



Legislation Details (With Text)

File #:	19-329	Version:	1	Name:	
Type:	Public Hearing/General Business	Status:		Agenda Ready	
File created:	3/11/2019	In control:		City Council and Authorities Concurrent	
On agenda:	5/7/2019	Final action:		5/7/2019	
Title:	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				
Sponsors:					
Indexes:					
Code sections:					
Attachments:	1. Resolution Amending Silicon Valley Power Rules and Regulations, 2. Silicon Valley Power Rules and Regulations (redline version), 3. Silicon Valley Power Rules and Regulations (final version), 4. Electric Service Agreement with Intel Corporation, 5. Silicon Valley Leadership Group Letter, 6. Equinix Letter, 7. Bloom email to Council, 8. POST MEETING MATERIAL, 9. Resolution No. 19-8701				

Date	Ver.	Action By	Action	Result
5/7/2019	1	City Council and Authorities Concurrent	Approved	Pass

REPORT TO COUNCIL

SUBJECT

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

BACKGROUND

Over the last few years, the City and State have developed significant goals related to environmental sustainability and climate change. Climate change is a significant global issue and California has taken a nationwide leadership role in leading change. As the timeframe for significant change narrows before irreparable damage is done, California has recently passed SB100 which envisions a California with GHG free energy supply by 2045. The largest source of greenhouse gas emissions from human activities is from electricity, heat, and transportation.

The City of Santa Clara, with ownership of Silicon Valley Power (the only full service, vertically integrated publicly owned power utility in the valley owning generation, transmission and distribution assets), has the opportunity and responsibility to lead in this area and advance our local climate action plan goals. As described later in this report, the City has taken ownership of the future and has made a commitment to renewable and GHG free energy. In fact, the proposed action is aligned to other California cities like the cities of Pasadena and Burbank which have each adopted similar requirements which are already in place -- which is indicative of cities trying to advance our mutual goal of advancing renewable energy policy.

The CEO of the Silicon Valley Leadership Group, expressed it best in his San Jose Mercury News

Editorial in enthusiastic support of SB100 - “committing to 100 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.”

Many of the Climate Action Plan actions affect Silicon Valley Power, and the City has proactively moved forward in modifying the way we provide power to our customers to achieve many of the goals below:

Climate Action Plan

On December 3, 2013, City Council adopted the Santa Clara Climate Action Plan (CAP) which proposed to reduce Greenhouse Gas (GHG) emissions to 15% below 2008 levels by the year 2020. The CAP included reduction measures to address energy use, transportation, land use, water, solid waste, and off-road equipment.

California Policy

On October 7, 2015, Senate Bill 350: Clean Energy and Pollution Reduction Act (SB 350) was signed into law, establishing new clean energy, clean air and greenhouse gas reduction goals through 2030 and beyond. SB 350 established California's 2030 greenhouse gas reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 sets ambitious 2030 targets for energy efficiency and renewable electricity, among other actions aimed at reducing greenhouse gas emissions across the energy and transportation sectors. SB 350 will greatly enhance the state's ability to meet its long-term climate goal of reducing GHG emissions to 80 percent below 1990 levels by 2050.

In September 2018, California Senate Bill 100, California Renewables Portfolio Standard Program: emissions of greenhouse gases, (SB 100) was signed into law, with a goal of 50% renewable energy by 2026 and 60% renewable energy by 2030. It also sets a target for California to achieve a GHG free energy supply by the year 2045. SB 100 and its renewable energy goals were endorsed by several Silicon Valley Power (SVP) customers and by the Silicon Valley Leadership Group. SVP supports these innovation efforts in non-GHG emitting energy and storage technologies.

Renewable Energy

California Code, Public Resources Code section 25741, defines “renewable electrical generation facility” as a facility that meets any of the following criteria: The facility uses 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.

Private Power Generation

Currently, Silicon Valley Power (SVP) customers can install their own electric generation systems on their properties, and also choose to remain connected to SVP’s electrical distribution system. Typical examples of customer-owned generation systems include technologies such as solar photovoltaics, internal combustion driven emergency back-up generators, fuel cells, steam generators, and gas turbines. Nearly all types of self-generation resources currently in use, other than solar systems, use fossil-fuels such as diesel or natural gas. Those intended only for emergency back-up purposes are rarely operational, used only for either testing or when there is a utility supply disruption. Due to their limited use they do not emit significant air pollution or greenhouse gasses on an annual basis.

The effects of the greater GHG emissions are not factored into the customer's economic valuation of self-generation because this self-generation is not subject to the same requirements as the utility under SB 100 and SB 350. As such, there is an increased reliance by these customers on fossil fuels within the City, which is contrary to the Council approved Climate Action Plan. Also, while self-generation is not required to meet SB 100 and SB 350, the emissions from these facilities still affect Santa Clara residents. City Customers with self-generation still rely on SVP to instantly supplement their electricity, as needed, or rely on it entirely if their generating source is shut down.

DISCUSSION

In order to mitigate adverse environmental impacts and to be consistent with the Council approved CAP and the requirements of SB 100, staff is recommending that customers that wish to install self-generation resources (other than emergency backup generation) and remain connected to the SVP electrical system be required to use a "renewable electrical generation facility" as defined in California Code, Public Resources Code Section 25741. SVP supports the use of local renewable electric generation facilities and SVP will continue to enable customers to install California Energy Commission (CEC) approved renewable resources to serve their on-site loads.

This aligns with SVP's commitment to renewable energy and meet the California requirements. Staff is not proposing to acquire any future GHG emitting energy, and over the last 5 years, the City has acquired the following portfolio in this effort:

- 124 MW Tri-Dam hydroelectric power through 2023
- 19 MW Rooney Ranch wind power through 2045 (start 2020)
- 30 MW Sand Hill A & B wind power through 2046 (start 2020)
- 40 MW Central 40 solar power through 2041 (start 2021)
- 200 MW Viento Loco wind power through 2046 (starts 2021)

Self-Generation Facilities and Bloom Energy

Recently the City received concerns from Bloom Energy (who has installed a number of natural gas fuel cells in the City) regarding this proposed change to renewable and/or GHG free energy. Unlike back-up generation, self-generation resources intended to serve a customer's own electric load (such as a Bloom Energy fuel cell) operate nearly at full capacity throughout the year. This self-generation is not adjusted to broader grid market pricing conditions and times of abundant renewable generation (such as when the sun is shining and the wind is blowing). This results in significant GHG emissions. For example, on an annual basis the GHG emissions from a natural gas fuel cell are nearly 100% greater than the equivalent 2018 SVP electric load, and the emissions are above typical power supply available from the California market. Explained another way, a natural gas fuel cell provides 0% renewable energy and 0% GHG-free electricity, while in 2017 SVP's power content was 36% renewable energy and 72% GHG free.

Bloom energy has also requested that the City consider replacing its City owned natural gas power generation with their fuel cell natural gas power. Staff does not consider this a viable approach for two reasons: 1) Staff disagrees with their analysis that the fuel cells are "cleaner" than the City's

natural gas plants; and 2) It is not possible to “replace” parts of our portfolio with Bloom energy, since power is not procured in that manner. At times SVP will provide power to the entire City without using any natural gas (using only renewable energy or GHG free energy). During these times a Bloom Energy fuel cell would continuously provide 0% renewable energy and continuously emit GHG. Also, as stated above, the City has made a commitment to only acquiring renewable or GHG free energy in alignment with SB100. Bloom Energy fuel cells do not accomplish either of those sustainability objectives.

Staff does agree that these fuel cells are much cleaner than diesel generators and did try to explore the use of Bloom Energy fuel cells as back-up power replacement. However, Bloom did not express interest in this “green” alternative as it did not provide sufficient revenue for them.

Recommendation to Support Renewable Energy

Staff recommends that the Council approve incorporating this requirement into Silicon Valley Power’s Rules and Regulations through adoption of a resolution (Attachment 1). If approved, this requirement will apply to all customers submitting an application after June 1, 2019 to interconnect to a new self-generation resource. Applications for new self-generation facilities that are already deemed complete by the Chief Electric Utility Officer by or before June 1, 2019, will be allowed to continue the interconnection process. This requirement also applies to requests to increase the capacity rating of existing generation facilities. It would not apply to self-generation resources with existing interconnection agreements, and/or other agreements with the City which incorporate self-generation terms, executed prior to June 1, 2019. It would not require the removal of existing natural gas generation resources as the requirement only applies to new facilities.

The proposed amendments to SVP’s Rules and Regulations (Attachment 2 for redlined version and Attachment 3 for final version) are to Section 11 and include:

- Define “renewable electrical generation facility” to align with Section 25471 of the California Public Resources Code;
- Clarify that SVP will only accept requests to interconnect generating facilities that are intended to operate in parallel with SVP’s Distribution System if the facility qualifies as a “renewable electrical generation facility” as defined in California Public Resource Code Section 25741;
- Require all customers interconnecting with SVP’s Distribution System with a qualifying renewable electrical generation facility, except solar photovoltaic systems which are considered inherently eligible, to provide the following:
 - Preliminary renewable eligibility certification from the CEC prior to interconnection with the SVP system
 - Final CEC certification within 180 days of the interconnection; and
 - Annual attestation signed by the customer or documentation from a CEC approved reporting entity, such as the Western Renewable Energy Generation Information System (WREGIS), that verifies that the generation facility is in current status and proof of the renewable energy credit retirement applicable to the Calendar year generation.
 - In addition, SVP may request documentation providing evidence of CEC renewable certification of the renewable electrical generation facility at any time.

Summary

As previously discussed, these amendments to the SVP Rules and Regulations do not apply to backup generation that runs on a limited, as needed basis, and typically do not operate in parallel

with the utility system. SVP will also continue to encourage microgrids that are comprised of renewable generation facilities and energy storage options. A recent example of this is at Santa Clara Square which is combining solar photovoltaic and storage to better manage their own usage and peak demand. The City is developing a standardized process to interconnect electric micro-grids per the State's requirements. The standards will facilitate providing customers with new ways to manage their energy needs, but they must also assure that this is being completed in an environmentally friendly manner that aligns with California, the City and SVP's future energy goals and green energy requirements.

While this is a change to the existing options available to Santa Clara residents and businesses, the amendments align with the City and State goals and requirements for renewable and/or GHG free energy. As a private generator, these facilities do not need to meet SB 100, however staff thinks it's important for the whole City to move forward in meeting this requirement. These changes will create a greener Santa Clara and help to address environmental and climate change issues. The City has taken the initiative by proactively ensuring all new energy acquisitions are renewable and/or GHG free. This change encourages other generators within the City to do the same.

ENVIRONMENTAL REVIEW

The action being considered is exempt from the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15061(b)(3) as the activity is covered by the general rule 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.

FISCAL IMPACT

There is no direct fiscal impact of the recommended action. However, non-action would continue to allow customers to install fossil-fuel powered self-generation that would increase GHG emissions within the City and potentially lead to additional costs to offset those GHG emissions in order to meet the State's and City's Climate Action Plan goals.

COORDINATION

This report has been coordinated with the Finance Department and City Attorney's office.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall Council Chambers. A complete agenda packet is available on the City's website and in the City Clerk's Office at least 72 hours prior to a Regular Meeting and 24 hours prior to a Special Meeting. A hard copy of any agenda report may be requested by contacting the City Clerk's Office at (408) 615-2220, email clerk@santaclaraca.gov <<mailto:clerk@santaclaraca.gov>> or at the public information desk at any City of Santa Clara public library.

Silicon Valley Power staff directly contacted customers that have installed fuel cells on their premises and companies that were known to be in discussion with fuel cell vendors. Most companies expressed appreciation for the outreach and supported the City's efforts toward climate sustainability. There were a few companies that expressed concern regarding the timing of the self-generation effort and preferred that more discussion occur before adoption. Staff also contacted Bloom Energy, as the main provider of fuel cells in the City and they expressed concern regarding the proposal, as it will limit their ability to install fuel cells locally until they can develop "cost-

effective” renewable options.

ALTERNATIVES

1. Adopt a Resolution amending Silicon Valley Power’s Rules and Regulations to require that new or modified customer-owned self-generation units utilize only CEC approved renewable generation and fuel sources, providing definition of renewable electric generation facility, and requiring customers to provide proof of eligible certification through the California Energy Commission’s certification process for self-generation other than solar photovoltaic.
2. Do not adopt a Resolution amending Silicon Valley Power’s Rules and Regulations to require that new or modified customer-owned self-generation units utilize only CEC approved renewable generation and fuel sources, providing definition of renewable electric generation facility, and requiring customers to provide proof of eligible certification through the California Energy Commission’s certification process for self-generation other than solar photovoltaic.
3. Authorize the City Manager to modify the term of the contract and/or usage requirements for the existing Electric Service Agreement with Intel Corporation
4. Do not authorize the City Manager to modify term of the contract and/or usage requirements for the existing Electric Service Agreement with Intel Corporation

RECOMMENDATION

Alternatives 1 and 3: Adopt a Resolution amending Silicon Valley Power’s Rules and Regulations to require that new or modified customer-owned self-generation units utilize only CEC approved renewable generation and fuel sources, providing definition of renewable electric generation facility, and requiring customers to provide proof of eligible certification through the California Energy Commission’s certification process for self-generation other than solar photovoltaic and Authorize the City Manager to modify the term of the contract and/or usage requirements for the existing Electric Service Agreement with Intel Corporation.

Reviewed by: Manuel Pineda, Interim Chief Electric Utility Officer

Approved by: Deanna J. Santana, City Manager

ATTACHMENTS

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