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State of California **The Resources Agency of California**

M e m o r a n d u m

To: Commissioner Karen Douglas, Presiding Member
Commissioner Patty Monahan, Associate Member

Date: March 6, 2020

From: **California Energy Commission**
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Subject: **CALIFORNIA ENERGY COMMISSION STAFF RESPONSES TO COMMENTS RECEIVED ON THE SEQUOIA DATA CENTER INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION (19-SPPE-03)**

In accordance with the Committee scheduling order on January 29, 2020, which required staff to file its responses to comments on the Initial Study/Proposed Mitigated Negative Declaration within seven days after the close of the CEQA comment period, staff submits the following summary of comments received and responses. Comments were received from the Bay Area Air Quality Management District, Intervenor Robert Sarvey, the California Department of Toxic Substances Control, and the City of San Jose Airport Department.

COMMENTER: Bay Area Air Quality Management District

Statements from Bay Area Air Quality Management District (BAAQMD) comment letter docketed on February 27, 2020 (TN 232242) are presented below in *italics*, followed by staff's response, with references to the sections of the Initial Study/Proposed Mitigated Negative Declaration (IS/PMND) (TN 231651) as appropriate. It is important to put the comments provided by the BAAQMD into context. They note in the comment letter that:
"Although this project meets the Air District's current rules and regulations to obtain a permit [emphasis added], we encourage CEC to promote the use of cleaner technologies."

California Energy Commission (CEC) staff and BAAQMD agree the proposed project would be able to comply with the BAAQMD's current rules and regulations, if the project were to move forward. Staff did not identify any significant impacts that would require mitigation or override by the permitting agency. The comments identify those areas in which BAAQMD would encourage the project owner to go beyond anticipated permit requirements.

GREENHOUSE GAS EMISSIONS

BAAQMD-1 (p.1): Calculation of Greenhouse Gas Emissions. *Air District staff recommends that CEC revise the GHG analysis, include GHG emissions from the maximum electrical usage associated with the data center, and coordinate with the Air District on best practices for quantifying GHG emissions.*

Staff Response to BAAQMD-1:

Table 5.8-4 on page 5.8-11 of the IS/PMND used the applicant-estimated typical energy use of 655,633 MWh/year, equivalent to a 75 percent occupancy factor for the data servers at the Sequoia Data Center (SDC). BAAQMD suggested in their comment letter that the analysis should be based on the maximum electrical usage associated with the data center to estimate the worst-case annual GHG emissions.

In estimating the total energy use, shown below, staff assumes 96.5 MW of maximum demand (IS/PMND) times 8,760 hours per year to equate to 845,340 MWh/yr. BAAQMD recommended using a carbon intensity factor (CI) of 430 pounds (lbs)/megawatt hour (MWh), which staff notes is the value applicable for 2016/2017, although the SDC would not become operational until 2021.

Silicon Valley Power (SVP) eliminated the use of coal by 2018. They continue to increase use of natural gas and renewable energy to meet demand. Therefore, the CI should be reduced by almost 40 percent by 2021. This reduction is also based upon SVP expecting to have an additional 40 to 65 MW of solar power and 250 MW of wind power coming on-line in 2019/2020.[1] Using the CI of 430 lbs/MWh provides a conservative upper limit estimate on GHG emissions associated with the proposed facility.

Upon further review, the IS/PMND page 5.8-10 has an error in the text, and should be modified because a PG&E emissions factor of 644 pounds of CO_2e per MWh was not used in the calculation of data contained in **Table 5.8-4**. Staff's edits are shown in ~~strikethrough~~ for any deleted text and **bold and underline** for new text.

The following changes to the text of the IS/PMND on page, 5.8-10 should be made:

> **Data Center Electricity Usage.** The primary function of the data center is to house computer servers, which require electricity and cooling up to 24 hours a day to operate. The projected maximum demand for the entire data center is ~~99~~ **96.5** MW. On an annual basis, the data center would consume up to the maximum electrical usage of ~~867,240~~ **845,340**[2] MWh per year. SVP's power mix, with its 2017 estimate of 430 pounds of CO_2e per MWh, has a much lower average GHG emissions factor than the California statewide average emissions factor of 1,004 pounds of CO_2e per MWh**.** ~~or the PG&E average emissions factor value of 644 pounds of CO_2e per MWh that are provided in CalEEMod~~. **The electricity-based indirect emissions were corrected to use the SVP 2017 GHG emissions factor of 430 pounds of CO_2e/MWh suggested by the BAAQMD recommendation, rather than a forecasted carbon intensity value of 271 pounds of CO_2e/MWh provided by the applicant.**

The updated GHG emissions of 170,865 $MTCO_2e$/yr, would be about 9.6 percent of the City's 2016 GHG emissions inventory of 1,769,000 MTCO2e shown on page 5.8-5 of the IS/PMND. However, this is meaningless, as each project is not responsible for the City achieving its GHG goals. This will be a City-wide effort that will not be a smooth curve towards compliance but a series of steps as programs are implemented, and long-term electricity supply contracts expire and new renewable electricity supply contacts are implemented. It should be noted that this estimate of potential GHG emissions

[1] https://www.siliconvalleypower.com/home/showdocument?id=58073

[2] Calculated as ~~99~~ **96.5** MW x 8,760 hours per year of operation.

does not include efficiency measures that would be pursued as part of the project, nor does it reflect implementation of state and local measures to reduce GHG emissions, for example, Senate Bill (SB) 350 and SB 100 that would continue to reduce GHG emissions from electricity generation.

Staff has also modified **Table 5.8-4** as follows in response to BAAQMD staff's comment letter.

Staff's edits are shown in ~~strikethrough~~ for any deleted text and **bold and underline** for new text in the table and footnotes below the table.

TABLE 5.8-4. MAXIMUM GHG EMISSIONS FROM ENERGY USE, MOBILE SOURCES, AREA SOURCES, WATER USE, AND WASTE GENERATION DURING PROJECT OPERATION—SDC ONLY

Source	Annual Emissions ($MTCO_2e$/year)
Energy Use [a]	~~83,006~~ **165,225**
Mobile Sources [b]	4,049
Area Sources [c]	0.016
Water Use [d]	329
Waste Generation	438
Cooling System R-134a Leakage [e]	824
Total [e]	~~88,646~~ **170,865**

Sources: Sequoia 2019b, Appendix F, and Energy Commission staff analysis

[a] Energy use emissions **were calculated using the maximum energy use for the data center as recommended by BAAQMD and including** ~~include~~ indirect emissions from **maximum potential use of** electricity and direct emissions from natural gas use**d** for comfort heating. The electricity based indirect emissions were corrected to use the SVP 2017 GHG emissions factor of 430 pounds of CO_2e/MWh **suggested by the BAAQMD recommendation, rather than a forecasted carbon intensity value of 271 pounds of CO_2e/MWh provided by the applicant.**

[b] Mobile source emissions include emissions from worker commute and vendor trips**, from CalEEMod output pdf page 7 of 34 (Sequoia 2019b)**.

[c] Area source emissions include emissions from architectural coatings, consumer products, and landscaping.

[d] Water use indirect GHG emissions were corrected to use the current 1.57 million gallon annual use estimate.

[e] Estimate based on an applicant estimate of approximately 11,583 lb CO_2 leakage x 54 engines = 625,482 pounds of R-134a in the cooling system and industry standard leak rate of two percent per year (Sequoia 2019c), and an AR4 GWP of 1,430 for R-134a (IPCC 2007). The regulatory leakage rate limit would be a leakage rate of 10 percent per year, which would increase the maximum allowable GHG annual emissions to 4,122 $MTCO_2e$.

BAAQMD-2 (p.2): Consistency With Long Term State Climate Goals. *To address the Project's impacts on GHG emissions beyond 2020, Air District staff recommends that CEC augment its greenhouse gas discussion to include an analysis of whether the project will be consistent with these [long-term] State policies and plans.*

Staff Response to BAAQMD-2:

GHG impacts from all project emission sources would be considered less than significant if the project is consistent with the City of Santa Clara's Climate Action Plan (CAP) and applicable regulatory programs and policies adopted by the California Air Resources Board (ARB) or other California agencies. The staff's analysis includes the Assembly Bill (AB) 32 Scoping Plan (page 5.8-2) and SB 32 requirements to achieve GHG emissions reductions to 40 percent below 1990 levels by 2030 (page 5.8-3).

Policies outlined in the AB 32 Scoping Plan capture much of the State's framework for reducing GHG emissions. These programs will likely be extended beyond 2020 to address the State's 2030 GHG reduction goal set in SB 32. Senate Bill 350 (page 5.8-3), which was adopted after preparation of the

AB 32 Scoping Plan, will also support California's long-term climate change objectives. Senate Bill 350 extends the State's Renewables Portfolio Standard (RPS) from 33 percent in 2020 to 50 percent in 2030 and requires a doubling of statewide energy efficiency. In 2017, Silicon Valley Power's (SVP) power mix included approximately 38 percent renewable power, which surpassed the 2020 RPS goals while California's electrical grid included approximately 29 percent renewable power (see GHG Table 5.8-3 in the IS/PMND).

Since the RPS increases to 50 percent by 2030, the carbon intensity of California's electricity supply and the GHG emissions generated to serve the project's electricity demand will continue to drop. These trends will be consistent with California's climate goals for 2030 expressed in SB 350. This point is particularly relevant to the project since the majority of the estimated GHG emissions during operation would come from electricity consumption by the data center building.

The City of Santa Clara's CAP, adopted in 2013, provides a comprehensive emissions reduction strategy that will allow the City to achieve its fair share of statewide emissions reductions through 2020, consistent with AB 32. Consistency with the CAP framework is a relevant consideration in the analysis of the significance of the project's GHG impacts because many of the policies are expected to be carried forward by the City to address post-2020 emissions in its next CAP update.

Executive Orders B-55-18[3] and S-3-05[4] express the State's intent to achieve carbon neutrality by 2045 and GHG emissions reductions equivalent to 80 percent below 1990 levels by 2050. The facility could be required to implement any specific regulations established by these Executive Orders, if promulgated in state or local regulations adopted to implement these policies. However, to date, specific requirements remain unidentified.

BAAQMD-3 (pp.3-4): Recommendations for Achieving Additional Emission Reductions. *Air District encourages CEC to incorporate additional emission reduction measures into its approval of the project. These recommended measures will help ensure that the project's emissions impacts are reduced to the maximum extent possible, regardless of whether they are legally required to mitigate a significant impact. These mitigation measures are summarized as follows:*

BAAQMD-3a. Air District staff recommend that the Project join SVP's Santa Clara Green Power program and thus commit to purchase 100 percent renewable energy, or otherwise negotiate an electricity contract with SVP for 100 percent renewable energy.

BAAQMD-3b. Air District staff recommend that the Project meet this standard since industry best practices indicate that a PUE of lower than 1.2 is achievable (e.g., Google Data Centers). Air District staff also recommend that the project applicant install solar photovoltaic (PV) panels paired with battery storage, which also aligns with CAP Measure 2.4 and could replace some of the diesel back-up generators.

BAAQMD-3c. Air District staff recommend that the project applicant use the cleanest available technologies such as solar power, batteries, fuel cells, or Tier 4 generators.

BAAQMD-3d. Air District staff recommend that the Project consider using lower-GWP refrigerant.

[3] https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf

[4] http://static1.squarespace.com/static/549885d4e4b0ba0bff5dc695/t/54d7f1e0e4b0f0798cee3010/1423438304744/California+Executive+Order+S-3-05+(June+2005).pdf

BAAQMD-3e. Air District staff recommend that all APMs be made commitments to reduce GHG emissions.

BAAQMD-3f. Air District staff recommend that CEC assess and justify how power plant projects such as the back-up generators associated with these data centers will meet the electricity sector's share of the statewide goals in the Scoping Plan.

BAAQMD-3g. Air District staff strongly recommends that CEC work with SVP, the City of Santa Clara, the Air District, and the project proponents for this and similar proposed data center projects to explore alternative options to reducing GHG emissions.

Staff Responses to BAAQMD-3a through BAAQMD-3g:

There are several recommendations the BAAQMD staff have identified for measures that would ensure the project's emissions impacts are reduced to the maximum extent feasible, regardless of whether they are legally required to mitigate a significant adverse impact. In general, CEC staff's task in preparing an IS/PMND is to determine whether a project would cause a significant impact. If such an impact is identified, staff works with the applicant to incorporate mitigation measures. If such an impact is not identified, or if the applicant incorporates additional mitigation measures to resolve adverse impacts, the applicant can proceed to the local level for permitting and at that time, further design improvements could be incorporated to further reduce GHG emissions.

Each BAAQMD comment is addressed below:

Staff Response to BAAQMD-3a: In response to the comment that advocates for the project applicant to purchase Santa Clara Green Power from SVP, it is important to understand that the SDC would be a multi-tenant data center. Normally, the data center owner purchases power from SVP and then passes these costs along to each tenant using separate sub-meters for each tenant. As with other data centers that have already been permitted through the City of Santa Clara, project applicants such as McLaren confirmed (based on comment letters from the City of Santa Clara[5]) that for its own offices and building support spaces, the applicant would purchase Santa Clara Green Power, while also encouraging its tenants to participate in the Santa Clara Green Program. The project owner of SDC has stated they would incorporate additional energy efficiency measures specified by the City of Santa Clara during the design review process to ensure compliance with applicable energy efficiency laws, ordinances, regulations, and standards (Sequoia 2019a). CEC staff agrees it would be beneficial for the applicant and the City of Santa Clara to come to a similar agreement as McLaren and not only to commit to purchase Santa Clara Green Power for its own building support space, but also to encourage SDC tenants to participate in the Santa Clara Green Program as well. Thus, the GHG emissions in **Table 5.8-4** represent an upper estimate of the facility's GHG emissions.

Staff Response to BAAQMD-3b: Measure 2.3 of the CAP calls for completion of a feasibility study of energy efficient practices for new data center projects with an average rack power rating[6] of 15 kilowatts or more to achieve a PUE of 1.2 or lower. The project would have an average rack power

[5] https://www.santaclaraca.gov/home/showdocument?id=51500

[6] Average rack power rating is a measure of the power available for use on a rack used to store computer servers. The higher the value of kilowatts, the greater power density per rack and generally more energy use per square foot of building area in a data center.

rating range of 8 to 10 kilowatts. This would be below the criteria in Measure 2.3, such that a formal feasibility study of energy efficient practices is not required. However, the project includes various design features as shown in **Table 5.8-5** (page 5.8-14 to 5.8-15), to achieve LEED standards consistent with current Title 24 requirements of the California Building Code and local green building regulations to reduce energy, water, air, and GHG impacts of the development. The project would use lighting control to reduce energy usage for new exterior lighting and air-side economization[7] for building cooling. If the downward trend in average PUE continues, with all new data centers in the Silicon Valley, the project's PUE would decrease over time, further reducing GHG emissions. The second recommendation suggests the project needs to incorporate solar photovoltaic (PV) panels paired with battery storage in order to align with CAP Measure 2.4. CEC staff agrees it would be beneficial for the applicant and the City of Santa Clara to come to a similar agreement as McLaren and install solar PV. However, for the portion of the comment that suggests battery storage, this technology was not evaluated by staff. We are not in a position to conclude that the site has sufficient space, or otherwise could accommodate a large enough battery to reduce the number of diesel-fueled engines.

Staff Response to BAAQMD-3c: CEC staff agrees that solar power and battery technologies advocated by BAAQMD staff are expected to be a portion of the approach needed to meet the 2050 GHG goals; however, currently the technology for solar power, battery storage and fuel cell technologies on a scale of 100 MW as required for this project are not expected to fit in the space available for this project. Also, for the fuel cell option, pipeline natural gas is not likely to have the same reliability as the liquid fuel diesel proposed for the Sequoia Backup Generating Facility (SBGF). Staff is not recommending Tier IV diesel engines because we did not identify an impact that would need the additional mitigation that would be provided by Tier IV diesel engines.

Staff Response to BAAQMD-3d: CEC staff requested information from the applicant in Data Request Set 1 addressing the use of HFC-134a as its refrigerant. Staff was interested in replacing the proposed HFC-134a with a different refrigerant that had a lower global warming potential, such as that being used in most of the European Union (HFO refrigerant R-1234YF [2,3,3,3 - Tetrafluoropropene]). The applicant's Data Response stated that "*Should the need to recover the refrigerant arise, it will be incumbent upon the equipment manufacturer to identify a "drop in" refrigerant compatible with their equipment. A system design is not anticipated to accommodate future refrigerants".* According to the Air Resources Board's "HFC Prohibitions in California" webpage[8], HFC-134a use for chillers is unacceptable as of January 1, 2024, which is after this project is proposed to be built. The IS/PMND assumed this refrigerant would be used with an estimated GHG emissions leakage rate estimate as shown in **Table 5.8-4**. Refrigerant leakage is estimated to be 0.5 percent of the facility's total GHG emissions.

Staff Response to BAAQMD-3e: CEC staff agrees it would be beneficial for the applicant and the City of Santa Clara to come to an agreement making all applicant proposed measures (APMs) commitments to reduce GHG emissions.

Staff Response to BAAQMD-3f: Please see Staff Response to BAAQMD-2.

[7] An air-side economizer brings outside air into a building and distributes it to the servers.

[8] https://ww2.arb.ca.gov/resources/fact-sheets/hydrofluorocarbon-hfc-prohibitions-california

Staff Response to BAAQMD-3g: CEC staff agrees it would be beneficial for the applicant and the City of Santa Clara to come to an agreement with the BAAQMD, and the project proponents for this and similar proposed data center projects to explore alternative options for reducing GHG emissions. Toward that end, staff would be willing to discuss future projects with BAAQMD staff.

CUMULATIVE HEALTH RISK IMPACT ASSESSMENT (HRA)

BAAQMD-4 (p.2): Health Risk Assessment and Cumulative Toxic Air Contaminants Impacts. *BAAQMD Staff recommends that CEC revise the Toxic Air Contaminant (TAC) analysis to include a cumulative HRA for all sources within 1,000 feet of the project boundary, including the San Jose International Airport (SJC).*

Staff Response to BAAQMD-4:

Staff did not perform a cumulative HRA for the SDC or SBGF because the project is not expected to have significant impacts on Air Quality or Public Health. According to page 5-3 and 5-4 of BAAQMD CEQA 2017 Guidelines, significance thresholds are defined as:

- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) risk greater than 1.0 HI from a single source would be a significant cumulatively considerable contribution, and
- An incremental increase of greater than 0.3 µg/m3 annual average PM2.5 from a single source would be a significant cumulatively considerable contribution.

According to **Table 5.3-8** (page 5.3-22), **Table 5.3-9** (page 5.3- 25) and **Table 5.3-10** (page 5.3-27) of staff's IS/PMND, excess cancer risk level, the chronic health risks and annual average PM2.5 are all substantially below these significance thresholds. Therefore, this project would not cause a significant cumulatively considerable contribution to air quality or public health impacts.

On March 5, 2020 the applicant docketed TN 232315 titled, "C1 Clarification and Response to BAAQMD IS[/P]MND Cumulative HRA Comment". This document is also reflected in the SPPE application in Appendix F. According to this document, the sources that are attributed to the San Jose International Airport are outside the 1,000 ft. buffer recommended as part of the BAAQMD CEQA Guidelines. Based on the project-level analysis included above, the SBGF would not have a cumulatively considerable impact based on these BAAQMD criteria:

- There is no qualified risk reduction plan in effect for the City of Santa Clara.
- The SBGF would not exceed the BAAQMD cumulatively considerable thresholds relative to the region's existing air quality conditions per the BAAQMD criteria.

Because the project would not meet the BAAQMD CEQA Guidelines criteria for a contribution to any potential adverse cumulative air health risk impacts from either construction or operation, it would not contribute to any potential adverse cumulative air impact on sensitive receptors (IS/PMND page 5.3-27). This is not a cumulative analysis traditionally conducted for criteria pollutants because it does not include new and proposed facilities such as Walsh. The applicant claims they conducted their analysis out to 2,000 ft., but staff has not been able to verify this. However, results reported by the applicant are well below BAAQMD CEQA Guidelines thresholds of significance for Public Health impacts.

COMMENTER: Intervenor Robert Sarvey (submitted as "Testimony")

Comments below are from a document that Intervenor Robert Sarvey titled as "testimony" docketed on February 28, 2020 (TN 232270). However, staff is responding to these as if they are CEQA comments. The comments are presented below in *italics*, followed by staff's response, with references to the sections of the IS/PMND) (TN 231651) as appropriate. For comments that are similar to comments from BAAQMD (TN 232242), staff directs the reader to those responses to avoid duplication and confusion.

GENERATING CAPACITY

Sarvey-1 (pp. 1-3): Generating Capacity. *"The Sequoia Data Center does not qualify for SPPE process since its generating capacity is over 100 MW. The generating capacity for the SDC is 121.5 MW as computed by section 2003 the only authority promulgated in the CEC regulations to compute generating capacity".*

Staff Response to Sarvey-1:

The IS/PMND provides a detailed discussion of the jurisdictional determination in Appendix A, including whether the SDC should be processed as a small power plant exemption (SPPE). Staff's analysis in Appendix A shows that the SDC satisfies the following:
California Code of Regulations, Title 20, Section 1936. Scope Filing, Review and Distribution of Applications for Exemption:

(a) Any person who proposes to construct a thermal power plant with a generating capacity not exceeding 100 megawatts, or proposes a modification to an existing thermal power plant which will add generating capacity not exceeding 100 megawatts may apply for an exemption from the provisions of Chapter 6 of Division 15 of the Public Resources Code.

As explained in Appendix A of the IS/PMND, jurisdictional analyses are based on the net MWs that can be delivered for "use", not the gross or nameplate rating. The maximum load being served is determinative and not the combined capacity of the installed generators. Here, the maximum potential facility-wide load requirement would be 96.5 MW.

ENERGY RESOURCES

Sarvey-2 (pp. 3-5): Project's Energy Impacts. *The IS/MND fails to describe the project's impacts on SVP's energy supply.*

Staff Response to Sarvey-2:

The question in Appendix F of the CEQA Guidelines is, whether or not the project would conflict with or obstruct a state or local plan for renewable energy. This question is not related to how the SVP's energy supply mix is decided on by SVP. How much electrical energy the project would use in comparison to the SVP's electrical energy capacity is a business decision that would be made with consideration of how SVP chooses to distribute its available power capacity to its customers. It is not an environmental issue that should be addressed by the CEC.

Also, as explained in the Energy Resources section of the IS/PMND (page 5.6-5), SVP is committed to meeting California's Renewable Portfolio Standard. SVP's 2018 Integrated Resource Plan identified that it expects to exceed 50 percent eligible renewable resources in its portfolio by 2030 (SVP 2018). As SVP procures more renewable energy for its portfolio, less nonrenewable energy sources will be needed and therefore less nonrenewable power would be provided to SDC. The project would neither

conflict with, nor obstruct state or local plans for renewable energy and therefore would have no adverse impact on them.

Sarvey-3 (pp. 6-7): Diesel Fuel Consumption. *"The IS/MND fails to quantify the amount of diesel fuel that will be wasted and also fails to analyze the energy consumption of the diesel fuel trucks needed to remove contaminated diesel fuel".*

Staff Response to Sarvey-3:

Staff does not agree with the comment that diesel fuel would need to be removed or would be wasted. On page 5.9-6 of the IS/PMND staff states, "Projects with diesel-fired back up generators would use standard practice for fuel quality and maintenance of stored diesel fuel. Standard practice includes that each engine would have a dual fuel filter system and that the fuel would be replenished after testing. The fuel water separators (a three bank system) would be the primary fuel filter. The secondary fuel filter, installed just before the fuel would be injected into the engine, would filter the fuel down to particles less five microns in size. Routine replacement of the engine dual fuel filters would reduce any effects of fuel degradation on engine components and operation".

"Commercial diesel fuels also contain biocides that prevent microbial growth and additives that help to stabilize the fuel for several months. Additionally, the diesel fuel would be replenished with fresh fuel after each month's testing procedures". Staff's analysis leads to the expectation that standard-practices fuel treatment, combined with regular replacement of fuel consumed during routine readiness testing with fresh fuel, would prevent any stored fuel from needing to be hauled away from the site due to "staleness" or contamination.

GREENHOUSE GAS EMISSIONS

Sarvey-4 (pp. 7-8): Estimated Project GHG Emissions. *CEC Staff bases its estimate of GHG emission from the Sequoia Data Center (SDC) electricity use on the 2017 SVP overall power mix as shown in the table below.*

Staff Response to Sarvey-4:

Staff did not base the estimated project GHG emissions on the 2017 SVP overall power mix or a 2018 Power Label. Furthermore, the power label was not used to calculate emissions in the IS/PMND **Table 5.8-4**. Staff multiplied a carbon intensity (CI) value multiplied by the maximum annual energy used at the facility to estimate the project's maximum expected GHG emissions. The applicant provided a forecasted CI value of 271 lbs CO_2e/MWh, which was used for estimating GHG emissions, based on expected energy use consumed at the SDC building. However, staff updated the CI value in response to comments from BAAQMD.

For an updated estimated project GHG emission shown in the IS/PMND **Table 5.8-4**, please see **Staff's Response to BAAQMD 2**.

Sarvey-5 (pp. 9-12): *"SDC with a 1.23 average PUE and a peak 1.43 PUE would be much higher PUE than other modern data centers higher than the industry standards and an inefficient and wasteful use of energy in violation of CEQA". ……."The initial study needs to, assess and justify how power plant projects such as the back-up generators associated with these data centers will meet the electricity sector's share of the statewide goals in the Scoping Plan" (p. 12).*

Staff Response to Sarvey-5:
BAAQMD's comments (TN 232242) also addressed consistency with the City of Santa Clara's CAP. See **Staff Response to BAAQMD-2**.

Sarvey-6 (pp.13-14): GHG Mitigation Measures. *The IS/MND proposes Mitigation Measure GHG-10 which states, "SDC has a Power Usage Effectiveness of 1.23 and an average rack power rating range of 8 to 10 kilowatts. [SDC only] There are many problems with this measure.*

Staff Response to Sarvey-6:
BAAQMD's comments (TN 232242) also addressed the applicant proposed measure (APM) GHG-10 and a lower PUE. See **Staff Response to BAAQMD-3b, and BAAQMD-3e**.

CUMULATIVE HEALTH RISK IMPACT ASSESSMENT (HRA)

Sarvey-7 (p. 14): Health Risk Assessment and Cumulative Toxic Air Contaminate Impacts. *"The health risk assessment should include all sources including the Walsh Avenue Data Center which is located less than 1,000 feet from the SDC and the San Jose Airport which is adjacent to the project".*

Staff Response to Sarvey-7: BAAQMD's comments (TN 232242) also addressed the need for a revised HRA and cumulative toxic air contaminant impacts analysis. See **Staff Response to BAAQMD-4**.

EMERGENCY OPERATION – AIR QUALITY IMPACT ASSESSMENT (AQIA)

Sarvey-8 (pp. 15-17): Emergency Operation AQIA. *"The IS/MND does not provide an air quality impact assessment of the SDC emergency generators for emergency operations." "BAAQMD has determined that the project area shaded in blue in the map above requires further study".*

Staff Response to Sarvey-8:

Page 5.3-1, Section 5.3 of the IS/PMND states, "intermittent and standby emitting sources, like those proposed in this project, could operate for emergency use, and such emergency operations would be infrequent and for unplanned circumstances, which are beyond the control of the project owner. Emergency operations and the impacts of air pollutants during emergencies are generally exempt from air district permitting. Emissions from emergency operation are not regular, expected, or easily quantifiable such that they cannot be analyzed with certainty."

The comment (p.16) notes that, in the case of the Laurelwood Data Center IS/MND, staff modeled air quality impacts during emergency operations. The comment claims that staff's analysis for Sequoia "is a departure" from the Laurelwood case. In the Laurelwood case, staff acknowledged that conducting an air quality study of emergency scenario emissions is: "typically not addressed in detail" (Laurelwood IS/MND p. 5.3-25) and doing so requires several knowing speculative factors making "a definitive air quality impact analysis speculative" (Laurelwood IS/MND, p. 5.3-33). Staff's analysis for Sequoia continues this logic from the prior case. On page 5.3-33, the Sequoia IS/PMND states, "Due to the number of factors that need to be considered, evaluating ambient air quality impacts during emergency operations would require unnecessary speculation."

Specifically, emissions occurring during an emergency can only be estimated with the following types of information that are necessary to conduct a meaningful analysis for this type of an event:

1. Hours of operations (duration),
2. Continuous operation,
3. Local meteorological conditions (wind speed, wind direction, relative humidity, temperature),
4. Background air quality concentrations,
5. Number of emergency generators would be running simultaneously (all or some generators), and
6. Load points of each generator (for example 100%, 75%, 50% load).

Because of these factors listed above, in combination with the evidence of SVP's historical system reliability, staff could not identify a meaningful/representative scenario where emergency operations would occur.

Staff's approach in this analysis is consistent with the approaches used by California's local air districts on emergency-use-only equipment. On page 5.3-27, the Sequoia IS/PMND states, "The air quality impacts of emergency generator operation during emergencies are not quantified below because impacts of emergency operations are typically not evaluated during facility permitting and air districts do not normally conduct an air quality impact assessment of such impacts." Since the publication of Laurelwood Data Center IS/MND, after speaking with a number of local California air districts, staff determined that an air quality impact analysis (AQIA) could only reasonably evaluate permitted emissions from regularly scheduled activities such as readiness testing and maintenance of the emergency engines. An AQIA was not prepared for situations where one or more emergency engines would operate for emergency use. As noted above, such emergency operations would be infrequent, uncontrolled, unpredictable, and are for unplanned circumstances beyond the control of the project owner. CEQA provides that a lead agency may find that a particular environmental impact is too speculative for evaluation, and CEQA requires that we look at reasonably foreseeable impacts.[9] Accordingly, staff concludes that modeling of the air quality impacts during emergency operations is not warranted.

Mr. Sarvey includes a comment (p. 18) that states, "*BAAQMD has determined that the project area shaded in blue in the map above requires further study*" for TACs and fine PM. The statement in the comment comes from the BAAQMD's Planning Healthy Places guidebook published May 2016. Through the Planning Healthy Places guidebook, the BAAQMD seeks to promote "healthy infill development."[10] Although the Sequoia project does not contemplate new infill residential development, staff's analysis in the IS/PMND provides further study to evaluate TACs and fine PM impacts. In the IS/PMND, page 5.3-34, staff states: "Health risks during readiness testing and maintenance were evaluated assuming a total of 50 hours of operation per year for all 54 generators operating simultaneously. Readiness testing and maintenance activities are expected to occur 10 to 12 hour per year. Thus, the analysis can be extended to include emergency operations up to 38 hours per year per engine and HRA results presented for readiness testing and maintenance should capture the effect of likely emergency operation." Accordingly, the IS/PMND identifies the potential impacts related to health risks and concludes that the project would have less than significant risks.

[9] CEQA Guidelines, § 15151; see also Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal. 4th 412, 453 (an environmental review document need not analyze a "worst-case" scenario) (Committee Proposed Decision Laurelwood Data Center).

[10] https://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

PERFORM A CUMULATIVE IMPACT ANALYSIS

Sarvey-9 (pp. 18-20): Cumulative Impact Analysis. *"In addition to analyzing the direct impacts of a project, CEQA requires a determination of whether or not a project will result in a significant cumulative impact. The analysis must include other past, present and probable future projects causing related cumulative impacts regardless of whether such projects are within the control of the lead agency".*

Staff Response to Sarvey-9:

The IS/PMND discussion of cumulative impacts to air quality (Air Quality checklist item b.) describes the project's emissions and concludes that the project would not result in a cumulatively considerable net increase of any criteria pollutant (p.5.3-19).

The IS/PMND **Table 5.3-4** (p. 5.3-13) presents the BAAQMD Thresholds of Significance criteria air pollutant and precursor emissions in units of lbs/day (averaged over a month) and tons/year. These represent the levels at which the BAAQMD has determined that a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the San Francisco Bay Area Air Basin's existing air quality conditions. If daily average or annual emissions of operational-related criteria air pollutants or precursors would exceed any applicable BAAQMD Threshold of Significance listed in the IS/PMND **Table 5.3-4**, the proposed project would result in a cumulatively significant impact. The IS/P MND **Table 5.3-6** (p. 5.3-19) shows that the project would not exceed any applicable BAAQMD Thresholds of Significance. Therefore, staff concludes that the project would not result in a cumulatively significant impact.

ENVIRONMENTAL JUSTICE

Sarvey-10 (p. 22): *The project area is considered an environmental justice community. Currently there are 50 data centers operating in the project area and the CEC is processing seven more. Despite this the IS/MND fails to provide a cumulative health risk and toxic air contaminant assessment as required by BAAQMD regulations.*

Staff Response to Sarvey-10: See Staff Response to BAAQMD-4.

Sarvey-11 (p. 22): *The operation of just one SDC diesel generator can produce an air quality impact that is within 2% of the State NO2 standard and 1% of the federal NO2 standard but the IS fails to model emergency operations of the diesel generators.*

Staff Response to Sarvey-11: See Staff Response to Sarvey-8.

Sarvey-12 (p.22): *The CEC Staff failed to do a cumulative air quality impact assessment.*

Staff Response to Sarvey-12: See Staff Response to Sarvey-9.

Sarvey-13 (p. 22): *The Energy Commission failed to engage the confirmed environmental justice community that will be impacted by this proposal. The Commission failed to hold the traditional Informational Hearing and Site Visit. An informational hearing is sponsored by the Energy Commission to inform the public about the project and to invite public participation in the review process. Project materials such as the IS/MND, the data responses, and the application were not*

printed in languages friendly to the EJ community so they could understand the project and participate. The energy commission once again has failed to properly engage the environmental justice community.

Staff Response to Sarvey-11:

The IS/PMND provides a detailed discussion of the public outreach performed by Energy Commission staff and the Public Advisor's Office (PAO), which can be found on pages 5.21-4 through 5.21-5 of Section 5.21 Environmental Justice, under the heading "Project Outreach". Additionally, IS/PMND pages 3-2 and 3-3 of Section 3 Introduction to the Initial Study discusses the noticing requirements for the project.

The Environmental Justice section of the IS/PMND also specifically considered how or if the project would impact an environmental justice community. The IS/PMND concluded that project impacts on environmental justice communities would be less than significant.

Noticing of the Application for Exemption is set forth in California Code of Regulations, Title 20, section 1936(d) which requires that a summary of the Application for Exemption be published in a newspaper of general circulation in the county of the project site. The summary was published in English in the San Jose Mercury News and in Chinese (Mandarin) in the World Journal. Staff provided public notice of the Application for Exemption through a Notice of Receipt[11] that was mailed the project mail list, including environmental justice organizations and similar interest groups. To comply with section 15072 of the CEQA guidelines and CEC regulations, staff mailed the notice of receipt and the notice of intent to adopt the IS/PMND to property owners and occupants within 1,000 feet of the project and 500 feet of the linears, including all contiguous owners and occupants. Additionally, concurrent with the submission of the IS/PMND to the State Clearinghouse, notice of intent to adopt the IS/PMND was sent to responsible agencies, trustee agencies, the Santa Clara County Clerk, local libraries, and organizations and individuals who had previously requested such notice. The local libraries in Santa Clara were provided with paper copies of the IS/PMND too. Staff also conducted outreach and consultation with regional tribal governments.

The PAO outreach consisted of emails and phone calls to local elected officials, environmental justice organizations, local chamber of commerce, schools and school districts, community centers, daycare centers, park departments, religious organizations, local hospitals within a six-mile radius of the proposed project.

On December 17, 2019, the Committee held a Committee Conference to discuss the SPPE process, scheduling, and issues about the project.[12] Notice of the Committee Conference was mailed to the surrounding property owners and all responsible and trustee agencies under CEQA.[13]

On February 26, 2020 a Joint Committee Conference was held in the City of Santa Clara to review the schedule and current status of the Sequoia application proceeding and address any outstanding issues. Notice of the Joint Committee Conference was mailed to the surrounding property owners and

[11] TN 229627

[12] TN 232007

[13] TN 230859

all responsible and trustee agencies under CEQA.[14] The public and interested public agencies were encouraged to attend the Committee Conference and the agenda included opportunities for public comment.

Notice of Hearing and Related Orders on Motion to Compel by Intervenor Robert Sarvey is also available on the project docket and was mailed to surrounding property owners and all responsible and trustee agencies under CEQA. The hearing is scheduled for Wednesday, March 11, 2020. An evidentiary hearing and CEC business meeting will also occur in the future, which would be noticed consistently with the previous Committee events and also include opportunities for public comments.

Commenter: Department of Toxic Substances Control

Comments from DTSC's document titled "Department of Toxic Substances Control Comments – on Initial Study and Proposed Mitigated Negative Declaration" docketed on February 28, 2020 (TN 232259) are summarized below in italics, followed by staff's response, with references to the sections of the IS/PMND (TN 231651) as appropriate.

DTSC-1: *The text discusses past land uses, but further clarification needs to be added. A paper mill is said to have operated on the property since the 1950s until 2017. It is not discussed what potential hazardous materials could result from operation of a paper mill facility. Please discuss what hazardous materials-related impacts this facility could have had on the project site.*

Staff Response to DTSC-1:

An assessment of the hazardous materials used on the site was included in the Phase 1 Environmental Site Assessment (TN 229419-3, Appendix L pg. 45). Prior to the SPPE application being filed with the CEC on August 14, 2019, the site underwent demolition under a permit obtained from the City of Santa Clara on February 7, 2019. (TN 231651, pg. 4-12). Therefore, the City of Santa Clara would have been the agency responsible for any site testing and remediation required during demolition.

DTSC-2: *The text discusses twelve underground storage tanks (USTs) that were removed with regulatory oversight. It is said that these sites were closed "based on the SCWVD's conclusion that the remaining contamination did not represent a significant threat to groundwater due to the stable or decreasing trends and distribution of petroleum hydrocarbon concentrations in groundwater." The decision for case closure seems to have been based off of impacts to groundwater. It's unclear whether a potential soil impact existed, remains, or was not evaluated. If a soil source still exists, this could impact construction workers. If the soil has been evaluated and is not a concern, then further clarification should be added to the text.*

Staff Response to DTSC-2:

The Phase 1 Environmental Site Assessment identified the residual soil and groundwater contamination from the underground storage tanks as a controlled recognized environmental condition (CREC). However, the report did not consider the presence of the CREC to represent an ongoing contamination concern to the site with its existing industrial/commercial use designation. (TN

[14] TN 232042

229419-3, Appendix L, pg. 55). If any additional contamination were encountered on the site during construction, the applicant-proposed measure HAZ-1 would ensure that the contamination would be dealt with properly, as required by laws and regulations.

DTSC-3: *Similarly, the Limited Subsurface Investigation collected groundwater and soil vapor samples, but no soil samples. Construction workers and surrounding receptors could be exposed to contaminated soil, if left unevaluated. It is said throughout the text that there are residual concentrations of chemicals of concern (COCs) present due to past land uses. It is unclear where this residual assessment comes from, as it seems that there have been no soil samples collected. This may be an assumption based on groundwater and soil vapor samples, but the potential for contamination in soil should not be eliminated as a concern without properly evaluating the potential for that pathway to be present. I would recommend conducting a Phase 2 Environmental Site Assessment (ESA) or other environmental sampling (specifically for soil) to eliminate any concerns regarding construction worker/community safety, especially considering past land uses that likely have contributed to contamination at the site.*

Staff Response to DTSC-3: According to the Phase 1 Environmental Site Assessment, there was an additional limited subsurface investigation conducted on the site. The report found that "the results of the investigation included detections of petroleum hydrocarbons and fuel-related VOCs in groundwater, generally localized to former UST areas and mill areas, at concentrations that are predominantly below those measured at the time of the UST closure in 2000. A groundwater sample collected adjacent to the empty 126,000-gallon fuel oil AST did not identify impacts to groundwater. Soil vapor detections included fuel-related VOCs, chlorinated solvents (PCE and TCE), and several other VOCs; however all of the detections were below the most stringent (i.e., residential land use) screening criteria published by United States Environmental Protection Agency (U.S. EPA) and California Environmental Protection Agency (CalEPA) for evaluation of vapor intrusion risks. Details regarding sample locations and investigation procedures are provided in a report (the "2018 Soil Vapor and Groundwater Report") prepared by Ramboll under separate cover" (TN229419-3, Appendix L, pg. 55). Finally, the Phase 1 Environmental Site Assessment did not recommend a Phase 2 Environmental Site Assessment for the project site.

DTSC-4: *The Mitigation Measure HAZ-1 is inadequate to address potential contamination at the site. This Mitigation Measure explains that "if contaminated soils from agricultural or industrial use are unexpectedly encountered during any construction activities, work in the area shall be temporarily halted…"*

Staff Response to DTSC-4: Staff did not propose HAZ-1 for the Sequoia Data Center project. HAZ-1 is an Applicant Proposed Measure (APM) that was included in the proposed project. According to the Phase 1 Environmental Site Assessment, though it "cannot rule out the possibility that spills or releases of chemicals or petroleum products from the mill have impacted the soil and groundwater conditions at the site, sampling conducted to date has not identified new potential sources of contamination (beyond those discussed above) or evidence to suggest that the site has significantly contributed to regional groundwater impacts" (TN229419-3, Appendix L, pg. 55). Therefore, staff concludes that APM HAZ-1 proposed for the project would be sufficient to deal with any potential contamination that is likely to be found during construction at the site. The demolition of the site was

completed under the demolition permit issued by the City of Santa Clara, and any contamination found then was addressed.

DTSC-5: *On page 184 it is said that detections were below California Environmental Protection Agency (CalEPA) screening criteria. Please specify which CalEPA screening criteria you are referring to.*

Staff Response to DTSC-5: The Phase 1 Environmental Site Assessment used the residential screening criteria published by the U.S. EPA and CalEPA for the evaluation of soil vapor intrusion (TN229419-3, Appendix L, pg. 55).

DTSC-6: *Please provide more information regarding the Phase 1 ESA, Limited Subsurface Investigation and past UST closure activities. If not, please add the Phase 1 ESA and Limited Subsurface Investigation to the appendix and incorporate these documents by reference.*

Staff Response to DTSC-6: Please refer to TN229419-3 and TN229419-4 for the Phase 1 Environmental Site Assessment.

COMMENTER: City of San Jose Airport Department

Airport-1: *The Airport has no concerns with the findings of the Initial Study or with the proposed issuance of a MND.*

Staff Response Airport-1: Thank you for your comment. It is noted.

Airport-2: *We request consideration of the following suggested edits to Initial Study Section 5.9 (Hazards and Hazardous Materials), Page 5.9-8, Checklist Item "e".*

- *In the 1st paragraph under "Construction", the 2nd sentence reference to an FAA "maximum structure height of 162 feet AMSL at the project site" is not strictly correct. Rather, and as correctly stated elsewhere in Section 5.9, the reference is to the most restrictive FAA obstruction surface applicable to the proposed structure.*

  This is an important clarification in that the FAA, under its regulatory authority, has the discretion to determine a proposed structure elevation that exceeds an obstruction surface to be conditionally acceptable (i.e., an obstruction but not a hazard) or, conversely, to determine that a proposed structure elevation that is below an obstruction surface to be unacceptable (i.e., a hazard), the point being that FAA airspace safety reviews account for factors other than just obstruction surface elevations. As of the date of this comment letter, the FAA has not yet issued a "determination of no hazard" to the applicant for the proposed 105-ft. AGL/149-ft. AMSL structure high point.

- *In turn, we suggest that the last paragraph under "Construction" be modified to appropriately add the following: Prior to local approval of construction, the permitting agency shall require the applicant to (a) obtain an FAA "determination of no hazard" clearance for the structure's highest point(s). and (b) comply with any conditions set forth by the FAA in its determinations.*

This added sentence would support the Initial Study finding that the project would not have an adverse impact on airport safety.

Staff Response Airport-2: Thank you for your comment. Shortly after receipt of the City of San Jose Airport Department comment letter the applicant submitted the FAA's Determination of No Hazard to Air Navigation for the proposed data center building. The FAA determination is available in the docket log on the CEC project website under TN 232020 at the following link: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-03.