January 20, 2017

Submitted electronically

Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Re: **Comments on Cap-and-Trade Program Proposed Amendments**

Dear Ms. Nichols:

The City of Santa Clara, doing business as Silicon Valley Power (City or SVP), submits these comments to the California Air Resources Board (CARB) regarding the 15-Day Changes[1] to the proposed amendments to the Cap-and-Trade Program Regulation.[2] The City's comments are limited to addressing only the proposal for allocating allowances directly to electrical distribution utilities (EDUs).[3]

SVP is unique in the regard that our service territory is composed of 54,309 metered accounts, but of these accounts the load represented by residential demand amounts to less than 7%, while large commercial and industrial demand amounts to 90%. Over the last several years SVP has been able to attract many data centers to locate within our service territory. Data centers are very high energy users and a single customer/site may have a peak demand greater than 10 megawatts (MW) at a load factor greater than 80%. Adding just a few customers of this size can greatly impact future demand forecasts of a medium sized publicly owned utility like SVP, and SVP has added many in the past three years in addition to a que of customer interconnection requests that will be added over the next several years. Statewide, or regional estimates of expected demand growth do not account for the very localized growth experienced and expected to continue in SVP service territory due to access to the City's fiber optic communication network, robust electrical distribution system, mild climate, and ability to connect new customers

1 The 15-Day Changes include the package of information included with the *Notice of Availability of Modified Text and Availability of Additional Documents and/or Information*, including Attachment A – Modified Text to the Proposed Regulation Order and Attachment C – 2021-2030 Allowance Allocation to Electrical Distribution Utilities.

2 Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanism; Staff Report: Initial Statement of Reasons, dated August 2, 2016 (Staff Report).

3 The City's lack of comment on any other aspect of the 15-Day Changes or Proposed Amendments is not attended to indicate support or opposition to such changes. The City is a member of the Northern California Power Agency and M-S-R Public Power Agency, and expressly endorses the comments submitted by each entity.

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in a shorter time frame than they would experience in other electrical distribution utility (EDU) service territories.

The City submits these comments due to the discovery of a significant discrepancy between the projected cost burden reflected in CARB staff's allowance allocation proposal and the projections prepared by the City. This is due to the fact that the CARB's *2030 projected load for the City is less than the City's 2016 actual load* (described as energy to serve load). As more fully described herein, the unprecedented load growth the City has experienced between 2014 and 2016 has rendered the data used to support CARB's proposed allocation for SVP obsolete. As noted in Attachment C of the 15-Day Changes, the first step in calculating the EDU allowance allocation is to "select appropriate data source for each EDU's projected generation." (Attachment C, p. 7) Based on unanticipated circumstances more fully addressed herein, the CARB proposal does not use the "appropriate data source" for SVP. In order to fairly and accurately calculate the projected cost burden for SVP and determine the appropriate number of allowances to allocate to cover the utility's cost burden, the appropriate data source must reflect the significant change in SVP's load.

Discussion

The City supports staff's recommendation to continue to allocate allowances directly to EDUs for the benefit of their electricity customers. The City supports the allocation of allowances to the EDUs based on the calculation of cost burden.[4] The use of publicly available data based on information reported by the EDUs is a sound starting point for calculating the projected EDU cost burden for 2021 to 2030. It is important for CARB's proposal to be based on publicly available information that stakeholders can assess, but there is no reason why that data may not come from different sources. This is relevant because it is equally important that the data accurately reflect the current status of the EDU's load; any projection that begins with incorrect data – regardless of how sound the underlying methodology – will be less likely to project the outcome than otherwise expected.

In the current proposal, the calculation begins with the EDU's energy to serve load (generation), described as "the total amount of power required for serving an EDU's retail sales, taking into account transmission and other losses." Staff utilizes, when available, data from the California Energy Commission (CEC) 2015 Form 1.5a and 1.1c, derived primarily from the utilities' 2015 S-2 Forms. (Attachment C, p. 9) Using the same data sources, "Average Annual Growth" factors are used to project generation for years not included in the data sources. (Id.) This information is set forth in a spreadsheet entitled, *Attachment C Table, 2021-2030 EDU Allocation.*

For SVP, the Energy to Serve Load and Retail Sales projections included in the

4 While SVP views the proposed definition of cost burden is as unduly restrictive, these comments do not address the underlying definition of cost burden, but rather the use of cost burden as the basis for allocating allowances to the EDUs.

spreadsheets do not accurately reflect current load demands or growth taking place right now. Using the common data set proposed in Attachment C, not only is the 2021 starting point for SVP's future load projection nearly identical to SVP's 2015 actual load, it is less than their 2016 actual load.[5]

Table 1: CARB Projections v. SVP Actual Load[6]

Year	Energy to Serve Load	Retail sales
2030 - CARB	3,524,302	3,221,038
2021 – CARB	3,390,000	3,097,000
2016 – SVP	3,556,724	3,425,801
2015 – SVP	3,354,817	3,201,675

As the table above demonstrates, SVP's 2015 actual figures differ significantly from what is reflected in CARB's projections. This disparity is even greater when compared to the 2016 load information compiled to date.[7] As CARB notes in Attachment C, "the electricity sector has changed significantly in recent years, including load and energy source changes that significantly diverge from 2009 predictions." (Attachment C, p. 4) For many utilities, these changes include slowed or declining load growth. For SVP, an electric utility located in the heart of the Silicon Valley, those changes reflect growing load. Indeed, SVP has experienced unprecedented load growth in the last few years, due almost exclusively to "data centers" locating in Santa Clara. SVP experienced 5% load growth from 2014 to 2015, and an additional 7% growth from 2015 to 2016. Using the currently available data and continuing even a modest growth rate out to 2030, SVP numbers greatly differ from the numbers used in the CARB model. (See Attachment B, SVP: Retail Sales Growth 2006-2021) For these reasons, the allowance allocation set forth in Table 9-4 of the 15-Day Changes significantly underestimates SVP's cost burden – even under CARB's own definition – and substantially under-allocates allowances to the City.

Reasons for Load Disparity

The 2015 S-2s were used as the basis for the 2021-2030 allocation proposal because the information contained in those forms reflected updated data. However, for SVP, even the 2015 submittal does reflect the most accurate data. While the CEC's estimates for overall state load remain nearly flat over the course of the allocation period, decreasing at an annual rate of 0.21

5 Audited and publicly available data regarding SVP's 2015 retail sales and power used for retail sales can be found on the City of Santa Clara website in the 2015 Utility Fact Sheet.

6 CARB projections are taken from Attachment C, spreadsheet titled *2021-2030-edu-allocation*; SVP load information is based on the City's Final and Audited 2015 Utility Fact Sheet and Preliminary 2016 Utility Fact Sheet.

7 Data regarding SVP's 2016 retail sales and power used for retail sales has been completed and is attached hereto. As Exhibit A. Once audited, that information will be available on the City's website.

percent,[8] not only is SVP's load not declining, it is growing significantly. A great deal of this growth can be attributed to the fact that the City has become a preferred location for "data centers" driven by a confluence of factors that are unique to Santa Clara and the utility's location and infrastructure. The need for data centers is rapidly growing due to such elements as expanded cloud computing, the need for more data storage, increased data analytics, and the "Internet of Things" (the growing number of "smart devices" and devices with imbedded internet connections). These factors, as well as the number of large industrial customers in the City have given rise to a burgeoning "Data Center Industry" within SVP's service territory. In addition to proximity to high-tech customers using data centers, the City is ideally suited to house data centers because of its infrastructure. SVP has invested in its dark fiber network (installing more fiber-optic cable than was necessary at the time of the investment so that additional capacity could be leased to third parties) and electrical infrastructure to adequately supply reliable electricity to large customers in high-demand areas. A location close to high-tech customers and the need for minimal latency in their services (the ability to recall data in a rapid manner close to the user base), also make Santa Clara a preferred location for data centers. These data centers require specific facility requirements, and the owners make substantial investments in the property and state-of-the-art facilities that house the electronic equipment.

Santa Clara purposefully invested in the infrastructure to meet the needs of its large industrial customer-base. This investment enabled the utility to accommodate the data center facilities. However, the rapid expansion of data centers and the lead-time to bring such facilities online has transformed significantly over the last year. The current data center development trend has large "blocks" of new load added within months of initiating the interconnection process. In contrast, just a few years ago this process would take 24-months or longer. An internal study from SVP found that for the 12 month average ending June 2015, data centers accounted for roughly 34% of retail sales. By the end of August 2016, that percentage had grown to 39% of retail sales. Based on SVP's assessment of currently available data, this same trend is projected to continue through to 2019.[9]

This unforeseen increase in SVP's 2015 and 2016 load, and additional projected increases through to 2019, render the data currently being used to calculate SVP's allowance allocation inappropriate.

The Appropriate Data

The appropriate data source for SVP's projected generation is not the information contained in the CEC's load estimates that were based on SVP's 2015 S-2 filing. Indeed, almost

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8 Cap-and-Trade Regulation Post-2020 Allocation to Electric Distribution Utilities Informal Staff Proposal, October 14, 2016; p. 4.

9 Santa Clara's load includes estimated growth in other segments of the economy, as well. This growth is associated with developments throughout the City. The City's website includes information on business opportunities in the City, including an interactive map of the proposed developments and development projects. Information about the location of specific data centers, however, is not included due to the higher level of security and confidentiality associated with those facilities.

none of the current load growth associated with the data centers going online is reflected in the S-2 filing that was submitted in 2015. The 2015 S-2s were prepared using final load estimates based on information updated in 2014. Since the explosive increase in data centers that occurred since 2014 was not anticipated, the information contained in those filings does not accurately reflect that load. Furthermore, from a planning perspective, the information submitted in the S-2 filings by Santa Clara is not intended to be used as an actual "load forecast," further confounding the difference between the data upon which CARB is basing its allocation proposal and the actual load and load growth SVP serves and expects to serve over the next four years.

Rather, the City posits that a different data source should be used to base the projected generation for SVP and calculate the utility's cost burden. SVP has documented the cause of the unanticipated difference which can be substantiated with publicly available data. The increased load and load growth projections addressed herein, and which SVP requests CARB use to verify an adjustment to the current proposal, also have implications for the utility in other venues, from its purchases within the California ISO, to the updated load information that is provided to PG&E. For these reasons, an exception is warranted and should be added to Table 2 of Attachment C to address the City's load changes. The City recommends that the exception to the methodology would have CARB utilize the City's official, audited financial statements for 2015 and 2016, which include information on SVP's retail sales and generation/purchases for retail sales that validate and confirm the information described herein. Using this updated information, CARB should revise the 2021 baseline for SVP that is used in the 2021-2030-EDU-Allocation methodology. Using the updated data for the 2021 baseline ensures that the projections through to 2030 will include a higher level of certainty, since the initial calculation will more accurately reflect SVP's starting point, where now it does not. Furthermore, based on the load growth projections and substantiated data, SVP's annual growth from 2021 to 2030 should reflect 2% growth.

The City appreciates that this request requires staff time to review and confirm the substantiating data. The City also recognizes that it would be necessary to recalculate the proposed allocation tables and update the overall allowance budgets to reflect the corrected data. This is necessary, however, to ensure that the stated purpose and objective of the allocation to EDUs is accurately reflected in the number of allowances allocated to SVP. Without these revisions to the data sources for SVP, the City will not receive an allocation of allowances sufficient to meet its program cost burden, to the direct detriment of its electricity ratepayers.

Conclusion

For the reasons set forth herein, an exception to the methodology described in the text of the proposed regulation and Table 1 of Attachment C is warranted to ensure that the appropriate data source is used for SVP's projected generation; such an exception is equitable, consistent with the stated objectives of allowance allocation to EDUs, and would not adversely impact any other stakeholders. Since the information upon which the City's cost burden is calculated does not accurately reflect the City's current load, the proposed allocation leaves the City significantly short of the number of allowances that would be needed to cover that cost burden for the entire

period 2021 to 2030. To correct this shortcoming, the City asks that the 2021 baseline be adjusted to reflect the City's current load and revised load projections, based on publicly available and verifiable data, as more fully described above.

The City appreciates CARB's consideration of this request and remains available to answer questions and provide staff with additional data, as necessary. Please do not hesitate to contact the undersigned or Steve Hance (shance@svpower.com) and Kathleen Hughes (Khughes@svpower.com) with any questions regarding this matter.

Respectfully submitted,

Steve Hance for
John Roukema
Utility Director

Electric Utility
City of Santa Clara
FACT SHEET - DEC 2016

City Hall
1500 Warburton Avenue
Santa Clara, CA 95050

Phone: (408) 261-5292

Form of Government:		Council-City Manager
No. of Employees:		166
Operating Budget (2016-17)	$	353,973,331

Fast Facts:

Electric Meters	54,309
Peak Demand	534.3
Service Area	19.3 square miles
System Load Factor	75.8%
Transmission Lines	55.5 miles

Distribution Lines:

Underground	343.19 miles
Overhead	188.83 miles
Street Lights	8,103

2016 Calendar Year Retail Transactions:

Sales Revenues (note 1)	$	387,515,311
kWh Sales		3,425,801,811

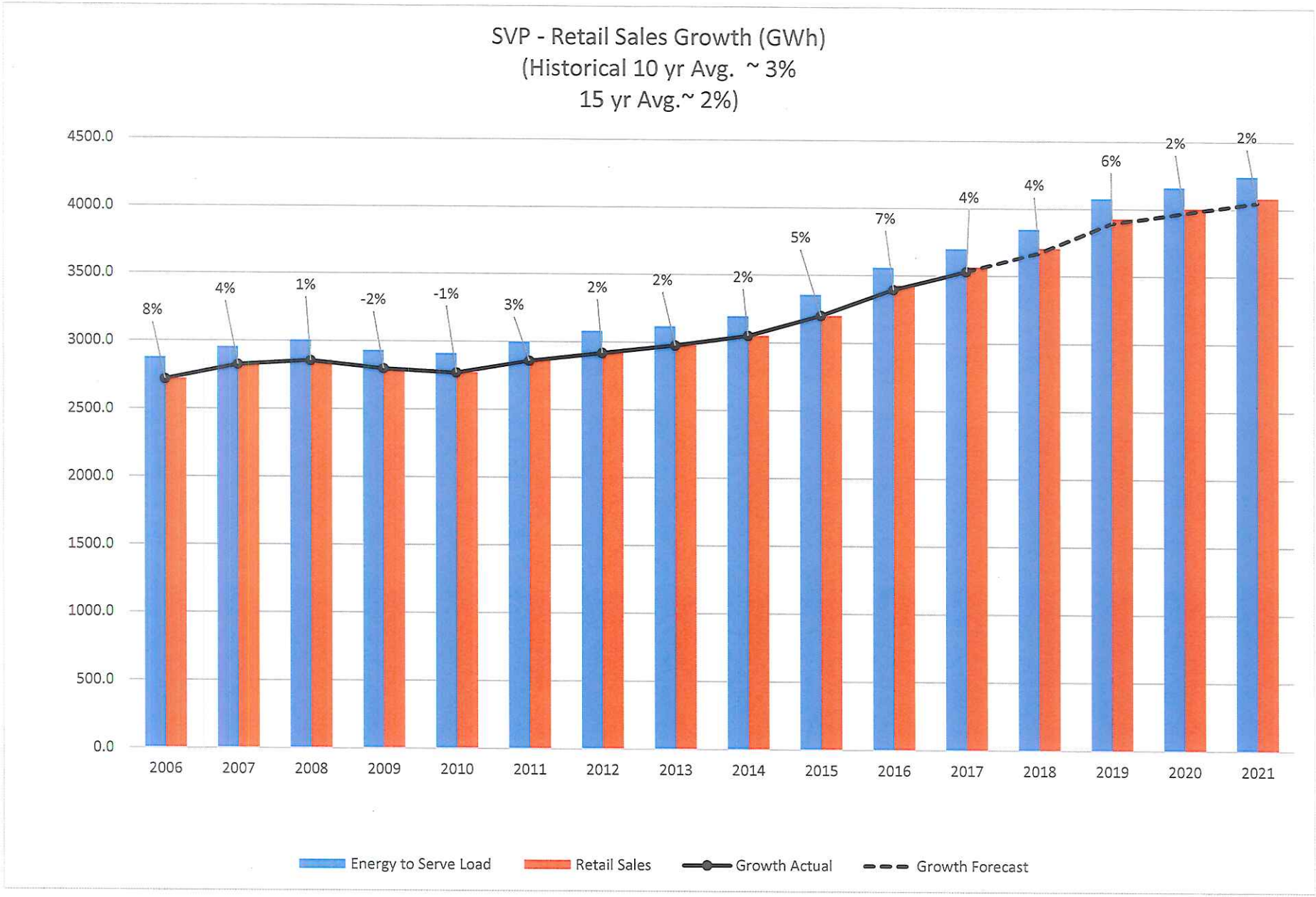
Purchased Power & Generation for Retail:

	kWh	
City-owned Generating Facilities	1,038,613,000	29.2%
Western Area Power Administration	221,307,000	6.2%
Northern California Power Agency	672,696,060	18.9%
Other Joint Power Agencies & City Purchases	1,624,107,890	45.7%
Total	3,556,723,950	100.0%

Average Monthly Customer Count & Total kWh Sales:

		kWh	
Residential	45,655	224,053,245	6.5%
Commercial	6,261	94,660,690	2.8%
Industrial	1,660	3,089,679,178	90.2%
Municipal	184	17,408,698	0.5%
Unmetered	382	N/A	N/A
Total	54,142	3,425,801,811	100.0%

Note 1: Unaudited; Includes revenue from unmetered accounts.


SVP - Retail Sales Growth (GWh)
(Historical 10 yr Avg. ~ 3%
15 yr Avg.~ 2%)
4500.0
4000.0
3500.0
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
8%
4%
1%
-2%
-1%
3%
2%
2%
2%
5%
7%
4%
4%
6%
2%
2%
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Energy to Serve Load
Retail Sales
Growth Actual
Growth Forecast