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STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Small Power Plant
Exemption for the
**SEQUOIA BACKUP GENERATING
FACILITY**

DOCKET NO. 19-SPPE-03

**DECLARATION OF MARCELA
DELONG**

I, Marcela DeLong, declare as follows:

1. I am presently employed as a Project Architect, Senior Associate for Corgan.
2. I have been retained by CyrusOne, the sole owner of C1-Santa Clara, LLC to be the Project Manager for the permitting of the Sequoia Backup Generating Facility and the Sequoia Data Center.
3. A copy of my professional qualifications and experience was included with the previously filed Opening Testimony Package and is incorporated by reference in this Declaration.
4. I prepared the attached Supplemental Testimony relating to Greenhouse Gas Emissions for the Application for Small Power Plant Exemption for the Sequoia Backup Generating Facility (California Energy Commission Docket Number 19-SPPE-03).
5. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.
6. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Dallas on May 22, 2020.



Marcela DeLong

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Small Power Plant
Exemption for the
**SEQUOIA BACKUP GENERATING
FACILITY**

DOCKET NO. 19-SPPE-03

**DECLARATION OF BRIANNA
BOHONOK**

I, Brianna Bohonok, declare as follows:

1. I am presently employed as Associated Principal with Circlepoint.
2. A copy of my professional qualifications and experience was included with the previously filed Opening Testimony Package and is incorporated by reference in this Declaration.
3. I prepared the attached Supplemental Testimony relating to Greenhouse Gas Emissions for the Application for Small Power Plant Exemption for the Sequoia Backup Generating Facility (California Energy Commission Docket Number 19-SPPE-03).
4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at 8:53 a.m. on May 21, 2020.



Brianna Bohonok

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Small Power Plant
Exemption for the
**SEQUOIA BACKUP GENERATING
FACILITY**

DOCKET NO. 19-SPPE-03

**DECLARATION OF STEVEN
BRANOFF**

I, Steven Branoff, declare as follows:

1. I am presently employed as Principal with Ramboll.
2. A copy of my professional qualifications and experience was included with the previously filed Opening Testimony Package and is incorporated by reference in this Declaration.
3. I prepared the attached Supplemental Testimony relating to Air Quality and Public Health for the Application for Small Power Plant Exemption for the Sequoia Backup Generating Facility (California Energy Commission Docket Number 19-SPPE-03).
4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Albany, California on May 21, 2020.



Steven Branoff

**C1-SANTA CLARA, LLC
SEQUOIA BACKUP GENERATING FACILITY
AIR QUALITY, PUBLIC HEALTH, GREENHOUSE GASES
SUPPLEMENTAL TESTIMONY**

I. Name: Marcela DeLong
Brianna Bohonok
Steven Branoff

II. Purpose:
Our Supplemental Testimony addresses Air Quality, Public Health and Greenhouse Gas Emissions for the Sequoia Backup Generating Facility (SBGF) CEC Docket 19-SPPE-3.

III. Qualifications:

Marcela DeLong: I am presently employed as Project Architect, Senior Associate with Corgan, the project architecture firm hired by CyrusOne, the owner of C1-Santa Clara, LLC (C1). I have been employed by Corgan for the past 8 years. I have a master's degree in Architecture from Ohio State University and I have 8 years of experience developing critical infrastructure projects such as data centers.

I am the Project Manager for the permitting of the SBGF and the Sequoia Data Center. I caused to be prepared and reviewed the Application For SPPE, as well as the post-filing information, data responses, and supplemental filings.

Brianna Bohonok: I am presently employed as an Associate Principal at Circlepoint and have been for the past year. I have a Masters Degree in Urban Planning and Policy from the University of Illinois and I have 7 years of experience in preparing and reviewing California Environmental Quality Act (CEQA) documents.

I have been engaged by C1 to prepare the Application for SPPE for the SBGF and additional documents for docketing at the CEC. I managed the preparation of the Application for SPPE and reviewed and developed several related data responses.

Steven Branoff: I am presently employed as a Principal at Ramboll and have been for the past 19 years. I have a Master of Science Degree in

Environmental Engineering from the University of California at Berkeley and I have 24 years of experience in conducting air quality and public health analyses within California and other western states.

I have been engaged by C1-Santa Clara, LLC (C1) to prepare the Bay Area Air Quality Management District Authority to Construct applications and the air quality and public health analyses for development of the SBUF. I prepared or caused to be prepared the Air Quality section of the Application For SPPE and Air Quality Technical Reports, as well as the post-filing information, data responses, and supplemental filings.

Detailed descriptions of our qualifications are presented in our resumes which were included in Attachment A to C1's Opening Testimony package (TN 232420).

To the best of our knowledge all referenced documents and all of the facts contained in this testimony are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements and provide these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

IV. Exhibits

In addition to this written testimony, we will be sponsoring the exhibits listed on C1's Proposed Exhibit List which will be attached to its PreHearing Conference Statement.

V. Opinion and Conclusions

The Committee has posed the following questions relating to Air Quality and Public health impacts. Mr. Branoff provides the following responses.

Air Quality Pertaining to Criteria Pollutants

- 1) Is Staff's analysis in the Initial Study/Proposed Mitigated Negative Declaration (IS/PMND) of impacts from criteria pollutant emissions consistent with the BAAQMD CEQA Guidelines? Explain. If not, is the analysis nonetheless CEQA compliant? Explain.**

The Air Quality analysis performed in the IS/PMND conforms with the requirements of California Environmental Quality Act (CEQA) Guidelines, and CEC's regulations and policies. The Bay Area Air Quality Management District (BAAQMD) published CEQA guidelines to assist with the evaluation of a project's potential impacts on air quality. This analysis is based upon the methodologies and related thresholds in the most recent BAAQMD CEQA Guidelines¹. These methodologies include qualitative determinations and determination of whether project construction and readiness testing and maintenance would exceed numeric emissions and health risk thresholds.

Emissions of Criteria Air Pollutants (CAPs) from construction of the data center and back-up generating facility resulted in an average daily emission of 15.4 lbs/day of ROG, 22 lbs/day of NOx, 0.8 lbs/day of PM10 and 0.7 lbs/day of PM2.5, well below the significance thresholds.

Direct and indirect CAP emissions from building operation and energy use, along with the emissions from readiness testing and maintenance, were also found to be below the Operational CAP emissions thresholds. The average daily emissions were estimated to be 21 lbs/day of ROG, 8.4 lbs/day of NOx, 4.4 lbs/day of PM10 and 2.1 lbs/day of PM2.5, well below the significance thresholds. NOx emissions from readiness testing and maintenance alone were estimated to be 197 lbs/day, and the applicant has purchased NOx offsets which mitigate emissions to less than significant levels.

Public Health Pertaining to Toxic Air Contaminants (TACs)

- 1) Does the analysis of TACs included in Appendix F of the SPPE application apply the methodology set forth in Section 5.3 of the BAAQMD's CEQA Guidelines for assessing cumulative impacts of TACs? Explain.**

- 2) If the analysis of TACs included in Appendix F does not apply the methodology set forth in Section 5.3 of the BAAQMD's CEQA Guidelines for assessing cumulative impacts of TACs, is the analysis nonetheless CEQA compliant and consistent with the BAAQMD methodology? Explain.**

¹ TN 233052, BAAQMD 2017 CEQA Guidelines.

The analysis of TACs included in Appendix F of the SPPE application is based on Section 5.3 of BAAQMD CEQA guidelines which provide details on significant determination for cumulative impacts. Section 5.3 states that “A Lead Agency shall examine TAC and/or PM_{2.5} emission sources located within 1,000 ft of proposed project site. Source of TACs include, but are not limited to, land uses such as freeways and high volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities.”

Section 2.3 of BAAQMD CEQA Guidelines establishes numerical thresholds for determining cumulative impacts from a Project including sources within a 1,000 ft. radius from the project fenceline.

The cumulative impact analysis in the IS/MND is consistent with the methodology set forth in Section 5.3 of BAAQMD’s CEQA guidelines for assessing cumulative impacts. Consistent with the guidelines, the IS/MND evaluated all sources of TACS and PM_{2.5} within 1,000 ft from the project boundary and evaluated impacts against the BAAQMD 2017 cumulative CEQA significance thresholds of:

- An excess lifetime cancer risk level of more than 100 in one million;
- A noncancer chronic HI greater than 10.0; and
- An annual average PM_{2.5} concentration of greater than 0.8 micrograms per cubic meter (µg/m³).

Sources of emissions within 1,000 ft radius of project site were determined using BAAQMD’s updated CEQA Tool “Permitted Stationary Sources Risk and Hazards GIS” map² which provides locations of stationary sources permitted by the District, and BAQMD’s raster tools which provide impacts from major streets, highways and railroads. The tools developed by the Air District incorporate risk assessment procedures from the 2015 OEHHA Air Toxics Hot Spots Program Guidance³.

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<https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65>

³ TN 233056

Although most of the stationary sources on the Norman Y. Mineta San Jose International Airport are more than 1,000 feet away from the Project boundary, the analysis included impacts due to the airport operations as requested by BAAQMD's comments on the IS/MND⁴. The City of San Jose published a Draft Environmental Impact Report (EIR) in November 2019 for the airport master plan update, which is available on the city's website⁵. The risk results presented here rely on the modeling files available from the City of San Jose.

Based on the modeling files from City of San Jose for baseline year 2018, and the stationary sources available in BAAQMD's CEQA tool, the following table provides a summary of cumulative health risk impacts at the Maximally Exposed Individual Sensitive Receptor as a part of the Project.

⁴ TN 232242

⁵ <https://www.sanjoseca.gov/your-government/department-directory/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs/sjc-airport-master-plan-update>

Emission Source	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index	Annual PM2.5 Concentration (ug/m3)
Project Operational Generators	0.19	5.1E-05	0.10	2.6E-04
Subtotal, Project Impacts	0.19	5.1E-05	0.10	2.6E-04
Existing Stationary Sources ¹				
German Autobody Shop	0.42	0.001	--	--
Premier Body Shop LLC	0.044	--	--	--
Service King Paint & Body	0.05	--	--	--
The Way Auto Care	0.077	--	--	--
Barefoot Coffee Roasters	0.034	--	--	--
Unocal #255290 ²	0.416	0.0005	--	--
Vargas Gardening Service ³	--	--	--	--
Alamo Rental (US) Inc. ³	--	--	--	--
San Jose International Airport ⁵	20.07	0.16		0.04
Subtotal, Background stationary sources	21.11	0.16	--	0.05
Existing Rail and Roadway Sources ⁴				
Railroad	30.9	NA	NA	0.055
Major Streets	7.1	NA	NA	0.2
Highways	8.1	NA	NA	0.2
Subtotal, Background mobile sources	46.2	0.0	0.0	0.4
Total Cumulative Impact	67	0.162	0.103	0.447
BAAQMD Significance Threshold	100	10	10	0.8
Notes:				
¹	The nearest permitted stationary source to the MEISR (of the sources located within 2000 ft of project facility) is greater than 1,000 ft from receptor; distances are thus treated as 1,000 ft in BAAQMD's Health Risk Calculator from MEIR to be conservative. Stationary source emissions within 2000 ft of the project facility boundary were obtained via a Stationary Source Inquiry Form submitted to BAAQMD in June 2019.			
²	Facility emissions data was unavailable for speciated Toxic Air Contaminant (TAC) emissions. BAAQMD Stationary Source Screening Analysis KML Tool for Santa Clara county was used in place of emissions data, and scaled by BAAQMD GDF Distance Calculator. KML tool last updated May 2012; available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools			

3	Data was unavailable for speciated Toxic Air Contaminant (TAC) emissions, as well as risks from BAAQMD KML tool. Throughput from both Vargas Gardening and Alamo Rental facilities were less than 50% of Unocal #255290 throughput and are >300m distance from MEISR; thus, risks are considered negligible for these facilities.
4	Cancer risks and Annual PM2.5 concentrations for mobile emission sources were obtained from BAAQMD's raster tool.
5	Impacts sources located at the San Jose International Airport were obtained from CEC Staff Responses to Committee Questions on the Walsh Data Center Project (Exhibit TN232977). The CEC noted that the staff did independent modeling for the air sources based on files provided by the City of San Jose for the Walsh and Sequoia projects combined, and that the location of the MEIR for both projects are almost identical. The analysis presented here conservatively uses the airport risks estimated at the Maximally Exposed Individual Sensitive Receptor (MEISR) for the Walsh Project which has the highest impact from the San Jose airport.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District	PM2.5 - fine particulate matter
DEIR - Draft Environmental Impact Report	TAC - Toxic Air Contaminants
HI - health index	ug/m3 - micrograms per cubic meter
MEISR - Maximally Exposed Individual Sensitive Receptor	UTM - Universal Transverse Mercator coordinate system

References:

BAAQMD. Permitted Stationary Sources Risk and Hazards GIS Tool. Available online at: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
City of San Jose. Mineta San Jose International Airport Master Plan Amendment to the Airport Master Plan. Available online at: https://www.sanjoseca.gov/your-government/department-directory/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs/sjc-airport-master-plan-update

Thus, including impacts from the SJC airport sources still results in a cumulative impact of 67 in a million, which is below the 100 in a million threshold.

Greenhouse Gas Emissions

The Committee has posed the following questions relating to Greenhouse Gas Emissions. Ms. Bohonok provides the following responses.

- 1.) What is the CEC’s legal obligation to evaluate potential impacts of GHG emissions from the Project, including operations of the Data Center, beyond calendar year 2020? What thresholds of significance must or may be applied?**

Relevant Time Period

The CEQA Guidelines under Title 14, section 15064.4(b) leave it up to the agency to determine the relevant period for a GHG analysis, stating in part, “The agency’s analysis should consider a timeframe that is appropriate for the project.” In this case staff used two time periods. For demolition and construction, staff used 18 months which is the expected time to complete the construction⁶. For operations, staff used an indefinite annual time-period and did not limit its analysis to just 2020, which is not relevant since the facility will not be operating until after 2020.

Thresholds of Significance

For demolition and construction activities, staff estimated the total emissions over the 18 months would be 1,395 metric tons of carbon dioxide equivalent (MTCO₂e)⁷. Section 2.6.2, page 2-6 of the BAAQMD 2017 CEQA Guidelines⁸ does not identify a GHG emission threshold for these short-term construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed. BAAQMD further recommends incorporation of Best Management Practices (BMPs) to reduce GHG emissions during construction, as feasible and applicable. BMPs may include use of alternative-fueled (for example, biodiesel or electric) construction vehicles and equipment for at least 15 percent of the fleet, use of at least 10 percent of local building materials, and recycling or reusing at least 50 percent of construction waste⁹.

Direct operational emissions would result from the testing and maintenance of the backup generators¹⁰. GHG emissions from testing, which is capped at 50 hours annually, is a static number and would not exceed 4,301 MTCO₂e per year. Section 2.2, page 2-4, of the 2017 BAAQMD CEQA Guidelines states: For stationary-source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO₂e¹¹. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate.

⁶ TN 231651; Initial Study, page 5.8-8

⁷ TN 231651, Initial Study, page 5.8-8

⁸ TN 233052, BAAQMD 2017 CEQA Guidelines, page 2-6

⁹ TN 231651, Initial Study, page 5.8-8

¹⁰ TN 231651, Initial Study, Table 5.8-2, page 5.8-9

¹¹ TN 233052, BAAQMD 2017 CEQA Guidelines, page 2-4

Because the BAAQMD threshold at issue is an annual amount, not a total lifetime amount, no specific time-period is necessary to apply the threshold. The testing of the generators would occur each year the facility is in operation and each year it would be below the BAAQMD threshold. Therefore, staff concluded there would be no significant impact¹².

Independent of this annual threshold, the diesel fuel producers are subject to various state laws and programs that would continue to drive down GHG emissions associated with the project's use of the diesel fuel. The policy drivers for long-term reductions in emissions of GHGs from fuels include Executive Orders B-55-18 and S-3-05, AB 32, SB 32, the Low Carbon Fuel Standard (LCFS), and the cap and trade program. Together these policies seek to achieve carbon neutrality by 2045 and statewide GHG emissions 80 percent below 1990 levels by 2050.

It is expected that due to these policy drivers, fuel suppliers will eventually be converting to a zero carbon fuel source such as biodiesel and fossil based diesel will no longer be available in the market. Based on the requirements in force on fuel suppliers to reduce carbon content, especially under the LCFS, the project's GHG emissions from the operational testing of the backup generators would be reduced over time and staff expects the project to be consistent with the long term state GHG emission goals as liquid fuels available in California become carbon neutral.

The primary indirect GHG emissions identified in the Initial study would be emissions associated with electricity generation to service the project¹³. The methodology for determining the GHG emissions from electricity with a mix of sources is to assign a carbon intensity factor that identifies the amount of CO₂ equivalent (CO₂e) produced per megawatt hour (MWh) of this mixed generation. As noted in the Initial Study at page 5.8-10, in 2017 Silicon Valley Power (SVP) had an estimated carbon intensity of 430 pounds of CO₂e per MWh. As required by SVP's integrated resource plan, SVP has set a goal of a 60 percent renewable power by 2030, which will continue to reduce the carbon intensity of their electricity over time.

¹² TN 231651, Initial Study, page 5.8-12

¹³ TN 231651, Initial Study, Table 5.8-4, page 5.8-11

Because the composition of electrical generation sources changes over time, the GHG emissions associated with electricity vary. Often, swings in hydro-generation result in swings in fossil fuel-fired generation, which directly affects GHG emissions in any one year, but the overall trend, while dynamic, is trending downward. Based on a carbon intensity of 430 pounds of CO₂e per MWh the indirect GHG emissions from the project's electricity use is estimated at 83,006 MTCO₂e/yr.

The BAAQMD threshold of 10,000 MTCO₂e/year only applies to the emissions from the project's stationary sources and does not cover indirect impacts such as the emissions associated with grid power. There are no specific thresholds of significance related to indirect GHG emissions from grid power.

To reduce GHG emissions and the use of energy related to building operations, the project includes a variety of energy efficiency measures. For example, the SDC chillers would be installed with variable frequency drives to provide efficient operation, and water use reduction measures are also incorporated in the building design, including the use of air-cooled chillers. Development standards for water conservation would be applied to increase efficiency in indoor and outdoor water use areas. The Sequoia Data Center would comply with all applicable city and state green building measures, including Title 24, Part 6, and the California Green Building Standards Code, commonly referred to as CALGreen (California Code of Regulations, Part 11)¹⁴.

SVP is subject to various GHG reduction requirements and programs such as cap and trade, renewable portfolio standard (RPS), and SB 100. Staff concluded there would be no significant impacts related to the GHG emissions associated with the electricity consumed by the project as those emissions are expected to come down over time as more carbon free energy comes onto the system due to a number of state requirements¹⁵.

2.) Were any of the methodologies or thresholds identified in CEQA Guidelines sections 15064.4 or 15183.5, or the BAAQMD CEQA Guidance used? If so, identify where, using reference to docketed documents specifying titles, transaction numbers and specific

¹⁴ TN 231651, Initial Study, page 5.8-10

¹⁵ TN 231651, Initial Study, pages 5.8-11 and 5.8-12

page numbers. If not, explain why and the legal significance, if any, of not including the methodologies or thresholds identified in CEQA Guidelines sections 15064.4 or 15183.5, or the BAAQMD CEQA Guidance.

Methodologies

Staff followed section 15064.4(a)(1) of the CEQA Guidelines which identifies quantification as a methodology for assessing the greenhouse gas emissions, stating in part:

“A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to: Quantify greenhouse gas emissions resulting from a project.”

The inventory of direct annual GHG emissions includes short term emissions related to construction and long term emissions associated with operation of the project. Construction estimates included emissions from project equipment, vendor and hauling truck trips, and worker vehicle trips¹⁶. As described on Initial Study page 5.8-7, the applicant estimated construction would generate approximately 1,395 MTCO₂e during the estimated 18 months to complete construction.

Direct operational GHG emissions included testing and maintenance of the backup generators, offsite vehicle trips for worker commutes and material deliveries, and facility upkeep (such as architectural coatings, consumer product use, landscaping, water use, and waste generation¹⁷).

Staff also quantified the indirect GHG emissions from the project use of grid power delivered by SVP. The calculations are detailed on pages 5.8-10 through 5.8-11 of the Initial Study. Based on the carbon intensity of SVP's power mix, the emissions associated with the maximum annual electricity consumption would be 83,006 MTCO₂e/yr.

¹⁶ TN 231651, Initial Study, pages 5.8-8

¹⁷ TN 231651, Initial Study, pages 5.8-9 through 5.8-11

Thresholds of Significance

Sections 15064.4 and 15183.5 do not contain specific thresholds of significance, which are left to agencies to determine.

“A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.”¹⁸

As described in the prior response, staff used the BAAQMD thresholds as set forth in their 2017 CEQA Guidelines. But those guidelines do not have thresholds for project level indirect GHG emissions from electrical consumption¹⁹.

Because the primary source of GHG emissions from operations of the project are indirect emissions associated with SVP’s grid power and not emissions from the project itself, staff considered whether SVP is on track to meet statewide long term RPS and low carbon energy requirements as set forth in various laws such as SB 350, SB 100, Executive Orders, and state and local policies. (Initial Study, pp. 5.8-2, 5.8-3, 5.8-11, 5.8-16) Specifically, SB 100 requires that zero-carbon resources supply 100 percent of electric retail sales to end-use customers in the state by 2045.

Section 15064.4(b)(3) of the CEQA Guidelines states: “In determining the significance of impacts, the lead agency may consider a project’s consistency with the State’s long-term climate goals or strategies, provided that substantial evidence supports the agency’s analysis of how those goals or strategies address the project’s incremental contribution to climate change and its conclusion that the project’s incremental contribution is not cumulatively considerable.”

The threshold then is whether SVP is proceeding to reduce emissions associated with its electricity supply, which means the project would also be reducing its indirect emissions. As stated in their 2018 Integrated Resource Plan²⁰, SVP follows the state’s preferred loading order in procuring new energy resources. First, the current load (customer) is encouraged to participate in energy efficiency programs to reduce their

¹⁸ CEQA Guidelines, section 15064.4(b)(2)

¹⁹ TN 231651, Initial Study page 5.8-7

²⁰ TN 233055

usage, thus freeing up existing resources (and any related emissions) for new load (electricity demand). In addition, the City of Santa Clara, working together with SVP, encourages the use of renewable resources and clean distributed generation, and has seen a significant increase in its applications for large and small rooftop photovoltaics. Demand displaced by customer-based renewable projects is also available to meet new loads²¹.

The most salient data regarding SVP's downward trending GHG emission's profile is its low and decreasing carbon intensity or emission's factor. As noted in the Initial Study at page 5.8-10, in 2017, SVP had an estimated carbon intensity of 430 pounds of CO₂e per MWh. By 2019, SVP's carbon intensity had fallen to 341 pounds of CO₂e per MWh²². To compare, the 2017 California statewide average emissions factor of 1,004 pounds of CO₂e per MWh or the PG&E average emissions factor value of 644 pounds of CO₂e per MWh are much higher. SVP's predicted carbon intensity factor for 2021 was estimated to be 271 pounds (0.256 metric tons) of CO₂e per MWh²³. SVP is also on track to meet the requirements of AB 32, cap and trade, and SB 100 as over 70 percent of SVP's electricity is already carbon free. (Initial Study, pp. 5.8-9, 5.8-10, and 5.8-16) SVP expects to be 100 percent carbon free by 2045 as required by SB 100.²⁴

Therefore, based on the extensive legal and policy drivers reducing the GHG emissions associated with SVP electricity supply during the expected life of the project, staff found the indirect GHG emissions generated by the project would be below the threshold and would not be a cumulatively considerable contribution under CEQA because the project by way of SVP, would conform with all applicable plans, policies, and regulations adopted for the purpose of GHG reductions²⁵.

For the same reasons staff finds the projects indirect GHG emissions from the use of electricity would be consistent with long-term state GHG emission reductions goals, specifically, SB 100, which requires that zero-

²¹ TN 231651, Initial Study, pages 5.8-9 and 5.8-10

²² TN 232078, Walsh Backup Generating Facility Initial Study. Page 5.9-11

²³ TN 229419-1, SBGF SPPE Application, p. 4.8-13, TN 233088, SVP Email to City of Santa Clara.

²⁴ <https://www.siliconvalleypower.com/sustainability/commitment-to-renewable-energy>

²⁵ TN 231651, Initial Study, page 5.8-12

carbon resources supply 100 percent of electric retail sales to end-use customers in the state by 2045.

CEQA Guidelines section 15183.5(a) allows an agency performing a project specific environmental analysis to rely on an EIR containing a programmatic analysis of greenhouse gas emissions. Typically, the referenced programmatic EIR would cover a general plan or other long-range city or county development plan. In this case there was no current programmatic EIR to tier from that staff was aware of or that would reduce the GHG emissions from the facility since the bulk of the project generated emissions are from grid electricity. Accordingly, the Initial Study did not tier off any existing environmental documents. Staff did consider the goals of the Climate Action Plan, which is an expiring programmatic level effort by the City of Santa Clara to address GHG emissions. The City of Santa Clara may utilize the provisions of Section 15183.5 as applicable if a programmatic EIR is developed and if the project is exempted.

3.) Explain whether and how the goal identified in the City of Santa Clara’s 2020 Climate Action Plan, for data centers to achieve a power usage effectiveness below 1.2, is applicable to and whether it is feasible for the Project?

The power usage effectiveness (PUE) set forth under the 2020 Climate Action Plan (CAP) is not applicable to this project because the facility already deploys energy efficient server technology resulting in a low rack power rating.²⁶

Measure 2.3 of the CAP encourages completion of a feasibility study of energy efficient practices for new data center projects with an average rack power rating of 15 kilowatts or more to achieve a PUE of 1.2 or lower. The project would have an average rack power rating range of 8 to 10 kilowatts²⁷, so a feasibility study of energy efficient practices would not be required.

The project would be consistent with the CAP by saving energy at the server level. The lower the rack power value the more information can be processed per unit of electricity consumed.

²⁶ TN 231651, Initial Study, page 5.8-13

²⁷ TN 229419-1, SBGF SPPE Application, page 4.8-17, TN231561, Initial Study, page 5.8-13

While targeting a PUE of 1.2 is not required, it is expected that the facility will have a PUE of around 1.23²⁸. Regardless of whether achieving a PUE of 1.2 is feasible, it is not necessary to conclude the project would have a less than significant impact on energy resources or GHG emissions.

Ms. Delong also notes that according to an industry survey of data centers the 2019 average PUE was 1.69. The SDC has an expected PUE that is significantly below this industry average.²⁹

4.) If the GHG emissions impacts from Project operation are found to be significant, what, if any, mitigation measures could be adopted to bring the GHG emissions below the threshold of significance?

As discussed above, the project's direct operational GHG emissions are low, and well below the BAAQMD's threshold of significance. Because the majority of the emissions associated with the operations of the data center are indirect and would come from the generation of electricity provided by SVP, the most impactful measure would be increasing the percentage of carbon free power procured by SVP. As stated above, SVP's downward trending GHG emission's profile is due to its low and decreasing carbon intensity or emission's factor and compliance with various renewable and low carbon energy requirements.

²⁸ TN 229419-1, SBGF SPPE Application, page 2-3

²⁹ TN 233053, Annual Data Center Survey Results, Uptime Institute