5/7/19



SILICON VALLEY POWER.



City Council Meeting

Item 6

Renewable Generation and Fuel For Self Generation Facilities

May 7, 2019



POST MEETING MATERIAL

1



2

Renewable and GHG Free Energy

'Eligible' Renewable Energy

 Biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.

- GHG Free Energy
 - All of the above plus large hydro electric



"committing to 100 percent clean energy future is unleashing a surge of innovation and investment, creating hundreds of thousands of jobs, improving our health, taking an important step toward meeting the carbon emissions reductions needed to meet our commitment to fighting climate change." and "Californians know that the calamitous consequences of climate change are upon us – and that it would be folly not to do whatever we can to keep those consequences from becoming worse."



Similar Requirements in CA

City of Burbank

MDS4

- April 28th, 2015 Set Policy for Non-Renewable Fuel Cell Generation.
- Requires fuel cell installations meet renewable energy requirements per Section 25741 of the California Public Resource Code.
- City of Pasadena
 - April 30th, 2018 Resolution to require new and modified self generation units utilize renewable generation and fuel sources.
 - Emergency back-up generators were excluded due to their limited operation.
 - Pasadena's City Council Adopted Climate Action Plan prohibits use of non-renewable generation.
 - Same as Burbank renewable generation must meet the definition as defined in the California Public Resources Code.





Bloom Energy

- Proposal is to require new energy to be renewable
- Staff disagrees that requiring renewable energy (instead of fossil fuels such as natural gas) will increase gas emissions and worsen air quality
- Their analysis is not accurate
 - Bloom Energy is comparing fuel cells to our gas generated facilities not the entire SVP Energy Portfolio
 - Also comparing against the Gianera Plant (which only runs approximately 250 hours a year)
 - More appropriate comparison would be DVR a facility that gets more regular use

						SILICON VALLEY POWER. CITY OF SANTA CLAMA
E	Bloom I	Energy	2 (K			
•	Some are	higher, othe	rs lower		,*	
	Lbs/MWh	Bloom	DVR	City Renewable Energy Portfolio		
ī	NOx	.0017	.045	0		
	SOx	Negligible	.00307	0		
	CO	.034	.02565	0		
	VOCs	.0159	.00297	0		
•	But in 2017 Our facilitie	7 only 16% o es are also pe	f SVP pow ermitted ar	er was natur nd monitored	al gas by the BAAQM	D



Bloom Energy

- · Discussion of "offsetting"
- Bloom proposes to "offset" against only our natural gas energy.
- Utility Company energy procurement does not work that way
- It is not possible to "replace" parts of our portfolio with Bloom energy, since power is not procured in that manner.
 - SVP can at times provide power using minimal natural gas (graph)
 - Periods of time we use mostly renewable energy or GHG free energy
 - During these times, a Bloom Energy fuel cell will continuously provide 0% renewable energy and continuously emit GHG.
- Example of 2-Week Actual Procurement April 5 to April 20







Key Points

- New Energy Should be Renewable or GHG Free (meet SB 100)
- Requires New Private Generation Connecting to City System to Align with New City Generation
- Maintains Existing Generation
 - All existing facilities can be maintained
 - Any existing agreements will be honored
 - Any COMPLETE applications (June 1st) will be grandfathered
- Does Not Affect Back-up Generation
- City Fully Supports Renewable Self Generation
 - City must update Standby Fee (Council in 6-9 months)

Recommendation

 Adopt a Resolution amending Silicon Valley Power's Rules and Regulations to require that new or modified customer-owned selfgeneration units utilize only CEC approved renewable generation and fuel sources

Next Steps

 May 21st Council Item - Authorize the City Manager to modify the term of the contract and/or usage requirements for existing Electric Service Agreements

-7-2019





City Clerk's Office

Date: May 6, 2019

To: Honorable Mayor and City Councilmembers

From: Nora Pimentel, Assistant City Clerk

Subject: May 7, 2019 Council Agenda Item #6: "Action on the Adoption of a Resolution Amending Silicon Valley Power's Rules and Regulations to Require New or Modified Self-Generation Facilities to Utilize Renewable Generation and Fuel Sources"

The purpose of this supplemental is to transmit the attached document (Attachment #2 to Council agenda item #6). During the generation of the Council agenda packet, this item did not properly convert, and thus was not viewable online. A hard copy of this supplemental and attachment will also be provided at the May 7, 2019 Council meeting.

POST MEETING MATERIAL



Valley Power FSANTA CLARA SILICON VALLEY POWER RULES AND REGULATIONS CITY OF SANTA CLARA



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SILICON VALLEY POWER RULES AND REGULATIONS CITY OF SANTA CLARA



1. GENERAL STATEMENT AND DEFINITIONS

1.A **GENERAL STATEMENT**

This document shall be referred to as the Silicon Valley Power, City of Santa Clara, Rules and Regulations. Silicon Valley Power will furnish Electric Services in accordance with these adopted Rules and Regulations and all other applicable City of Santa Clara resolutions and ordinances to any Customer within the corporate limits of the City of Santa Clara, and to areas outside City limits as the City may designate. Silicon Valley Power, Finance and other City departments as circumstances require, jointly and singly retain the authority to enforce these Rules and Regulations.

1.B <u>INCORPORATION OF MUNICIPAL SERVICES DIVISION RULES AND</u> <u>REGULATIONS</u>

These Rules and Regulations hereby incorporate by reference all of the Rules and Regulations of the Municipal Services Division of the Department of Finance of the City of Santa Clara. Rules governing the establishment of credit, rendering and payment of bills, financial aspects of temporary service or discontinuance of service for electricity are contained in the Municipal Services Division Rules and Regulations.

1.C **DEFINITIONS**

Terms appearing with an initial letter capitalized, are defined terms. The definitions set forth in the Rules and Regulations for the Municipal Services Division, Department of Finance are incorporated by reference as set forth in full, and those definitions are not repeated here; reference should be made to Section 1.B of Municipal Services Division Rules and Regulations. Unless the particular provision or the context otherwise requires, the definitions and provisions contained in Silicon Valley Power Rules and Regulations Section 1.C and in Municipal Services Division Rules and Regulations Section 1.B, shall govern the construction, meaning, and application of words and terms used in these Rules

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

and Regulations. The singular of a word or term shall include the plural and the plural shall include the singular. Such words or terms as defined in this Silicon Valley Power Rules and Regulations Section 1.B shall be initially capitalized when used in context of these Rules and Regulations.

City: The City of Santa Clara, California, acting through its elected officials or its duly authorized officers, employees, agents, or fictitious business names.

City Code: The Code of the City of Santa Clara, California.

City Employee: Any authorized City employee, agent or representative.

Customer: The Person, Persons, firm, association, governmental agency, corporation or other legal entity who use, are entitled to use, or benefit from the use of City of Santa Clara Utilities.

Discontinue: To stop the delivery of Utility Service to a Customer or physically limit or disconnect the Service Connection in such a way that only the City of Santa Clara can make full Restoration.

Distribution System: All overhead and/or underground equipment used to supply electricity to the Utility Connection Point.

Electric Service: Service, including but not limited to the provision of electricity and other related services by Silicon Valley Power and for which fees or rates are charged.

Energy Data Pulse: Digital signals that carry instantaneous energy use information and which are produced by Silicon Valley Power installed pulse generating equipment.

Master Meter Service: When multiple tenants/units are served Electric Service on the same Premises through a single metered Service Connection.

Municipal Services Division: The Municipal Services Division of the Finance Department that is responsible for the billing and collection of fees and charges for Utility Services.

Owner: The legal owner of Premises receiving one or more Municipal Services, or the authorized agent of such legal owner.

Parallel Generation: The production and delivery of electric power<u>electrically</u> <u>connected</u> to the Distribution System by generators not owned or controlled by Silicon Valley Power.

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

Person: Any individual, partnership, corporation, public agency, or other organization operating as a single entity.

Premises: Any building, lot, parcel, real estate, land, or portion of land, whether improved or unimproved, occupied or unoccupied, including adjacent streets, sidewalks, pathways, parking strips, all structures, electrical equipment or portions thereof occupied or operated by a Customer or tenants of Customer and situated on an integral parcel of land undivided by a public highway, street or railway to which one or more Utility Services is or could be provided.

Renewable Electrical Generation Facility: A Parallel Generation facility facility consisting only of generation equipment that meets the definition of "renewable electrical generation facility" as defined in Section 25741 of the California Public Resources Code, as amended from time to time.

Restoration: The reconnection of a full Service Connection or other resumption of electric and/or water service that has been Discontinued.

Service Lateral: The group of conductors, whether overhead or underground, necessary to connect the Customer's Utility Connection Point to Silicon Valley Power's Distribution System, regardless of the location of Silicon Valley Power's meters or transformers. An overhead Service Connection, sometimes referred to as a "Service Drop," is the group of conductors between the Customer's building or other permanent support and Silicon Valley Power's adjacent pole.

Service Voltage: The voltage at the point of metering.

Silicon Valley Power or SVP: The fictitious business name through which the City of Santa Clara operates its Electric Department.

Silicon Valley Power Equipment: Any property, facility, apparatus, or material associated with providing Electric Service including, but not limited to, ducts, conduits, conductors, transformers, protective devices, wiring, switches, and meters.

Silicon Valley Power's Operating Convenience: The utilization of facilities or practices that contribute to the overall efficiency, safety or reliability of the electric utility operations. Silicon Valley Power's Operating Convenience does not refer to Customer convenience or adoption of practices required to comply with applicable ordinances, rules and regulations, or similar requirements of public authorities.

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

Tamper: To rearrange, bypass, damage, alter, interfere with, or actions that could cause and/or prevent the normal functioning of Silicon Valley Power Equipment.

Total Cost: The sum of all direct and indirect expenses including labor, material, overhead and use of Silicon Valley Power Equipment to complete a particular repair or addition to the Distribution System, and the cost of associated resources consumed.

Utility Connection Point: The point of delivery of electricity to a Customers Premises as determined by Silicon Valley Power.

2. NOTICES

2.A NOTICES TO THE CUSTOMER

Notice that the City may give to a Customer shall be given in writing, either delivered in person or properly enclosed in a sealed envelope and deposited in the United States Mail, postage prepaid, addressed to the Customer's last known address.

2.B NOTICES TO SILICON VALLEY POWER

If such notice concerns a proposed increase in load, a relocation of Electric Service, an increase in size of Electric Service, or installation of an electric generator, to:

Silicon Valley Power Attn.: Distribution Estimating 1500 Warburton Ave. Santa Clara, CA 95050

3. CONTRACTS

3.A **ELECTRIC SERVICE CONTRACTS**

Contracts will not be required as a condition of providing Electric Service except:

- 3.A.1 As conditions in the regular schedule of rates approved or accepted by the City;
- 3.A.2 As required for electric extensions for Temporary Electric Service or speculative projects;
- 3.A.3 As required for street lighting service;
- 3.A.4 As required for construction purposes as a condition of providing Electric Service;
- 3.A.5 As required for Electric Service which in the judgment of Silicon Valley Power requires special operating conditions or Silicon Valley Power's Operating Convenience;
- 3.A.6 As required for non Silicon Valley Power-owned Parallel Generation;
- 3.A.7 As required to provide Energy Data Pulses;
- 3.A.8 As required to provide Net Metering for photovoltaic interconnection.

4. RATES, OPTIONAL RATES AND RATE SCHEDULES

4.A **<u>RATES</u>**

The rates to be charged by and paid to Municipal Services Division for Electric Service shall be the rates legally in effect and on file with the City Clerk, where they shall be available for public inspection. Unless otherwise stated on the schedule itself, the rate schedules of Silicon Valley Power are only applicable for Electric Services furnished entirely by Silicon Valley Power without interconnection with any other source of supply.

4.B **<u>TEMPORARY RATE SCHEDULE</u>**

An Applicant for Electric Service may be assigned a temporary rate schedule until qualification parameters for the appropriate rate schedule are met. The temporary rate schedule period shall not exceed twelve (12) months and any change in rate schedule due to new Electric Service qualification will apply retroactive to the date of such qualification. The selection of the temporary rate schedule shall be made by Municipal Services Division, and shall be based on historical usage of the Premises, Customer, or an estimate of usage if historical usage is not available, or as otherwise provided for by these Rules and Regulations.

4.C ESTABLISHMENT OF NEW OR OPTIONAL RATES

- 4.C.1 The City will take measures as may be practicable to inform all Customers who may be eligible for Electric Service under new or modified rate schedules.
- 4.C.2 In the case where the City adopts new rate schedules which allow a Customer to qualify for more than one rate or schedule, the Customer may request Municipal Services Division assistance in selecting the most appropriate rate or schedule, resulting in the lowest charges for the Customer, or in the absence of a request, Municipal Services Division shall have the authority to make the selection based on the available information.

4. RATES, OPTIONAL RATES AND RATE SCHEDULES (Continued)

4.D REASSESSMENT OF RATE SCHEDULE QUALIFICATION

A Customer may request a reassessment of their qualification for a particular rate schedule. A change to a different applicable schedule, as approved by Municipal Services Division, shall become effective after the next regular meter reading following the date of approval by Municipal Services Division. The effective date may be delayed if a change in Electric Service hardware, electric meter or other associated equipment is required. Municipal Services Division will not be required to make a change in rate schedules after the initial change until twelve (12) consecutive months of Electric Service have been rendered under the schedule then in effect, unless a new schedule is requested in writing and authorized by Municipal Services Division, or unless operating conditions have changed sufficiently to warrant a change in schedule. Notices shall be served as indicated in Silicon Valley Power Rules and Regulations Section 2.

5. METER RE-READS, METER TESTS AND BILLING ADJUSTMENTS

5.A **REQUEST BY A CUSTOMER FOR A METER TO BE RE-READ**

A Customer may request Municipal Services Division to re-read the electric meter and make adjustments, if necessary, to render an accurate billing in accordance with the limits set by Municipal Services Division Rules and Regulations Section 6.H. Municipal Services Division shall respond to requests for meter re-reads once every six (6) months at no charge. Municipal Services Division shall levy a charge set forth in the Municipal Fee Schedule, adopted by resolution of the City Council, for each additional request within the same six (6) month period, unless the re-read indicates that a read error has resulted in an incorrect billing to the Customer.

5.B METER TEST INITIATED BY SILICON VALLEY POWER

Each electric meter will be tested at regular intervals as determined by Silicon Valley Power. If the meter in question falls outside the tolerance guidelines of more than two percent (2%) fast or slow under conditions of normal operations, subsequent charge or credit adjustments will be limited to the parameters set by Municipal Services Division Rules and Regulations Section 6.H.3.

5.C METER TEST INITIATED BY A CUSTOMER REQUEST

- 5.C.1 A request for a meter test must be submitted to Municipal Services Division, and the meter shall be tested in accordance with these Rules and Regulations.
- 5.C.2 Each Customer is entitled to one free meter test per year. A fee will be charged for every meter test thereafter within the same one year period. If the meter is found, upon testing, to register more than two percent (2%) fast or slow under conditions of normal operations, no fee will be charged regardless of how many times the meter is tested in one year.

5.D ADJUSTMENT OF BILLS FOR METER ERROR

5.D.1 Fast Meters

When, as the result of any test, a meter under normal conditions is found to be registering more than two (2%) greater than actual consumption,

5. METER RE-READS, METER TESTS AND BILLING ADJUSTMENTS (Continued)

Municipal Services Division shall make necessary adjustments to the Customer's bill (credit or charge) to correct the overcharge based on the corrected meter readings (0% greater than actual consumption) for the period in which the meter was in use in accordance with Municipal Services Division Rules and Regulations Section 6.H.3.

5.D.2 <u>Slow Meters</u>

Upon testing, if a meter under normal conditions is found to register less than ninety-eight percent (98%) of the actual consumption, Municipal Services Division may render a bill for the undercharge based on the corrected meter readings (100% actual consumption) for the period in which the meter was in use in accordance with Municipal Services Division Rules and Regulations Section 6.H.3.

5.D.3 <u>Non-registering Meters</u>

Municipal Services Division may bill the Customer for energy consumed while the meter was not registering. At Municipal Services Division's option, the bill will be computed on an estimate of consumption based on the Customer's use during the same season of the preceding year or based on an alternate method of estimation determined by Municipal Services Division, which includes, but is not limited to, the City's experience with Customer's usage on the same rate schedule; and the general characteristics of the Customer's operations.

6. SILICON VALLEY POWER DISTRIBUTION SYSTEM ON CUSTOMER PREMISES

6.A **<u>NEW DEVELOPMENTS</u>**

All new developments shall be in accordance with Section 17.15.210 of the City Code.

6.B **EXISTING DEVELOPMENTS**

For changes to an existing Electric Service, the Customer shall provide, without cost to Silicon Valley Power, all required facilities as listed in Section 17.15.210(b) of the City Code prior to any work performed by Silicon Valley Power. The Customer shall pay to Silicon Valley Power a load increase fee as listed in the current Municipal Fee Schedule.

6.C RELOCATION OF EXISTING SILICON VALLEY POWER EQUIPMENT

Any relocation of existing Silicon Valley Power Equipment necessitated by development shall be paid for by the requesting party.

6.D **EASEMENTS**

Electric easements shall be provided by the Customer for all Silicon Valley Power Equipment except overhead service drops. Silicon Valley Power will determine the location of any necessary easements and prepare document(s) for the Customer's signature, unless such easements are dedicated to Silicon Valley Power on a tract or parcel map.

7. ACCESS, INTERFERENCE, TAMPERING, AND ENERGY THEFT

7.A SILICON VALLEY POWER RIGHT OF ACCESS

- 7.A.1 Customer shall provide Silicon Valley Power with immediate and unhindered access, without notice, to and from Customer Premises for any purpose reasonably connected with the supply of Electric Service, including but not limited to, inspection, reading, testing, maintenance, removal, and replacement of Silicon Valley Power Equipment.
- 7.A.2 When access to Customer Premises is not immediate and unhindered, Silicon Valley Power may take any enforcement actions permitted by Section 1.05.070 of the City Code, and in addition, any civil or criminal remedies available to Silicon Valley Power under state law or the City Code. Furthermore, Silicon Valley Power may require Customer to provide, without cost to Silicon Valley Power, a new approved location for access to Silicon Valley Power Equipment.

7.B **INTERFERENCE**

Any Person preventing or interfering with any City Employee in the lawful discharge of his or her duties is subject to arrest, prosecution, and punishment in accordance with California Penal Code Section 71 as such section may be amended from time to time by the State Legislature.

7.C TAMPERING; THEFT OF ELECTRIC SERVICE

Tampering with Silicon Valley Power Equipment and/or theft of Electric Service is a violation of California Penal Code Section 498 and Section 13.05.070 of the City Code. In addition to the penalties for theft of Electric Services set forth in California Penal Code Section 498 and Section 13.05.070 of the City Code, as such section may be amended from time to time, such conduct shall constitute grounds for the discontinuance of Electric Service by Silicon Valley Power until such time as arrangements satisfactory to Silicon Valley Power are made to reimburse Silicon Valley Power for the full value of electric Service unlawfully obtained.

8. SHORTAGE OF SUPPLY AND INTERRUPTION OF DELIVERY

8.A **SHORTAGE OF SUPPLY**

- 8.A.1 Silicon Valley Power will exercise reasonable diligence and care to furnish and deliver a continuous and sufficient supply of Electric Services to the Customer, but does not guarantee continuity or sufficiency of supply. Silicon Valley Power will not be liable for any damage resulting from the interruption, shortage, or insufficient supply of Electric Services to the Customer.
- 8.A.2 If a shortage of supply occurs, Silicon Valley Power will make an apportionment of the available supply of energy among Customers as ordered or directed by the City Council. In the absence of an order or direction by the City Council, the City Manager will apportion the available supply of energy among Customers in a reasonable manner.

8.B **INTERRUPTION OF SUPPLY**

- 8.B.1 Silicon Valley Power will have the right to temporarily suspend Electric Service whenever necessary to make repairs or improvements to its Distribution System. As circumstances permit, notice will be given to Customers affected thereby, and the repairs or improvements will be completed as rapidly as possible during normal Silicon Valley Power working hours, and where possible, with the least inconvenience to the Customers.
- 8.B.2 When requested by the Customer, and where circumstances permit some flexibility in scheduling of necessary repairs or improvements, Silicon Valley Power may at its sole option perform the work during other than normal Silicon Valley Power working hours for the increased convenience of the Customer, providing that the Customer agrees in writing, prior to the performance of said work, to pay for the Total Cost incurred by Silicon Valley Power as a result of performing said work at other than during normal Silicon Valley Power working hours.

9. DESCRIPTION OF STANDARD ELECTRIC SERVICE

9.A **<u>GENERAL REQUIREMENTS</u>**

9.A.1 <u>Service Frequency</u>

Alternating current of approximately 60 Hertz (cycles per second) frequency is furnished by Silicon Valley Power.

9.A.2 <u>Utility Connection Point</u>

Silicon Valley Power will determine the location of the Utility Connection Point, service voltage, and whether service is overhead or underground. The Customer shall run its Service Lateral to this point. Silicon Valley Power will make the connection.

9.A.3 <u>Service Lateral</u>

The Customer shall provide, install, and maintain its Service Lateral in accordance with the City building and electrical codes.

9.A.4 <u>Number of Electric Services</u>

Unless otherwise provided by these Rules and Regulations, only one Electric Service shall be provided to a building. More than one Electric Service for an industrial or commercial Customer may be provided under the following conditions.

- 9.A.4.(a) When the existing main service size exceeds the maximum allowable Ampere values in Table 9.1 on page17.
- 9.A.4.(b) When developments with special circumstances such as long or large buildings make it impractical to provide one Electric Service and the loads are too small for a 12kV service.

9.A.5 <u>12kV Service</u>

- 9.A.5.(a) If estimated electric load demand exceeds 2MVA or service size exceeds 4000 Amperes at 480 Volts for a building in new developments, the Customer shall take service at 12 kV. If electric load for a single metered location service exceeds 4.5MVA, additional 12kV service(s) may be provided.
- 9.A.5.(b) For all new 12 kV services the Customer shall furnish the 12 kV main breaker(s) with protective relays for coordination with Silicon Valley Power's Distribution System.
- 9.A.5.(c) For any existing 12 kV service that is being modified, upgraded, or is subject to a load increase due to addition of new facilities, the 12 kV switchgear shall be upgraded to meet the same requirements as noted above for new services.

9.A.6 <u>Meter Location</u>

All electric meters shall be located outside of Customer's building or in a utility room directly accessible from the outside by an unalarmed door. The Customer shall provide keys to Silicon Valley Power for access.

- 9.A.7 Equipment Furnished by Customer
 - 9.A.7.(a) All service switches, fuses, meter sockets, meter and instrument transformer housings and similar devices, regardless of voltage, required in connection with Electric Service and meter installation on Customer Premises will be furnished, installed and maintained by the Customer and meet appropriate Silicon Valley Power approvals.
 - 9.A.7.(b) If it is necessary for the Customer to have access to equipment previously sealed by Silicon Valley Power, the Customer must contact the Silicon Valley Power Electric Meter Division for the removal and replacement of the seal.
- 9.A.8 Equipment Furnished by Silicon Valley Power

Silicon Valley Power will furnish and install the necessary instruments, transformers, meter test facilities, meters and wiring hardware required to complete the metering system.

9.A.9 <u>Ownership of Equipment</u>

All electrical equipment, installed by Silicon Valley Power upon Customer Premises for the purpose of, but not limited to, delivery and metering of Electric Services shall continue to be the property of Silicon Valley Power. No rent or other charge shall be made against Silicon Valley Power for placing or maintaining electrical equipment upon the Customer Premises.

9.A.10 Load Balancing

When single phase or three-phase service is furnished by Silicon Valley Power, the Customer must maintain a balanced load as nearly as practicable between any two legs or phases. In no case shall the unbalance between any two legs or phases for single-phase load or three-phase load be greater than thirty percent (30%).

9.A.11 Overhead Service Requirements

Refer to Silicon Valley Power drawing OH550, latest revision.

9.A.12 <u>Underground Service Requirements</u>

Refer to Silicon Valley Power Engineering Standard UG 1000, latest revision.

9.A.13 <u>Underground Service Riser</u>

The Customer shall run a Service Lateral to a quadrant on a pole designated by Silicon Valley Power. The Customer shall terminate the Service Lateral conduit 8'-0" above ground level and provide sufficient cable to reach the secondary cable and coil wire at 8'-0" level. Silicon Valley Power will run cables up the pole, install molding, and make connections to the secondary cable. The Customer will be required to sign a riser agreement prepared by Silicon Valley Power before work can be performed.

9.B <u>CUSTOMER SERVICE VOLTAGES</u>

9.B.1 <u>Voltage Limits</u>

Under normal Distribution System conditions, Silicon Valley Power's distribution circuits will be operated to the extent practicable to maintain secondary service voltage levels at the meter within service voltage ranges of +5% of the Standard Service voltages shown in Table 9.1.

9.B.2 <u>Exceptions to Voltage Limits</u>

Voltage may be outside the limits specified when variations arise from:

- 9.B.2.(a) Disturbances from acts of nature;
- 9.B.2.(b) Infrequent momentary fluctuations;
- 9.B.2.(c) Service interruptions;
- 9.B.2.(d) Temporary separation of parts of the Distribution System from the main system;
- 9.B.2.(e) Causes beyond the control of Silicon Valley Power, including degradation or failure of customer equipment;
- 9.B.2.(f) Material or equipment failure;
- 9.B.2.(g) Starting of motors that have higher than normal locked rotor currents of three times running current.

SERVICE TYPE	OVERHEAD	MAX SIZE	UNDERGROUND	MAX SIZE
RESIDENTIAL	120/208V 1¢3W	400 Amp	120/208V 1¢3W	400 Amp
(Single family Multiple family [Apts.])	120/240V 1¢3W	400 Amp	120/240V 1¢3W	400 Amp
INDUSTRIAL/	120/208V 1¢3W	400 Amp	120/208V 1¢3W	400 Amp
COMMERCIAL	120/240V 1¢3W	400 Amp	120/208V 3¢4W	3000 Amp
	120/208V 3\$ 4W	1200 Amp	480V 3\overline 3W	4000 Amp
	120/240V 3\$\$4W	1200 Amp	480/277V 3\$44W	4000 Amp
	480V 3\overline{3} 3W	600 Amp	12,000V 3\$\$ 3W	*
	12,000V 3¢ 3W	*		
	60,000V 3¢ 3W	*		

Table 9.1 - Service Voltages

*By Agreement

Note: Service voltages listed are not available at all locations. $V = Volts, 1\phi = Single Phase, 3\phi = Three Phase, W = Wire$ Three phase services for residential service is not allowed.

9.B.3 <u>Conditions Beyond Control</u>

It must be recognized that, because of conditions beyond the control of Silicon Valley Power or Customer, or both, there will be periods when sustained voltages outside of the service voltage ranges will occur. Utilization equipment may not operate satisfactorily under these conditions, and Silicon Valley Power or Customer protective devices may operate to protect the equipment. The Customer is responsible for the protection of Customer-owned equipment.

9.B.4 <u>Voltage Regulation</u>

Where the operation of the Customer's equipment requires unusually stable voltage regulation or other stringent voltage control beyond that furnished by Silicon Valley Power in the normal operation of its Distribution System, the Customer, at no expense to Silicon Valley Power, is responsible for installing, owning, operating, and maintaining any special or auxiliary equipment on the load side of the utility meter.

9.B.5 <u>Customer Responsibility</u>

The Customer will be responsible for designing and operating the service facilities between the Utility Connection Point and the utilization equipment to maintain proper utilization voltage at the line terminals of the utilization equipment.

9.C **POWER FACTOR CORRECTION**

The Customer may provide at their own expense power factor corrective equipment to increase the power factor as measured by Silicon Valley Power in order to avoid penalty charges contained in the applicable rate schedule.

9.D MASTER METER SERVICE TO MULTIPLE TENANTS/UNITS

- 9.D.1 When multiple tenants/units are served on the same Premises through a single metered Service Connection, the Owner may resell electric energy to tenants of the Premises provided either:
 - 9.D.1.(a) Energy is separately metered and resold at rates identical with the rates of Silicon Valley Power that would apply if that Electric Service was furnished to the individual tenants or units directly by Silicon Valley Power, regardless of the rate the Owner is charged, and/or,
 - 9.D.1.(b) The charge to the tenants for such electricity is absorbed in the rental charges for that individual tenant or unit with no separate

identifiable charge for electricity, and the rent does not vary with electric consumption.

- 9.D.2 If electricity is resold otherwise than provided for above, Silicon Valley Power may Discontinue Electric Service to the Owner, or furnish Electric Services directly to the individual tenants or units through separate meters installed at the sole cost of the Owner.
- 9.D.3 The responsibility for payment for all Electric Services furnished to individual tenants or units on the same Premises under Silicon Valley Power Rules and Regulations, and furnished through a single metered connection, shall be the obligation of the Owner. It shall further be the responsibility of the Owner to inform individual tenants or units of the method of metering Electric Services. Silicon Valley Power will have no contractual relationship with tenants of individual units, where a Customer receives service through a single metered connection, nor a relationship created by payments made directly to Municipal Services Division on behalf of the Owner by tenants or other third parties.
- 9.D.4 As a condition of service for Master Meter Service, the Owner agrees to comply with the applicable Silicon Valley Power Rules and Regulations. As a further condition of service for Master Meter Service, the Owner agrees that Silicon Valley Power may inspect and examine the Owner's billing procedures from time to time to determine that such service is made in accordance with Silicon Valley Power Rules and Regulations, or as may be otherwise authorized by Silicon Valley Power.

10. RESPONSIBILITY FOR EQUIPMENT AND PROTECTIVE DEVICES

10.A **RESPONSIBILITY FOR EQUIPMENT**

- 10.A.1 The Customer shall, at the Customer's risk and expense, furnish, install and keep in good and safe condition, equipment and suitable housings that may be required for receiving, controlling, applying and utilizing electricity, regardless of the location of the transformers, meters, or other Silicon Valley Power Equipment. The City shall not be responsible or liable for any loss or damage caused by the improper installation of such electrical equipment, or the negligence, want of proper care or wrongful act of the Customer or of any of the Customer's tenants, agents, employees, contractors, licensees or permittee in installing, maintaining, using, operating, Tampering, or interfering with such equipment. The City shall not be responsible or liable for damage to Customer's property and/or equipment, either when the electricity is turned on originally or when turned on after a temporary shutdown, during normal operating conditions, times of local or Distribution System trouble and/or after Restoration. The City shall not be responsible or liable for damage to, or the failure of, any component of the Customer's equipment due to a defect in Customer's equipment or failure to maintain adequate protection as described in these Rules and Regulations.
- 10.A.2 The Customer shall exercise care to prevent Silicon Valley Power Equipment on the Customer Premises from being Tampered or interfered with, damaged, or destroyed. The Customer shall be liable for damage to Silicon Valley Power Equipment arising from negligence, want of proper care, or wrongful act of the Customer or Customer's tenants, agents, employees or contractors. If any defect is discovered by the Customer, the Customer shall promptly notify Silicon Valley Power.
- 10.A.3 In the event that Silicon Valley Power Equipment, located on the Customer's Premises is damaged, Silicon Valley Power will replace such equipment and the Customer may be liable for Total Cost of replacement of such Silicon Valley Power Equipment regardless of the circumstances or cause of such damage.

10.B **PROTECTIVE DEVICES**

10.B.1 It is the Customer's responsibility to furnish, install, inspect and keep in good and safe condition at the Customer's own risk and expense, all appropriate protective devices of any kind or character, which may be

10. RESPONSIBILITY FOR EQUIPMENT AND PROTECTIVE DEVICES (Continued)

required to properly protect the Customer's facilities and equipment from any event caused without negligence by Silicon Valley Power or from any event caused by another Customer. Such events may include, but are not limited to, switching surges, voltage spikes, phase loss, phase reversal, or random voltage and/or frequency fluctuations. Silicon Valley Power is not responsible or liable for any loss or damage occasioned or caused by the negligence, or wrongful act of the Customer, or of any of that Person's agents, employees or licensees in omitting, installing, maintaining, using, operating or interfering with any such protective devices.

10.B.2 It is the Customer's responsibility to select and install such protective devices as may be necessary to coordinate properly with Silicon Valley Power's protective devices to avoid exposing other Customers to unnecessary Electric Service interruptions. Failure to provide appropriate protective devices or to properly coordinate said equipment with Silicon Valley Power's protective devices may result in discontinuance of Electric Service.

10.C GENERATION EQUIPMENT

Parallel or stand-by generation equipment shall be provided with controls and protective devices in accordance with Silicon Valley Power Rules and Regulations Section 11.

11. PARALLEL AND EMERGENCY GENERATION

11.A PARALLEL GENERATION

Only generating facilities that qualify as renewable electric generation facilities, as defined in these Rules and Regulations, will be connected for Parallel Generation with Silicon Valley Power's Distribution System. Except as provided in this section, any Customer-owned generator used for temporary power shall not be connected to Silicon Valley Power's Distribution System.

11.A.1 <u>GENERAL REQUIREMENTS</u>

- 11.A.1.(a) Subject to the minimum requirements listed below, non Silicon Valley Power-owned electric generators may be connected for Parallel Generation with Silicon Valley Power's Distribution System.
- 11.A.1.(b) Customer owning or operating Parallel Generation will be responsible for compliance with all laws, regulations and requirements of public bodies, agencies, or entities having jurisdiction before a generating source may be operated.
- 11.A.1.(c) A contract with the City shall be required for all Parallel Generation and charged/priced according to the applicable standby rate schedule.
- 11.A.1.(d) The Customer will submit to Silicon Valley Power, for review and written acceptance, equipment specifications and detailed plans for the proposed installation of all interconnection facilities to be furnished by the Customer. Silicon Valley Power review and written acceptance of the Customer's proposed equipment specifications and detailed plans does not confirm or endorse the Customer's design or the equipment's safety, durability or reliability. Silicon Valley Power is not responsible for strength, details of design adequacy, or capacity of equipment, nor is Silicon Valley Power's acceptance an endorsement of any equipment.
- 11.A.1.(e) No generating source will be operated in parallel with Silicon Valley Power's Distribution System until the interconnection facilities have been inspected by Silicon Valley Power and Silicon Valley Power has provided written approval to the Customer. Where rated output is greater than 100 kW, the Customer will pay the estimated cost of inspection.

11. PARALLEL AND EMERGENCY GENERATION (Continued)

- 11.A.1.(f) Only Silicon Valley Power is authorized to connect or Discontinue the Service Connection.
- 11.A.1.(g) As per Silicon Valley Power Rules and Regulations Section 7, the City shall have immediate and unhindered access, without notice, to and from Silicon Valley Power's Equipment on Customer's Premises for any purpose reasonably connected with the furnishing of Electric Services, including but not limited to, inspection, reading, testing, maintenance, removal, and replacement of Silicon Valley Power Equipment.
- 11.A.1.(h) When access is not immediate and unhindered, Silicon Valley Power may Discontinue the interconnect facilities, without liability or notice, from Silicon Valley Power's Distribution System, and when the Customer is also an electric Customer, Silicon Valley Power may also Discontinue Electric Service.
- 11.A.1(i) Only generating facilities that qualify as renewable electric generation facilities, as defined in these Rules and Regulations, will be connected for Parallel Generation. With the exception of installations of solar photovoltaic systems, which are considered inherently renewable, Customers will be required to provide proof of eligible certification that the facility is a qualifying renewable electrical generation facility from the California Energy Commission prior to interconnection and upon request from Silicon Valley Power. All precertification and certification must be completed through the California Energy Commission's online application process found on the Commission's website. Customer will provide an annual attestation demonstrating continued compliance with the California Energy Commission's renewable certification status or documentation from a CEC approved reporting entity.

11.A.2 INTERCONNECTION FACILITIES

11.A.2.(a) The Customer will be fully responsible to furnish, install, operate and maintain in good order and repair, without cost to Silicon Valley Power, equipment, and any control, protective and safety devices as Silicon Valley Power may require for

11. PARALLEL AND EMERGENCY GENERATION (Continued)

Parallel Generation with Silicon Valley Power's Distribution System.

11.A.2.(b) The Customer may be required to reimburse Silicon Valley Power for installation of any equipment required as a result of the installation of a non Silicon Valley Power-owned generator in parallel with Silicon Valley Power's Distribution System. The Customer will be required to secure and/or provide rights of way, easements or actual dedications of real property for location of Silicon Valley Power interconnecting facilities if deemed by Silicon Valley Power to be necessary.

11.A.3 ADDITIONS TO SILICON VALLEY POWER FACILITIES

- 11.A.3.(a) All additions, reinforcements, increase of capacity and extensions of Silicon Valley Power Equipment needed to make connection to non Silicon Valley Power-owned generators will be constructed at Customer's expense and must be approved by Silicon Valley Power. Any continuing ownership costs are the responsibility of Customer.
- 11.A.3.(b) The Customer will advance Silicon Valley Power's estimated costs of performing a preliminary or detailed engineering study as may be reasonably required to identify any Customer-related Silicon Valley Power Distribution System additions and reinforcements.

11.A.4 <u>METERING</u>

11.A.4.(a) Except as otherwise provided for by a Customer contract with the City, Silicon Valley Power will supply, own, and maintain all necessary meters and associated equipment utilized for billing and monitoring the Customer's generation load, including telemetering equipment. The Customer will supply, at no expense to Silicon Valley Power, panels, meter sockets or connection equipment on which meters will be mounted as required by Silicon Valley Power, and a Silicon Valley Power approved location for equipment. The Customer may be required to pay for any equipment that is in addition to the required equipment for a retail power Customer.

11. PARALLEL AND EMERGENCY GENERATION *(Continued)*

11.A.4.(b) Silicon Valley Power may install special meters to prevent reverse registration so that power deliveries to and from the Customer's equipment can be separately recorded.

11.A.5 OPERATION

- 11.A.5.(a) The Customer will notify Silicon Valley Power prior to energizing and start-up testing of the parallel or emergency generator. Silicon Valley Power has the right to have a representative present at any test.
- 11.A.5.(b) The Customer's generation while operating in parallel with Silicon Valley Power's Distribution System is at all times subject to the Rules and Regulations of Silicon Valley Power.
- 11.A.5.(c) The Customer will maintain operating communications with Silicon Valley Power and will coordinate in advance all Distribution System paralleling, separation, shut-downs and equipment clearances.
- 11.A.5.(d) Silicon Valley Power can Discontinue the Parallel Generation Customer in order to construct, install, maintain, repair, replace, or inspect Silicon Valley Power facilities, and for emergencies, forced outages, and for any reason due to operating conditions on the Distribution System at the sole discretion of Silicon Valley Power.
- 11.A.5.(e) Silicon Valley Power is not liable for lost generation.
- 11.A.5.(f) The Customer shall at all times keep and maintain a detailed generator operations log. Such log shall include, but not be limited to, information on unit availability, maintenance outages, circuit breaker trip operations and unusual events. Silicon Valley Power can review the Customer's operations log upon agreed intervals between the Customer and Silicon Valley Power.
- 11.A.5.(g) The Customer shall furnish reactive power as may be reasonably required by Silicon Valley Power.
- 11.A.6 INTERFERENCE WITH QUALITY OF ELECTRIC SERVICE AND COMMUNICATIONS
11. PARALLEL AND EMERGENCY GENERATION *(Continued)*

- 11.A.6.(a) Silicon Valley Power can refuse to connect or remain connected to any new or existing equipment that may interfere with the quality of Silicon Valley Power operation or Electric Service to its Customers.
- 11.A.6.(b) The Customer will not operate equipment that superimposes upon Silicon Valley Power's Distribution System, a voltage or current, which causes interference with Silicon Valley Power's operations, Electric Service to Silicon Valley Power's Customers or interference to communication facilities. If the Customer causes Electric Service interference to others, the Customer must take corrective action at the Customer's expense after either being Discontinued or given notice, and reasonable time to do so by Silicon Valley Power, if interference can be tolerated by the affected Customer. If the Customer does not take corrective action, or continues to operate the equipment causing the interference without restriction or limit, Silicon Valley Power may, at the Customer's expense and without liability, disconnect the Customer's equipment from Silicon Valley Power's Distribution System until a suitable permanent solution provided by the Customer and acceptable to Silicon Valley Power is operational.

11.A.7 <u>CUSTOMER RESPONSIBILITY FOR EQUIPMENT</u>

- 11.A.7.(a) The Customer shall be solely responsible for the transmission and delivery of all Electric Services over or through the Customer's wires and equipment, and Silicon Valley Power shall not be responsible for any loss or damage. The Customer shall also be responsible for the installation and maintenance of all equipment not installed by Silicon Valley Power, including conduits, manholes and vaults.
- 11.A.7.(b) The Customer shall exercise care to prevent Silicon Valley Power Equipment, on the Customer Premises, from being damaged, destroyed, Tampered or interfered with. If any defect is discovered by the Customer, the Customer shall promptly notify Silicon Valley Power.

11. PARALLEL AND EMERGENCY GENERATION (Continued)

11.B EMERGENCY OR STANDBY GENERATION

11.B.1 <u>GENERAL</u>

This rule applies to Customer-owned or leased, permanent or portable, conventional or unconventional (solar, fuel cell and other) generator installations that are capable of being connected in emergency situations to the Customer's electric system which is normally furnished from Silicon Valley Power's Distribution System. This rule does not apply to such generator installations that are specifically permitted by a written agreement or service contract to operate in parallel with Silicon Valley Power's Distribution System.

11.B.2 NOTIFICATION

The Customer shall notify Silicon Valley Power of the location, or intended location, of the generator installation on the Customer Premises. Furthermore, the Customer shall furnish generator information to Silicon Valley Power as required in Silicon Valley Power's Portable or Permanent Electric Generator Report Form.

11.B.3 <u>REQUIREMENT FOR ALL EMERGENCY GENERATOR</u> <u>INSTALLATIONS</u>

Any non-Silicon Valley Power-owned emergency or standby generation equipment that can be operated to supply power to facilities that are normally supplied from Silicon Valley Power's Distribution System, shall be controlled with suitable protective and isolation devices by the Customer in a fail-safe manner to prevent parallel operation with Silicon Valley Power's Distribution System.

11.B.4 <u>REQUIREMENTS FOR PORTABLE EMERGENCY ELECTRIC</u> <u>GENERATORS</u>

- 11.B.4.(a) Any portable electric generator intended to be temporarily connected to the Customer's electric system shall be connected only after opening the Customer's main switch so that the Customer's electric system is isolated from Silicon Valley Power's Distribution System.
- 11.B.4.(b) The portable electric generator must be disconnected to isolate it from the Customer's electric system before the

11. PARALLEL AND EMERGENCY GENERATION (Continued)

Customer's main switch can be closed to re-establish normal service from Silicon Valley Power's Distribution System.

11.B.5 <u>REQUIREMENTS FOR PERMANENT EMERGENCY GENERATOR</u> INSTALLATIONS

- 11.B.5.(a) Prior to installation, the Customer shall submit complete documentation regarding the generator installation to the City of Santa Clara Building Inspection Department for approval. Information should include, but is not limited to, description of the generator, controls, interlocks, single line diagrams, description of transfer operation and Silicon Valley Power required protective devices.
- 11.B.5.(b) The Customer shall not operate the emergency generator installation prior to the installation approval granted by the City.

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STRAUSS HAUER & FELD LLP

DARIO J. FROMMER +1 213.254.1270/fax: +1 310.229.1001 dfrommer@akingump.com

May 6, 2019

VIA E-MAIL (dsantana@santaclaraca.gov)

Deanna Santana, City Manager Miguel Pineda, Assistant City Manager City of Santa Clara 1500 Warburton Avenue Santa Clara, CA 95050

5719

Re: Resolution Amending Silicon Valley Power Regulations Concerning Interconnection # 19-329

Dear Ms. Santana and Mr. Pineda:

On behalf of our client Bloom Energy (hereinafter "Bloom") and its customers in Santa Clara, we submit the following comments concerning the City of Santa Clara's proposed regulation that effectively prohibits future electric interconnection for Santa Clara ("City") residents and businesses that elect to self-supply electricity on their own property using Bloom's Energy Server fuel cell technology. As detailed below, the proposed regulation subjects the City to litigation risk on a number of fronts and should be amended or tabled.

As a preliminary matter, we wish to correct the record on misstatements made by City officials concerning Bloom's Energy Server.

Specifically, City officials recently stated, "Natural gas fuels cells are 0% renewable." This is a gross mischaracterization of Bloom's Energy Server. Bloom's Energy Server is capable of running on biogas. However, because available supplies of this feedstock are limited and very costly, only a few of Bloom's customers are currently running on directed biogas. To promote the use of biogas, Bloom is actively pioneering new on-site biogas projects across the state while helping dairies, landfills, wastewater and agriculture clean up biomethane, a dangerous short-lived climate pollutant. In fact, Bloom was featured at the Governor's 2018 Climate Change conference for its leadership on biomethane cleanup.

The City also states, "When Silicon Valley Power (SVP) content is compared to a natural gas fuel cell, the natural gas fuel cell will produce approximately 100% more GHG emissions than SVP during an annual time frame." This is also false. In fact, Bloom Energy Servers generate 60% less greenhouse gas (CO₂) emissions than does an average gas-fired power plant,

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Deanna Santana City of Santa Clara Manuel Pineda City of Santa Clara May 6, 2019 Page 2

emissions reductions that have measured and reported by the State¹ Bloom Energy Servers are certified as meeting the emissions standards adopted by the State Air Resources Board's ("ARB") distributed generation certification program requirements under Section 94203 of Title 17 of the California Code of Regulations.² The Bloom Energy Servers are the cleanest way of converting gas to electricity because they generate energy through an electrochemical conversion that avoids combustion and therefore avoids the release of nitrogen oxides and sulfur oxides into the atmosphere. In stark contrast, Silicon Valley Power has three aging fossil gas-fired power plants that supply a whopping 64 percent of the electricity sold to customers. Each day, these plants spew tons of NO_x , SO_x and other pollutants into to the air at levels which are harmful to public health and lead to increased asthma rates in children.

As the two charts on the following pages demonstrate, Bloom Energy Servers displace this dirty SVP power.

¹See

<http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_P rograms/Demand_Side_Management/Customer_Gen_and_Storage/2016-2017_Self-Generation Incentive Program Impact Evaluation.pdf>.

² See <https://www.arb.ca.gov/energy/dg/eo/dg044.pdf?_ga=2.184991465.1150545999.1556926018-1814429597.1371502238>.

	со	NOx	SOx	Net Generation ²	со	NOx	SOx
YEAR	tons	tons	tons	MWh	lbs/MWh	lbs/MWh	lbs/MWh
2017	17.33	17.23	1.87	642,620	0.054	0.054	0.006
2016	20.92	20.83	2.26	934,537	0.045	0.045	0.005
AVG	19.13	19.03	2.06	788,579	0.049	0.049	0.005
		Bloon	n Energy E	Emission Factors ³	0.034	0.0017	Negligible
	•			% Difference	-31%	-97%	-100%

Table 1. Criteria Pollutant Emission Factor Comparison with Donald Von Raesfeld Power Plant

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Notes:

1 Criteria emissions data queried from the California Air Resources Board at: https://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php. Accessed: May 2019.

2 Net generation data queried from the U.S. Energy Information Administration at: https://www.eia.gov/electricity/data/browser/. Accessed: May 2019.

3 Bloomenergy® Energy Server emission factors obtained from: https://bloomenergy.com/datasheets/energy-server-es5-300kw. Accessed: May 2019.

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	Reported Emissions ¹	Net Generation ²	Emission Factors
YEAR	MT CO ₂ e	MWh	lbs/MWh
2017	278,898	642,620	957
2016	400,837	934,537	946
AVG	339,867	788,579	950
	Bloom Energy	756	
		% Difference	-20%

Notes:

1 GHG emissions data queried from the California Air Resources Board at: https://ww2.arb.ca.gov/mrr-data. Accessed: May 2019.

2 Net generation data queried from the U.S. Energy Information Administration at: https://www.eia.gov/electricity/data/browser/. Accessed: May 2019.

3 Bloomenergy® Energy Server emission factors obtained from: https://bloomenergy.com/datasheets/energy-server-es5-300kw. Accessed: May 2019. Showing average of reported range.

Today, the Bloom Energy Server is the only "always on" baseload power solution available that can offer lower carbon emissions than can the grid, without emitting criteria air pollutants.

A. Bloom Energy has a Viable Antitrust Claim Against the City of Santa Clara because the City's Conduct Violates Section 2 of the Sherman Act.

a. The City's anticompetitive conduct violates section 2 of the Sherman Act.

The City's conduct in enacting a de facto ban against Bloom's Energy Servers constitutes illegal monopolization and attempted monopolization under Section 2 of the Sherman Act.³

³ 15 U.S.C.A. § 2.

Should the City adopt the proposed regulation, Bloom will have no choice but to seek relief under the antitrust laws. Bloom can establish all elements of monopolization and attempted monopolization, and the City has no viable defense to these claims, as briefly detailed here.

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i. The relevant market

The relevant product market that the City has monopolized, or is attempting to monopolize, is the provision of electric power to end-use residential, governmental, and business consumers.⁴ Where a functioning and healthy electric power market exists, competitors supply power to consumers through various sources, such as through the outright sale of power, or by the lease or sale of distributed systems. Bloom is one such competitor, with its Energy Server technology providing consumers the ability to generate their own electricity on their own property. Bloom's Energy Servers thus reduce consumers' need to buy power exclusively from SVP.

ii. Antitrust injury to competition

The "injured party [must] be a participant in the same market as the alleged malefactors."⁵ Bloom offers Energy Servers that provide reliable, resilient, clean and affordable electricity to customers. Bloom's customers therefore have a decreased demand for SVP's electricity, because Bloom's customers are producing their own electricity on their own property. Bloom is competing with SVP and depriving it of business.

iii. Anticompetitive conduct by the City

Anticompetitive conduct can be shown through exclusionary or restrictive conduct, especially when such conduct forgoes short-term profits.⁶ SVP's conduct proves it is willing to forego short-term profits to achieve an anticompetitive end. In the short-term, it will lose some profits by cutting off self-generators who choose to continue producing their own electricity with

⁴ Newcal Indus., Inc. v. Ikon Office Solution, 513 F.3d 1038, 1044 (9th Cir. 2008) (enumerating requirements for the "relevant market").

⁵ Glen Holly Entm't, Inc. v. Tektronix Inc., 343 F.3d 1000, 1008 (9th Cir. 2003) (quoting Am. Ad Mgmt, Inc. v. Gen. Telephone Co. of Cal., 190 F.3d 1051, 1054 (9th Cir. 1999).

⁶ Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 595 (1985).

fuel cells such as Bloom's. However, in the long-term, SVP will exclude and restrict competition by preventing customers in its service area from installing self-generation fuel cells by denying them access to SVP's power grid. Many potential self-generation customers, including those using or considering using Bloom products, will be dissuaded from doing so when faced with choosing only SVP-sourced power or only fuel cell-produced power.

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b. Any potential "Parker" defense will be futile.

Undoubtedly, the City will raise a Parker immunity defense.⁷ Under Parker immunity, or the state action doctrine, a state government's conduct is exempted from liability under federal antitrust laws. However, such a defense here will be futile.

Political subdivisions of a state, including municipalities such as SVP, cannot assert state action immunity unless they meet the "clear articulation" prong of *California Retail Liquor Dealers Association v. Midcal Aluminum, Inc.*, 445 U.S. 97, 105 (1980).⁸ To pass the clear articulation test and therefore establish a viable state action immunity defense, a party's anticompetitive conduct must be a foreseeable and logically expected result of a state policy to displace competition that is (1) clearly articulated, (2) affirmatively expressed, and (3) made by the state itself.⁹ In determining whether the anticompetitive conduct was foreseeable, courts consider whether the suppression of competition was an inherent, logical, or ordinary result of the state policy, and if the state "clearly articulated and affirmatively expressed . . . [a] policy to displace competition."¹⁰

Here, no such state policy to displace competition exists, and therefore any attempts by SVP to assert a state action immunity defense will fail. On the contrary, as detailed below, there is a robust state policy regarding self-generation that actually promotes competition between established utilities and private self-generators. The state codified its public policy promoting competition by stating, "it is desirable and necessary to encourage private energy producers to

⁷ Parker v. Brown, 317 U.S. 341 (1943).

⁸ City of Lafayette v. Louisiana Power & Light Co., 435 U.S. 389, 410 (1977).

⁹ Town of Hallie v. City of Eau Claire, 471 U.S. 34, 43 (1985).

¹⁰ F.T.C. v. Phoebe Putney Health Sys., 568 U.S. 216, 226 (2013).

competitively develop independent sources of natural gas and electric energy."¹¹ With no viable state action immunity defense, Bloom will prevail on its Section 2 Sherman Act claims against the City.

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B. The Proposed Regulation is a De Facto Ban on Bloom's Energy Server Technology.

The proposed regulation amends the *Silicon Valley Power Rules and Regulations* to allow only "generating facilities that qualify as renewable electric generation facilities" to be connected to the distribution grid as Parallel Generation. The amendment requires that all customers seeking to operate in parallel provide proof of an "eligible certification that the facility is a qualifying renewable generation facility" from the California Energy Commission ("CEC"), unless that customer is installing a solar photovoltaic system. Such certification must be completed through the online application process on the CEC's website and must be supplemented by an annual attestation demonstrating continued compliance with the CEC's renewable certification status.

SVP's requirement that Bloom customers acquire such renewable certification for interconnection serves as a de facto ban on Bloom's technology, as it makes Bloom Energy Servers an infeasible choice for the majority of potential customers. There are two reasons this is true. First, the great majority of Bloom's customers need to interconnect to the distribution system to receive standby power and to cover their electric load when it exceeds the electricity produced onsite by the Bloom Server. We note these customers currently pay SVP a hefty standby charge for that option. Other customers desire to use Bloom Energy Servers as an Always-On solution that powers the facility's critical load but desire an interconnection agreement to utilize the distribution system as backup power or to export power if more is produced by the customer's onsite generation than required.

Second, while this entire class of customers will require certification to obtain interconnection from SVP, it will be virtually impossible for any of Bloom's customers to obtain the requisite CEC certification demanded by the City. This is because the CEC certification regulations require that applicants obtain their renewable gas from in-state sources, which are extremely scarce and very expensive, as discussed above. In fact, after seven years of regulatory infighting, California's first in-state anaerobic digester biogas project was allowed to

¹¹ Cal. Pub. Util. Code § 2801.

interconnect with an in-state gas transmission pipeline in October of 2018.¹² While more in-state biogas projects are under development, including some with Bloom's help, virtually all the renewable natural gas used by California utilities and transportation fuel providers to meet their greenhouse gas reduction obligations currently comes from out-of-state sources. Santa Clara is aware of this fact and designed its regulation in a poorly conceived attempt to mask its real objective—to stop Bloom from adding additional customers in the SVP service territory.

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Fortunately, courts are "not fooled" by legislative attempts to hide "outright bans" and have also "invalidated those measures."¹³ Accordingly, Santa Clara faces legal risk if this de facto ban is adopted.

C. The City Lacks Authority under the California Constitution to Enact the Proposed Regulation.

The proposed regulation also exceeds SVP's authority as a municipal utility. It is axiomatic that charter cities do not have the right to exclude other entities from selling or producing electricity in city boundaries.¹⁴ "Nothing in [the California Constitution]conveys an intention to grant a municipal corporation a right to sell all power consumed within its borders."¹⁵ Furthermore, it is the policy of the state of California to encourage distributed generation, including natural-gas fueled options such as combined heat and power and fuel

¹² See <https://www.waste360.com/fuel/waste-company-first-inject-biogas-california-pipeline>.

¹³ Schuette v. Coal. to Defend Affirmative Action, Integration & Immigrant Rights & Fight for Equal. By Any Means Necessary (BAMN), 572 U.S. 291, 338 (2014) (discussing the attempts to enact and subsequent striking down of poll taxes); see also Blue Circle Cement, Inc. v. Bd. of Cty. Comm'rs of Cty. of Rogers, 27 F.3d 1499, 1508 (10th Cir. 1994) ("[O]rdinances that amount to an explicit or de facto total ban of an activity that is otherwise encouraged by RCRA will ordinarily be preempted by RCRA."); Ogden Envtl. Servs. v. City of San Diego, 687 F. Supp. 1436, 1446–47 (S.D. Cal. 1988) (a standardless permit scheme amounted to a de facto ban).

 ¹⁴ City of Los Angeles v. Tesoro Refining & Marketing Co., 188 Cal. App. 4th 840, 847 (Sep. 22, 2010).
¹⁵ Id.

cells.¹⁶ Where there is a doubt as to whether a policy is a municipal affair or matter of broader state concern, the issue "must be resolved in favor of the legislative authority of the state."¹⁷

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Santa Clara does not operate under the all the same regulatory constraints as a PUCregulated public utility, but it is still bound by a common law duty to serve its customers.¹⁸ In denying interconnection to customers that chose to self-supply electricity from legal, fossilfueled options, Santa Clara is abandoning this fundamental obligation, even as it seeks to unlawfully claim the right to control all sales and production of electricity inside its borders.

D. The City Lacks Authority to Enact the Proposed Legislation because it is Acting *Ultra Vires* under SB 100 and State RPS Laws.

SVP's attempt to control who may produce power within its boundaries is also *ultra vires* under the California Public Utilities Code, which enumerates the powers afforded to municipal utilities, which include "the power to complete, reconstruct, extend, change, enlarge, and repair a public utility acquired, constructed, owned, or operated by a municipality."¹⁹ The Code does not grant the City the authority to dictate what sorts of generation residents and businesses may use to supply their own power.

¹⁷ Id. at 848.

¹⁸ See generally, 12 McQuillin Mun. Corp. § 35:52 (3d ed.); 64 Am. Jur. 2d Public Utilities § 33.

¹⁹ Cal. Pub. Util. Code § 10003.

¹⁶ See Cal. Pub. Util. Code § 8360(c) ("It is the policy of the state to modernize the state's electrical transmission and distribution system to maintain safe, reliable, efficient, and secure electrical service, with infrastructure that can meet future growth in demand and achieve all of the following, which together characterize a smart grid: (c) Deployment and integration of cost-effective **distributed** resources and **generation**, including renewable resources.") (emphasis added); *see also* Cal. Pub. Util. Code § 8368-69 (Section 8360 *et. seq.* applies to local publicly owned electric utilities with more than 100,000 service connections, but the legislature may also subject those utilities with fewer than 100,000 connections to similar requirements.); *see also* SB 1339 (Chapter 566, Statutes of 2018) ("The Legislature finds and declares all of the following: (a) Many electricity customers are seeing the potential benefits of investing in their own distributed energy resources as part of microgrids, both to ensure their own level of reliability and to better manage their own usage. (b) Allowing the electricity customer to manage itself according to its needs, and then to act as an aggregated single entity to the distribution system operator, allows for a number of innovations and custom operations.").

Nor can the City cite SB 100 (Chapter 312, Statutes of 2018) as authority to enact a de facto ban on virtually all behind the meter generation except photovoltaic panels. While SB 100 requires SVP to reduce greenhouse gas emissions associated with electricity generation by increasing the amount of electricity they *procure* from renewable sources, it does not delegate to local publically owned utilities ("POU") the authority to regulate greenhouse gas emissions of behind-the-meter, on-site electricity generation. Moreover, because SVP is not purchasing or procuring electricity from Bloom Energy Server customers, it has no contractual standing or state authority to insist that these resources attain certification from the CEC prior to interconnection. Furthermore, nothing in SB 100 or other bodies of state law mandating greenhouse gas reductions by local utilities permits compliance with state Renewable Portfolio Standards program ("RPS") targets by claiming credit for greenhouse gas emissions that are hypothetically averted by restricting the use of fuel cells or other distributed generation technologies by its customers on private property. Therefore, the City cannot justify adoption of the proposed regulation as being authorized or compelled by SB 100 or any other provision of the state's RPS program and is acting ultra vires.²⁰

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E. State Law Preempts the Proposed Regulation.

The City's proposed action exceeds the City's authority by attempting to regulate in an area dominated by California state law and delegated expressly to statewide agencies. While the City states that the purpose of the regulation is to "fully align" future self-generation with SB 100 (Chapter 312, Statutes of 2018), and other laws pertaining to greenhouse gas reductions by municipal utilities, those laws do not expressly or implicitly grant cities authority to regulate greenhouse gas emissions on private property. Instead, the California Legislature has commanded cities operating municipal utilities to reduce greenhouse gas emissions from electrical generation by increasing the amount of retail power procured from renewable sources by increasing the use of distributed generation and micro grids.

A court will find that local legislation is preempted where it enters an area that is "fully occupied' by general law when the Legislature has expressly manifested its intent to 'fully

²⁰ Bragg v. City of Auburn, 253 Cal. App. 2d 50, 54 (1967) (striking down a municipal ordinance because it was outside the scope of delegated state statutory authority); Summit Media LLC v. City of Los Angeles, 211 Cal. App. 4th 921, 933 (2012) (striking down a city's settlement agreement that was "ultra vires or otherwise exceeded the scope of the city's authority").

occupy' the area, or when it has impliedly done so in light of one of the following indicia of intent: '(1) the subject matter has been so fully and completely covered by general law as to clearly indicate that it has become exclusively a matter of state concern; or (2) the subject matter has been partially covered by general law couched in such terms as to indicate clearly that a paramount state concern will not tolerate further or additional local action.'"²¹

Akin Gump

It is abundantly clear that the California Legislature has fully or extensively occupied the area of greenhouse gas reduction by private businesses through its adoption of extensive laws and regulations touching every aspect of our economy. The California Legislature expressly delegated to the Air Resources Board ("ARB")—and not to local governments—the authority to regulate greenhouse gas emissions from private industry.²² This statewide authority extends to designing measures to "meet the statewide emissions limits for greenhouse gases, including those pertaining to "energy related matters," such as "electrical generation and the provision of reliable and affordable electrical service."²³ Moreover, the Legislature requires ARB to coordinate its greenhouse gas emissions reduction activities with other statewide agencies to ensure that its reduction activities are "nonduplicative" and "can be implemented in an efficient and cost-effective manner."²⁴

²⁴ Id. at Part 4, Sec. 38561(a).

²¹ City of Riverside v. Inland Empire Patients Health & Wellness Ctr., Inc., (2013) 56 Cal. 4th 729, 743, citing Sherwin-Williams Co. v. City of L.A., (1993) 4 Cal. 4th 893, 898.

²² See AB 32 Part 1, Ch. 4, Sec. 38510 ("The State Air Resources Board is the state agency charged with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases.").

²³ AB 32, Part 1, Ch. 2, Sec. 38501(h). *See also id.* at Part 4, Sec. 38561(a) ("On or before January 1, 2009, the state board shall prepare and approve a scoping plan, as that term is understood by the state board, for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions from sources or categories of sources of greenhouse gases by 2020 under this division. The state board shall consult with all state agencies with jurisdiction over sources of greenhouse gases, including the Public Utilities Commission and the State Energy Resources Conservation and Development Commission, on all elements of its plan that pertain to energy related matters including, but not limited to, electrical generation, load based-standards or requirements, the provision of reliable and affordable electrical service, petroleum refining, and statewide fuel supplies to ensure the greenhouse gas emissions reduction activities to be adopted and implemented by the state board are complementary, nonduplicative, and can be implemented in an efficient and cost-effective manner.").

Although the Legislature intended for local government entities to be involved in helping achieve state targets for reducing greenhouse gas emissions, this coordination is largely limited to developing zoning plans to meet ARB's emissions reductions targets. In addition, and contrary to the City's position, the renewable energy goals set forth in the state's RPS Program and implemented in the California Public Utilities Code do not authorize localities to refuse the self-generation of energy on private property in order to achieve compliance. Instead, the RPS Program requires retail energy sellers and local publicly owned electric utilities to procure a minimum quantity of electricity products from eligible renewable energy resources to achieve a certain percentage of retail sales. This legislative mandate does not require—and does not permit—localities to restrict self-generation of energy on purely private property. Therefore, state law preempts Santa Clara's proposed regulation.

F. The Proposed Regulation is Contrary to Long-Established California Policy and Law.

The City's proposed de facto ban on on-site generation that is not photovoltaic is also contrary to the policy of the State of California. It has been the policy of the state of California for more than forty years to "to encourage" private electricity generation.²⁵ Private, distributed generation includes natural gas-fired generation, such as combined heat and power and natural gas fuel cells. In fact, the California Public Utilities Commission has expressly found that these gas-fired options may reduce greenhouse gas emissions and has encouraged the public utilities under its jurisdiction to include these options in their Distribution Resources Plans.²⁶

More recently, the Legislature enacted a law authored by Sen. Henry Stern (Chapter 566, Statutes of 2018) that requires SVP and other municipal utilities to develop and make available a standardized process for the interconnection of distributed energy resources that meets emissions standards adopted by the ARB's distributed generation certification program.²⁷ As noted above, Bloom Energy Servers are certified by the ARB pursuant to this program and thus are covered under the mandate of the law. Accordingly, enacting this de facto ban on Bloom Energy Servers

²⁵ Cal. Pub. Util. Code. § 2801.

²⁶ See Guidance for Public Utilities Code Section 769, CPUC No. R.14-08-013 (Aug. 14, 2014).

²⁷ See Cal. Pub. Util. Code § 8370.

appears to contravene state law by creating additional barriers to interconnection for distributed generation.

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G. The Proposed Regulation is Void for Vagueness.

The City's proposed amendment also misapplies the CEC renewable certification process by forcing a non-binary certification process into a binary interconnection framework. The CEC's eligibility rules allow for RPS certification of a portion of a facility when that generator uses multiple energy inputs, some of which are eligible renewable energy resources and some of which are not.²⁸ However, although the CEC recognizes that "renewable" can be a matter of degrees, the City demands absolutes, because it assumes a generator is either connected in parallel or not connected at all.

As noted above, Bloom Energy Servers are not, as the City falsely claims, "0% renewable." They can operate on renewable biogas, playing a valuable role in the destruction of methane, a potent greenhouse gas. However, the current CEC rules require that, to qualify as renewable, a fuel cell must run on biogas procured within California. Bloom is at the forefront of efforts to clean up and collect bio methane, but today only a few of Bloom's California customers are able to run the Bloom Energy Server on biogas given its scarcity within the State.

Although some of Bloom's Energy Servers are eligible for partial RPS certification and will become increasingly so in the future as new sources of biogas become available, the proposed regulation treats an RPS certification as an all-or-nothing proposition. The proposed SVP regulation provides no guidance to customers who wish to own and operate generators that may be only be RPS certifiable in part (which include not only fuel cells, but also biodiesel, biomass, hydroelectric and solid waste conversion) as to whether they will be able to get back up power from SVP. This lack of guidance may in fact render the proposed amendment void for vagueness.²⁹

Even if it does not, the resulting regulatory uncertainty, combined with the necessity of interconnection for most customers, functionally bans any technology that cannot be certified as

²⁸ See California Energy Commission, Renewables Portfolio Standard Eligibility 9th ed. at 29-33 (2017).

²⁹ Zubarau v. City of Palmdale, 192 Cal. App. 4th 289, 308 (2011) (striking down an ordinance lacking compliance guidance as void for vagueness).

100% renewable, including biomass, biodiesel, microturbines, combined heat and power and Bloom Energy Servers.

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Finally, any attempt by the City to apply the resolution retroactively to Bloom customers who have previously filed applications for interconnection would be actionable as contractual interference under Article I, Section 10 of the United States Constitution.

For all the reasons cited herein, Bloom demands that the City table the resolution to amend the SVP Regulations. Bloom is prepared to exercise all legal rights pursuant to state and federal law should the City elect to proceed with adoption.

This letter is not meant to be a full and complete assertion of the rights of Bloom or its customers, all of which are reserved.

Sincerely, the forme

Dario J. Frommer

CC: Shawn Soderberg, Bloom Energy

ITEM 6

5/7/2019

Genevieve Yip

From: Sent: To: Subject: sudsjain@zoho.com on behalf of Sudhanshu Jain <suds@sudsjain.com> Sunday, May 5, 2019 10:38 PM Mayor and Council Please support staff recommendation regarding Bloom boxes Item #6

Dear Mayor Gillmor and councilmembers,

I strongly urge you to vote in favor the of staff's recommendation on Item #6 on the May 7th agenda:

Action on the Adoption of a Resolution Amending Silicon Valley Power's Rules and Regulations to Require New or Modified Self-Generation Facilities to Utilize Renewable Generation and Fuel Sources

Here are my arguments:

1. We need to get very serious about reducing emissions of greenhouse gases of which the two most important are CO2 and methane.

2. Bloom boxes are less efficient (50%) than our Don Van Raesfield combined cycle power plant (60% efficient).

3. A lot of methane gets leaked to the environment during fracking and during transportation through aging leaky pipes.

4. Methane is between 20 and 80 times more effective at trapping heat from the sun as CO2. (methane is 80X more potent in a short timescale (next 20 years)

5. Almost all customers will use non-renewable natural gas (methane) which often comes from fracking because,

as Bloom admits, renewable natural gas is from 3X to 10X more expensive.

6. Bloom boxes will essentially be using SVP as a backup power source to avoid the need for backup diesel generators. I don't think SVP is charging enough for that service.

7. SVP power is getting greener and greener every year due to Calif. Renewable Energy Portfolio Standards (RPS) while electricity from Bloom boxes will

continue to use dirty natural gas for 100% of its power. SB100 and SB350 put requirements on getting to 50% renewable by 2026 and 60% by 2030

8 Not only should you (councilmembers) adopt staff's recommendation to require renewable fuel sources, but you should also consider rules or incentives

to get developers to make all electric buildings ? You should also support rebates to encourage people to switch out gas appliances for electric ones.

Thank you,

-- Suds Jain Cell: 408-499-2955

POST MEETING MATERIAL

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5/7/2019

Genevieve Yip

From:	Lucas.Quass@lw.com
Sent:	Monday, May 6, 2019 7:11 PM
То:	Mayor and Council
Cc:	Marc.Campopiano@lw.com; GEORGE.MIHLSTEN@lw.com; Sam.Schabacker@bloomenergy.com
Subject:	May 7, 2019, Agenda Item 6 (File No. 19-329)
Attachments:	Bloom Energy_May 7, 2019, Agenda Item 6 .pdf

On behalf of Bloom Energy, please see the attached correspondence concerning Agenda Item 6 (File No. 19-329) for the City Council's meeting on May 7, 2019.

Thank you,

Lucas I. Quass

LATHAM & WATKINS LLP

650 Town Center Drive 20th Floor Costa Mesa, CA 92626-1925 Direct Dial: +1.714.755.8132 Fax: +1.714.755.8290 Email: <u>lucas.quass@lw.com</u> <u>http://www.lw.com</u>

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POST MEETING MATERIAL

ITEM 6

Marc T. Campopiano Direct Dial: +1,714.755.2204 marc.campopiano@lw.com

LATHAM & WATKINS LLP

May 6, 2019

City Council City of Santa Clara, City Hall 1500 Warburton Avenue Santa Clara, CA 95050 355 South Grand Avenue, Suite 100 Los Angeles, California 90071-1560 Tel: +1.213.485.1234 Fax: +1.213.891.8763 www.lw.com

FIRM / AFFILIATE OFFICES Beijing Moscow Boston Munich Brussels New York Century City Orange County Chicago Paris Riyadh Dubai San Diego Düsseldorf Frankfurt San Francisco Hamburg Seoul Hong Kong Shanghai Houston Silicon Valley London Singapore Los Angeles Tokyo Madrid Washington, D.C. Milan

Re: May 7, 2019, Agenda Item 6 (File No. 19-329): Action on the Adoption of a Resolution Amending Silicon Valley Power's Rules and Regulations to Require New or Modified Self-Generation Facilities to Utilize Renewable Generation and Fuel Sources (the "Resolution")

Dear Mayor Gillmor and Honorable Councilmembers:

On behalf of Bloom Energy, we respectfully submit these comments on the City Council agenda item described above. This Resolution would amend Silicon Valley Power's (SVP) Rules and Regulations to prohibit SVP customers from installing their own electric generation resources (e.g., an onsite fuel cell) on their property and remain connected to SVP's distribution system unless the generation resource meets the state definition of a "renewable electrical generation facility,"¹ even though the City would continue to rely upon electrical generation from SVP's natural gas power plants.²

The Resolution would represent a significant shift in the way SVP customers can use and manage onsite energy usage. Yet, the City has not done any environmental review under the California Environmental Quality Act (CEQA) regarding the potential impacts such a shift will have on the environment by increasing emissions from natural gas power plants if fuel cell use is effectively precluded. Instead, the City simply claims without evidentiary support that the Resolution falls within the CEQA Guidelines Section 15061(b)(3) "common sense" exemption. (*See* City of Santa Clara Legislative Details, Report to Council, at 5.)

Ramboll, a top flight environmental firm which regularly analyzes projects under CEQA, evaluated the potential environmental impacts of the Resolution based on the scant technical evidence in the City record (Ramboll's report is attached as <u>Exhibit A</u>). Ramboll's technical report demonstrates the Resolution will likely increase greenhouse gas emissions and criteria pollutants, such as nitrogen oxides (NOx) and particulate matter (PM), which can cause public

¹ California Public Resources Code Section 25741

² See City of Santa Clara, Agenda Report, Report to Council, Agenda Date May 7, 2019.

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health impacts on neighboring communities, among other potential environmental ramifications. Moreover, Ramboll identifies a myriad of environmental *benefits* that may be lost if the Resolution is adopted and fuel cells, including those manufactured by Bloom, are effectively precluded for SVP customers. Ramboll also demonstrates that the Resolution may result in an increase in water use and ambient noise levels.

For the reasons set forth in this letter, under CEQA, the common sense exemption does *not* apply if there is even a "slight" showing of a reasonable possibility of a significant environmental impact *unless* the City meets its burden of demonstrating *with certainty* that there is *no possibility* of a significant environmental impact. The City has not met this difficult burden. Indeed, Ramboll makes clear that significant environmental impacts reasonably may result from the Resolution.

Accordingly, CEQA requires the City to prepare an Environmental Impact Report ("EIR") that analyzes the Resolution's full impact on the environment. The public must be given an opportunity to review and comment on the EIR before it can be approved. As such, we request that the City Council withdraw the Resolution from its agenda and instruct staff to engage in a fulsome discourse with the public and prepare a full EIR. Bloom looks forward to participating in this transparent process.

I. CEQA OVERVIEW

CEQA (Public Resources Code Section 21000 *et seq.*) is based on the principle that "the maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." (Pub. Res. Code, § 21000(a).) In CEQA, the Legislature established procedures designed to achieve these goals, principally the EIR. The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 109.)

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (CEQA Guidelines § 15002(a)(l).) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government."" (*Citizens of Goleta Valley v. Bd of Supervisors* (1990) 52 Cal.3d 553, 564.) The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." (*Berkeley Keep Jets Over the Bay v. Bd of Port Comrs.* (2001) 91 Cal.App.4th 1344, 1354.)

Second, CEQA requires public agencies to avoid or reduce environmental damage by requiring "environmentally superior" alternatives and implementation of all feasible mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); *Citizens of Goleta Valley, supra*, 52 Cal.3d at 564.) The EIR provide agencies and the public with information about the environmental

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impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (CEQA Guidelines § 15002(a)(2).)

If there is a possibility that an agency's action will have a significant effect on the environment, the agency must perform, at the least, a threshold initial study. (*See* CEQA Guidelines § 150063(a); *Communities to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185-86.) Failure either to comply with the substantive requirements of CEQA or to carry out the full CEQA procedures requires invalidation of the public agency action regardless of whether full compliance would have produced a different result. (Pub. Res. Code § 21005.)

II. THE RESOLUTION TRIGGERS CEQA REVIEW

CEQA applies to discretionary actions that can impact the environment. The Resolution is a discretionary action—one that "requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity"—with the potential to impact the environment as shown in the Ramboll report, thereby triggering the need for CEQA review. (CEQA Guidelines § 15357.) If the agency evaluating a project has the ability and authority to "shape the project" and "mitigate environmental damage," that agency discretion triggers CEQA compliance. (*See San Diego Navy Broadway Complex Coalition v. City of San Diego*, (2010) Cal.App.4th 924, 934; *Friends of Westwood Inc. v. City of Los Angeles*, (1987) 191 Cal.App.3d 259, 272.) And, in this matter, the City concedes that the Resolution is a project subject to CEQA. (*See* City of Santa Clara Legislative Details, Report to Council, at 5.)

III. RAMBOLL'S TECHNICAL REPORT DEMONSTRATES THE POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL IMPACTS

Ramboll analyzed the potential environmental impacts of the Resolution. Ramboll's review was severely constrained by the scant technical information and environmental analysis in the City's record, and the absence of virtually any time frame between the publication of the Resolution (Thursday May 2) and the hearing (May 7). The City staff report accompanying the Resolution makes several unsubstantiated assertions about the environmental benefits of the Resolution regarding local and state climate goals, but, notably, the City fails to (1) analyze the potentially significant impacts associated with the Resolution or (2) recognize the substantial environmental benefits that would be *eliminated* by essentially precluding the use of distributed fuel cells for SVP customers. State agencies have recognized fuel cells as an important technology for addressing climate change and air quality goals.³

Ramboll shows that the Resolution would likely result in an increase in NOx, sulphur oxides (SOx) and other air quality pollutants that can lead to regional and local air pollution impacts. The correlation between air pollution and public health consequences is well

https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

³ See California Air Resources Board, First Update to the Climate Change Scoping Plan (May 2014) pp. 38, 103, available at:

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understood.⁴ By effectively precluding fuel cell use by requiring fuel cells to meet the definition in to facilities that meet the criteria for renewable electrical generation facilities as defined by California Public Resources Code Section 25741, the Resolution will result in greater emissions from natural gas power plants. Therefore, if the Resolution increases the level of local PM and NOx emissions, the Resolution would increase the potential for local health impacts on neighboring communities. Known health impacts associated with localized exposure to PM and NOx include respiratory effects (*e.g.*, decreased lung function, increases in pulmonary inflammation, asthma development) and cardiovascular impairment (e.g., congestive heart failure).⁵

A. Environmental Impacts of SVP's Power Plants

SVP has three natural gas power plants in the City: the Donald Von Raesfeld Power Plant, the Gianera Generating Station, and the Cogeneration Plant #1. (*See* Silicon Valley Power Electric Resource Map, http://www.siliconvalleypower.com/home/showdocument?id=5763 (last visited May 3, 2019).) Together, these three plants can produce approximately 200 megawatts, and corresponding emissions. (*See id.*) As the City should know, these power plants are significant sources of air emissions and strategic use of fuel cells can reduce the City's dependency on these large power plants, and the detrimental effects their emissions have on the community, including the residential neighborhoods and schools located in close proximity the City's power plants.

The SVP-owned facilities emit air pollutants such as NOx, SOx, and PM that contribute to ozone production and local and regional air pollution. Ramboll determined that the City's Gianera Generating Station is located near residences and the Donald Von Raesfeld Power Plant and the cogeneration facility are located within disadvantaged communities that may be disproportionately impacted by increases in ambient pollutant concentrations.

Although the City touts the Resolution as important for meeting local and state climate goals, Ramboll shows that, in fact, the Resolution would likely *increase* overall GHG emissions. Ramboll also demonstrates that the Resolution may result in an increase in water use and ambient noise levels.

⁴ SCAQMD 2016 Air Quality Management Plan (AQMP), at Appendix I. Health Effects, available at: <u>http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14;</u> World Health Organization, International Agency for Research on Cancer (IARC), 2016 IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, available at: <u>https://monographs.iarc.fr/wp-content/uploads/2018/06/mono109.pdf</u>.

⁵ See supra, footnote 2; see also Health Effects Institute (2010) Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects, available at: <u>https://www.healtheffects.org/system/files/SR17Traffic%20Review.pdf</u>.

May 6, 2019 Page 5

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B. Environmental Benefits of Fuel Cells

Ramboll discusses and attaches relevant literature citing the various environmental benefits associated with fuel cells. This literature shows that fuel cells can reduce greenhouse gas emissions, contrary to the City's unsubstantiated assertions. The use of fuel cells can advance preferred distributed energy strategies that have been recognized by the California Public Utilities Commission through the Net Energy Metering program⁶ and by the California Air Resources Board through the Distributed Generation Certification Program.⁷ This issue must be analyzed in the Energy section of a CEQA document prepared by the City. (*See* CEQA Guidelines, Appendix G, CEQA Checklist, Energy.)

Fuel cells can also provide essential energy supplies during emergencies or other outages at critical facilities, such as emergency centers, universities, housing developments and other public facilities. Fuel cells provide local environmental benefits by, among other things:

- Reducing consumption and use of natural gas;
- Avoiding the combustion or burning of fuel, which reduces air pollutants and particulates; and
- Reducing the need for diesel generators.

Ramboll's technical report provides additional analysis and information about the Resolution's potentially significant environmental impacts. Again, the preliminary list of issues raised in Ramboll's initial report are limited because the City provided almost no technical analysis about the Resolution's environmental impacts. As detailed below, to comply with CEQA, the City must analyze the environmental impacts of the Resolution through an EIR and provide the public an opportunity to review and comment. Bloom Energy reserves the right to comment further as it continues to evaluate the impacts of this Resolution and after reviewing the EIR.

IV. THE COMMON SENSE EXEMPTION DOES NOT APPLY

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA. (Pub. Res. Code § 21084(a); CEQA Guidelines §§ 15300, 15354.) Categorical exemptions are certain classes of activities that generally do not have a significant effect on the environment.

⁶ See California Public Utilities Commission, Net Energy Metering, <u>http://www.cpuc.ca.gov/general.aspx?id=3800; See also California Energy Commission,</u> <u>Tracking Progress, at 8 (April 2019) available at:</u> https://www.energy.ca.gov/renewables/tracking_progress/documents/once_through_cooling.pdf

⁷ See California Air Resources Board, Distributed Generation Certification Program, http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1339.

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Here, the City Staff recommend that the Council find the Resolution exempt from CEQA under the "common sense" exemption pursuant to CEQA Guidelines Section 15061(b)(3). Section 15061(b)(3) provides that a project is exempt from CEQA review when:

The activity is covered by the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

(Emphasis added.) The City "has the burden of establishing the commonsense exemption, i.e., that there is *no* possibility the project may cause significant environmental impacts." (*California Farm Bureau Federation v. California Wildlife Conservation Board* (2006) 143 Cal.App.4th 173, 195 [emphasis in original].)

Unlike other exemptions, the common sense exemption does not provide the City with an implied finding that the project will not have a significant environmental impact. (*Davidon Homes v. City of San Jose* (1997) 54 Cal.App.4th 106, 116.) Instead, "the agency must itself provide the support for its decision..." (*Id.*) Likewise, "[t]he showing required of a party challenging an exemption under Guidelines section 15061, subdivision (b)(3) *is slight*, since that exemption *requires the agency to be certain that there is no possibility the project may cause significant environmental impacts.*" (*Davidon Homes*, 54 Cal.App.4th at 117 [emphasis added].)

"If legitimate questions can be raised about whether the project might have a significant impact and there is any dispute about the possibility of such an impact, the agency cannot find with certainty that a project is exempt." (*Id.*) Therefore, "if a reasonable argument is made to suggest a possibility that a project will cause a significant environmental impact, the agency must refute that claim *to a certainty* before finding that the exemption applies." (*Id.* at 118 [emphasis in original]; *Rominger v. County of Colusa* (2014) 229 Cal.App.4th 690, 704 ["For the commonsense exemption to apply, the county would have to show as a factual matter, based on the evidence in the record, that there is no possibility that the approval of the Adams subdivision may result in a significant effect on the environment..."].) *Only a minimal showing is required to defeat the common sense exemption.* (*Myers v. Board of Supervisors* (1976) 58 Cal.App.3d 413, 427; *California Farm Bureau Federation*, 143 Cal.App.4th at 195 ["a party challenging what is essentially a claim of the commonsense exemption..., unlike a party asserting an exception to a categorical exemption, need only make a 'slight' showing of a reasonable possibility of a significant environmental impact."].)

As explained in Ramboll's technical analysis, the Resolution is likely to increase greenhouse gas emissions and air quality pollutants, which can result in greater health risks to sensitive receptors and disadvantaged communities. The California Supreme Court has recently made it clear that where a project under CEQA causes significant air quality impacts, the lead agency must explain the health consequences to the public of such impacts. (*Sierra Club v. County of Fresno*, Case No. S219783 (2018).) The Resolution may also increase water use and noise levels, while potentially conflicting with the City's General Plan.

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The technical evidence presented by Ramboll *far exceeds the "slight" showing that must be made of a potentially significant environmental impact.* The City *cannot* proceed under the "common sense" exception unless it demonstrates through technical analysis that *with a certainty* there is *no possibility* of a significant environmental impact. Accordingly, the common sense exemption does not apply, and CEQA obligates the City to complete a full EIR to analyze and disclose potentially significant greenhouse gas, air quality, public health and other impacts.

V. EVEN IF THE CITY BELIEVES AN EXEMPTION APPLIES (WHICH IS NOT THE CASE FOR THE COMMON SENSE EXEMPTION), THE CITY FAILED TO ADDRESS THAT THE RESOLUTION FALLS WITHIN AN *EXCEPTION* TO A CEQA EXEMPTION

Even if a project falls within a CEQA exemption, it will still be subject to CEQA review if the project falls within an *exception* to the exemption. (Pub. Res. Code § 21084; CEQA Guidelines § 15300.2.) There are several categories of CEQA Guidelines exceptions, none of which are discussed in the staff report. In this case, the unusual circumstances exception appears to apply, as discussed below. (*See* CEQA Guidelines § 15300.2.) Under the unusual circumstances exception, a CEQA exemption "shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." (CEQA Guidelines § 15300.2(c).)

The California Supreme Court recently clarified that the substantial evidence standard applies when a court reviews an agency's factual determinations of whether a project presents unusual circumstances. (*Berkeley Hillside Preservation v City of Berkeley* (2015) 60 Cal.4th 1086, 1114; *Berkeley Hillside Preservation v City of Berkeley* (2015) 241 Cal.App.4th 943 (*Berkeley Hillside II*) (applying standard on remand).) However, an agency's determination of whether significant environmental impacts result from an unusual circumstance is reviewed under the fair argument standard.⁸ (*Berkeley Hillside Preservation v City of Berkeley*, 60 Cal.4th at 1115.)

Unusual circumstances appear to be present, in part, due to the City's power plant's proximity to residential neighborhoods. Ramboll's analysis demonstrates the City's Gianera Generating Station is located near residences and SVP's other two power plants are located within disadvantaged communities, designated pursuant to SB 535, that may be

⁸ Under the fair argument standard, the agency must determine if there is substantial evidence in the record sufficient to support a fair argument that significant impacts may occur. (*Berkeley Hillside Preservation v City of Berkeley*, 60 Cal.4th at 1115.) Separately, the unusual circumstances exception will also apply if the record demonstrates that the project will result in a significant environmental impact. The agency's resolution of this question is reviewed under the substantial evidence test. (*Berkeley Hillside Preservation v City of Berkeley*, 60 Cal.App.4th at 1115.)

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disproportionately impacted by increases in ambient pollutant concentrations.⁹ In any instance, the City's record contains no evidence that unique circumstances are not present, and the Ramboll technical analysis supports a fair argument that a significant impact will occur from the Resolution.

VI. THE PUBLIC SHOULD HAVE THE OPPORTUNITY TO REVIEW AND COMMENT

An EIR is required to analyze the Resolution's potentially significant environmental impacts because a CEQA exemption does not apply. The City must circulate the EIR for public review and comment. Here, the City attempts to shortchange public involvement through the improper application of the common sense exemption.

Failing to provide an opportunity for meaningful public review of such a significant shift in the right to use distributed energy resources undermines one of the key purposes of CEQA. "Environmental review derives its vitality from public participation." (*Oceanview Estate Homeowners Assn., Inc. v. Montecito Water Dist.* (2004) 116 Cal.App.4th 396, 400.) "The requirement of public review has been called 'the strongest assurance of the adequacy of [environmental review under CEQA]." (*Mountain Lion Coalition v. Fish & Game Comm.* (1989) 214 Cal.App.3d 1043, 1051.)

VII. CONCLUSION

The City failed to analyze the Resolution's potentially significant environmental impacts. An exemption to CEQA does not apply. The City must evaluate the Resolution's impacts in an EIR and provide the public with an opportunity to review and comment on the EIR in accordance with CEQA. Bloom Energy respectfully requests that the City Council withdraw the Resolution from its agenda and instruct City staff to engage in a fulsome discourse with the public and prepare a full EIR for the Resolution.

Very truly yours,

/s/ Marc Campopiano

Marc T. Campopiano LATHAM & WATKINS LLP

cc: Deanna Santana, City of Santa Clara, City Manager Brian Doyle, City of Santa Clara, City Attorney Shawn Soderberg, Bloom Energy General Counsel

⁹ Proximity to residential uses constitutes unusual circumstances. (*Lewis v. 17th Dist. Ag. Assn.* (1985) 165 Cal.App.3d 823, 828-829 ["there is no question of the existence of unusual circumstances – the adjacency of residential areas to the racetrack."].)

EXHIBIT "A"



1.315.17.4

MEMORANDUM

To: Marc Campopiano, Esq. Latham & Watkins, LLP

From: Eric Lu and Emily Weissinger (Bios provided in Attachment 1) Ramboll

Subject: ANALYSIS ON THE POTENTIAL ENVIRONMENTAL IMPACTS RELATED TO THE CITY OF SANTA CLARA'S PROPOSED RESOLUTION TO REQUIRE NEW OR MODIFIED SELF-GENERATION FACILITIES TO UTILIZE RENEWABLE GENERATION AND FUEL SOURCES

INTRODUCTION

The analysis summarized in this memorandum evaluates the potential environmental impacts associated with a resolution proposed by the City of Santa Clara ("City") City Council that would amend Silicon Valley Power's rules and regulations to require new or modified self-generation facilities to utilize renewable generation and fuel sources. This resolution introduces various potentially significant environmental impacts. Based on our review of the limited technical information in the City's record for this resolution, the technical evidence indicates that the selective requirement imposed in the resolution has the potential to cause significant environmental impacts from the increase in air quality pollutants, greenhouse gas emissions, and other environmental variables. The resolution introduces the likelihood that power demand is addressed by different power generation sources may have potentially significant environmental impacts that were not analysed by the City in accordance with the California Environmental Quality Act (CEQA).

Although the City indicates the resolution does not need to be evaluated under the state standards for environmental review embodied in CEQA, based on the analysis as presented in this memorandum, there is sufficient scientific data regarding potentially significant impacts resulting from the proposed resolution.

Fuel cell technology is an efficient way to generate electricity and does so without combustion and with little-to-no water use.¹ As a result, fuel cells generate relatively low amounts of criteria pollutant emissions, and have no meaningful effect on an area's water supply.² When distributed energy sources like fuel cells are brought online, they reduce the amount of power required from energy sources operating on the margin (i.e., those supplying the last unit of energy demand). Sources operating on the margin are generally those that are the easiest to start up and shut down, but also are the least energy efficient generation sources.³ When compared to other forms of power production such as power plants that use natural gas, fuel cells

Date May 6, 2019

Ramboll 5 Park Plaza Suite 500 Irvine, CA 92614 USA

T +1 949 261 5151 F +1 949 261 6202 www.ramboll.com

¹ See: https://www.energy.gov/sites/prod/files/2015/11/f27/fcto_fuel_cells_fact_sheet.pdf. Accessed: May 2019. Also provided as Attachment 2.

² See: https://bloomenergy.com/datasheets/energy-server-es5-300kw. Accessed: May 2019.

³ See: https://www.bloomenergy.com/whitepapers/fuel-cell-emissions. Accessed: May 2019.

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demonstrate clear environmental benefits. This issue should be evaluated as part of the CEQA process to assess if the selective requirement for renewable fuels for self-generation facilities may lead to greater power generation from traditional combustion based natural gas-powered sources. As the demand for electricity increases, increased natural gas power production could have significant environmental effects within the following CEQA technical areas: air quality, health risks, greenhouse gases, hydrology/water quality, noise, energy, utilities and services, and aesthetics. Each of these areas is further explored in the sections below.

Air Quality

Fuel cell technology is characterized by high efficiency energy conversion. This inherently results in lower criteria pollutant emissions per megawatt-hour (MWh) compared to traditional natural gas power generation. The lower criteria emissions achieved by fuel cells can be partially attributed to their ability to convert fuel into electricity without combustion. The degree to which fuel cells outperform natural gas power production can be quantified by directly comparing emissions factor data for a Bloom Energy fuel cell with data from the primary natural gas power plant in Santa Clara, the Donald Von Raesfeld Power Plant.

Table 1. Cr Do	iteria Polluta onald Von Ra	ant Emission esfeld Powe	Factor Com r Plant	parison between a B	Bloom Energy	Fuel Cell and	the
	DVR Power Plant Reported Emissions ^[a]			DVR Power Plant Net Generation ^[b]	Calculated Emission Factors		
Year	CO (tons)	NOx (tons)	SOx (tons)	(MWh)	CO (Ibs/MWh)	NOx (Ibs/MWh)	SOx (lbs/MWh)
2016	20.92	20.83	2.26	934,537	0.045	0.045	0.005
2017	17.33	17.23	1.87	642,620	0.054	0.054	0.006
Average	19.13	19.03	2.06	788,579	0.049	0.049	0.005
		Bloo	m Energy E	mission Factors ^{[c][d]}	0.034	0.0017	Negligible
				% Difference	-31%	-97%	-100%

Notes:

^[a] Emissions data queried from the California Air Resources Board at:

https://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php. Accessed: May 2019.

^[b] Net generation data queried from the U.S. Energy Information Administration at: https://www.eia.gov/electricity/data/browser/. Accessed: May 2019.

^[c] Emission factors for the Bloom Energy 300 kilowatt ES-5 obtained from:

https://bloomenergy.com/datasheets/energy-server-es5-300kw. Accessed: May 2019.

^[d] California Air Resources Board certification of the Bloom Energy 300 kilowatt ES-5 available at: https://ww2.arb.ca.gov/our-work/programs/distributed-generation/current-distributed-generation-executive-orders.

Accessed: May 2019.

Abbreviations:

CO – carbon monoxide	MWh – megawatt-hour
DVR – Donald Von Raesfeld	NOx – oxides of nitrogen
lbs – pounds	SOx – oxides of sulfur

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Health Risks

Although Ramboll did not calculate the potential health risks associated with this proposed resolution, there is a well-established connection between an ambient or regional increase in criteria pollutant emissions and health impacts on humans, particularly sensitive receptors.^{4,5} Given the potential increase in criteria pollutant emissions discussed in the section above, the resolution has the potential to cause health impacts on members of the public. It is also important to note that two of the three natural gas power plants in Santa Clara are located within Senate Bill (SB) 535 disadvantaged communities (see Attachment 3) and the third power plant is located near a residential area. Therefore, these impacts have the potential to disproportionately impact disadvantaged communities and sensitive receptors.

Greenhouse Gases

The high efficiency energy conversion capabilities of fuel cell technology inherently results in their lower greenhouse gas (GHG) emissions on a per MWh. In addition, their high capacity factors (generally > 90%) maximize potential greenhouse gas emission reductions on a per megawatt basis.⁶ These recognized benefits are part of the reason why the State of California has established programs^{7,8} and passed legislation⁹ in support of distributed generation technologies. The degree to which fuel cells out-perform natural gas power production can be quantified by directly comparing emissions factor data for a Bloom Energy fuel cell with data from the Donald Von Raesfeld Power Plant. As shown in Table 2 below, on a per MWh basis the Bloom Energy fuel cell would on average generate 20 percent lower GHG emissions than the Donald Von Raesfeld Power Plant. Ultimately, an increase in natural gas production as a result of this proposed resolution could result in a significant increase in greenhouse gas emissions.

 ⁴ See: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution. Accessed: May 2019.
⁵ See: https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-

pollution#Effects. Accessed: May 2019.

⁶ See: https://www.bloomenergy.com/whitepapers/fuel-cell-emissions. Accessed: May 2019.

⁷ See: http://www.cpuc.ca.gov/sgip/. Accessed: May 2019.

⁸ See: https://www.arb.ca.gov/energy/nem/nem.htm. Accessed: May 2019.

⁹ See: http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1339. Accessed: May 2019.



(MT CO₂e) 400,837 278,898 339,867	(MWh) 934,537 642,620 788,579	(lbs/MWh) 946 957
400,837 278,898 339,867	934,537 642,620 788,579	946 957
278,898 339,867	642,620	957
339,867	788.579	
	100,010	950
Bloom Ene	ergy Emission Factor ^[c]	756
a grade tale to a	% Difference	-20%
ied from the California Ai v/mrr-data. Accessed: Ma ssions of methane and oth CO ₂ e total. queried from the U.S. Er electricity/data/browser/.	ir Resources Board at: ay 2019. While the reporte her GHGs, those other poll nergy Information Adminis Accessed: May 2019.	ed value is for CO2e, utants account for less tration at:
he Bloom Energy 300 kild om/datasheets/energy-se nge.	owatt ES-5 obtained from: erver-es5-300kw. Accessed	d: May 2019. Showing
	ied from the California A v/mrr-data. Accessed: M ssions of methane and ot CO ₂ e total. queried from the U.S. En electricity/data/browser/. the Bloom Energy 300 kill om/datasheets/energy-so nge. equivalents	% Difference ied from the California Air Resources Board at: v/mrr-data. Accessed: May 2019. While the reporter ssions of methane and other GHGs, those other poll CO ₂ e total. queried from the U.S. Energy Information Adminis electricity/data/browser/. Accessed: May 2019. the Bloom Energy 300 kilowatt ES-5 obtained from: om/datasheets/energy-server-es5-300kw. Accessed nge.

MWh - megawatt-hour

MT - metric ton

Hydrology/Water Quality

While fuel cell systems need a small amount of water on start-up (e.g., 250 gallons), they require no ongoing water use.¹⁰ Therefore, they have virtually no impact on an area's hydrology or water supply. In contrast, thermoelectric power generation requires significant amounts of water for cooling. In 2015, that sector alone made up 41% of the nation's freshwater withdrawals.¹¹ While many modern thermoelectric plants are moving towards recirculating cooling systems to reduce water withdrawals, water consumption is still significant (mostly due to evaporation loss). While the annual usage of cooling water for the Santa Clara natural gas power plants could not be located online, the Donald Van Raesfeld Power Plant is permitted with a cooling tower with a rated capacity of 34,980 gallons per minute.¹² Even if this cooling water is reclaimed, there will still be potentially significant losses to

¹⁰ See: https://bloomenergy.com/datasheets/energy-server-es5-300kw. Accessed: May 2019.

¹¹ See: https://www.usgs.gov/mission-areas/water-resources/science/total-water-use?qt-

science_center_objects=0#qt-science_center_objects. Accessed: May 2019.

¹² See: http://www.baaqmd.gov/~/media/files/engineering/title-v-permits/b4991/b4991_2013-04_initial-final-permit_02.pdf?la=en. Accessed: May 2019.



evaporation, as well as GHG emissions associated with the conveyance and treatment of that water. The potential impacts on hydrology and water quality, and utilities and service systems that could occur as a result of the proposed resolution should be evaluated.

<u>Noise</u>

Fuel cells do not use combustion and have no moving components; therefore, they are a relatively quiet form of energy production.¹³ This is especially true when compared against emergency generators and industrial power plants, in which the latter typically features air-cooled condensers, cooling towers, and turbines/generators. An increase in natural gas combustion-based energy production as a result of this proposed resolution could result in noise impacts on sensitive receptors. This is especially true were there to be increased production at the Gianera Power Plant, which is located adjacent to a residential neighborhood.

Energy

The proposed resolution and its selective renewable fuel usage requirement is likely to impact energy resources, including Silicon Valley Power (SVP) customer choice to use and manage onsite generation resources during normal and emergency conditions. As a result, the City should evaluate the proposed resolution's impact on energy resources and the efficient use of energy by SVP customers.

Other CEQA Considerations

The proposed resolution and its selective renewable fuel usage requirement would specifically impact the future development of energy supplies. As a result, the City should evaluate the proposed resolution's impact on utilities and service systems. Similarly, in the event other power generation such as traditional power plants or solar is required, the proposed resolution's resulting impact on aesthetics and biological and cultural resources should be evaluated. The streamlined features of fuel cells have an environmentally better aesthetic impact than solar fields or traditional natural gas power plants. Likewise, the land footprint for fuel cells can be much smaller than solar fields or traditional natural gas power plants and thus result in a comparably lower impact on biological and cultural resources.

¹³ The Bloom Energy 300 kilowatt ES-5 has a noise rating of less than 70 decibels at 6 feet and requires no muffling. See: https://bloomenergy.com/datasheets/energy-server-es5-300kw. Accessed: May 2019.

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ATTACHMENT 1 Ramboll Bios

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ENVIRONMENT & HEALTH

ERIC CHEN LU

Principal

Eric Lu has more than 19 years of experience in air quality management and climate change issues. He has expertise with air quality and GHG emissions inventory and reporting, risk assessment, climate action plan development, CEQA, and agency/public stakeholder outreach and communication. He has assisted a variety of clients and entities on complex air quality, GHG, and energy issues including, municipal entities, utilities, and regulatory agencies (e.g., SCAQMD, CARB). He has worked with many private sector clients including oil and gas, manufacturing, landfills, commercial and residential land use development, and renewable energy facilities and often assisted in public outreach and agency communications. Mr. Lu's experience highlights include leading the effort to develop and prepare a GHG emissions inventory analysis for Newhall Ranch, which achieved the most aggressive GHG mitigation plan to date in California for land use development. He has also managed the development of technical reports to support EIRs, overseeing multidisciplinary teams. Mr. Lu is a Registered Professional Engineer (PE), a Certified Permitting Professional (CPP), and an Accredited Greenhouse Gas Lead Verifier in California and a Verifier under the Airport Carbon Accreditation (ACA) Program. He has a Bachelor's degree in Chemical Engineering from Brown University and a Master's degree in Chemical Engineering from the University of California, Berkeley.

COURSES/CERTIFICATIONS

Professional Engineer (Chemical) - California (CH6248), 2015 Certified Permitting Professional - South Coast Air Quality Management District (M6053), 2015 Accredited Greenhouse Gas Lead Verifier with sector specialty in Refineries and Cement (ARB Executive Order H-09-037), 2015

MEMBERSHIPS

Air and Waste Management Association (AWMA)

PROJECTS

• Evaluated air quality and climate change impacts including the preparation of complex air emissions inventories (criteria pollutant, toxics, GHGs), air dispersion models and health risk assessments in support of California Environmental Quality Act (CEQA) requirements. Projects have included mixed-use developments, landfills, oil and gas production facilities, commercial developments, and airports. This has included evaluation of construction and operational conditions.



CONTACT INFORMATION Eric Chen Lu

elu@ramboll.com +1 (949) 7983650

Ramboll 5 Park Plaza Suite 500 Irvine, 92614 United States of America

EDUCATION

1996-1999 **MS, Chemical Engineering** University of California Berkeley, Berkeley

1992-1996 BS, Chemical Engineering (Honors) Brown University, Providence


- Directed the efforts to prepare technical reports as required by CEQA for an oil and gas production facility and a renewable energy facility. This included the preparation of geology/soils, biological resources, cultural resources, air quality, greenhouse gas, noise, hazards, hydrology and water quality, and traffic analyses. Provided strategic assistance and coordinated with lead agency and lead agency consultants in the preparation of the EIRs based on our technical reports.
- Evaluated the air quality and GHG emissions from a landfill in support of technical studies for CEQA. This included the development of emissions inventories for all sources at the landfill and related operations, air dispersion modelling to evaluate near site impacts, and health risk assessment from facility operations. Supported the project in the development of the EIR from the technical reports, assisted with responses to public comments on the EIR.
- Directed the ongoing compliance work at Clean Harbors Westmorland. This includes the maintain of an ambient air monitoring program, health risk assessment preparation, and other compliance evaluations. Assisting with Clean Harbors Buttonwillow to response to DTSC comments regarding an ambient air monitoring plan and human health risk assessment workplan.
- Prepared air quality and greenhouse gas CEQA evaluations as required by the San Joaquin Valley Air Pollution Control District (SJVACPD) for a mixed used development.
- Studied California's Scoping Plan and research evaluating how California can achieve the GHG reduction goals to evaluate and develop significance thresholds for GHG evaluations as required for CEQA. Incorporated evaluation of the Newhall Ranch Supreme Court Decision to inform the pros and cons of potential significance thresholds.
- Studied the potential GHG emission reduction benefits of various GHG related mitigation measures. Developed potential emission estimation methodology to calculate the potential achievable reductions.
- Prepared an analysis of life cycle GHG emission from alternative energy types in support of a solar energy project. Reviewed studies from the literature and placed the studies into context considering the different methods used and boundaries drawn.
- Prepared health risk assessments to evaluate the cancer and noncancer impacts from construction, operational, and freeway emission sources in support of CEQA requirements.
- Assisted various manufacturing and industrial facilities to assess potential air quality emissions including criteria pollutants and toxic air emissions. Assisted various facilities in maintaining compliance with South Coast Air Quality Management District (SCAQMD) and San Diego Air Pollution Control District (SDAPCD) Rule and Regulations. These facilities have included pet food manufacturers, airport/airline facilities, gas production facilities, universities, coatings manufacturers, compost and waste transfer facilities, and pharmaceutical companies. These facilities have encountered issues related to the Regional Clean Air Incentives Market rules (RECLAIM) and Title V. Assisted with annual emissions reporting and permitting.
- Managed and participated in large litigation support teams to complete complex technical analysis
 including source testing, emissions estimation, health risk assessment, meteorological data evaluation
 and air dispersion modeling. Provided litigation support in regards to toxic court cases involving oil and
 gas production facilities, hydrogen sulfide emissions in a city-wide area, mining facilities, paint burnoff ovens, RECLAIM requirements, indoor air quality and cooling tower emissions.
- Designed and implemented ambient air monitors for inorganics and organic compounds. The monitoring was in support of various applications including perimeter monitoring during remediation, operational impact evaluation, air permit compliance requirements, as well as for litigation support.



EMILY A WEISSINGER

Senior Managing Consultant

Emily Weissinger's work focuses on air quality engineering, regulatory compliance, and sustainable design. She has expertise in permitting and compliance, emissions estimation, regulatory interpretation, State Implementation Plan development, indoor and ambient air quality sampling, air modeling, health risk assessments, and greenhouse gas reporting and compliance. In addition, she has experience with Leadership in Energy and Environmental Design (LEED) certification, California Environmental Quality Act/National Environmental Policy Act compliance and documentation, and technical support in matters involving litigation.

EDUCATION

MSE, Civil, Environmental, & Sustainable Engineering Arizona State University, Tempe, AZ

BSE, Civil and Environmental Engineering Princeton University, Princeton, NJ

COURSES/CERTIFICATIONS

Professional Engineer, Arizona LEED Accredited Professional 40-hour OSHA HAZWOPER

EXPERIENCE HIGHLIGHTS

Sustainable Design and Operation

Has provided technical support to multiple industries seeking greater sustainability in their operations. This has included developing the documentation and calculations necessary for the successful LEED certification of new construction, as well as auditing energy, water, and waste profiles of existing operations and providing recommendations for improvement.

Greenhouse Gas Reporting and Compliance

Has provided technical support related to greenhouse gas emissions estimation, compliance, and reporting, including the development of greenhouse gas monitoring plans and the annual reporting of emissions through the United States Environmental Protection Agency's Electronic Greenhouse Gas Reporting Tool. Has also contributed to the development of climate action plans for industry and local government.





CONTACT INFORMATION Emily A Weissinger

eweissinger@ramboll.com +1 (602) 7347739

Ramboll 2111 East Highland Avenue Suite 402 Phoenix, AZ 85016 United States of America



Carbon Market Assistance

Has provided strategic greenhouse gas cap and trade compliance assistance to multiple industries seeking to understand and comply with the existing California cap and trade regulation, as well as plan for potential future regulations. This has included reviewing current and proposed regulations and distilling key information for company executives, providing bid advisory services for clients participating in cap and trade auctions, and overseeing calculations related to third-party verification of greenhouse gas offsets for use in California's cap and trade program.

Corporate Air Quality Permitting and Compliance Assistance

Has provided corporate air quality compliance assistance to clients across a multitude of industrial sectors including mining, oil and gas, and manufacturing. Services provided have included permitting, compliance reviews, emissions estimation, indoor and ambient air quality sampling, and annual emission inventory and toxic release inventory reporting.

State Implementation Plan and Emission Inventory Development

Has assisted multiple air agencies in the development of State Implementation Plans (SIPs) for National Ambient Air Quality Standards (NAAQS), a requirement under the Clean Air Act. Individual responsibilities have included inventory development, data processing, regulatory analyses, control measure analysis, inter-agency consultation, public workshops, and comprehensive report writing.

Fugitive Dust Control

Has provided strategic assistance to numerous industries for the control of fugitive dust sources. This work has included authoring fugitive dust control plans, developing and testing innovative dust control measures, and performing comprehensive reviews of international dust-related air quality regulations to facilitate strategic planning.

Air Quality and Health Risk Assessments

Has assisted in the development of multiple air quality and health risk assessments for large-scale infrastructure projects. Individual responsibilities have included quantifying emissions, human exposure, and health risks through the use of various emission factor models as well as Microsoft Access, ArcGIS, HARP2, and AERMOD.

RECENT PUBLICATIONS AND PRESENTATIONS

2016

Washington State's New GHG Regulations: A Case Study for the Future of GHG Regulations for the High-Tech Industry

SESHA 2016 Symposium, May 4, 2016, Scottsdale, Arizona Presenters: E. Weissinger, M. De Blasi (Fennemore Craig)

2016

The Future of GHG Regulations in Arizona: Clues from CA and WA State 2016 EPAZ Gatekeeper Regulatory Roundup, March 29, 2016, Scottsdale, Arizona Presenter: E. Weissinger

2015

and R.U. Halden

Comparison of Land, Water, and Energy Requirements of Lettuce Grown Using Hydroponic vs. Conventional Agricultural Methods Int. J. Environ. Res. Public Health 2015, 12(6), 6879-6891 Authors: G.L. Barbosa, F.D.A. Gadelha, N. Kublik, A. Proctor, L. Reichelm, E. Weissinger, G.M. Wohlleb



ATTACHMENT 2

United States Department of Energy Fuel Cell Technologies Office Fuel Cell Fact Sheet

Fuel Cells

Fuel cells are the most energy efficient devices for extracting power from fuels. Capable of running on a variety of fuels, including hydrogen, natural gas, and biogas, fuel cells can provide clean power for applications ranging from less than a watt to multiple megawatts.

Our transportation—including personal vehicles, trucks, buses, marine vessels, and other specialty vehicles such as lift trucks and ground support equipment, as well as auxiliary power units for traditional transportation technologies—can be powered by fuel cells. They can play a particularly important role in the future by enabling replacement of the petroleum we currently use in our cars and trucks with cleaner, lower-emission fuels like hydrogen or natural gas.

Stationary fuel cells can be used for backup power, power for remote locations, distributed power generation, and cogeneration (in which excess heat released during electricity generation is used for other applications). They can take advantage of inexpensive natural gas and low-carbon fuels like biogas, enabling significant efficiency improvement and greenhouse gas reduction when compared to combustion-based power generators.

Fuel cells can power almost any portable application that typically uses batteries, from hand-held devices to portable generators.

Why Fuel Cells?

Fuel cells directly convert the chemical energy in hydrogen to electricity, with pure water and potentially useful heat as the only byproducts. Hydrogen-powered fuel cells are not only pollution-free, but they can also have more than two times the efficiency of traditional combustion technologies.

A conventional combustion-based power plant typically generates electricity at efficiencies of 33 to 35%, while fuel cell systems can generate electricity at efficiencies up to 60% (and even higher with cogeneration).

The gasoline engine in today's typical car is less than 20% efficient in converting the chemical energy in gasoline into power that moves the vehicle, under normal driving conditions. Fuel cell vehicles, which use electric motors, are much more energy



Fuel cells directly convert the chemical energy in hydrogen to electricity, with pure water and potentially useful heat as the only byproducts. Hydrogen-powered fuel cells are not only pollution-free, but also can have more than two times the efficiency of traditional combustion technologies.

efficient. The fuel cell system can use 60% of the fuel's energy—corresponding to more than a 50% reduction in fuel consumption compared to a conventional vehicle with a gasoline internal combustion engine. When using hydrogen produced from natural gas, fuel cell vehicles are expected to have well-to-wheels greenhouse gas emissions less than half that of current gasoline-powered vehicles.

In addition, fuel cells operate quietly, have fewer moving parts, and are well suited to a variety of applications.

Excess power produced by intermittent renewable sources like solar and wind can be stored in the form of hydrogen, and either fed back into the power grid when needed or used to power fuel cell electric vehicles. In this way, fuel cells could play an important role in aiding the widespread deployment of clean renewable power sources.

How Do Fuel Cells Work?

A single fuel cell consists of an electrolyte sandwiched between two electrodes, an anode and a cathode. Bipolar plates on either side of the cell help distribute gases and serve as current collectors. In a Polymer Electrolyte Membrane (PEM) fuel cell, which is widely regarded as the most promising for light-duty transportation, hydrogen gas flows through channels to the anode, where a catalyst causes the hydrogen molecules to separate into protons and electrons. The membrane allows only the protons to pass through it. While the protons are conducted through the membrane to the other side of the cell, the stream of negatively-charged electrons follows an external circuit to the cathode. This flow of electrons is electricity that can be used to do work, such as power an electric motor.

On the other side of the cell, air flows through channels to the cathode. When the electrons return from doing work, they react with oxygen in the air and the protons (which have moved through the membrane) at the cathode to form water. This union is an exothermic reaction, generating heat that can be used outside the fuel cell.

The power produced by a fuel cell depends on several factors, including the fuel cell type, size, temperature at which it operates, and pressure at which gases are supplied. A single fuel cell produces roughly 0.5 to 1.0 volt, barely enough voltage for even the smallest applications. To increase the voltage, individual fuel cells are combined in series to form a stack. (The term "fuel cell" is often used to refer to the entire stack, as well as to the individual cell.) Depending on the application, a fuel cell stack may contain only a few or as many as hundreds of individual cells layered together. This "scalability" makes fuel cells ideal for a wide variety of applications, from vehicles (50-125 kW) to laptop computers (20-50 W), homes (1-5 kW), and central power generation (1-200 MW or more).

Comparison of Fuel Cell Technologies

In general, all fuel cells have the same basic configuration — an electrolyte and two electrodes. But there are different types of fuel cells, classified primarily by the kind of electrolyte used. The electrolyte determines the kind of chemical reactions that take place in the fuel cell, the temperature range of operation, and other factors that determine its most suitable applications.

Challenges and Research Directions

Reducing cost and improving durability are the two most significant challenges to fuel cell commercialization. Fuel cell systems must be cost-competitive with, and perform as well or better than, traditional power technologies over the life of the system. Ongoing research is focused on identifying and developing new materials that will reduce the cost and extend the life of fuel cell stack components including membranes, catalysts, bipolar plates, and membrane-electrode assemblies. Low-cost, high-volume manufacturing processes will also help to make fuel cell systems cost competitive with traditional technologies.

For More Information

More information on the Fuel Cell Technologies Office is available at http:// www.hydrogenandfuelcells.energy.gov.

Fuel Cell Type	Common Electrolyte	Operating Temperature	Typical Stack Size	Electrical Efficiency (LHV)	Applications	Advantages	Challenges
Polymer Electrolyte Membrane (PEM)	Perfluoro sulfonic acid	<120°C	<1 kW - 100 kW	60% direct H ₂ ; ⁱ 40% reformed fuel ⁱⁱ	 Backup power Portable power Distributed generation Transportation Specialty vehicles 	 Solid electrolyte reduces corrosion & electrolyte management problems Low temperature Quick start-up and load following 	 Expensive catalysts Sensitive to fuel impurities
Alkaline (AFC)	Aqueous potassium hydroxide soaked in a porous matrix, or alkaline polymer membrane	<100°C	1 - 100 kW	60% ⁱⁱⁱ	 Military Space Backup power Transportation 	 Wider range of stable materials allows lower cost components Low temperature Quick start-up 	 Sensitive to CO₂ in fuel and air Electrolyte management (aqueous) Electrolyte conductivity (polymer)
Phosphoric Acid (PAFC)	Phosphoric acid soaked in a porous matrix or imbibed in a polymer membrane	150 - 200°C	5 - 400 kW, 100 kW module (liquid PAFC); <10 kW (polymer membrane)	40%iv	• Distributed generation	 Suitable for CHP Increased tolerance to fuel impurities 	 Expensive catalysts Long start-up time Sulfur sensitivity
Molten Carbonate (MCFC)	Molten lithium, sodium, and/ or potassium carbonates, soaked in a porous matrix	600 - 700°C	300 kW - 3 MW, 300 kW module	50% v	 Electric utility Distributed generation 	 High efficiency Fuel flexibility Suitable for CHP Hybrid/gas turbine cycle 	 High temperature corrosion and breakdown of cell components Long start-up time Low power density
Solid Oxide (SOFC)	Yttria stabilized zirconia	500 - 1000°C	1 kW - 2 MW	60% ^{vi}	 Auxiliary power Electric utility Distributed generation 	 High efficiency Fuel flexibility Solid electrolyte Suitable for CHP Hybrid/gas turbine 	 High temperature corrosion and breakdown of cell components Long start-up time Limited number of shutdowns

Comparison of Fuel Cell Technologies

NREL Composite Data Product 8, "Fuel Cell System Efficiency," http://www.nrel.gov/hydrogen/docs/cdp/cdp_8.jpg

Panasonic Headquarters News Release, "Launch of New 'Ene-Farm' Home Fuel Cell Product More Affordable and Easier to Install," http://panasonic.co.jp/corp/news/official.data/data. dir/2013/01/en130117-5/en130117-5.html

G. Mulder et al., "Market-ready stationary 6 kW generator with alkaline fuel cells," ECS Transactions 12 (2008) 743-758

Doosan PureCell* Model 400 System Specifications, http://www.doosanfuelcell.com/en/solutions/system.do

FuelCell Energy DFC300 Product Specifications, http://www.fuelcellenergy.com/assets/DFC300-product-specificationsl.pdf

vi Ceramic Fuel Cells Gennex Product Specifications, http://www.cfcl.com.au/Assets/Files/Gennex_Brochure_%28EN%29_Apr-2010.pdf

U.S. DEPARTMENT OF

For more information, visit: hydrogenandfuelcells.energy.gov

Energy Efficiency & Renewable Energy

November 2015 Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post consumer waste



ATTACHMENT 3

Location of Santa Clara Natural Gas Power Plants in Relation to SB 535 Disadvantaged Communities

SB 535 Disadvantaged Communities



Sources: Esri, HERE, Garmin, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



5-7-19

James L Sweeney Professor Management Science & Engineering Huang Engineering Center, Room 258 475 Via Ortega Stanford, CA 94305-4121

May 6, 2019

ITEM#6

Lisa M. Gillmor, Mayor City Council Members City of Santa Clara

Dear Mayor and Council members,

I understand that the City of Santa Clara is planning to vote on a resolution that would essentially ban all behind-the-meter electricity generation that uses energy-efficient fuel cells. I understand that the resolution would technically allow fuel cells, but would require them to use only in-state biogas as their energy source. Much of the rest of this letter explains that the requirement to use only in-state biomass is tantamount to banning all behind-the-meter fuel cells.

I am James (Jim) Sweeney, Stanford Professor of Management Science and Engineering; Senior Fellow of the Stanford Institute for Economic Policy Research; Senior Fellow of the Precourt Institute for Energy; and until recently, Director of Stanford's Precourt Energy Efficiency Center.

In 2018, I chaired the steering committee for the California Council on Science and Technology (CCST) report, *Biomethane in California Common Carrier Pipelines: Assessing Heating Value and Maximum Siloxane Specifications*.¹ The report, completed at the request of the California legislature, documented the current availability, market, economics, and technical specifications for pipeline injected biomethane — the exact fuel this resolution seeks to require all onsite electricity generators to utilize.

The first issue is that at present there are only two commercially operating biomethane developments connected to pipelines in California, CR&R and Point Loma. Because of the high costs and long development timelines to bring these projects to market in California, the current supply of in-state biogas is extremely limited.

¹ https://ccst.us/publications/2018/2018biomethane.pdf

Second, the combination of California's Low Carbon Fuel Standard and the Federal Renewable Fuel Standard provides massive incentives for biomethane suppliers to sell all biomethane (from in-state or out of state) ONLY for transportation uses, such as to power heavy-duty trucks or buses. These two programs provide large subsidies for biomethane, but only for biomethane used for transportation, not for the generation of electricity. These incentives are stackable, that is biomethane products can benefit from both the federal and state incentives if that biomethane is used for transportation.

These incentives have led our CCST team to conclude that "The current value of the Federal and State incentives far exceeds the market value of the biomethane. <u>Financial incentives through the</u> <u>California Low Carbon Fuel Standard (LCFS) and the Federal Renewable Fuel Standard (RFS)</u> <u>programs can be a factor of up to 18 times greater than the commodity value of the biomethane</u> <u>itself</u> [emphasis added]."² The result: biomethane is prohibitively expensive if used for electricity generation. Taking into account the asymmetric federal and state subsideis, it is simply not economical to utilize biomethane for non-transportation purposes, such as to generate electricity through fuel cells

Although I couldn't be there with you in person, I wanted to make it clear that, in practice, the proposed resolution would effectively prohibit any behind-the-meter technology, if the resolution requires such technologies to use renewable gas. The requirement that the renewable gas be sourced from within California simply amplifies the prohibition.

Sincerely, ames L. Sweene

² <u>https://ccst.us/publications/2018/2018biomethane.pdf</u>, pg 79



James L Sweeney Professor Management Science & Engineering Huang Engineering Center, Room 258 475 Via Ortega Stanford, CA 94305-4121

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Catherine Sandoval 500 El Camino Real Santa Clara, CA 95008

May 6, 2019

Mayor Lisa M. Gillmor City of Santa Clara City Hall 1500 Warburton Ave., Santa Clara, CA 95050

Dear Mayor Gillmor:

My name is Catherine Sandoval, and since 2004 I have worked in the City of Santa Clara as a law professor at Santa Clara University. I'm writing to express my concerns in my individual capacity as a tenured professor who works and teaches in the City of Santa Clara about the City's proposed resolution Amending Silicon Valley Power's Rules and Regulations to Require New or Modified Self-Generation Facilities to Utilize Renewable Generation and Fuel Sources. I teach courses and conduct research on energy, antitrust, communications and contract law. I served a six-year term as a Commissioner at the California Public Utilities Commission (CPUC). I previously served as Undersecretary of the State of California's Business, Transportation, and Housing Agency. I support the State of California's and City of Santa Clara's objectives to transition to renewable energy sources by 2045. I write to express my concern that the Resolution in file 19-329 is not supported by any analysis of the renewable natural gas market for stationary sources or the Resolution's likely Greenhouse Gas (GHG) effects.

The agenda packet for the Resolution requiring renewable fuel sources for interconnected self-generation by June 1, 2019 offers *no analysis* of the procurement market for renewable natural gas (biomethane) for stationary users. My research as an energy law professor found that much of the biomethane available in California is used for the transportation market, and insufficient biomethane is available to meet transportation needs. The CPUC is examining renewable natural gas interconnection tariff and technical issues, and is holding a workshop on that topic on May 23 and 24. Neither the Resolution, nor the proposed Silicon Valley Power rules and regulations (SVP tariff), nor any material in the agenda packet offers the public or the City Council any analysis of the biomethane market for stationary users such as fuel cells. The absence of this analysis renders arbitrary and capricious the Resolution's proposed restriction on fuel cell generation sources to be implemented in less than one month.

Neither does the Resolution offer any analysis of the likely GHG impact of limiting interconnected fuel cells to renewable sources if such sources are effectively unavailable for stationary source users in California. Legally sound analysis, and good government that serves the people who live and work in the City of Santa Clara, requires more examination of the market and the proposed Resolution's consequences.

The proposed Resolution and SVP tariff as currently drafted do not offer a pathway to success for achievement of renewable energy goals. Neither do they analyze the proposal's consistency with reliability, safety, just and reasonable rates, competition, consumer choice, and GHG mitigation. Nor is the scope of its intended application clear or adequately supported.

I urge the City Council to conduct and timely disclose for public comment independent expert analysis of the state of the renewable natural gas procurement market for stationary sources, the Resolution's likely GHG effects, and to consider alternatives commensurate with the biomethane market's development. Such analysis is necessary for legally sound decision-making in the interests of those who live, work, and invest in the City of Santa Clara, for the people of the State of California, and to mitigate climate change. I regret that I cannot attend the City Council meeting in person and thank you for considering my comments on this proposed resolution.

Sincerely,

atheme M. C. Sc. dara (

Catherine J.K. Sandoval

Cc: Vice Mayor Mahan Councilmember Hardy Councilmember Watanabe Councilmember Chahal Councilmember O'Neill Councilmember Davis City Manager Deanna Santana Assistant City Manager and Interim Chief Electric Utility Officer Manuel Pineda