, fines or costs are finally ascertained. If this accounting establishes that Purchaser’s estimate exceeds the actual amount of penalties, fines or costs, Purchaser must promptly remit to Seller the excess amount with interest in accordance with Section 9.3 of the WSPP Agreement. The rights and obligations with respect to determining and paying any Termination Payment, and any dispute resolution provisions with respect thereto, survive the termination of this Transaction and continue until after those penalties, fines or costs are finally ascertained.”

5.2 Confidentiality

Notwithstanding Section 30.1 of the WSPP Agreement:

(a) (i) Purchaser may disclose information as necessary in order to support its Compliance Showings or otherwise show it has met its Compliance Obligations; (ii) Seller may disclose as necessary to a Shown Unit’s SC or as necessary for Supply Plans; (iii) each Party may disclose information as necessary to the independent evaluator or other administrator of any competitive solicitation process of Purchaser, which in turn may disclose such information as necessary to CAISO or any Governmental Body; and (iv) Purchaser may disclose information to any Subsequent Purchaser.
Seller acknowledges that Purchaser is a public agency subject to the requirements of the California Public Records Act (Cal. Gov. Code section 6250 et seq.) and that Purchaser may be required to make public this Confirmation (which may be partially redacted by Purchaser) in connection with the process of seeking approval from its board of directors for the execution of this Confirmation. Seller may submit information to Purchaser that Seller considers confidential, proprietary, or trade secret information pursuant the Uniform Trade Secrets Act (Cal. Civ. Code section 3426 et seq.), or otherwise protected from disclosure pursuant to an exemption to the California Public Records Act (Government Code sections 6254 and 6255). Seller acknowledges that Purchaser may submit to Seller information that Purchaser considers confidential or proprietary or protected from disclosure pursuant to exemptions to the California Public Records Act (Government Code sections 6254 and 6255). Upon request or demand of any third person or entity not a party to this Confirmation (“Requestor”) pursuant to the California Public Records Act for production, inspection and/or copying of this Confirmation or any information designated by a disclosing Party as confidential, the receiving Party as soon as practical shall notify the disclosing Party that such request has been made, by telephone call, letter sent via electronic mail, and/or by overnight carrier to the address, or email address listed at the end of this Confirmation. The disclosing Party shall be solely responsible for taking whatever legal steps are necessary to protect information deemed by it to be confidential information and to prevent release of information to the Requestor by the receiving Party. If the disclosing Party takes no such action within ten (10) days, after receiving the foregoing notice from the receiving Party, the receiving Party shall be permitted to comply with the Requestor’s demand and is not required to defend against it. Notwithstanding the foregoing, Purchaser may release confidential information without notice to or over the objection of Seller if Purchaser’s legal counsel advises Purchaser that Purchaser is required by law to release such confidential information.

5.3 Dodd-Frank Act


5.4 Change in Law

If any action by the CPUC, CAISO or any Governmental Body having jurisdiction, or any change in applicable law, occurring after the Confirmation Effective Date results in (i) material changes to Purchaser’s or Seller’s obligations with regard to the Products sold hereunder, (ii) has the effect of changing the transfer and sale procedure set forth in this Confirmation so that the performance of this Confirmation becomes impracticable, or (iii) changes the Resource Adequacy
Requirements such that the Product can no longer be counted towards Purchaser’s Resource Adequacy Requirements (a “Change in Law”), the Parties shall work in good faith to revise this Confirmation so that the Parties can perform their obligations regarding the purchase and sale of the Product sold hereunder in order to maintain the original intent.

5.5 **Governing Law**

Notwithstanding Section 24 of the WSPP Agreement, this Transaction and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of law.

5.6 **Collateral**

Notwithstanding any provision in the WSPP Agreement to the contrary, including Section 27, neither Party shall be required to post collateral or other security for this Transaction.

5.7 **No Recourse to Members of Seller or Purchaser**

Parties are organized as a Joint Powers Authority in accordance with the Joint Exercise of Powers Act of the State of California (Government Code Section 6500, et seq.) and are public entities separate from its constituent members. Parties will solely be responsible for all debts, obligations and liabilities accruing and arising out of this Confirmation. Each Party agrees that it shall have no rights and shall not make any claims, take any actions or assert any remedies against any of Seller constituent members, or the officers, directors, advisors, contractors, consultants or employees of Seller or Sellers’s constituent members, in connection with this Confirmation.

5.8 **Other WSPP Agreement Changes**

For this Transaction, the WSPP Agreement shall be amended as follows:

(a) Section 22.1 of the WSPP Agreement is modified by inserting the following new text at the end thereof:

“(f) the failure of the Defaulting Party to pay its debts generally as they become due or the Defaulting Party’s admission in a writing that is unable to generally pay its debts as they become due;

(g) the institution, by the Defaulting Party, of a general assignment for the benefit of its creditors; or

(h) the application for, consent to, or acquiescence to, by the Defaulting Party, the appointment of a receiver, custodian, trustee, liquidator, or similar official for all or a substantial portion of its assets.”
(b) Section 22.2(b) of the WSPP Agreement is amended by inserting in Section 22.2, “and is continuing” after “Event of Default occurs” in the first line thereof and deleting the second sentence therein.

(c) Section 22.3 of the WSPP Agreement is amended by:

In Section 22.3(c), deleting the third sentence thereof and replacing it with the following: “If the Non-Defaulting Party’s aggregate Gains exceed its aggregate Losses and Costs, if any, resulting from the termination of this Agreement or a Confirmation, the Termination Payment for all such Terminated Transactions shall be zero, notwithstanding any provision in this Section or Agreement to the contrary.”

(d) In Section 22.3(e), delete the entire provision (including subsections) and replace it with the following: “[Intentionally omitted]”

(e) In Section 22.3(f), delete the entire provision and replace with the following:

“If the Defaulting Party disagrees with the calculation of the Termination Payment and the Parties cannot otherwise resolve their differences, and provided that Defaulting Party has paid the undisputed part of the Termination Payment to the Non-Defaulting Party as provided under Section 22.3(c), and that any amounts disputed by the Defaulting Party are disputed in good faith, then the Defaulting Party may submit the calculation issue to Dispute Resolution pursuant to Section 34.”

(f) Section 28.1 of the WSPP Agreement shall be applicable and the Parties shall net monthly payments in accordance with Exhibit A of the WSPP. Both Parties intend for the netting provisions of Exhibit A to the WSPP Agreement to be effective on the Confirmation Effective Date.

(g) Section 30.1 of the WSPP Agreement is amended by inserting “or requested” after the word “required” in Section 30.1(4) and by adding the following at the end of the first sentence: “; or (8) to the Party’s and such Party’s affiliates’ lenders, counsel, accountants, advisors and agents who have a need to know such information and have agreed to keep such terms confidential”.

(h) Subsections 34.1 and 34.2 of the WSPP Agreement are hereby deleted and replaced with the following:

“34.1 INFORMAL DISPUTE RESOLUTION

IN THE EVENT OF ANY DISPUTE ARISING UNDER THIS TRANSACTION, WITHIN TEN (10) DAYS FOLLOWING THE RECEIPT OF A WRITTEN NOTICE FROM EITHER PARTY IDENTIFYING SUCH DISPUTE, THE PARTIES SHALL MEET, NEGOTIATE AND ATTEMPT, IN GOOD FAITH, TO RESOLVE THE DISPUTE QUICKLY, INFORMALLY AND INEXPENSIVELY. IF THE PARTIES ARE UNABLE TO RESOLVE A
DISPUTE ARISING HEREUNDER WITHIN THIRTY (30) DAYS AFTER RECEIPT OF SUCH NOTICE, THEN EITHER PARTY MAY SEEK ANY AND ALL REMEDIES AVAILABLE TO IT AT LAW OR IN EQUITY, SUBJECT TO THE LIMITATIONS SET FORTH IN THIS TRANSACTION.”

“34.2 EXCLUSIVE JURISDICTION

EACH PARTY SUBmits TO THE EXCLUSIVE JURISDICTION OF THE STATE OR FEDERAL COURTS LOCATED IN SAN FRANCISCO, CALIFORNIA, FOR ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY TRANSACTION, AND EXPRESSLY WAIVES ANY OBJECTION IT MAY HAVE TO SUCH JURISDICTION OR THE CONVENIENCE OF SUCH FORUM.”

(i) The phrase “arbitration or” is hereby deleted from the first line of Section 34.4.

(j) The following shall be inserted as a new Section 34.5;

“34.5 LIMITATION OF DAMAGES. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, FOR BREACH OF ANY PROVISION OF THIS CONFIRMATION AGREEMENT FOR WHICH AN EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED, THE EXPRESS REMEDY OR MEASURE OF DAMAGES PROVIDED IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS AGREEMENT AND THE AGREEMENT FOR THE BREACH, LIABILITY FOR THE BREACH IS LIMITED AS SET FORTH IN THE PROVISION AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, IF NO EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED IN THIS AGREEMENT FOR A PARTICULAR BREACH, LIABILITY FOR THE BREACH IS LIMITED TO DIRECT DAMAGES ONLY, THE DIRECT DAMAGES ARE THE SOLE AND EXCLUSIVE REMEDY UNDER THIS AGREEMENT FOR THE BREACH, AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, NEITHER PARTY IS LIABLE FOR ANY OTHER TYPE OF DAMAGE, INCLUDING INCIDENTAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OF ANY NATURE (INCLUDING DAMAGES ASSOCIATED WITH LOST PROFITS, BUSINESS INTERRUPTION AND LOSS OF GOODWILL) ARISING AT ANY TIME, WHETHER IN TORT (INCLUDING THE SOLE OR CONTRIBUTORY NEGLIGENCE OF EITHER PARTY OR ANY RELATED PERSON), WARRANTY, STRICT LIABILITY, CONTRACT OR STATUTE, UNDER ANY INDEMNITY PROVISION, OR OTHERWISE.”

(k) Section 37 of the WSPP Agreement is amended by inserting the following in the beginning of the section: “On the date of entering into this Confirmation,”.
Section 41 “Witness” of the WSPP Agreement shall become Section 42 and the following “Standard of Review” Section shall be substituted in its place:

“The Parties agree as follows:

From the date of entering into a Transaction under this Agreement and throughout the term of such Transaction, the Parties each warrant and covenant as follows:

(i) Absent the agreement of all Parties to the proposed change, the standard of review for changes to any section of this Agreement (including all Transactions and/or Confirmations) specifying the rate(s) or other material economic terms and conditions agreed to by the Parties herein, whether proposed by a Party, a non-party or FERC acting sua sponte, shall be the “public interest” standard of review set forth in United Gas Pipe Line Co. v. Mobile Gas Service Corp., 350 U.S. 332 (1956) and Federal Power Commission v. Sierra Pacific Power Co., 350 U.S. 348 (1956) (the “Mobile-Sierra” doctrine) and clarified in Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1 of Snohomish 554 U.S. 527 (2008) and NRG Power Marketing LLC v. Maine Pub. Util. Comm’n, 558 U.S. 165 (2010).

(ii) The Parties, for themselves and their successors and assigns, (i) agree that this “public interest” standard shall apply to any proposed changes in any other documents, instruments or other agreements executed or entered into by the Parties in connection with this Agreement and (ii) hereby expressly and irrevocably waive any rights they can or may have to the application of any other standard of review, including the “just and reasonable” standard.”

5.9 Counterparts

This Confirmation may be signed in any number of counterparts with the same effect as if the signatures to the counterparts were upon a single instrument. The Parties may rely on electronic, facsimile or scanned signatures as originals under this Confirmation. Delivery of an executed signature page of this Confirmation by facsimile or electronic mail transmission (including PDF) shall be the same as delivery of a manually executed signature page.

5.10 Entire Agreement; No Oral Agreements or Modifications

This Confirmation sets forth the terms of the Transaction into which the Parties have entered and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of the Product. Notwithstanding any other provision of the Agreement, this Transaction may be confirmed only through a Documentary Writing executed by both Parties, and no amendment or modification to this Transaction shall be enforceable except through a Documentary Writing executed by both Parties.
[Signatures appear on the following page.]
AGREED AS OF THE EFFECTIVE DATE:

SILICON VALLEY CLEAN ENERGY AUTHORITY, A CALIFORNIA JOINT POWERS AUTHORITY

By: Girish Balachandran
Name: Girish Balachandran
Title: CEO

PENINSULA CLEAN ENERGY, A CALIFORNIA JOINT POWERS AUTHORITY

By: Janis C. Pepper
Name: Janis C. Pepper
Title: CEO


APPENDIX A

DEFINED TERMS

“Alternate Capacity” means replacement Product which Seller has elected to provide to Purchaser in accordance with the terms of Section 2.3.

“CAISO” means the California ISO or the successor organization to the functions thereof.

“Capacity Attributes” means attributes of the Shown Unit that may be counted toward Compliance Obligations, including: flexibility, dispatchability, physical location or point of electrical interconnection of the Shown Unit; Unit ability to generate at a given capacity level, provide ancillary services, or ramp up or down at a given rate; any current or future defined characteristics, certificates, tags, credits, or accounting constructs of the Shown Unit, howsoever entitled, identified from time to time by the CAISO or a Governmental Body having jurisdiction over Compliance Obligations.

“CIRA Tool” means the CAISO Customer Interface for Resource Adequacy.

“Compliance Obligations” means, as applicable, RAR, Local RAR and FCR.

“Compliance Showings” means the applicable LSE’s compliance with the resource adequacy requirements of the CPUC for an applicable Showing Month.

“Contingent Firm RA Product” has the meaning set forth in Article 1 herein.

“CPUC Decisions” means any currently effective or future decisions, resolutions, or rulings related to resource adequacy.

“Effective Flexible Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Environmental Costs” means (i) costs incurred in connection with acquiring and maintaining all environmental permits and licenses for the Product, (ii) the Product’s compliance with all applicable environmental laws, rules, and regulations, including capital costs for pollution mitigation or installation of emissions control equipment required to permit or license the Product, (iii) all operating and maintenance costs for operation of pollution mitigation or control equipment, (iv) costs of permit maintenance fees and emission fees as applicable, (v) the costs of all emission reductions that have been authorized by a local air pollution control district or emissions trading credits or units pursuant to the California Health & Safety Code, market based incentive programs such as the South Coast Air Quality Management District’s Regional Clean Air Incentives Market, authorizations to emit sulfur dioxide and oxides of nitrogen by the Environmental Protection Agency, and any costs related to greenhouse gas emissions required by any applicable environmental laws, rules, regulations, or permits to operate, and (vi) costs associated with the disposal, clean-up, decontamination or remediation, on or off site, of hazardous substances.

“Expected Contract Quantity” means, with respect to any particular day of any Showing Month of the Delivery Period, (a) for Firm RA Product, the Contract Quantity of Product, including the
amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to such day, and (b) for Contingent Firm RA Product, the Contract Quantity of Product for such Showing Month, including the amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to such day, less any reductions to Contract Quantity for such day consistent with Section 2.2 with respect to which Seller has not elected to provide Alternate Capacity.

“FCR” means the flexible capacity requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, the CAISO pursuant to the Tariff, or other Governmental Body having jurisdiction over Compliance Obligations and includes any non-binding advisory showing which an LSE is required to make with respect to flexible capacity.

“FCR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s FCR.

“Firm RA Product” has the meaning set forth in Article 1 herein.

“Governmental Body” means any federal, state, local, municipal or other government; any governmental, regulatory or administrative agency, commission or other authority lawfully exercising or entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power; and any court or governmental tribunal.

“Local RAR” means the local resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“Local RAR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s Local RAR.

“LSE” means “Load Serving Entity” as such term is used in Section 40.9 of the Tariff.

“MW” means megawatt.

“Net Qualifying Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Notification Deadline” is twenty (20) Business Days before the relevant deadlines for the corresponding Compliance Showings applicable to the relevant Showing Month.

“Planned Outage” means, subject to and as further described in the CPUC Decisions, a CAISO-approved, planned or scheduled disconnection, separation or reduction in capacity of the Unit that is conducted for the purposes of carrying out routine repair or maintenance of such Unit, or for the purposes of new construction work for such Unit.
“Product” means RAR Attributes, Local RAR Attributes and FCR Attributes, each for the Delivery Period, Unit, Contract Quantity, Contract Price and other specifications contained in Appendix B.

“Prorated Percentage of Unit Factor” means the percentage, as specified in Appendix B, of the Unit NQC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prorated Percentage of Unit Flexible Factor” means the percentage, as specified in Appendix B, of the Unit EFC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prudent Operating Practice” means (a) the applicable practices, methods and acts required by or consistent with applicable laws and reliability criteria, and otherwise engaged in or approved by a significant portion of the electric power industry during the relevant time period in the Western United States, or (b) any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Prudent Operating Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to acceptable practices, methods or acts generally accepted in the electric power industry in the Western United States.

“Replacement Unit” means a generating unit meeting the requirements specified in Section 2.3.

“Resource Adequacy Requirements” or “RAR” means the resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations, not including Local RAR or FCR.

“RAR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s RAR.

“SC” means Scheduling Coordinator as defined in the Tariff.

“Showing Month” means the calendar month of the Delivery Period that is the subject of the related Compliance Showing.

“Shown Unit” means the Unit, or any Replacement Unit meeting the requirements of Section 2.3 of this Confirmation and specified by Seller in a Supply Plan, but not necessarily identified by Seller to Purchaser on the Effective Date.

“Subsequent Purchaser” means the purchaser of Product from Purchaser in a re-sale of Product by Purchaser.

“Tariff” means the CAISO Tariff, including any current CAISO-published “Operating Procedures” and “Business Practice Manuals,” in each case as amended or supplemented from time to time.
“Unit” means the generation unit described in Appendix B. A Unit or Shown Unit may not be a coal-fired generating facility.\textsuperscript{4}

“Unit EFC” means the lesser of the Unit’s Effective Flexible Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.

“Unit NQC” means the lesser of the Unit’s Net Qualifying Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.
APPENDIX B
PRODUCT AND UNIT INFORMATION

Product:

☑️ RAR          ☐ Local RAR          ☑️ Flexible Capacity

and all Capacity Attributes related to such Product.

Additional Product Information (fill in all that apply):
CAISO Zone: North System
MCC Bucket: 4
CPUC Local Area (if applicable): N/A
Flexible Capacity Category (if applicable): 1

Delivery period: ____________________________

Contract Quantity and Contract Price:

RAR

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<th>Showing Month and Year</th>
<th>Contract Quantity (MW)</th>
<th>Contract Price ($/kW-mo)</th>
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## Unit 1

### Unit Specific Information

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<td>CAISO Resource ID</td>
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<td>Unit EFC by month (e.g., Jan=30, Feb=50)</td>
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<td>Minimum Qualified Flexible Capacity Category (Flex 1, 2 or 3)</td>
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<tr>
<td>Prorated Percentage of Unit Flexible Factor</td>
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<tr>
<td>Capacity Area (CAISO System, Fresno, Sierra, Kern, LA Basin, Bay Area, Stockton, Big Creek-Ventura, NCNB, San Diego-IV or Humboldt)</td>
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<td>Resource Category as defined by the CPUC (DR, 1, 2, 3, 4)</td>
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[Information for specific Shown Units may be provided after the Effective Date pursuant to the Confirmation.]
### APPENDIX C
### NOTICE INFORMATION

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<th>Purchaser:</th>
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# APPENDIX D
## PLANNED OUTAGE SCHEDULE

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<th>Unit Name</th>
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Appendix D - 1
WSPP RESOURCE ADEQUACY CONFIRMATION

This Confirmation under the WSPP Agreement confirms the transaction between Silicon Valley Clean Energy Authority, a California joint powers authority, ("Purchaser") and Peninsula Clean Energy, a California joint powers authority ("Seller"), and each individually a “Party” and together the “Parties”, dated as of July 9, 2020 (the “Effective Date”), by which Seller agrees to sell and deliver, and Purchaser agrees to purchase and receive, the Product (the “Transaction”). This Transaction is governed by the WSPP Agreement dated January 25, 2020 (the “WSPP Agreement”). The WSPP Agreement and this Confirmation, including any applicable appendices, exhibits or amendments thereto, shall be collectively referred to herein as the “Agreement” and will constitute a single agreement between the Parties with respect to the Transaction. Capitalized terms not otherwise defined in this Confirmation or the WSPP Agreement are defined in the Tariff.

ARTICLE 1
TRANSACTION TERMS

Product, Delivery Period, Contract Quantity, Contract Price and other specifics of the Product are in Appendix B. Appendices A, B, C, and D are incorporated into this Confirmation.

☐ Firm RA Product:

Seller shall provide Purchaser with the Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity for any reason, then Seller shall have the option to supply Alternate Capacity pursuant to Section 2.3 to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Contract Quantity and has failed to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period, then Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.

☒ Contingent Firm RA Product:

Seller shall provide Purchaser with Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any reduction of the Contract Quantity of the Unit in accordance with Section 2.2, Seller shall have the option to notify Purchaser that either (a) Seller will not provide the portion of the Contract Quantity attributable to such reduction during the period of such non-availability; or (b) Seller will supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period pursuant to Section 2.3. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any reason other than as provided in Section 2.2, then Seller shall have the option to supply Alternate Capacity pursuant to Section 2.3 to fulfill the remainder of the Contract Quantity during such period pursuant to Section 2.3 to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Expected Contract Quantity from the Unit and has failed to supply Alternate Capacity to fulfill the remainder of the Expected Contract Quantity during such period, then Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.
ARTICLE 2
DELIVERY OBLIGATIONS AND ADJUSTMENTS

2.1 Sale and Delivery of Product

(a) For each Showing Month of the Delivery Period, Seller shall sell and deliver to Purchaser, and Purchaser shall purchase and receive from Seller, the Expected Contract Quantity of the Product from the Shown Unit(s). Seller’s obligation to deliver the Expected Contract Quantity of Product for each day of the Delivery Period is firm and will not be excused for any reason.

(b) Seller shall deliver the Expected Contract Quantity by submitting to CAISO in its Supply Plan the Shown Unit(s) and the characteristics of the Shown Unit(s) and Product for Purchaser, as further specified in Appendix B, all in compliance with this Confirmation.

(c) Seller shall cause all Supply Plans to meet and be filed in conformance with the requirements of the CPUC and the Tariff. Seller shall submit, or cause the Shown Unit’s SC to submit, on a timely basis with respect to each applicable Showing Month, Supply Plans in accordance with the Tariff and CPUC requirements to identify and confirm the Product delivered to Purchaser for each Showing Month of the Delivery Period. The total amount of Product identified and confirmed for each day of such Showing Month shall equal the Expected Contract Quantity.

(d) Seller may sell and deliver Product from a Shown Unit that meets the requirements set forth in Appendix B. In no event shall a Shown Unit utilize coal or coal materials as a source of fuel. A Shown Unit must be a specific resource that is connected directly to the CAISO controlled grid or be under the operational control of CAISO. A Shown Unit may not be an unspecified import. Seller shall identify the Shown Unit(s) and Expected Contract Quantity by providing Purchaser with the specific information contemplated in Appendix B no later than the Notification Deadline for the relevant Showing Month.

(e) If CAISO rejects either the Supply Plan or the Resource Adequacy Plan with respect to any part of the Expected Contract Quantity for the Shown Unit(s) in any Showing Month, the Parties shall confer, make such corrections as are necessary for acceptance, and resubmit the corrected Supply Plan or Resource Adequacy Plan for validation before the applicable deadline for the Showing Month.

(f) The Product is delivered and received when the CIRA Tool shows that the Supply Plan submitted in compliance with Purchaser’s instructions, including Purchaser’s instructions to withhold all or part of the Expected Contract Quantity from Seller’s Supply Plan for any Showing Month during the Delivery Period, has been accepted for the Product from the Shown Unit(s) by CAISO. Seller has failed to deliver the Product if (i) Purchaser has elected to submit the Product from the Shown Unit in

1 Note to draft: Seller to revise as appropriate.
its Resource Adequacy Plan and such submission is accepted by the CPUC and the CAISO but the Supply Plan and Resource Adequacy Plan are not matched in the CIRA Tool and are rejected by CAISO notwithstanding performance of Section 2.1(e) or (ii) Seller fails to submit the volume of Expected Contract Quantity for any Showing Month in such amount as instructed by Purchaser for the applicable Showing Month. Seller will not have failed to deliver the Expected Contract Quantity if Purchaser fails or chooses not to submit the Shown Unit(s) and the Product in its Resource Adequacy Plan with the CPUC or CAISO.

(g) The Shown Unit(s) must not have characteristics that would trigger the need for Purchaser or Seller to file an advice letter or other request for authorization with the CPUC or for Purchaser to make a compliance filing pursuant to California Public Utilities Code Section 380.2

2.2 Reductions in Contract Quantity

(a) If Seller is providing Contingent Firm RA Product, Seller’s obligation to deliver the Contract Quantity for each day of each Showing Month may be reduced at Seller’s option by the amount of any Planned Outages which exist with respect to any portion of the Unit during the applicable Showing Month for the applicable days of such Planned Outages; provided, (i) Seller notifies Purchaser by the Notification Deadline applicable to that Showing Month of the amount of Product from the Unit that Purchaser may include in Purchaser’s Compliance Showings applicable to that month as a result of such Planned Outage, and (ii) such reduction is able to be reflected on the Supply Plans in accordance with the Tariff.

(b) In the event Seller is unable to provide the Contract Quantity for any portion of a Showing Month because of a Planned Outage of a Unit, Seller has the option, but not the obligation, to provide Product for such portions of such Showing Month from Replacement Units, provided Seller provides and identifies such Replacement Units in accordance with Section 2.3.

2.3 Seller’s Option To Provide Alternate Capacity

If Seller is unable to provide the full Contract Quantity for each day of each Showing Month for any reason, including, without limitation, as provided in Section 2.2, or Seller desires to provide a portion of the Contract Quantity for any day of a Showing Month from a different generating unit other than the Unit, then Seller may, at no cost to Purchaser, provide Purchaser with replacement Product from one or more Replacement Units in an amount such that the total amount of Product provided to Purchaser from the Unit and any Replacement Unit(s) for each day of the Showing Month is not more than the Contract Quantity, provided that in each case:

(a) Seller shall notify Purchaser in writing of its intent to provide Alternate Capacity

2 For example, contracts with Once-Through Cooling resources that terminate one year or less before the State Water Resources Control Board compliance deadline require an advice letter filing under CPUC Decision 12-04-046
and shall identify the Replacement Units from which such Alternate Capacity shall be provided before the Notification Deadline for Purchaser’s Compliance Showings related to such Showing Month; and

(b) The designation of any Replacement Unit(s) by Seller shall be subject to Purchaser’s prior written approval, which shall not be unreasonably withheld.

Once Seller has identified in writing any Replacement Units that meet the requirements of this Section 2.3 and Purchaser has approved such Replacement Units as consistent with this Confirmation, then any such Replacement Units shall be deemed a Unit for purposes of this Confirmation for that Showing Month. Purchaser’s approval of a Replacement Unit as to a given Showing Month shall not be construed as approval of such Replacement Unit for any subsequent Showing Month.

2.4 Planned Outages

As of the Confirmation Effective Date, Seller and Purchaser have agreed to all Planned Outages as specified in Appendix D (“Planned Outage Schedule”) for all relevant Showing Months for the following calendar year, or until the end of the Delivery Period, whichever is shorter. Seller may provide Purchaser with proposed changes to the Planned Outage Schedule from time to time. Within ten (10) Business Days after Purchaser’s receipt of any Seller proposed changes, Purchaser shall notify Seller in writing of any reasonable requests for modifications to such Seller proposed changes, and Seller shall, to the extent consistent with Prudent Operating Practice, accommodate Purchaser’s requests regarding the timing of any Seller proposed changes to the Planned Outage Schedule.

2.5 Purchaser’s Remedies for Seller’s Failure to Deliver Expected Contract Quantity

(a) If Seller fails to deliver any part of the Expected Contract Quantity as required herein for any Showing Month, Seller shall be liable for damages pursuant to Section 21.3 of the WSPP Agreement, without reference to the word “hourly” therein.

(b) Seller shall indemnify, defend and hold harmless Purchaser from any penalties, fines or costs, including Environmental Costs, assessed against Purchaser by the CPUC, CAISO or other Governmental Body resulting from Seller’s failure to deliver the Product or a Shown Unit’s SC’s failure to timely or accurately submit Supply Plans in accordance with the Tariff and this Confirmation. The Parties shall use commercially reasonable efforts to minimize such penalties, fines or costs; provided, that in no event will Purchaser be required to use or change its utilization of its owned or controlled assets or market positions to minimize these penalties, fines or costs. If Seller fails to pay the foregoing penalties, fines or costs, or fails to reimburse Purchaser for those penalties, fines or costs, then, without prejudice to its other rights and remedies, Purchaser may setoff and recoup those penalties, fines or costs against any future amounts it may owe to Seller under this Confirmation or the WSPP Agreement.
2.6 **Purchaser’s Re-Sale of Product**

(a) Purchaser may re-sell all or part of the Product; provided that any such re-sale must not increase Seller’s obligations hereunder other than as set forth in this Section 2.6(a). For any such a resale, the Resource Adequacy Plan of Purchaser as used herein will refer to the Resource Adequacy Plan of Subsequent Purchaser. Seller shall, or shall cause the Shown Unit’s SC, to follow Purchaser’s instructions with respect to providing such resold Product to Subsequent Purchasers, to the extent such instructions are consistent with Seller’s obligations under this Confirmation. Seller shall, and shall cause the Shown Unit’s SC, to take all commercially reasonable actions and execute all documents or instruments reasonably necessary to allow such Subsequent Purchasers to use such resold Product in a manner consistent with Purchaser’s rights under this Confirmation. If Purchaser incurs any liability to a Subsequent Purchaser due to the failure of Seller or the Shown Unit’s SC to comply with this Confirmation, Seller will be liable to Purchaser for the amounts Seller would have owed Purchaser under this Confirmation if Purchaser had not resold the Product.

(b) Purchaser shall notify Seller in writing of any resale of Product and the Subsequent Purchaser no later than two (2) Business Days before the Notification Deadline for each Showing Month for which Purchaser has resold the Product. Purchaser shall notify Seller of any subsequent changes or further resales no later than two (2) Business Days before the Notification Deadline for the Showing Month.

(c) If CAISO or CPUC develops a centralized capacity market, Purchaser will have exclusive rights to direct the Seller or the Unit’s SC to offer, bid, or otherwise submit the Expected Contract Quantity of Product for re-sale in such market, Seller and the Unit’s SC shall comply with Purchaser’s direction and Purchaser shall retain and receive all revenues from such re-sale.

**ARTICLE 3**

**PAYMENTS**

3.1 **Payment**

Purchaser shall pay for the Product as provided in Article 9 of the WSPP Agreement and this Confirmation; except that under Section 9.4 of the WSPP Agreement, in case any portion of any bill is in dispute, then only the undisputed portion of the bill shall be paid when due. The disputed portion of the bill shall be adjusted or paid upon final resolution of the dispute. Purchaser shall make a monthly payment to Seller for each Unit by the later of (i) ten (10) Calendar Days after Purchaser’s receipt of Seller’s invoice (which may be given upon first day of the Showing Month) and (ii) the twentieth (20th) of the Showing Month, or if the twentieth (20th) is not a Business Day the next following Business Day ("Monthly RA Capacity Payment"). The Monthly RA Capacity Payment shall equal the product of (a) the applicable Contract Price for that Showing Month, (b) the Expected Contract Quantity for the Showing Month and (c) 1,000, rounded to the nearest penny.
(i.e., two decimal places); provided, however, that the Monthly RA Capacity Payment shall be adjusted to reflect any portion of Expected Contract Quantity for the Showing Month that was not delivered in accordance with Section 2.1 for such Showing Month.

3.2 **Allocation of Other Payments and Costs**

(a) Seller will receive any revenues from, and must pay all costs charged by, CAISO or any other third party with respect to the Shown Unit(s) for (i) start-up, shutdown, and minimum load costs, (ii) capacity for ancillary services, (iii) energy sales, (iv) flexible ramping product, or (v) black start or reactive power services. Purchaser must promptly report receipt of any such revenues to Seller. Purchaser must pay to Seller any such amounts described in this Section 3.2(a) received by Purchaser or a Subsequent Purchaser. Without prejudice to its other rights and remedies, Seller may setoff and recoup any such amounts that are not paid to it pursuant to this Section 3.2(a) against any amounts owed to Purchaser under the WSPP Agreement.

(b) Purchaser is to receive and retain all revenues associated with the Expected Contract Quantity of Product during the Delivery Period, including any capacity and availability revenues from the Capacity Procurement Mechanism, or its successor, RUC Availability Payments, or its successor, but excluding payments described in Section 3.2(a)(i)-(v) or 3.2(d). Seller shall promptly report receipt of any such revenues to Purchaser. Seller shall pay to Purchaser within thirty (30) days of receipt any such amounts received by Seller, or a Shown Unit’s SC, owner, or operator. Without prejudice to its other rights, Purchaser may set off and recoup any such amounts that are not paid to it against amounts owed to Seller under the WSPP Agreement.

(c) If CAISO designates any part of the Contract Quantity as Capacity Procurement Mechanism Capacity, then Seller shall, or shall cause the Shown Unit’s SC to, within one (1) Business Day of the time Seller receives notification from CAISO, notify Purchaser and not accept any such designation by CAISO unless and until Purchaser has agreed to accept such designation.

(d) Any Availability Incentive Payments or Non-Availability Charges are for Seller to receive and pay.

ARTICLE 4

OTHER PURCHASER AND SELLER COVENANTS

4.1 **CAISO Requirements**

Seller shall schedule or cause the Shown Unit’s SC to schedule or make available to CAISO the Expected Contract Quantity of the Product during the Delivery Period, in compliance with the Tariff, and perform all, or cause the Shown Unit’s SC, owner, or operator to perform all, obligations under applicable law and the Tariff relating to the Product. Purchaser is not liable for,
and Seller shall indemnify and hold Purchaser harmless from, the failure of Seller or the Shown Unit’s SC, owner, or operator to comply with the Tariff, and for any penalties, fines or costs imposed on Seller or the Shown Unit’s SC, owner, or operator for noncompliance.

4.2 Seller’s and Purchaser’s Duties to Take Actions to Allow Product Utilization

Throughout the Delivery Period, Purchaser and Seller shall take all commercially reasonable actions and execute all documents or instruments reasonably necessary to ensure (a) Purchaser’s rights to the Expected Contract Quantity for the sole benefit of Purchaser or any Subsequent Purchaser and (b) that Purchaser may use the Expected Contract Quantity to meet its Compliance Obligations. Such commercially reasonable actions shall include, without limitation cooperating with and providing, and causing each Shown Unit’s SC, owner, or operator to cooperate with and provide, requested supporting documentation to the CAISO, the CPUC, or any other Governmental Body responsible for administering the applicable Compliance Obligations, including to demonstrate that the Expected Contract Quantity can be delivered to the CAISO controlled grid for the minimum hours required to satisfy RAR pursuant to the “deliverability” standards established by the CAISO or other Governmental Body of competent jurisdiction.

If necessary, the Parties further agree to negotiate in good faith to amend this Confirmation to conform this Transaction to subsequent clarifications, revisions, or decisions rendered by CAISO or an applicable Governmental Body to maintain the benefits of the Transaction.

4.3 Seller’s Representations and Warranties

Seller represents and warrants to Purchaser throughout the Delivery Period that:

(a) No part of the Contract Quantity during the Delivery Period has been committed by Seller to any third party to satisfy Compliance Obligations or analogous obligations in any CAISO or non-CAISO markets;

(b) The Shown Unit(s) qualify to provide the Product under the Tariff, and the Shown Unit(s) and Seller are capable of delivering the Product;

(c) the aggregation of all amounts of Capacity Attributes that Seller has sold, assigned, or transferred for the Shown Unit(s) during the Delivery Period does not exceed the Shown Unit’s Net Qualifying Capacity and, if applicable, the Effective Flexible Capacity for that Shown Unit;

(d) if applicable, Seller has notified either the Shown Unit’s SC or the entity from which Seller purchased the Product that Seller has transferred the Contract Quantity of Product for the Delivery Period to Purchaser; and

(e) Seller has notified or will notify the Shown Unit’s SC that Purchaser is entitled to the revenues set forth in Section 3.2(b), and such Shown Unit’s SC is obligated to promptly deliver those revenues to Purchaser, along with appropriate documentation supporting the amount of those revenues.
4.4 **Market Based Rate Authority**

Upon Purchaser’s written request, Seller shall, in accordance with FERC Order No. 697, submit a letter of concurrence in support of any affirmative statement by Purchaser that this contractual arrangement does not transfer “ownership or control of generation capacity” from Seller to Purchaser as the term “ownership or control of generation capacity” is used in 18 CFR Section 35.42. Seller shall not, in filings, if any, made subject to Order Nos. 652 and 697, claim that this contractual arrangement conveys ownership or control of generation capacity from Seller to Purchaser.

**ARTICLE 5**

**ADDITIONAL WSPP AGREEMENT AMENDMENTS; GENERAL PROVISIONS**

5.1 **Termination Payment**

For this Transaction, the following is inserted as a penultimate paragraph in Section 22.2(b) of the WSPP Agreement:

“If Purchaser is the Non-Defaulting Party and Purchaser reasonably expects to incur or be liable for any penalties, fines or costs from CAISO, or any Governmental Body, because Purchaser or a Subsequent Purchaser is not able to include the applicable Expected Contract Quantity in a Compliance Showing due to Seller’s Event of Default, then Purchaser may, in good faith, estimate the amount of those penalties, fines or costs and include the estimate in its determination of the Termination Payment, subject to accounting to Seller when those penalties, fines or costs are finally ascertained. If this accounting establishes that Purchaser’s estimate exceeds the actual amount of penalties, fines or costs, Purchaser must promptly remit to Seller the excess amount with interest in accordance with Section 9.3 of the WSPP Agreement. The rights and obligations with respect to determining and paying any Termination Payment, and any dispute resolution provisions with respect thereto, survive the termination of this Transaction and continue until after those penalties, fines or costs are finally ascertained.”

5.2 **Confidentiality**

Notwithstanding Section 30.1 of the WSPP Agreement:

(a) (i) Purchaser may disclose information as necessary in order to support its Compliance Showings or otherwise show it has met its Compliance Obligations; (ii) Seller may disclose as necessary to a Shown Unit’s SC or as necessary for Supply Plans; (iii) each Party may disclose information as necessary to the independent evaluator or other administrator of any competitive solicitation process of Purchaser, which in turn may disclose such information as necessary to CAISO or any Governmental Body; and (iv) Purchaser may disclose information to any Subsequent Purchaser.
(b) Seller acknowledges that Purchaser is a public agency subject to the requirements of the California Public Records Act (Cal. Gov. Code section 6250 et seq.) and that Purchaser may be required to make public this Confirmation (which may be partially redacted by Purchaser) in connection with the process of seeking approval from its board of directors for the execution of this Confirmation. Seller may submit information to Purchaser that Seller considers confidential, proprietary, or trade secret information pursuant to the Uniform Trade Secrets Act (Cal. Civ. Code section 3426 et seq.), or otherwise protected from disclosure pursuant to an exemption to the California Public Records Act (Government Code sections 6254 and 6255). Seller acknowledges that Purchaser may submit to Seller information that Purchaser considers confidential or proprietary or protected from disclosure pursuant to exemptions to the California Public Records Act (Government Code sections 6254 and 6255). Upon request or demand of any third person or entity not a party to this Confirmation (“Requestor”) pursuant to the California Public Records Act for production, inspection and/or copying of this Confirmation or any information designated by a disclosing Party as confidential, the receiving Party as soon as practical shall notify the disclosing Party that such request has been made, by telephone call, letter sent via electronic mail, and/or by overnight carrier to the address, or email address listed at the end of this Confirmation. The disclosing Party shall be solely responsible for taking whatever legal steps are necessary to protect information deemed by it to be confidential information and to prevent release of information to the Requestor by the receiving Party. If the disclosing Party takes no such action within ten (10) days, after receiving the foregoing notice from the receiving Party, the receiving Party shall be permitted to comply with the Requestor’s demand and is not required to defend against it. Notwithstanding the foregoing, Purchaser may release confidential information without notice to or over the objection of Seller if Purchaser’s legal counsel advises Purchaser that Purchaser is required by law to release such confidential information.

5.3 Dodd-Frank Act


5.4 Change in Law

If any action by the CPUC, CAISO or any Governmental Body having jurisdiction, or any change in applicable law, occurring after the Confirmation Effective Date results in (i) material changes to Purchaser’s or Seller’s obligations with regard to the Products sold hereunder, (ii) has the effect of changing the transfer and sale procedure set forth in this Confirmation so that the performance of this Confirmation becomes impracticable, or (iii) changes the Resource Adequacy
Requirements such that the Product can no longer be counted towards Purchaser’s Resource Adequacy Requirements (a “Change in Law”), the Parties shall work in good faith to revise this Confirmation so that the Parties can perform their obligations regarding the purchase and sale of the Product sold hereunder in order to maintain the original intent.

5.5 **Governing Law**

Notwithstanding Section 24 of the WSPP Agreement, this Transaction and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of law.

5.6 **Collateral**

Notwithstanding any provision in the WSPP Agreement to the contrary, including Section 27, neither Party shall be required to post collateral or other security for this Transaction.

5.7 **No Recourse to Members of Seller or Purchaser**

Parties are organized as a Joint Powers Authority in accordance with the Joint Exercise of Powers Act of the State of California (Government Code Section 6500, et seq.) and are public entities separate from its constituent members. Parties will solely be responsible for all debts, obligations and liabilities accruing and arising out of this Confirmation. Each Party agrees that it shall have no rights and shall not make any claims, take any actions or assert any remedies against any of Seller constituent members, or the officers, directors, advisors, contractors, consultants or employees of Seller or Sellers’s constituent members, in connection with this Confirmation.

5.8 **Other WSPP Agreement Changes**

For this Transaction, the WSPP Agreement shall be amended as follows:

(a) Section 22.1 of the WSPP Agreement is modified by inserting the following new text at the end thereof:

“(f) the failure of the Defaulting Party to pay its debts generally as they become due or the Defaulting Party’s admission in a writing that is unable to generally pay its debts as they become due;

(g) the institution, by the Defaulting Party, of a general assignment for the benefit of its creditors; or

(h) the application for, consent to, or acquiescence to, by the Defaulting Party, the appointment of a receiver, custodian, trustee, liquidator, or similar official for all or a substantial portion of its assets.”
(b) Section 22.2(b) of the WSPP Agreement is amended by inserting in Section 22.2, “and is continuing” after “Event of Default occurs” in the first line thereof and deleting the second sentence therein.

(c) Section 22.3 of the WSPP Agreement is amended by:

In Section 22.3(c), deleting the third sentence thereof and replacing it with the following: “If the Non-Defaulting Party’s aggregate Gains exceed its aggregate Losses and Costs, if any, resulting from the termination of this Agreement or a Confirmation, the Termination Payment for all such Terminated Transactions shall be zero, notwithstanding any provision in this Section or Agreement to the contrary.”

(d) In Section 22.3(e), delete the entire provision (including subsections) and replace it with the following: “[Intentionally omitted]”

(e) In Section 22.3(f), delete the entire provision and replace with the following:

“If the Defaulting Party disagrees with the calculation of the Termination Payment and the Parties cannot otherwise resolve their differences, and provided that Defaulting Party has paid the undisputed part of the Termination Payment to the Non-Defaulting Party as provided under Section 22.3(c), and that any amounts disputed by the Defaulting Party are disputed in good faith, then the Defaulting Party may submit the calculation issue to Dispute Resolution pursuant to Section 34.”

(f) Section 28.1 of the WSPP Agreement shall be applicable and the Parties shall net monthly payments in accordance with Exhibit A of the WSPP. Both Parties intend for the netting provisions of Exhibit A to the WSPP Agreement to be effective on the Confirmation Effective Date.

(g) Section 30.1 of the WSPP Agreement is amended by inserting “or requested” after the word “required” in Section 30.1(4) and by adding the following at the end of the first sentence: “; or (8) to the Party’s and such Party’s affiliates’ lenders, counsel, accountants, advisors and agents who have a need to know such information and have agreed to keep such terms confidential”.

(h) Subsections 34.1 and 34.2 of the WSPP Agreement are hereby deleted and replaced with the following:

“34.1 INFORMAL DISPUTE RESOLUTION

IN THE EVENT OF ANY DISPUTE ARISING UNDER THIS TRANSACTION, WITHIN TEN (10) DAYS FOLLOWING THE RECEIPT OF A WRITTEN NOTICE FROM EITHER PARTY IDENTIFYING SUCH DISPUTE, THE PARTIES SHALL MEET, NEGOTIATE AND ATTEMPT, IN GOOD FAITH, TO RESOLVE THE DISPUTE QUICKLY, INFORMALLY AND INEXPENSIVELY. IF THE PARTIES ARE UNABLE TO RESOLVE A
DISPUTE ARISING HEREUNDER WITHIN THIRTY (30) DAYS AFTER RECEIPT OF SUCH NOTICE, THEN EITHER PARTY MAY SEEK ANY AND ALL REMEDIES AVAILABLE TO IT AT LAW OR IN EQUITY, SUBJECT TO THE LIMITATIONS SET FORTH IN THIS TRANSACTION.”

“34.2 EXCLUSIVE JURISDICTION

EACH PARTY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE OR FEDERAL COURTS LOCATED IN SAN FRANCISCO, CALIFORNIA, FOR ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY TRANSACTION, AND EXPRESSLY WAIVES ANY OBJECTION IT MAY HAVE TO SUCH JURISDICTION OR THE CONVENIENCE OF SUCH FORUM.”

(i) The phrase “arbitration or” is hereby deleted from the first line of Section 34.4.

(j) The following shall be inserted as a new Section 34.5;

“34.5 LIMITATION OF DAMAGES. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, FOR BREACH OF ANY PROVISION OF THIS CONFIRMATION AGREEMENT FOR WHICH AN EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED, THE EXPRESS REMEDY OR MEASURE OF DAMAGES PROVIDED IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS AGREEMENT AND THE AGREEMENT FOR THE BREACH, LIABILITY FOR THE BREACH IS LIMITED AS SET FORTH IN THE PROVISION AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, IF NO EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED IN THIS AGREEMENT FOR A PARTICULAR BREACH, LIABILITY FOR THE BREACH IS LIMITED TO DIRECT DAMAGES ONLY, THE DIRECT DAMAGES ARE THE SOLE AND EXCLUSIVE REMEDY UNDER THIS AGREEMENT FOR THE BREACH, AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, NEITHER PARTY IS LIABLE FOR ANY OTHER TYPE OF DAMAGE, INCLUDING INCIDENTAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OF ANY NATURE (INCLUDING DAMAGES ASSOCIATED WITH LOST PROFITS, BUSINESS INTERRUPTION AND LOSS OF GOODWILL) ARISING AT ANY TIME, WHETHER IN TORT (INCLUDING THE SOLE OR CONTRIBUTORY NEGLIGENCE OF EITHER PARTY OR ANY RELATED PERSON), WARRANTY, STRICT LIABILITY, CONTRACT OR STATUTE, UNDER ANY INDEMNITY PROVISION, OR OTHERWISE.”

(k) Section 37 of the WSPP Agreement is amended by inserting the following in the beginning of the section: “On the date of entering into this Confirmation,”.
(l) Section 41 “Witness” of the WSPP Agreement shall become Section 42 and the following “Standard of Review” Section shall be substituted in its place:

“The Parties agree as follows:

From the date of entering into a Transaction under this Agreement and throughout the term of such Transaction, the Parties each warrant and covenant as follows:

(i) Absent the agreement of all Parties to the proposed change, the standard of review for changes to any section of this Agreement (including all Transactions and/or Confirmations) specifying the rate(s) or other material economic terms and conditions agreed to by the Parties herein, whether proposed by a Party, a non-party or FERC acting sua sponte, shall be the “public interest” standard of review set forth in United Gas Pipe Line Co. v. Mobile Gas Service Corp., 350 U.S. 332 (1956) and Federal Power Commission v. Sierra Pacific Power Co., 350 U.S. 348 (1956)(the “Mobile-Sierra” doctrine) and clarified in Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1 of Snohomish 554 U.S. 527 (2008) and NRG Power Marketing LLC v. Maine Pub. Util. Comm’n, 558 U.S. 165 (2010).

(ii) The Parties, for themselves and their successors and assigns, (i) agree that this “public interest” standard shall apply to any proposed changes in any other documents, instruments or other agreements executed or entered into by the Parties in connection with this Agreement and (ii) hereby expressly and irrevocably waive any rights they can or may have to the application of any other standard of review, including the “just and reasonable” standard.”

5.9 Counterparts

This Confirmation may be signed in any number of counterparts with the same effect as if the signatures to the counterparts were upon a single instrument. The Parties may rely on electronic, facsimile or scanned signatures as originals under this Confirmation. Delivery of an executed signature page of this Confirmation by facsimile or electronic mail transmission (including PDF) shall be the same as delivery of a manually executed signature page.

5.10 Entire Agreement; No Oral Agreements or Modifications

This Confirmation sets forth the terms of the Transaction into which the Parties have entered and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of the Product. Notwithstanding any other provision of the Agreement, this Transaction may be confirmed only through a Documentary Writing executed by both Parties, and no amendment or modification to this Transaction shall be enforceable except through a Documentary Writing executed by both Parties.
[Signatures appear on the following page.]
AGREED AS OF THE EFFECTIVE DATE:

SILICON VALLEY CLEAN ENERGY AUTHORITY, A CALIFORNIA JOINT POWERS AUTHORITY

By: [Signature]

Name: Girish Balachandran
Title: CEO

PENINSULA CLEAN ENERGY, A CALIFORNIA JOINT POWERS AUTHORITY

By: [Signature]

Name: Janis C. Pepper
Title: CEO
APPENDIX A
DEFINED TERMS

“Alternate Capacity” means replacement Product which Seller has elected to provide to Purchaser in accordance with the terms of Section 2.3.

“CAISO” means the California ISO or the successor organization to the functions thereof.

“Capacity Attributes” means attributes of the Shown Unit that may be counted toward Compliance Obligations, including: flexibility, dispatchability, physical location or point of electrical interconnection of the Shown Unit; Unit ability to generate at a given capacity level, provide ancillary services, or ramp up or down at a given rate; any current or future defined characteristics, certificates, tags, credits, or accounting constructs of the Shown Unit, howsoever entitled, identified from time to time by the CAISO or a Governmental Body having jurisdiction over Compliance Obligations.

“CIRA Tool” means the CAISO Customer Interface for Resource Adequacy.

“Compliance Obligations” means, as applicable, RAR, Local RAR and FCR.

“Compliance Showings” means the applicable LSE’s compliance with the resource adequacy requirements of the CPUC for an applicable Showing Month.

“Contingent Firm RA Product” has the meaning set forth in Article 1 herein.

“CPUC Decisions” means any currently effective or future decisions, resolutions, or rulings related to resource adequacy.

“Effective Flexible Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Environmental Costs” means (i) costs incurred in connection with acquiring and maintaining all environmental permits and licenses for the Product, (ii) the Product’s compliance with all applicable environmental laws, rules, and regulations, including capital costs for pollution mitigation or installation of emissions control equipment required to permit or license the Product, (iii) all operating and maintenance costs for operation of pollution mitigation or control equipment, (iv) costs of permit maintenance fees and emission fees as applicable, (v) the costs of all emission reductions that have been authorized by a local air pollution control district or emissions trading credits or units pursuant to the California Health & Safety Code, market based incentive programs such as the South Coast Air Quality Management District’s Regional Clean Air Incentives Market, authorizations to emit sulfur dioxide and oxides of nitrogen by the Environmental Protection Agency, and any costs related to greenhouse gas emissions required by any applicable environmental laws, rules, regulations, or permits to operate, and (vi) costs associated with the disposal, clean-up, decontamination or remediation, on or off site, of hazardous substances.

“Expected Contract Quantity” means, with respect to any particular day of any Showing Month of the Delivery Period, (a) for Firm RA Product, the Contract Quantity of Product, including the
amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to such day, and (b) for Contingent Firm RA Product, the Contract Quantity of Product for such Showing Month, including the amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to such day, less any reductions to Contract Quantity for such day consistent with Section 2.2 with respect to which Seller has not elected to provide Alternate Capacity.

“FCR” means the flexible capacity requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, the CAISO pursuant to the Tariff, or other Governmental Body having jurisdiction over Compliance Obligations and includes any non-binding advisory showing which an LSE is required to make with respect to flexible capacity.

“FCR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s FCR.

“Firm RA Product” has the meaning set forth in Article 1 herein.

“Governmental Body” means any federal, state, local, municipal or other government; any governmental, regulatory or administrative agency, commission or other authority lawfully exercising or entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power; and any court or governmental tribunal.

“Local RAR” means the local resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“Local RAR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s Local RAR.

“LSE” means “Load Serving Entity” as such term is used in Section 40.9 of the Tariff.

“MW” means megawatt.

“Net Qualifying Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Notification Deadline” is twenty (20) Business Days before the relevant deadlines for the corresponding Compliance Showings applicable to the relevant Showing Month.

“Planned Outage” means, subject to and as further described in the CPUC Decisions, a CAISO-approved, planned or scheduled disconnection, separation or reduction in capacity of the Unit that is conducted for the purposes of carrying out routine repair or maintenance of such Unit, or for the purposes of new construction work for such Unit.
“Product” means RAR Attributes, Local RAR Attributes and FCR Attributes, each for the Delivery Period, Unit, Contract Quantity, Contract Price and other specifications contained in Appendix B.

“Prorated Percentage of Unit Factor” means the percentage, as specified in Appendix B, of the Unit NQC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prorated Percentage of Unit Flexible Factor” means the percentage, as specified in Appendix B, of the Unit EFC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prudent Operating Practice” means (a) the applicable practices, methods and acts required by or consistent with applicable laws and reliability criteria, and otherwise engaged in or approved by a significant portion of the electric power industry during the relevant time period in the Western United States, or (b) any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Prudent Operating Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to acceptable practices, methods or acts generally accepted in the electric power industry in the Western United States.

“Replacement Unit” means a generating unit meeting the requirements specified in Section 2.3.

“Resource Adequacy Requirements” or “RAR” means the resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations, not including Local RAR or FCR.

“RAR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s RAR.

“SC” means Scheduling Coordinator as defined in the Tariff.

“Showing Month” means the calendar month of the Delivery Period that is the subject of the related Compliance Showing.

“Shown Unit” means the Unit, or any Replacement Unit meeting the requirements of Section 2.3 of this Confirmation and specified by Seller in a Supply Plan, but not necessarily identified by Seller to Purchaser on the Effective Date.

“Subsequent Purchaser” means the purchaser of Product from Purchaser in a re-sale of Product by Purchaser.

“Tariff” means the CAISO Tariff, including any current CAISO-published “Operating Procedures” and “Business Practice Manuals,” in each case as amended or supplemented from time to time.
“Unit” means the generation unit described in Appendix B. A Unit or Shown Unit may not be a coal-fired generating facility.\textsuperscript{4}

“Unit EFC” means the lesser of the Unit’s Effective Flexible Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.

“Unit NQC” means the lesser of the Unit’s Net Qualifying Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.
### APPENDIX B

**PRODUCT AND UNIT INFORMATION**

**Product:**

- ☒ RAR
- ☐ Local RAR
- ☐ Flexible Capacity

and all Capacity Attributes related to such Product.

Additional Product Information (fill in all that apply):
- CAISO Zone: North System
- MCC Bucket: 4
- CPUC Local Area (if applicable): N/A
- Flexible Capacity Category (if applicable): N/A

**Delivery period:**

**Contract Quantity and Contract Price:**

<table>
<thead>
<tr>
<th>Showing Month and Year</th>
<th>Contract Quantity (MW)</th>
<th>Contract Price ($/kW-mo)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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## Unit 1

<table>
<thead>
<tr>
<th>Unit Specific Information</th>
<th>Sunrise Power Project</th>
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<tr>
<td><strong>Resource Name</strong></td>
<td><strong>Sunrise Power Project</strong></td>
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<td>Physical Location</td>
<td>Fellows, CA</td>
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<tr>
<td>CAISO Resource ID</td>
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<tr>
<td>SCID of Resource</td>
<td>NRG1</td>
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<tr>
<td>Unit NQC by month (e.g., Jan=50, Feb=65):</td>
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<td>Unit EFC by month (e.g., Jan=30, Feb=50)</td>
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<tr>
<td>Resource Type (e.g., gas, hydro, solar, etc.)</td>
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<td>Minimum Qualified Flexible Capacity Category (Flex 1, 2 or 3)</td>
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<tr>
<td>TAC Area (e.g., PG&amp;E, SCE)</td>
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<tr>
<td>Prorated Percentage of Unit Factor</td>
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<tr>
<td>Prorated Percentage of Unit Flexible Factor</td>
<td>N/A</td>
</tr>
<tr>
<td>Capacity Area (CAISO System, Fresno, Sierra, Kern, LA Basin, Bay Area, Stockton, Big Creek-Ventura, NCNB, San Diego-IV or Humboldt)</td>
<td>CAISO System</td>
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<tr>
<td>Resource Category as defined by the CPUC (DR, 1, 2, 3, 4)</td>
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[Information for specificShown Units may be provided after the Effective Date pursuant to the Confirmation.]
# APPENDIX C

## NOTICE INFORMATION

<table>
<thead>
<tr>
<th>Seller:</th>
<th>Purchaser:</th>
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<tbody>
<tr>
<td>All Notices:</td>
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<tr>
<td>Tel: (DA CAISO Desk)</td>
<td>Tel: (DA CAISO Desk)</td>
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<tr>
<td>Tel: (Real Time Desk)</td>
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</table>

Additional notices of an Event of Default to:

Address: Attn: Email:
# APPENDIX D
## PLANNED OUTAGE SCHEDULE

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>CAISO Resource ID *</th>
<th>Outage (MW)</th>
<th>SLIC Outage Start Date</th>
<th>SLIC Outage End Date</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tbody>
</table>

Appendix D - 1
This Confirmation under the WSPP Agreement confirms the transaction between Silicon Valley Clean Energy, a California joint powers authority (“Seller” or “SVCE”) and East Bay Community Energy Authority, a California joint powers authority (“Purchaser” or “EBCE”), and each individually a “Party” and together the “Parties”, dated as of July 30th, 2020 (the “Effective Date”), by which Seller agrees to sell and deliver, and Purchaser agrees to purchase and receive, the Product (the “Transaction”). The WSPP Agreement and this Confirmation, including any applicable appendices, exhibits or amendments thereto, shall be collectively referred to herein as the “Agreement” and will constitute a single agreement between the Parties with respect to the Transaction. Capitalized terms not otherwise defined in this Confirmation or the WSPP Agreement are defined in the Tariff.

ARTICLE 1
TRANSACTION TERMS

Product, Delivery Period, Contract Quantity, Contract Price and other specifics of the Product are in Appendix B. Appendices A, B, and C are incorporated into this Confirmation.

☐ Firm RA Product:

Seller shall provide Purchaser with the Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity for any reason, then Seller shall have the option to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Contract Quantity and has failed to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period, the Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.

☒ Contingent Firm RA Product:

Seller shall provide Purchaser with Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any adjustment of the Contract Quantity of any Unit in accordance with Section 2.2, Seller shall have the option to notify Purchaser that either (a) Seller will not provide the portion of Contract Quantity attributable to such reduction during the period of such non-availability; or (b) Seller will supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period pursuant to Section 2.3. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any reason other than as provided in Section 2.2, then Seller shall have the option to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Expected Contract Quantity from the Unit and has failed to supply Alternate Capacity to fulfill the remainder of the Expected Contract Quantity during such period, Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.
ARTICLE 2
DEVELOPMENT OBLIGATIONS AND ADJUSTMENTS

2.1 Sale and Delivery of Product

(a) For each Showing Month of the Delivery Period, Seller will sell and deliver to Purchaser, and Purchaser will purchase and receive from Seller, the Expected Contract Quantity of the Product from the Shown Unit(s). Seller’s obligation to deliver the Expected Contract Quantity of Product for each day included in the Delivery Period is firm and will not be excused for any reason.

(b) Seller will deliver the Expected Contract Quantity by submitting to CAISO in its Supply Plan the Shown Unit and the characteristics of the Shown Unit and Product for Purchaser, as further specified in Appendix B, all in compliance with this Confirmation.

(c) Seller will cause all Supply Plans to meet and be filed in conformance with the requirements of the CPUC and the Tariff. Seller will submit, or cause the Shown Unit’s SC to submit, on a timely basis with respect to each applicable Showing Month, Supply Plans in accordance with the Tariff and CPUC requirements to identify and confirm the Product delivered to Purchaser for each Showing Month of the Delivery Period. The total amount of Product identified and confirmed for each day of such Showing Month will equal the Expected Contract Quantity.

(d) Seller may sell and deliver from a Shown Unit that meets requirements set forth in Appendix B. In no event shall a Shown Unit utilize coal or coal materials as a source of fuel or be a nuclear generating facility. ¹ A Shown Unit must be a specific resource that is connected directly to the CAISO controlled grid or under the operational control of CAISO. A Shown Unit may not be an unspecified import. Seller will identify the Shown Unit(s) and Expected Contract Quantity by providing Purchaser with the specific information contemplated in Appendix B no later than the Notification Deadline for the relevant Showing Month.

(e) If CAISO rejects either the Supply Plan or the Resource Adequacy Plan with respect to any part of the Expected Contract Quantity for the Shown Unit in any Showing Month, the Parties will confer, make such corrections as are necessary for acceptance, and resubmit the corrected Supply Plan or Resource Adequacy Plan for validation before the applicable deadline for the Showing Month.

(f) The Product is delivered and received when the CIRA Tool shows that the Supply Plan submitted in compliance with Purchaser’s instructions, including Purchaser’s instructions to withhold all or part of the Expected Contract Quantity from Seller’s Supply Plan for any Showing Month during the Delivery Period, has been accepted for the Product from the Shown Unit by CAISO. Seller has failed to deliver the Product if (i) Purchaser has elected to submit the Product from the Shown Unit in

¹ Note to draft: Seller to revise as appropriate.
its Resource Adequacy Plan and such submission is accepted by the CPUC and the CAISO but the Supply Plan and Resource Adequacy Plan are not matched in the CIRA Tool and are rejected by CAISO notwithstanding performance of Section 2.1(e) or (ii) Seller fails to submit the volume of Expected Contract Quantity for any Showing Month in such amount as instructed by Purchaser for the applicable Showing Month. Seller will not have failed to deliver the Expected Contract Quantity if Purchaser fails or chooses not to submit the Shown Unit and the Product in its Resource Adequacy Plan with the CPUC or CAISO.

(g) The Shown Unit must not have characteristics that would trigger the need for Purchaser or Seller to file an advice letter or other request for authorization with the CPUC or for Purchaser to make a compliance filing pursuant to California Public Utilities Code Section 380.²

2.2 Adjustments to Contract Quantity

(a) If Seller is providing Contingent Firm RA Product, Seller’s obligation to deliver the Contract Quantity for each day of each Showing Month may be reduced at Seller’s option by the amount of any Planned Outages which exist with respect to any portion of the Unit during the applicable Showing Month for the applicable days of such Planned Outages; provided, (i) Seller notifies Purchaser at least twenty (20) Business Days before the relevant deadlines for the corresponding Compliance Showings applicable to that Showing Month of the amount of Product from the Unit Purchaser is permitted to include in Purchaser’s Compliance Showings applicable to that month as a result of such Planned Outage, and (ii) such reduction is able to be reflected on the Supply Plans in accordance with the Tariff.

In the event Seller is unable to provide the applicable Contract Quantity for any portion of a Showing Month because of a Planned Outage of a Unit, Seller has the option, but not the obligation, to provide Product for such Showing Month from Replacement Units, provided Seller provides and identifies such Replacement Units in accordance with Section 2.3.

(b) Seller’s Swap Reduction Option: Seller obligation to deliver the Contract Quantity for each day of each Showing Month may be reduced at Seller’s option in the event Counterparty fails to deliver, for any reason, the contract quantity of product set forth in Appendix B of the Swap Confirmation; provided, Seller’s obligation to deliver the Contract Quantity of Product as set forth in this Section 2.2(b) may be reduced only by the amount of contract quantity of product that Counterparty failed to deliver under the Swap Confirmation (such option, the “Swap Reduction Option”). Notwithstanding Section 2.1(c), if Seller exercises its Swap Reduction Option, Seller shall have the right to modify the Expected Contract Quantity Notice by submitting written notice to Counterparty of such modification no later than five (5) Business Days before the initial Compliance Showing deadline for such Showing Month.

² For example, contracts with Once-Through Cooling resources that terminate one year or less before the State Water Resources Control Board compliance deadline require an advice letter filing under CPUC Decision 12-04-046
2.3  **Seller’s Option To Provide Alternate Capacity**

If Seller is unable to provide the full Contract Quantity for any Showing Month for any reason, including, without limitation, as provided in Section 2.2, or Seller desires to provide the Contract Quantity for any Showing Month from a different generating unit other than the Unit, then Seller may, at no cost to Purchaser, provide Purchaser with replacement Product from one or more Replacement Units in an amount such that the total amount of Product provided to Purchaser from the Unit and Replacement Units for each day of the Showing Month is not more than the Contract Quantity for the applicable Showing Month, provided that in each case:

(a) Seller shall notify Purchaser of its intent to provide replacement Product and identify Replacement Units meeting all of the requirements of this Confirmation at least twenty (20) Business Days before the relevant deadlines for Purchaser’s Compliance Showings related to such Showing Month; and

(b) the designation of any Replacement Unit by Seller shall be subject to Purchaser’s prior written approval, which shall not be unreasonably withheld.

Once Seller has identified in writing any Replacement Units that meet the requirements of this Section 2.3 and Purchaser has approved such Replacement Units, then any such Replacement Units shall be automatically deemed a Unit for purposes of this Confirmation for that Showing Month. Purchaser’s approval of a Replacement Unit as to a given Showing Month shall not be construed as approval of such Replacement Unit for any subsequent Showing Month.

2.4  **Planned Outages**

As of the Confirmation Effective Date, Seller and Purchaser have agreed to all Planned Outages during the Delivery Period as specified in Appendix D (“Planned Outage Schedule”) for all relevant Showing Months for the following calendar year, or until the end of the Delivery Period, whichever is shorter. Seller may provide Purchaser a schedule of proposed changes to the Planned Outage Schedule from time to time. Within ten (10) Business Days after its receipt of a schedule of proposed changes, Purchaser shall notify Seller in writing of any reasonable request for modifications to such Seller proposed changes, and Seller shall, to the extent consistent with Prudent Operating Practice, accommodate Purchaser’s requests regarding the timing of any Seller proposed changes to the Planned Outage Schedule.

2.5  **Purchaser’s Remedies for Seller’s Failure to Deliver Expected Contract Quantity**

(a) If Seller fails to deliver any part of the Expected Contract Quantity as required herein for any Showing Month, Seller is liable for damages pursuant to Section 21.3 of the WSPP Agreement, without reference to the word “hourly” therein.

(b) Seller agrees to indemnify, defend and hold harmless Purchaser from any penalties, fines or costs, including Environmental Costs, assessed against Purchaser by the
CPUC, CAISO or other Governmental Body resulting from Seller’s failure to deliver the Product or a Shown Unit’s SC’s failure to timely or accurately submit Supply Plans in accordance with the applicable Tariff that identify Purchaser’s right to the Expected Contract Quantity purchased hereunder for each day of the Delivery Period. The Parties will use commercially reasonable efforts to minimize such penalties, fines or costs; provided, that in no event will Purchaser be required to use or change its utilization of its owned or controlled assets or market positions to minimize these penalties, fines or costs. If Seller fails to pay the foregoing penalties, fines or costs, or fails to reimburse Purchaser for those penalties, fines or costs, then, without prejudice to its other rights and remedies, Purchaser may setoff and recoup those penalties, fines or costs against any future amounts it may owe to Seller under this Confirmation or the WSPP Agreement.

2.6 **Purchaser’s Re-Sale of Product**

(a) Purchaser may re-sell all or part of the Product; provided that any such re-sale must not increase Seller’s obligations hereunder other than as set forth in this Section 2.6(a). For any such a resale, Resource Adequacy Plan of Purchaser as used herein will refer to the Resource Adequacy Plan of Subsequent Purchaser. Seller will, or will cause the Shown Unit’s SC, to follow Purchaser’s instructions with respect to providing such resold Product to Subsequent Purchasers, to the extent such instructions are consistent with Seller’s obligations under this Confirmation. Seller will, and will cause the Shown Unit’s SC, to take all commercially reasonable actions and execute all documents or instruments reasonably necessary to allow such Subsequent Purchasers to use such resold Product in a manner consistent with Purchaser’s rights under this Confirmation. If Purchaser incurs any liability to a Subsequent Purchaser due to the failure of Seller or the Shown Unit’s SC to comply with this Confirmation, Seller will be liable to Purchaser for the same amounts Seller would have owed Purchaser under this Confirmation if Purchaser had not resold the Product.

(b) Purchaser will notify Seller in writing of any resale of Product and the Subsequent Purchaser no later than two Business Days before the Notification Deadline for the Showing Month. Purchaser will notify Seller of any subsequent changes or further resales no later than two Business Days before the Notification Deadline for the Showing Month.

(c) If CAISO or CPUC develops a centralized capacity market, Purchaser will have exclusive rights to direct the Seller or the Unit’s Scheduling Coordinator to offer, bid, or otherwise submit the applicable Expected Contract Quantity of Product for each day during the Delivery Period provided to Purchaser pursuant to this Confirmation for re-sale in such market, Seller and the Unit’s Scheduling Coordinator shall comply with Purchaser’s direction and Purchaser shall retain and receive all revenues from such re-sale.
ARTICLE 3
PAYMENTS

3.1 Payment

After Seller has delivered the Expected Contract Quantity in accordance with Section 2.1 and issued its invoice, Purchaser shall pay for the Product as provided in Article 9 of the WSPP Agreement; except that under Section 9.4, in case any portion of any bill is in dispute, then only the undisputed portion of the bill shall be paid when due. The disputed portion of the bill shall be adjusted or paid upon final resolution of the dispute. Purchaser shall make a Monthly RA Capacity Payment to Seller for each Unit by the later of (i) ten (10) Calendar Days after Purchaser’s receipt of Seller’s invoice (which may be given upon first day of the Showing Month) and (ii) the twentieth (20th) of the Showing Month, or if the twentieth (20th) is not a Business Day the next following Business Day. The Monthly RA Capacity Payment shall equal the product of (a) the applicable Contract Price for that Showing Month, (b) the Expected Contract Quantity for the Showing Month and (c) 1,000, rounded to the nearest penny (i.e., two decimal places); provided, however, that the Monthly RA Capacity Payment shall be adjusted to reflect any portion of Expected Contract Quantity for the Showing Month that was not delivered in accordance with Section 2.1 at the time of the CAISO filing for such Showing Month.

3.2 Allocation of Other Payments and Costs

(a) Seller will receive any revenues from, and must pay all costs charged by, CAISO or any other third party with respect to the Shown Unit for (i) start-up, shutdown, and minimum load costs, (ii) capacity for ancillary services, (iii) energy sales, (iv) flexible ramping product, or (v) black start or reactive power services. Purchaser must promptly report receipt of any such revenues to Seller. Purchaser must pay to Seller any such amounts described in this Section 3.2(a) received by Purchaser or a Subsequent Purchaser. Without prejudice to its other rights and remedies, Seller may setoff and recoup any such amounts that are not paid to it against any amounts owed to Purchaser under the WSPP Agreement.

(b) Purchaser is to receive and retain all revenues associated with the Expected Contract Quantity of Product during the Delivery Period, including any capacity and availability revenues from the Capacity Procurement Mechanism, or its successor, RUC Availability Payments, or its successor, but excluding payments described in Section 3.2(a)(i)-(v) or 3.2(d). Seller must promptly report receipt of any such revenues to Purchaser. Seller must pay to Purchaser within thirty (30) days of receipt any such amounts received by Seller, or a Shown Unit’s SC, owner, or operator. Without prejudice to its other rights, Purchaser may set off and recoup any such amounts that are not paid to it against amounts owed to Seller under the WSPP Agreement.

(c) If CAISO designates any part of the Contract Quantity as Capacity Procurement Mechanism Capacity, then Seller will, or will cause the Shown Unit’s SC to, within one Business Day of the time Seller receives notification from CAISO, notify
Purchaser and not accept any such designation by CAISO unless and until Purchaser has agreed to accept such designation.

(d) Any Availability Incentive Payments or Non-Availability Charges are for Seller to receive and pay.

ARTICLE 4
OTHER PURCHASER AND SELLER COVENANTS

4.1 CAISO Requirements

Seller must schedule or cause the Shown Unit’s SC to schedule or make available to CAISO the Expected Contract Quantity of the Product during the Delivery Period, in compliance with the Tariff, and perform all, or cause the Shown Unit’s SC, owner, or operator to perform all, obligations under applicable law and the Tariff relating to the Product. Purchaser is not liable for, and Seller will indemnify and hold Purchaser harmless from, the failure of Seller or the Shown Unit’s SC, owner, or operator to comply with the Tariff, and for any penalties, fines or costs imposed on Seller or the Shown Unit’s SC, owner, or operator for noncompliance.

4.2 Seller’s and Purchaser’s Duties to Take Actions to Allow Product Utilization

Throughout the Delivery Period, Purchaser and Seller will take all commercially reasonable actions and execute all documents or instruments reasonably necessary to ensure (a) Purchaser’s rights to the Expected Contract Quantity for the sole benefit of Purchaser or any Subsequent Purchaser and (b) that Purchaser may use the Expected Contract Quantity to meet its Compliance Obligations. Such commercially reasonable actions shall include, without limitation cooperating with and providing, and in the case of Seller causing each Shown Unit’s Scheduling Coordinator, owner, or operator to cooperate with and provide, requested supporting documentation to the CAISO, the CPUC, or any other Governmental Body responsible for administering the applicable Compliance Obligations under Applicable Laws, including to demonstrate that the Expected Contract Quantity can be delivered to the CAISO controlled grid for the minimum hours required to qualify as RA Capacity, pursuant to the “deliverability” standards established by the CAISO or other Governmental Body of competent jurisdiction.

If necessary, the Parties further agree to negotiate in good faith to amend this Confirmation to conform this Transaction to subsequent clarifications, revisions, or decisions rendered by CAISO or an applicable Governmental Body to maintain the benefits of the Transaction.

4.3 Seller’s Representations and Warranties

Seller represents and warrants to Purchaser throughout the Delivery Period that:

(a) no part of the Contract Quantity during the Delivery Period has been committed by Seller to any third party to satisfy Compliance Obligations or analogous obligations in any CAISO or non-CAISO markets;
(b) the Shown Unit qualifies under the Tariff for the Product, and the Shown Unit and Seller are capable of delivering the Product;

(c) the aggregation of all amounts of Capacity Attributes that Seller has sold, assigned, or transferred for the Shown Unit during the Delivery Period does not exceed the Shown Unit’s Net Qualifying Capacity and, if applicable, the Effective Flexible Capacity for that Shown Unit;

(d) if applicable, Seller has notified either the Shown Unit’s SC or the entity from which Seller purchased the Product that Seller has transferred the Contract Quantity of Product for the Delivery Period to Purchaser; and

(e) Seller has notified or will notify the Shown Unit’s SC that Purchaser is entitled to the revenues set forth in Section 3.2(b), and such SC is obligated to promptly deliver those revenues to Purchaser, along with appropriate documentation supporting the amount of those revenues.

4.4 Market Based Rate Authority

Upon Purchaser’s written request, Seller shall, in accordance with FERC Order No. 697, submit a letter of concurrence in support of any affirmative statement by Purchaser that this contractual arrangement does not transfer “ownership or control of generation capacity” from Seller to Purchaser as the term “ownership or control of generation capacity” is used in 18 CFR Section 35.42. Seller shall not, in filings, if any, made subject to Order Nos. 652 and 697, claim that this contractual arrangement conveys ownership or control of generation capacity from Seller to Purchaser.

ARTICLE 5
ADDITIONAL WSPP AGREEMENT AMENDMENTS; GENERAL PROVISIONS

5.1 Termination Payment

For this Transaction, the following is inserted as a penultimate paragraph in Section 22.2(b) of the WSPP Agreement:

“If Purchaser is the Non-Defaulting Party and Purchaser reasonably expects to incur or be liable for any penalties, fines or costs from CAISO, or any Governmental Body, because Purchaser or a Subsequent Purchaser is not able to include the applicable Expected Contract Quantity in a Compliance Showing due to Seller’s Event of Default, then Purchaser may, in good faith, estimate the amount of those penalties, fines or costs and include the estimate in its determination of the Termination Payment, subject to accounting to Seller when those penalties, fines or costs are finally ascertained. If this accounting establishes that Purchaser’s estimate exceeds the actual amount of penalties, fines or costs, Purchaser must promptly remit to Seller the excess amount with interest in accordance with Section 9.3 of the WSPP Agreement. The rights and obligations with respect to determining and paying any Termination Payment, and any dispute resolution provisions
with respect thereto, survive the termination of this Transaction and continue until after those penalties, fines or costs are finally ascertained.”

5.2 Confidentiality

Notwithstanding Section 30.1 of the WSPP Agreement:

(a) (i) Purchaser may disclose information as necessary in order to support its Compliance Showings or otherwise show it has met its Compliance Obligations; (ii) Seller may disclose as necessary to a Shown Unit’s SC or as necessary for Supply Plans; (iii) each Party may disclose information as necessary to the independent evaluator or other administrator of any competitive solicitation process of Purchaser, which in turn may disclose such information as necessary to CAISO or any Governmental Body; and (iv) Purchaser may disclose information to any Subsequent Purchaser.

(b) Seller acknowledges that Purchaser is a public agency subject to the requirements of the California Public Records Act (Cal. Gov. Code section 6250 et seq.) and that Purchaser may be required to make public this Confirmation (which may be partially redacted by Purchaser) in connection with the process of seeking approval from its board of directors for the execution of this Confirmation. Seller may submit information to Purchaser that Seller considers confidential, proprietary, or trade secret information pursuant the Uniform Trade Secrets Act (Cal. Civ. Code section 3426 et seq.), or otherwise protected from disclosure pursuant to an exemption to the California Public Records Act (Government Code sections 6254 and 6255). Seller acknowledges that Purchaser may submit to Seller information that Purchaser considers confidential or proprietary or protected from disclosure pursuant to exemptions to the California Public Records Act (Government Code sections 6254 and 6255). Upon request or demand of any third person or entity not a party to this Confirmation (“Requestor”) pursuant to the California Public Records Act for production, inspection and/or copying of this Confirmation or any information designated by a disclosing Party as confidential, the receiving Party as soon as practical shall notify the disclosing Party that such request has been made, by telephone call, letter sent via electronic mail, and/or by overnight carrier to the address, or email address listed at the end of this Confirmation. The disclosing Party shall be solely responsible for taking whatever legal steps are necessary to protect information deemed by it to be confidential information and to prevent release of information to the Requestor by the receiving Party. If the disclosing Party takes no such action within ten (10) days, after receiving the foregoing notice from the receiving Party, the receiving Party shall be permitted to comply with the Requestor’s demand and is not required to defend against it. Notwithstanding the foregoing, Purchaser may release confidential information without notice to or over the objection of Seller if Purchaser’s legal counsel advises Purchaser that Purchaser is required by law to release such confidential information.
5.3 **Dodd-Frank Act**


5.4 **Change in Law**

If any action by the CPUC, CAISO or any governmental body having jurisdiction, or any change in applicable law, occurring after the Confirmation Effective Date (a “Change in Law”) results in (i) material changes to Purchaser’s or Seller’s obligations with regard to the Products sold hereunder, (ii) has the effect of changing the transfer and sale procedure set forth in this Confirmation so that the performance of this Confirmation becomes impracticable, or (iii) changes the Resource Adequacy Requirements such that the Product can no longer be counted towards Purchaser’s Resource Adequacy Requirements, the Parties shall work in good faith to try and revise this Confirmation so that the Parties can perform their obligations regarding the purchase and sale of Products sold hereunder in order to maintain the original intent.

5.5 **Governing Law**

Notwithstanding Section 24 of the WSPP Agreement, this Transaction and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of law.

5.6 **Collateral**

Notwithstanding any provision in the WSPP Agreement to the contrary, including Section 27, neither Party shall be required to post collateral or other security for this Transaction.

5.7 **No Recourse to Members of Purchaser or Seller**

The Parties are each organized as Joint Powers Authorities in accordance with the Joint Exercise of Powers Act of the State of California (Government Code Section 6500, et seq.) and are public entities separate from their constituent members. The Parties shall be will solely be responsible for all debts, obligations and liabilities accruing and arising out of this Confirmation. Each party warrants and represents that it shall have no rights and shall not make any claims, take any actions or assert any remedies against any of the other party’s constituent members, or the officers, directors, advisors, contractors, consultants or employees of the other party or the other party’s constituent members, in connection with this Confirmation.

5.8 **Other WSPP Agreement Changes**
For this Transaction, the WSPP Agreement shall be amended as follows:

(a) Section 22.1 of the WSPP Agreement is modified by inserting the following new text at the end thereof:

“(f) the failure of the Defaulting Party to pay its debts generally as they become due or the Defaulting Party’s admission in a writing that is unable to generally pay its debts as they become due;

(g) the institution, by the Defaulting Party, of a general assignment for the benefit of its creditors; or

(h) the application for, consent to, or acquiescence to, by the Defaulting Party, the appointment of a receiver, custodian, trustee, liquidator, or similar official for all or a substantial portion of its assets.”

(b) Section 22.2(b) of the WSPP Agreement is amended by inserting in Section 22.2, “and is continuing” after “Event of Default occurs” in the first line thereof and deleting the second sentence therein.

(c) Section 22.3 of the WSPP Agreement is amended by:

In Section 22.3(c), deleting the third sentence thereof and replacing it with the following: “If the Non-Defaulting Party’s aggregate Gains exceed its aggregate Losses and Costs, if any, resulting from the termination of this Agreement or a Confirmation, the Termination Payment for all such Terminated Transactions shall be zero, notwithstanding any provision in this Section or Agreement to the contrary.”

(d) In Section 22.3(e), delete the entire provision (including subsections) and replace it with the following: “[Intentionally omitted]”

(e) In Section 22.3(f), delete the entire provision and replace with the following:

“If the Defaulting Party disagrees with the calculation of the Termination Payment and the Parties cannot otherwise resolve their differences, and provided that Defaulting Party has paid the undisputed part of the Termination Payment to the Non-Defaulting Party as provided under Section 22.3(c), and that any amounts disputed by the Defaulting Party are disputed in good faith, then the Defaulting Party may submit the calculation issue to Dispute Resolution pursuant to Section 34.”

(f) Section 28.1 of the WSPP Agreement shall be applicable and the Parties shall net monthly payments in accordance with Exhibit A of the WSPP. Both Parties intend for the netting provisions of Exhibit A to the WSPP Agreement to be effective on the Confirmation Effective Date.
(g) Section 30.1 of the WSPP Agreement is amended by inserting “or requested” after the word “required” in Section 30.1(4) and by adding the following at the end of the first sentence: “; or (8) to the Party’s and such Party’s affiliates’ lenders, counsel, accountants, advisors and agents who have a need to know such information and have agreed to keep such terms confidential”.

(h) Subsections 34.1 and 34.2 of the WSPP Agreement are hereby deleted and replaced with the following:

“34.1 INFORMAL DISPUTE RESOLUTION

IN THE EVENT OF ANY DISPUTE ARISING UNDER THIS TRANSACTION, WITHIN TEN (10) DAYS FOLLOWING THE RECEIPT OF A WRITTEN NOTICE FROM EITHER PARTY IDENTIFYING SUCH DISPUTE, THE PARTIES SHALL MEET, NEGOTIATE AND ATTEMPT, IN GOOD FAITH, TO RESOLVE THE DISPUTE QUICKLY, INFORMALLY AND INEXPENSIVELY. IF THE PARTIES ARE UNABLE TO RESOLVE A DISPUTE ARISING HEREUNDER WITHIN THIRTY (30) DAYS AFTER RECEIPT OF SUCH NOTICE, THEN EITHER PARTY MAY SEEK ANY AND ALL REMEDIES AVAILABLE TO IT AT LAW OR IN EQUITY, SUBJECT TO THE LIMITATIONS SET FORTH IN THIS TRANSACTION.”

“34.2 EXCLUSIVE JURISDICTION

EACH PARTY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE OR FEDERAL COURTS LOCATED IN SAN FRANCISCO, CALIFORNIA, FOR ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY TRANSACTION, AND EXPRESSLY WAIVES ANY OBJECTION IT MAY HAVE TO SUCH JURISDICTION OR THE CONVENIENCE OF SUCH FORUM.”

(i) The phrase “arbitration or” is hereby deleted from the first line of Section 34.4.

(j) The following shall be inserted as a new Section 34.5;

“34.5 LIMITATION OF DAMAGES. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, FOR BREACH OF ANY PROVISION OF THIS CONFIRMATION AGREEMENT FOR WHICH AN EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED, THE EXPRESS REMEDY OR MEASURE OF DAMAGES PROVIDED IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS AGREEMENT AND THE AGREEMENT FOR THE BREACH, LIABILITY FOR THE BREACH IS LIMITED AS SET FORTH IN THE PROVISION AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, IF NO EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED IN THIS AGREEMENT FOR A PARTICULAR BREACH, LIABILITY FOR THE BREACH IS LIMITED TO DIRECT DAMAGES ONLY, THE DIRECT DAMAGES ARE THE SOLE AND
EXCLUSIVE REMEDY UNDER THIS AGREEMENT FOR THE BREACH, AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, NEITHER PARTY IS LIABLE FOR ANY OTHER TYPE OF DAMAGE, INCLUDING INCIDENTAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OF ANY NATURE (INCLUDING DAMAGES ASSOCIATED WITH LOST PROFITS, BUSINESS INTERRUPTION AND LOSS OF GOODWILL) ARISING AT ANY TIME, WHETHER IN TORT (INCLUDING THE SOLE OR CONTRIBUTORY NEGLIGENCE OF EITHER PARTY OR ANY RELATED PERSON), WARRANTY, STRICT LIABILITY, CONTRACT OR STATUTE, UNDER ANY INDEMNITY PROVISION, OR OTHERWISE.”

(k) Section 37 of the WSPP Agreement is amended by inserting the following in the beginning of the section: “On the date of entering into this Confirmation,”.

(l) Section 41 “Witness” of the WSPP Agreement shall become Section 42 and the following “Standard of Review” Section substituted in its place:

“The Parties agree as follows:

From the date of entering into a Transaction under this Agreement and throughout the term of such Transaction, the Parties each warrant and covenant as follows:

(i) Absent the agreement of all Parties to the proposed change, the standard of review for changes to any section of this Agreement (including all Transactions and/or Confirmations) specifying the rate(s) or other material economic terms and conditions agreed to by the Parties herein, whether proposed by a Party, a non-party or FERC acting sua sponte, shall be the “public interest” standard of review set forth in United Gas Pipe Line Co. v. Mobile Gas Service Corp., 350 U.S. 332 (1956) and Federal Power Commission v. Sierra Pacific Power Co., 350 U.S. 348 (1956) (the “Mobile-Sierra” doctrine) and clarified in Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1 of Snohomish 554 U.S. 527 (2008) and NRG Power Marketing LLC v. Maine Pub. Util. Comm’n, 558 U.S. 165 (2010).

(ii) The Parties, for themselves and their successors and assigns, (i) agree that this “public interest” standard shall apply to any proposed changes in any other documents, instruments or other agreements executed or entered into by the Parties in connection with this Agreement and (ii) hereby expressly and irrevocably waive any rights they can or may have to the application of any other standard of review, including the “just and reasonable” standard.”

5.9 Counterparts

This Confirmation may be signed in any number of counterparts with the same effect as if the signatures to the counterparts were upon a single instrument. The Parties may rely on electronic,
facsimile or scanned signatures as originals under this Confirmation. Delivery of an executed signature page of this Confirmation by facsimile or electronic mail transmission (including PDF) shall be the same as delivery of a manually executed signature page.

5.10 **Entire Agreement; No Oral Agreements or Modifications**

This Confirmation sets forth the terms of the Transaction into which the Parties have entered and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of the Product. Notwithstanding any other provision of the Agreement, this Transaction may be confirmed only through a Documentary Writing executed by both Parties, and no amendment or modification to this Transaction shall be enforceable except through a Documentary Writing executed by both Parties.

[Signatures appear on the following page.]
AGREED AS OF THE EFFECTIVE DATE:

SILICON VALLEY CLEAN ENERGY, A CALIFORNIA JOINT POWERS AUTHORITY

By: Girish Balachandran
Name: Girish Balachandran
Title: CEO

EAST BAY COMMUNITY ENERGY AUTHORITY, A CALIFORNIA JOINT POWERS AUTHORITY

By: Marie Fontenot
Name: Marie Fontenot
Title: Sr. Director of Power Resources
APPENDIX A
DEFINED TERMS

“Alternate Capacity” means replacement Product which Seller has elected to provide to Purchaser in accordance with the terms of Section 2.3.

“CAISO” means the California ISO.

“Capacity Attributes” means attributes of the Shown Unit that may be counted toward Compliance Obligations, including: flexibility, dispatchability, physical location or point of electrical interconnection of the Shown Unit; Unit ability to generate at a given capacity level, provide ancillary services, or ramp up or down at a given rate; any current or future defined characteristics, certificates, tags, credits, or accounting constructs of the Shown Unit, howsoever entitled, identified from time to time by the CAISO or a Governmental Body having jurisdiction over Compliance Obligations.

“CIRA Tool” means the CAISO Customer Interface for Resource Adequacy.

“Compliance Obligations” means, as applicable, RAR, Local RAR and FCR.

“Compliance Showings” means the applicable LSE’s compliance with the resource adequacy requirements of the CPUC for an applicable Showing Month.

“Contingent Firm RA Product” has the meaning set forth in Article 1 herein.

“CPUC Decisions” means any currently effective or future decisions, resolutions, or rulings related to resource adequacy.

“Effective Flexible Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Environmental Costs” means (i) costs incurred in connection with acquiring and maintaining all environmental permits and licenses for the Product, (ii) the Product’s compliance with all applicable environmental laws, rules, and regulations, including capital costs for pollution mitigation or installation of emissions control equipment required to permit or license the Product, (iii) all operating and maintenance costs for operation of pollution mitigation or control equipment, (iv) costs of permit maintenance fees and emission fees as applicable, (v) the costs of all emission reductions that have been authorized by a local air pollution control district or emissions trading credits or units pursuant to the California Health & Safety Code, market based incentive programs such as the South Coast Air Quality Management District’s Regional Clean Air Incentives Market, authorizations to emit sulfur dioxide and oxides of nitrogen by the Environmental Protection Agency, and any costs related to greenhouse gas emissions required by any applicable environmental laws, rules, regulations, or permits to operate, and (vi) costs associated with the disposal, clean-up, decontamination or remediation, on or off site, of hazardous substances.

“Expected Contract Quantity” means, with respect to any particular day of any Showing Month of the Delivery Period, (a) for Firm RA Product, the Contract Quantity of Product for such day
of such Showing Month, including the amount of Contract Quantity of Product that Seller has
elected to provide Alternate Capacity with respect to for such day, and (b) for Contingent Firm
RA Product, the Contract Quantity of Product for such day of such Showing Month, including
the amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity
with respect to for such day, less any reductions to Contract Quantity for such day specified in
Section 2.2 with respect to which Seller has not elected to provide Alternate Capacity.

“FCR” means the Flexible Capacity requirements established for LSEs by the CPUC pursuant to
the CPUC Decisions, the CAISO pursuant to the Tariff, or other Governmental Body having
jurisdiction over Compliance Obligations and includes any non-binding advisory showing which
an LSE is required to make with respect to flexible capacity.

“FCR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes
of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other
Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward
an LSE’s FCR.

“Firm RA Product” has the meaning set forth in Article 1 herein.

“Governmental Body” means any federal, state, local, municipal or other government; any
governmental, regulatory or administrative agency, commission or other authority lawfully
exercising or entitled to exercise any administrative, executive, judicial, legislative, police,
regulatory or taxing authority or power; and any court or governmental tribunal.

“Local RAR” means the local resource adequacy requirements established for LSEs by the CPUC
pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other
Governmental Body having jurisdiction over Compliance Obligations.

“LSE” means “Load Serving Entity” as such term is used in Section 40.9 of the Tariff.

“MW” means megawatt.

“Net Qualifying Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Notification Deadline” is twenty (20) Business Days before the relevant deadlines for the
corresponding Compliance Showings applicable to the relevant Showing Month.

“Planned Outage” means, subject to and as further described in the CPUC Decisions, a CAISO-
approved, planned or scheduled disconnection, separation or reduction in capacity of the Unit
that is conducted for the purposes of carrying out routine repair or maintenance of such Unit, or
for the purposes of new construction work for such Unit.

“Product” means RAR, Local RAR and FCR, for the Delivery Period, Unit, Contract Quantity,
Contract Price and other specifications contained in Appendix B.
“Prorated Percentage of Unit Factor” means the percentage, as specified in Appendix B, of the Unit NQC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prorated Percentage of Unit Flexible Factor” means the percentage, as specified in Appendix B, of the Unit EFC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prudent Operating Practice” means (a) the applicable practices, methods and acts required by or consistent with applicable laws and reliability criteria, and otherwise engaged in or approved by a significant portion of the electric power industry during the relevant time period in the Western United States, or (b) any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Prudent Operating Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to acceptable practices, methods or acts generally accepted in the electric power industry in the Western United States.

“Replacement Unit” means a generating unit meeting the requirements specified in Section 2.3.

“Resource Adequacy Requirements” or “RAR” means the resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“SC” means Scheduling Coordinator as defined in the Tariff.

“Showing Month” means the calendar month of the Delivery Period that is the subject of the related Compliance Showing.

“Shown Unit” means the Unit, or any other unit meeting the requirements of this Confirmation and specified by Seller in a Supply Plan, but not necessarily identified by Seller to Purchaser on the Effective Date.

“Subsequent Purchaser” means the purchaser of Product from Purchaser in a re-sale of Product by Purchaser.

“Swap Confirmation” means that certain WSPP Agreement Confirmation between SVCE and EBCE dated concurrently herewith, in which EBCE is the seller of the following: 52MW - CAISO System Generic RAR.

“Swap Reduction Option” has the meaning specified in Section 2.2(b).

“Tariff” means the CAISO Tariff, including any current CAISO-published “Operating Procedures” and “Business Practice Manuals,” in each case as amended or supplemented from time to time.
“Unit” means the generation unit described in Appendix B and any Shown Unit. A Unit or Shown Unit may not be a nuclear or coal-fired generating facility.

“Unit EFC” means the lesser of the Unit’s Effective Flexible Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.

“Unit NQC” means the lesser of the Unit’s Net Qualifying Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.
APPENDIX B
PRODUCT AND UNIT INFORMATION

Product:

☑ RAR           ☐ Local RAR           ☑ Flexible Capacity

and all Capacity Attributes related to such Product.

Additional Product Information (fill in all that apply):
CAISO Zone:
MCC Bucket: 4
CPUC Local Area (if applicable): Fresno
Flexible Capacity Category (if applicable): 1

Delivery period: ________________________________

Contract Quantity and Contract Price:

RAR and Local RAR with Flexible Capacity as applicable

<table>
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<th>Showing Month and Year</th>
<th>RAR Contract Quantity (MW)</th>
<th>FCR Quantity, if any (MW)</th>
<th>Contract Price ($/kW-mo)</th>
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## Unit 1 (2020 System Flex)

<table>
<thead>
<tr>
<th>Unit Specific Information</th>
<th>PANOCHE ENERGY CENTER (Aggregated)</th>
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<tbody>
<tr>
<td>Resource Name</td>
<td>PANOCHE ENERGY CENTER (Aggregated)</td>
</tr>
<tr>
<td>Physical Location</td>
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<tr>
<td>CAISO Resource ID</td>
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<tr>
<td>SCID of Resource</td>
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<td>Unit NQC by month (e.g., Jan=50, Feb=65):</td>
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</tr>
<tr>
<td>Unit EFC by month (e.g., Jan=30, Feb=50):</td>
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</tr>
<tr>
<td>Resource Type (e.g., gas, hydro, solar, etc.)</td>
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<td>Minimum Qualified Flexible Capacity Category (Flex 1, 2 or 3)</td>
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</tr>
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<td>TAC Area (e.g., PG&amp;E, SCE)</td>
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<tr>
<td>Prorated Percentage of Unit Factor</td>
<td></td>
</tr>
<tr>
<td>Prorated Percentage of Unit Flexible Factor</td>
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</tr>
<tr>
<td>Capacity Area (CAISO System, Fresno, Sierra, Kern, LA Basin, Bay Area, Stockton, Big Creek-Ventura, NCNB, San Diego-IV or Humboldt)</td>
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<tr>
<td>Resource Category as defined by the CPUC (DR, 1, 2, 3, 4)</td>
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</table>

[Information for specific Shown Units may be provided after the Effective Date pursuant to the Confirmation.]
# APPENDIX C
## PLANNED OUTAGE SCHEDULE

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<tr>
<th>Unit Name</th>
<th>CAISO Resource ID *</th>
<th>Outage (MW)</th>
<th>SLIC Outage Start Date</th>
<th>SLIC Outage End Date</th>
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<tbody>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
This Confirmation under the WSPP Agreement confirms the transaction between Silicon Valley Clean Energy, a California joint powers authority (“Purchaser” or “SVCE”) and East Bay Community Energy Authority, a California joint powers authority (“Seller” or “EBCE”), and each individually a “Party” and together the “Parties”, dated as of July 30th, 2020 (the “Effective Date”), by which Seller agrees to sell and deliver, and Purchaser agrees to purchase and receive, the Product (the “Transaction”). The WSPP Agreement and this Confirmation, including any applicable appendices, exhibits or amendments thereto, shall be collectively referred to herein as the “Agreement” and will constitute a single agreement between the Parties with respect to the Transaction. Capitalized terms not otherwise defined in this Confirmation or the WSPP Agreement are defined in the Tariff.

ARTICLE 1
TRANSACTION TERMS

Product, Delivery Period, Contract Quantity, Contract Price and other specifics of the Product are in Appendix B. Appendices A, B, and C are incorporated into this Confirmation.

☐ Firm RA Product:

Seller shall provide Purchaser with the Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity for any reason, then Seller shall have the option to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Contract Quantity and has failed to supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period, the Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.

☒ Contingent Firm RA Product:

Seller shall provide Purchaser with Product from the Unit in the amount of the Contract Quantity. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any adjustment of the Contract Quantity of any Unit in accordance with Section 2.2, Seller shall have the option to notify Purchaser that either (a) Seller will not provide the portion of Contract Quantity attributable to such reduction during the period of such non-availability; or (b) Seller will supply Alternate Capacity to fulfill the remainder of the Contract Quantity during such period pursuant to Section 2.3. If the Unit is not available to provide the full amount of the Contract Quantity as a result of any reason other than as provided in Section 2.2, then Seller shall have the option to supply Alternate Capacity pursuant to Section 2.3 to fulfill the remainder of the Contract Quantity during such period. If Seller fails to provide Purchaser with the Expected Contract Quantity from the Unit and has failed to supply Alternate Capacity to fulfill the remainder of the Expected Contract Quantity during such period, Seller shall be liable for damages and/or required to indemnify Purchaser for penalties or fines pursuant to the terms of Section 2.5.
ARTICLE 2
DELIVERY OBLIGATIONS AND ADJUSTMENTS

2.1 Sale and Delivery of Product

(a) For each Showing Month of the Delivery Period, Seller will sell and deliver to Purchaser, and Purchaser will purchase and receive from Seller, the Expected Contract Quantity of the Product from the Shown Unit(s). Seller’s obligation to deliver the Expected Contract Quantity of Product for each day included in the Delivery Period is firm and will not be excused for any reason.

(b) Seller will deliver the Expected Contract Quantity by submitting to CAISO in its Supply Plan the Shown Unit and the characteristics of the Shown Unit and Product for Purchaser, as further specified in Appendix B, all in compliance with this Confirmation.

(c) Seller will cause all Supply Plans to meet and be filed in conformance with the requirements of the CPUC and the Tariff. Seller will submit, or cause the Shown Unit’s SC to submit, on a timely basis with respect to each applicable Showing Month, Supply Plans in accordance with the Tariff and CPUC requirements to identify and confirm the Product delivered to Purchaser for each Showing Month of the Delivery Period. The total amount of Product identified and confirmed for each day of such Showing Month will equal the Expected Contract Quantity.

(d) Seller may sell and deliver from a Shown Unit that meets requirements set forth in Appendix B. In no event shall a Shown Unit utilize coal or coal materials as a source of fuel or be a nuclear generating facility. 1 A Shown Unit must be a specific resource that is connected directly to the CAISO controlled grid or under the operational control of CAISO. A Shown Unit may not be an unspecified import. Seller will identify the Shown Unit(s) and Expected Contract Quantity by providing Purchaser with the specific information contemplated in Appendix B no later than the Notification Deadline for the relevant Showing Month.

(e) If CAISO rejects either the Supply Plan or the Resource Adequacy Plan with respect to any part of the Expected Contract Quantity for the Shown Unit in any Showing Month, the Parties will confer, make such corrections as are necessary for acceptance, and resubmit the corrected Supply Plan or Resource Adequacy Plan for validation before the applicable deadline for the Showing Month.

(f) The Product is delivered and received when the CIRA Tool shows that the Supply Plan submitted in compliance with Purchaser’s instructions, including Purchaser’s instructions to withhold all or part of the Expected Contract Quantity from Seller’s Supply Plan for any Showing Month during the Delivery Period, has been accepted for the Product from the Shown Unit by CAISO. Seller has failed to deliver the Product if (i) Purchaser has elected to submit the Product from the Shown Unit in

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1 Note to draft: Seller to revise as appropriate.
its Resource Adequacy Plan and such submission is accepted by the CPUC and the CAISO but the Supply Plan and Resource Adequacy Plan are not matched in the CIRA Tool and are rejected by CAISO notwithstanding performance of Section 2.1(e) or (ii) Seller fails to submit the volume of Expected Contract Quantity for any Showing Month in such amount as instructed by Purchaser for the applicable Showing Month. Seller will not have failed to deliver the Expected Contract Quantity if Purchaser fails or chooses not to submit the Shown Unit and the Product in its Resource Adequacy Plan with the CPUC or CAISO.

(g) The Shown Unit must not have characteristics that would trigger the need for Purchaser or Seller to file an advice letter or other request for authorization with the CPUC or for Purchaser to make a compliance filing pursuant to California Public Utilities Code Section 380.2

2.2 Adjustments to Contract Quantity

(a) If Seller is providing Contingent Firm RA Product, Seller’s obligation to deliver the Contract Quantity for each day of each Showing Month may be reduced at Seller’s option by the amount of any Planned Outages which exist with respect to any portion of the Unit during the applicable Showing Month for the applicable days of such Planned Outages; provided, (i) Seller notifies Purchaser at least twenty (20) Business Days before the relevant deadlines for the corresponding Compliance Showings applicable to that Showing Month of the amount of Product from the Unit Purchaser is permitted to include in Purchaser’s Compliance Showings applicable to that month as a result of such Planned Outage, and (ii) such reduction is able to be reflected on the Supply Plans in accordance with the Tariff.

In the event Seller is unable to provide the applicable Contract Quantity for any portion of a Showing Month because of a Planned Outage of a Unit, Seller has the option, but not the obligation, to provide Product for such Showing Month from Replacement Units, provided Seller provides and identifies such Replacement Units in accordance with Section 2.3.

(b) Seller’s Swap Reduction Option: Seller obligation to deliver the Contract Quantity for each day of each Showing Month may be reduced at Seller’s option in the event Counterparty fails to deliver, for any reason, the contract quantity of product set forth in Appendix B of the Swap Confirmation; provided, Seller’s obligation to deliver the Contract Quantity of Product as set forth in this Section 2.2(b) may be reduced only by the amount of contract quantity of product that Counterparty failed to deliver under the Swap Confirmation (such option, the “Swap Reduction Option”). Notwithstanding Section 2.1(c), if Seller exercises its Swap Reduction Option, Seller shall have the right to modify the Expected Contract Quantity Notice by submitting written notice to Counterparty of such modification no later than five (5) Business Days before the initial Compliance Showing deadline for such Showing Month.

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2 For example, contracts with Once-Through Cooling resources that terminate one year or less before the State Water Resources Control Board compliance deadline require an advice letter filing under CPUC Decision 12-04-046
2.3 **Seller’s Option To Provide Alternate Capacity**

If Seller is unable to provide the full Contract Quantity for any Showing Month for any reason, including, without limitation, as provided in Section 2.2, or Seller desires to provide the Contract Quantity for any Showing Month from a different generating unit other than the Unit, then Seller may, at no cost to Purchaser, provide Purchaser with replacement Product from one or more Replacement Units in an amount such that the total amount of Product provided to Purchaser from the Unit and Replacement Units for each day of the Showing Month is not more than the Contract Quantity for the applicable Showing Month, provided that in each case:

(a) Seller shall notify Purchaser of its intent to provide replacement Product and identify Replacement Units meeting all of the requirements of this Confirmation at least twenty (20) Business Days before the relevant deadlines for Purchaser’s Compliance Showings related to such Showing Month; and

(b) the designation of any Replacement Unit by Seller shall be subject to Purchaser’s prior written approval, which shall not be unreasonably withheld.

Once Seller has identified in writing any Replacement Units that meet the requirements of this Section 2.3 and Purchaser has approved such Replacement Units, then any such Replacement Units shall be automatically deemed a Unit for purposes of this Confirmation for that Showing Month. Purchaser’s approval of a Replacement Unit as to a given Showing Month shall not be construed as approval of such Replacement Unit for any subsequent Showing Month.

2.4 **Planned Outages**

As of the Confirmation Effective Date, Seller and Purchaser have agreed to all Planned Outages during the Delivery Period as specified in Appendix D (“Planned Outage Schedule”) for all relevant Showing Months for the following calendar year, or until the end of the Delivery Period, whichever is shorter. Seller may provide Purchaser a schedule of proposed changes to the Planned Outage Schedule from time to time. Within ten (10) Business Days after its receipt of a schedule of proposed changes, Purchaser shall notify Seller in writing of any reasonable request for modifications to such Seller proposed changes, and Seller shall, to the extent consistent with Prudent Operating Practice, accommodate Purchaser’s requests regarding the timing of any Seller proposed changes to the Planned Outage Schedule.

2.5 **Purchaser’s Remedies for Seller’s Failure to Deliver Expected Contract Quantity**

(a) If Seller fails to deliver any part of the Expected Contract Quantity as required herein for any Showing Month, Seller is liable for damages pursuant to Section 21.3 of the WSPP Agreement, without reference to the word “hourly” therein.

(b) Seller agrees to indemnify, defend and hold harmless Purchaser from any penalties, fines or costs, including Environmental Costs, assessed against Purchaser by the
2.6 Purchaser’s Re-Sale of Product

(a) Purchaser may re-sell all or part of the Product; provided that any such re-sale must not increase Seller’s obligations hereunder other than as set forth in this Section 2.6(a). For any such a resale, Resource Adequacy Plan of Purchaser as used herein will refer to the Resource Adequacy Plan of Subsequent Purchaser. Seller will, or will cause the Shown Unit’s SC, to follow Purchaser’s instructions with respect to providing such resold Product to Subsequent Purchasers, to the extent such instructions are consistent with Seller’s obligations under this Confirmation. Seller will, and will cause the Shown Unit’s SC, to take all commercially reasonable actions and execute all documents or instruments reasonably necessary to allow such Subsequent Purchasers to use such resold Product in a manner consistent with Purchaser’s rights under this Confirmation. If Purchaser incurs any liability to a Subsequent Purchaser due to the failure of Seller or the Shown Unit’s SC to comply with this Confirmation, Seller will be liable to Purchaser for the same amounts Seller would have owed Purchaser under this Confirmation if Purchaser had not resold the Product.

(b) Purchaser will notify Seller in writing of any resale of Product and the Subsequent Purchaser no later than two Business Days before the Notification Deadline for the Showing Month. Purchaser will notify Seller of any subsequent changes or further resales no later than two Business Days before the Notification Deadline for the Showing Month.

(c) If CAISO or CPUC develops a centralized capacity market, Purchaser will have exclusive rights to direct the Seller or the Unit’s Scheduling Coordinator to offer, bid, or otherwise submit the applicable Expected Contract Quantity of Product for each day during the Delivery Period provided to Purchaser pursuant to this Confirmation for re-sale in such market, Seller and the Unit’s Scheduling Coordinator shall comply with Purchaser’s direction and Purchaser shall retain and receive all revenues from such re-sale.
ARTICLE 3
PAYMENTS

3.1 Payment

After Seller has delivered the Expected Contract Quantity in accordance with Section 2.1 and issued its invoice, Purchaser shall pay for the Product as provided in Article 9 of the WSPP Agreement; except that under Section 9.4, in case any portion of any bill is in dispute, then only the undisputed portion of the bill shall be paid when due. The disputed portion of the bill shall be adjusted or paid upon final resolution of the dispute. Purchaser shall make a Monthly RA Capacity Payment to Seller for each Unit by the later of (i) ten (10) Calendar Days after Purchaser’s receipt of Seller’s invoice (which may be given upon first day of the Showing Month) and (ii) the twentieth (20th) of the Showing Month, or if the twentieth (20th) is not a Business Day the next following Business Day. The Monthly RA Capacity Payment shall equal the product of (a) the applicable Contract Price for that Showing Month, (b) the Expected Contract Quantity for the Showing Month and (c) 1,000, rounded to the nearest penny (i.e., two decimal places); provided, however, that the Monthly RA Capacity Payment shall be adjusted to reflect any portion of Expected Contract Quantity for the Showing Month that was not delivered in accordance with Section 2.1 at the time of the CAISO filing for such Showing Month.

3.2 Allocation of Other Payments and Costs

(a) Seller will receive any revenues from, and must pay all costs charged by, CAISO or any other third party with respect to the Shown Unit for (i) start-up, shutdown, and minimum load costs, (ii) capacity for ancillary services, (iii) energy sales, (iv) flexible ramping product, or (v) black start or reactive power services. Purchaser must promptly report receipt of any such revenues to Seller. Purchaser must pay to Seller any such amounts described in this Section 3.2(a) received by Purchaser or a Subsequent Purchaser. Without prejudice to its other rights and remedies, Seller may setoff and recoup any such amounts that are not paid to it against any amounts owed to Purchaser under the WSPP Agreement.

(b) Purchaser is to receive and retain all revenues associated with the Expected Contract Quantity of Product during the Delivery Period, including any capacity and availability revenues from the Capacity Procurement Mechanism, or its successor, RUC Availability Payments, or its successor, but excluding payments described in Section 3.2(a)(i)-(v) or 3.2(d). Seller must promptly report receipt of any such revenues to Purchaser. Seller must pay to Purchaser within thirty (30) days of receipt any such amounts received by Seller, or a Shown Unit’s SC, owner, or operator. Without prejudice to its other rights, Purchaser may set off and recoup any such amounts that are not paid to it against amounts owed to Seller under the WSPP Agreement.

(c) If CAISO designates any part of the Contract Quantity as Capacity Procurement Mechanism Capacity, then Seller will, or will cause the Shown Unit’s SC to, within one Business Day of the time Seller receives notification from CAISO, notify
Purchaser and not accept any such designation by CAISO unless and until Purchaser has agreed to accept such designation.

(d) Any Availability Incentive Payments or Non-Availability Charges are for Seller to receive and pay.

**ARTICLE 4
OTHER PURCHASER AND SELLER COVENANTS**

4.1 **CAISO Requirements**

Seller must schedule or cause the Shown Unit’s SC to schedule or make available to CAISO the Expected Contract Quantity of the Product during the Delivery Period, in compliance with the Tariff, and perform all, or cause the Shown Unit’s SC, owner, or operator to perform all, obligations under applicable law and the Tariff relating to the Product. Purchaser is not liable for, and Seller will indemnify and hold Purchaser harmless from, the failure of Seller or the Shown Unit’s SC, owner, or operator to comply with the Tariff, and for any penalties, fines or costs imposed on Seller or the Shown Unit’s SC, owner, or operator for noncompliance.

4.2 **Seller’s and Purchaser’s Duties to Take Actions to Allow Product Utilization**

Throughout the Delivery Period, Purchaser and Seller will take all commercially reasonable actions and execute all documents or instruments reasonably necessary to ensure (a) Purchaser’s rights to the Expected Contract Quantity for the sole benefit of Purchaser or any Subsequent Purchaser and (b) that Purchaser may use the Expected Contract Quantity to meet its Compliance Obligations. Such commercially reasonable actions shall include, without limitation cooperating with and providing, and in the case of Seller causing each Shown Unit’s Scheduling Coordinator, owner, or operator to cooperate with and provide, requested supporting documentation to the CAISO, the CPUC, or any other Governmental Body responsible for administering the applicable Compliance Obligations under Applicable Laws, including to demonstrate that the Expected Contract Quantity can be delivered to the CAISO controlled grid for the minimum hours required to qualify as RA Capacity, pursuant to the “deliverability” standards established by the CAISO or other Governmental Body of competent jurisdiction.

If necessary, the Parties further agree to negotiate in good faith to amend this Confirmation to conform this Transaction to subsequent clarifications, revisions, or decisions rendered by CAISO or an applicable Governmental Body to maintain the benefits of the Transaction.

4.3 **Seller’s Representations and Warranties**

Seller represents and warrants to Purchaser throughout the Delivery Period that:

(a) no part of the Contract Quantity during the Delivery Period has been committed by Seller to any third party to satisfy Compliance Obligations or analogous obligations in any CAISO or non-CAISO markets;
(b) the Shown Unit qualifies under the Tariff for the Product, and the Shown Unit and Seller are capable of delivering the Product;

(c) the aggregation of all amounts of Capacity Attributes that Seller has sold, assigned, or transferred for the Shown Unit during the Delivery Period does not exceed the Shown Unit’s Net Qualifying Capacity and, if applicable, the Effective Flexible Capacity for that Shown Unit;

(d) if applicable, Seller has notified either the Shown Unit’s SC or the entity from which Seller purchased the Product that Seller has transferred the Contract Quantity of Product for the Delivery Period to Purchaser; and

(e) Seller has notified or will notify the Shown Unit’s SC that Purchaser is entitled to the revenues set forth in Section 3.2(b), and such SC is obligated to promptly deliver those revenues to Purchaser, along with appropriate documentation supporting the amount of those revenues.

4.4 Market Based Rate Authority

Upon Purchaser’s written request, Seller shall, in accordance with FERC Order No. 697, submit a letter of concurrence in support of any affirmative statement by Purchaser that this contractual arrangement does not transfer “ownership or control of generation capacity” from Seller to Purchaser as the term “ownership or control of generation capacity” is used in 18 CFR Section 35.42. Seller shall not, in filings, if any, made subject to Order Nos. 652 and 697, claim that this contractual arrangement conveys ownership or control of generation capacity from Seller to Purchaser.

ARTICLE 5
ADDITIONAL WSPP AGREEMENT AMENDMENTS; GENERAL PROVISIONS

5.1 Termination Payment

For this Transaction, the following is inserted as a penultimate paragraph in Section 22.2(b) of the WSPP Agreement:

“If Purchaser is the Non-Defaulting Party and Purchaser reasonably expects to incur or be liable for any penalties, fines or costs from CAISO, or any Governmental Body, because Purchaser or a Subsequent Purchaser is not able to include the applicable Expected Contract Quantity in a Compliance Showing due to Seller’s Event of Default, then Purchaser may, in good faith, estimate the amount of those penalties, fines or costs and include the estimate in its determination of the Termination Payment, subject to accounting to Seller when those penalties, fines or costs are finally ascertained. If this accounting establishes that Purchaser’s estimate exceeds the actual amount of penalties, fines or costs, Purchaser must promptly remit to Seller the excess amount with interest in accordance with Section 9.3 of the WSPP Agreement. The rights and obligations with respect to determining and paying any Termination Payment, and any dispute resolution provisions
with respect thereto, survive the termination of this Transaction and continue until after those penalties, fines or costs are finally ascertained.”

5.2 Confidentiality

Notwithstanding Section 30.1 of the WSPP Agreement:

(a) (i) Purchaser may disclose information as necessary in order to support its Compliance Showings or otherwise show it has met its Compliance Obligations; (ii) Seller may disclose as necessary to a Shown Unit’s SC or as necessary for Supply Plans; (iii) each Party may disclose information as necessary to the independent evaluator or other administrator of any competitive solicitation process of Purchaser, which in turn may disclose such information as necessary to CAISO or any Governmental Body; and (iv) Purchaser may disclose information to any Subsequent Purchaser.

(b) Seller acknowledges that Purchaser is a public agency subject to the requirements of the California Public Records Act (Cal. Gov. Code section 6250 et seq.) and that Purchaser may be required to make public this Confirmation (which may be partially redacted by Purchaser) in connection with the process of seeking approval from its board of directors for the execution of this Confirmation. Seller may submit information to Purchaser that Seller considers confidential, proprietary, or trade secret information pursuant the Uniform Trade Secrets Act (Cal. Civ. Code section 3426 et seq.), or otherwise protected from disclosure pursuant to an exemption to the California Public Records Act (Government Code sections 6254 and 6255). Seller acknowledges that Purchaser may submit to Seller information that Purchaser considers confidential or proprietary or protected from disclosure pursuant to exemptions to the California Public Records Act (Government Code sections 6254 and 6255). Upon request or demand of any third person or entity not a party to this Confirmation (“Requestor”) pursuant to the California Public Records Act for production, inspection and/or copying of this Confirmation or any information designated by a disclosing Party as confidential, the receiving Party as soon as practical shall notify the disclosing Party that such request has been made, by telephone call, letter sent via electronic mail, and/or by overnight carrier to the address, or email address listed at the end of this Confirmation. The disclosing Party shall be solely responsible for taking whatever legal steps are necessary to protect information deemed by it to be confidential information and to prevent release of information to the Requestor by the receiving Party. If the disclosing Party takes no such action within ten (10) days, after receiving the foregoing notice from the receiving Party, the receiving Party shall be permitted to comply with the Requestor’s demand and is not required to defend against it. Notwithstanding the foregoing, Purchaser may release confidential information without notice to or over the objection of Seller if Purchaser’s legal counsel advises Purchaser that Purchaser is required by law to release such confidential information.
5.3 **Dodd-Frank Act**


5.4 **Change in Law**

If any action by the CPUC, CAISO or any governmental body having jurisdiction, or any change in applicable law, occurring after the Confirmation Effective Date (a “Change in Law”) results in (i) material changes to Purchaser’s or Seller’s obligations with regard to the Products sold hereunder, (ii) has the effect of changing the transfer and sale procedure set forth in this Confirmation so that the performance of this Confirmation becomes impracticable, or (iii) changes the Resource Adequacy Requirements such that the Product can no longer be counted towards Purchaser’s Resource Adequacy Requirements, the Parties shall work in good faith to try and revise this Confirmation so that the Parties can perform their obligations regarding the purchase and sale of Products sold hereunder in order to maintain the original intent.

5.5 **Governing Law**

Notwithstanding Section 24 of the WSPP Agreement, this Transaction and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of law.

5.6 **Collateral**

Notwithstanding any provision in the WSPP Agreement to the contrary, including Section 27, neither Party shall be required to post collateral or other security for this Transaction.

5.7 **No Recourse to Members of Purchaser or Seller**

The Parties are each organized as Joint Powers Authorities in accordance with the Joint Exercise of Powers Act of the State of California (Government Code Section 6500, et seq.) and are public entities separate from their constituent members. The Parties shall be will solely be responsible for all debts, obligations and liabilities accruing and arising out of this Confirmation. Each party warrants and represents that it shall have no rights and shall not make any claims, take any actions or assert any remedies against any of the other party’s constituent members, or the officers, directors, advisors, contractors, consultants or employees of the other party or the other party’s constituent members, in connection with this Confirmation.

5.8 **Other WSPP Agreement Changes**
For this Transaction, the WSPP Agreement shall be amended as follows:

(a) Section 22.1 of the WSPP Agreement is modified by inserting the following new text at the end thereof:

“(f) the failure of the Defaulting Party to pay its debts generally as they become due or the Defaulting Party’s admission in a writing that is unable to generally pay its debts as they become due;

(g) the institution, by the Defaulting Party, of a general assignment for the benefit of its creditors; or

(h) the application for, consent to, or acquiescence to, by the Defaulting Party, the appointment of a receiver, custodian, trustee, liquidator, or similar official for all or a substantial portion of its assets.”

(b) Section 22.2(b) of the WSPP Agreement is amended by inserting in Section 22.2, “and is continuing” after “Event of Default occurs” in the first line thereof and deleting the second sentence therein.

(c) Section 22.3 of the WSPP Agreement is amended by:

In Section 22.3(c), deleting the third sentence thereof and replacing it with the following: “If the Non-Defaulting Party’s aggregate Gains exceed its aggregate Losses and Costs, if any, resulting from the termination of this Agreement or a Confirmation, the Termination Payment for all such Terminated Transactions shall be zero, notwithstanding any provision in this Section or Agreement to the contrary.”

(d) In Section 22.3(e), delete the entire provision (including subsections) and replace it with the following: “[Intentionally omitted]”

(e) In Section 22.3(f), delete the entire provision and replace with the following:

“If the Defaulting Party disagrees with the calculation of the Termination Payment and the Parties cannot otherwise resolve their differences, and provided that Defaulting Party has paid the undisputed part of the Termination Payment to the Non-Defaulting Party as provided under Section 22.3(c), and that any amounts disputed by the Defaulting Party are disputed in good faith, then the Defaulting Party may submit the calculation issue to Dispute Resolution pursuant to Section 34.”

(f) Section 28.1 of the WSPP Agreement shall be applicable and the Parties shall net monthly payments in accordance with Exhibit A of the WSPP. Both Parties intend for the netting provisions of Exhibit A to the WSPP Agreement to be effective on the Confirmation Effective Date.
Section 30.1 of the WSPP Agreement is amended by inserting “or requested” after the word “required” in Section 30.1(4) and by adding the following at the end of the first sentence: “; or (8) to the Party’s and such Party’s affiliates’ lenders, counsel, accountants, advisors and agents who have a need to know such information and have agreed to keep such terms confidential”.

Subsections 34.1 and 34.2 of the WSPP Agreement are hereby deleted and replaced with the following:

“34.1 INFORMAL DISPUTE RESOLUTION

IN THE EVENT OF ANY DISPUTE ARISING UNDER THIS TRANSACTION, WITHIN TEN (10) DAYS FOLLOWING THE RECEIPT OF A WRITTEN NOTICE FROM EITHER PARTY IDENTIFYING SUCH DISPUTE, THE PARTIES SHALL MEET, NEGOTIATE AND ATTEMPT, IN GOOD FAITH, TO RESOLVE THE DISPUTE QUICKLY, INFORMALLY AND INEXPENSIVELY. IF THE PARTIES ARE UNABLE TO RESOLVE A DISPUTE ARISING HEREUNDER WITHIN THIRTY (30) DAYS AFTER RECEIPT OF SUCH NOTICE, THEN EITHER PARTY MAY SEEK ANY AND ALL REMEDIES AVAILABLE TO IT AT LAW OR IN EQUITY, SUBJECT TO THE LIMITATIONS SET FORTH IN THIS TRANSACTION.”

“34.2 EXCLUSIVE JURISDICTION

EACH PARTY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE OR FEDERAL COURTS LOCATED IN SAN FRANCISCO, CALIFORNIA, FOR ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY TRANSACTION, AND EXPRESSLY WAIVES ANY OBJECTION IT MAY HAVE TO SUCH JURISDICTION OR THE CONVENIENCE OF SUCH FORUM.”

The phrase “arbitration or” is hereby deleted from the first line of Section 34.4.

The following shall be inserted as a new Section 34.5;

“34.5 LIMITATION OF DAMAGES. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, FOR BREACH OF ANY PROVISION OF THIS CONFIRMATION AGREEMENT FOR WHICH AN EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED, THE EXPRESS REMEDY OR MEASURE OF DAMAGES PROVIDED IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS AGREEMENT AND THE AGREEMENT FOR THE BREACH, LIABILITY FOR THE BREACH IS LIMITED AS SET FORTH IN THE PROVISION AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, IF NO EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED IN THIS AGREEMENT FOR A PARTICULAR BREACH, LIABILITY FOR THE BREACH IS LIMITED TO DIRECT DAMAGES ONLY, THE DIRECT DAMAGES ARE THE SOLE AND
EXCLUSIVE REMEDY UNDER THIS AGREEMENT FOR THE BREACH, AND ALL OTHER REMEDIES FOR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. EXCEPT AS OTHERWISE SPECIFIED IN ANY CONFIRMATION, NEITHER PARTY IS LIABLE FOR ANY OTHER TYPE OF DAMAGE, INCLUDING INCIDENTAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OF ANY NATURE (INCLUDING DAMAGES ASSOCIATED WITH LOST PROFITS, BUSINESS INTERRUPTION AND LOSS OF GOODWILL) ARISING AT ANY TIME, WHETHER IN TORT (INCLUDING THE SOLE OR CONTRIBUTORY NEGLIGENCE OF EITHER PARTY OR ANY RELATED PERSON), WARRANTY, STRICT LIABILITY, CONTRACT OR STATUTE, UNDER ANY INDEMNITY PROVISION, OR OTHERWISE.”

(k) Section 37 of the WSPP Agreement is amended by inserting the following in the beginning of the section: “On the date of entering into this Confirmation,”.

(l) Section 41 “Witness” of the WSPP Agreement shall become Section 42 and the following “Standard of Review” Section substituted in its place:

“The Parties agree as follows:

From the date of entering into a Transaction under this Agreement and throughout the term of such Transaction, the Parties each warrant and covenant as follows:

(i) Absent the agreement of all Parties to the proposed change, the standard of review for changes to any section of this Agreement (including all Transactions and/or Confirmations) specifying the rate(s) or other material economic terms and conditions agreed to by the Parties herein, whether proposed by a Party, a non-party or FERC acting sua sponte, shall be the “public interest” standard of review set forth in United Gas Pipe Line Co. v. Mobile Gas Service Corp., 350 U.S. 332 (1956) and Federal Power Commission v. Sierra Pacific Power Co., 350 U.S. 348 (1956)(the “Mobile-Sierra” doctrine) and clarified in Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1 of Snohomish 554 U.S. 527 (2008) and NRG Power Marketing LLC v. Maine Pub. Util. Comm’n, 558 U.S. 165 (2010).

(ii) The Parties, for themselves and their successors and assigns, (i) agree that this “public interest” standard shall apply to any proposed changes in any other documents, instruments or other agreements executed or entered into by the Parties in connection with this Agreement and (ii) hereby expressly and irrevocably waive any rights they can or may have to the application of any other standard of review, including the “just and reasonable” standard.”

5.9 Counterparts

This Confirmation may be signed in any number of counterparts with the same effect as if the signatures to the counterparts were upon a single instrument. The Parties may rely on electronic,
facsimile or scanned signatures as originals under this Confirmation. Delivery of an executed signature page of this Confirmation by facsimile or electronic mail transmission (including PDF) shall be the same as delivery of a manually executed signature page.

5.10 **Entire Agreement; No Oral Agreements or Modifications**

This Confirmation sets forth the terms of the Transaction into which the Parties have entered and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of the Product. Notwithstanding any other provision of the Agreement, this Transaction may be confirmed only through a Documentary Writing executed by both Parties, and no amendment or modification to this Transaction shall be enforceable except through a Documentary Writing executed by both Parties.

[Signatures appear on the following page.]
AGREED AS OF THE EFFECTIVE DATE:

SILICON VALLEY CLEAN ENERGY, A CALIFORNIA JOINT POWERS AUTHORITY

By: Girish Balachandran
Name: Girish Balachandran
Title: CEO

EAST BAY COMMUNITY ENERGY AUTHORITY, A CALIFORNIA JOINT POWERS AUTHORITY

By: Marie Fontenot
Name: Marie Fontenot
Title: Sr. Director of Power Resources
APPENDIX A
DEFINED TERMS

“Alternate Capacity” means replacement Product which Seller has elected to provide to Purchaser in accordance with the terms of Section 2.3.

“CAISO” means the California ISO.

“Capacity Attributes” means attributes of the Shown Unit that may be counted toward Compliance Obligations, including: flexibility, dispatchability, physical location or point of electrical interconnection of the Shown Unit; Unit ability to generate at a given capacity level, provide ancillary services, or ramp up or down at a given rate; any current or future defined characteristics, certificates, tags, credits, or accounting constructs of the Shown Unit, howsoever entitled, identified from time to time by the CAISO or a Governmental Body having jurisdiction over Compliance Obligations.

“CIRA Tool” means the CAISO Customer Interface for Resource Adequacy.

“Compliance Obligations” means, as applicable, RAR, Local RAR and FCR.

“Compliance Showings” means the applicable LSE’s compliance with the resource adequacy requirements of the CPUC for an applicable Showing Month.

“Contingent Firm RA Product” has the meaning set forth in Article 1 herein.

“CPUC Decisions” means any currently effective or future decisions, resolutions, or rulings related to resource adequacy.

“Effective Flexible Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Environmental Costs” means (i) costs incurred in connection with acquiring and maintaining all environmental permits and licenses for the Product, (ii) the Product’s compliance with all applicable environmental laws, rules, and regulations, including capital costs for pollution mitigation or installation of emissions control equipment required to permit or license the Product, (iii) all operating and maintenance costs for operation of pollution mitigation or control equipment, (iv) costs of permit maintenance fees and emission fees as applicable, (v) the costs of all emission reductions that have been authorized by a local air pollution control district or emissions trading credits or units pursuant to the California Health & Safety Code, market based incentive programs such as the South Coast Air Quality Management District’s Regional Clean Air Incentives Market, authorizations to emit sulfur dioxide and oxides of nitrogen by the Environmental Protection Agency, and any costs related to greenhouse gas emissions required by any applicable environmental laws, rules, regulations, or permits to operate, and (vi) costs associated with the disposal, clean-up, decontamination or remediation, on or off site, of hazardous substances.

“Expected Contract Quantity” means, with respect to any particular day of any Showing Month of the Delivery Period, (a) for Firm RA Product, the Contract Quantity of Product for such day
of such Showing Month, including the amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to for such day, and (b) for Contingent Firm RA Product, the Contract Quantity of Product for such day of such Showing Month, including the amount of Contract Quantity of Product that Seller has elected to provide Alternate Capacity with respect to for such day, less any reductions to Contract Quantity for such day specified in Section 2.2 with respect to which Seller has not elected to provide Alternate Capacity.

“FCR” means the Flexible Capacity requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, the CAISO pursuant to the Tariff, or other Governmental Body having jurisdiction over Compliance Obligations and includes any non-binding advisory showing which an LSE is required to make with respect to flexible capacity.

“FCR Attributes” means, with respect to a Shown Unit, any and all resource adequacy attributes of the Shown Unit, as may be identified from time to time by the CPUC, CAISO, or other Governmental Body having jurisdiction over Compliance Obligations, that can be counted toward an LSE’s FCR.

“Firm RA Product” has the meaning set forth in Article 1 herein.

“Governmental Body” means any federal, state, local, municipal or other government; any governmental, regulatory or administrative agency, commission or other authority lawfully exercising or entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power; and any court or governmental tribunal.

“Local RAR” means the local resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“LSE” means “Load Serving Entity” as such term is used in Section 40.9 of the Tariff.

“MW” means megawatt.

“Net Qualifying Capacity” has the meaning given in CAISO’s FERC-approved Tariff.

“Notification Deadline” is twenty (20) Business Days before the relevant deadlines for the corresponding Compliance Showings applicable to the relevant Showing Month.

“Planned Outage” means, subject to and as further described in the CPUC Decisions, a CAISO-approved, planned or scheduled disconnection, separation or reduction in capacity of the Unit that is conducted for the purposes of carrying out routine repair or maintenance of such Unit, or for the purposes of new construction work for such Unit.

“Product” means RAR, Local RAR and FCR, for the Delivery Period, Unit, Contract Quantity, Contract Price and other specifications contained in Appendix B.
“Prorated Percentage of Unit Factor” means the percentage, as specified in Appendix B, of the Unit NQC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prorated Percentage of Unit Flexible Factor” means the percentage, as specified in Appendix B, of the Unit EFC as of the Effective Date that is dedicated to Purchaser under this Transaction.

“Prudent Operating Practice” means (a) the applicable practices, methods and acts required by or consistent with applicable laws and reliability criteria, and otherwise engaged in or approved by a significant portion of the electric power industry during the relevant time period in the Western United States, or (b) any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Prudent Operating Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to acceptable practices, methods or acts generally accepted in the electric power industry in the Western United States.

“Replacement Unit” means a generating unit meeting the requirements specified in Section 2.3.

“Resource Adequacy Requirements” or “RAR” means the resource adequacy requirements established for LSEs by the CPUC pursuant to the CPUC Decisions, by CAISO pursuant to the Tariff, or by any other Governmental Body having jurisdiction over Compliance Obligations.

“SC” means Scheduling Coordinator as defined in the Tariff.

“Showing Month” means the calendar month of the Delivery Period that is the subject of the related Compliance Showing.

“Shown Unit” means the Unit, or any other unit meeting the requirements of this Confirmation and specified by Seller in a Supply Plan, but not necessarily identified by Seller to Purchaser on the Effective Date.

“Subsequent Purchaser” means the purchaser of Product from Purchaser in a re-sale of Product by Purchaser.

“Swap Confirmation” means that certain WSPP Agreement Confirmation between SVCE and EBCE dated concurrently herewith, in which EBCE is the buyer of the following: 52MW - CAISO System RA with Flexible attributes.

“Swap Reduction Option” has the meaning specified in Section 2.2(b).

“Tariff” means the CAISO Tariff, including any current CAISO-published “Operating Procedures” and “Business Practice Manuals,” in each case as amended or supplemented from time to time.
“Unit” means the generation unit described in Appendix B and any Shown Unit. A Unit or Shown Unit may not be a nuclear or coal-fired generating facility.

“Unit EFC” means the lesser of the Unit’s Effective Flexible Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.

“Unit NQC” means the lesser of the Unit’s Net Qualifying Capacity as set by CAISO as of the Effective Date and that of the Unit on a subsequent date of determination.
APPENDIX B
PRODUCT AND UNIT INFORMATION

Product:

☑️ RAR  □ Local RAR  □ Flexible Capacity

and all Capacity Attributes related to such Product.

Additional Product Information (fill in all that apply):
CAISO Zone:
MCC Bucket: 4
CPUC Local Area (if applicable): N/A
Flexible Capacity Category (if applicable):  N/A

Delivery period:

Contract Quantity and Contract Price:

RAR and Local RAR with Flexible Capacity as applicable

<table>
<thead>
<tr>
<th>Showing Month and Year</th>
<th>RAR Contract Quantity (MW)</th>
<th>FCR Quantity, if any (MW)</th>
<th>Contract Price ($/kW-mo)</th>
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</thead>
<tbody>
<tr>
<td></td>
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### Unit 1 (2020 System Generic)

<table>
<thead>
<tr>
<th><strong>Resource Name</strong></th>
<th>Metcalf Energy Center</th>
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</thead>
<tbody>
<tr>
<td><strong>Physical Location</strong></td>
<td>San Jose, CA</td>
</tr>
<tr>
<td><strong>CAISO Resource ID</strong></td>
<td>METEC_2_PL1X3</td>
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<tr>
<td><strong>SCID of Resource</strong></td>
<td>CALJ</td>
</tr>
<tr>
<td><strong>Unit NQC by month (e.g., Jan=50, Feb=65):</strong></td>
<td>Varies by month</td>
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<tr>
<td><strong>Unit EFC by month (e.g., Jan=30, Feb=50):</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Resource Type (e.g., gas, hydro, solar, etc.):</strong></td>
<td>Nat gas</td>
</tr>
<tr>
<td><strong>Minimum Qualified Flexible Capacity Category (Flex 1, 2 or 3):</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>TAC Area (e.g., PG&amp;E, SCE):</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Prorated Percentage of Unit Factor:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Prorated Percentage of Unit Flexible Factor:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Capacity Area (CAISO System, Fresno, Sierra, Kern, LA Basin, Bay Area, Stockton, Big Creek-Ventura, NCNB, San Diego-IV or Humboldt):</strong></td>
<td>CAISO System</td>
</tr>
<tr>
<td><strong>Resource Category as defined by the CPUC (DR, 1, 2, 3, 4):</strong></td>
<td>4</td>
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[Information for specific Shown Units may be provided after the Effective Date pursuant to the Confirmation.]
# APPENDIX C
## PLANNED OUTAGE SCHEDULE

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>CAISO Resource ID *</th>
<th>Outage (MW)</th>
<th>SLIC Outage Start Date</th>
<th>SLIC Outage End Date</th>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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