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TESTIMONY OF ROBERT SARVEY ON THE INITIAL STUDY / MND FOR THE LAURELWOOD DATA CENTER

THE PROJECT DOES NOT QUAILFY FOR A SMALL POWER PLANT EXCEPTION

The initial study argues that even though the project's generators have a maximum capacity of 165 MW, we should use the 99 MW building load to determine the generating capacity of the LDC, to determine if the project is eligible for treatment under the small power plant provisions of Title 20. Section 1934 of Title 20 provides the purpose of allowing a small power plant exemption. Section 1934 states, ***"It is the policy of the State Energy Resources Conservation and Development Commission to promote the development of electric energy supply technologies that prudently conserve and economically use energy resources. A major purpose of these regulations is to encourage the use of those technologies by expediting the procedures necessary for the approval and development of alternate sources of electric generation."*** The major question is whether the LDC's back up diesel generators are a development of an electrical supply technology or alternate source of electric generation that prudently conserves and economically uses energy. The back-up diesel generators are certainly not a new development or innovative, or an alternative source of electrical energy. Diesel generators have been in use for decades and are certainly not a new development or an alternative source of electrical generation. Do the diesel generators prudently conserve and economically use energy? The answer is an unequivocal no. This project proposes to burn approximately 5,500 to 14,280 barrels of diesel fuel a year, which is the most polluting fossil fuel available and it doesn't produce any energy. This would be the definition of an inefficient and wasteful use of energy. Even while not producing any energy and assuming the project will only be tested for 21 hours a year the project will emit 24.7 tpy of NOx while the project area is in nonattainment for ozone and particulate matter.

The back-up diesel generators for the LDC are not an innovative technology for producing electricity nor do they prudently conserve and economically use energy. The project does not qualify for SPPE treatment because it clearly does not conform to the

purpose of Section 1934 which governs the application of the small -power plant exemption. As such the applicant is required to file an Application for Certification.

Air Quality

Increase in NOx emissions from operation of the project is cumulatively considerable and a significant impact.

The initial study concludes that, "***Table 5.3-6*** *shows that the project would not be expected to result in a cumulatively considerable net increase of non-attainment criteria pollutants during the operational lifetime of the project, including routine testing and maintenance of the standby engine generators. Therefore, project operations would not result in a cumulatively considerable net increase of any criteria pollutant, and this impact would be less than significant."*[1] In making this determination the initial study determines that the project will emit only 24.7 tons of NOx per year and considers only 21 hours of testing and maintenance in determining the potential to emit. In determining the potential to emit the initial study analysis ignores[2] the BAAQMD policy **titled** "Calculating Potential to Emit for Emergency Backup Power Generators," which requires inclusion of emissions from 100 hours per year of emergency operation in determining the potential to emit. Including the 100 hours of emergency operation as required by the BAAQMD regulation leads to an additional 69 tons per year of unmitigated NOx emissions as computed by the applicant.[3] The unmitigated NOx emissions from emergency operation would be considered a cumulative significant

[1] TN-229584 Initial Study Page 49 of 291

[2] TN-229584 Initial Study Page 60 of 291 "Emissions that could occur in the event of an outage that triggers emergency operations would not occur on a regular or predictable basis (BAAQMD 2019b) and are not included in the determination of whether the project would result in a cumulatively conside rable net increase of non-attainment criteria air pollutants." The whole purpose of the BAAQMD policy is to include emergency emission in the potential to emit to determine applicability of BAAQMD regulations.

[3] TN 229186 Page 4 of 8
https://efiling.energy.ca.gov/GetDocument.aspx?tn=229116&DocumentContentId=60521
Please note that the applicant used an operating scenario which it cannot use as the diesel generators cannot be operated above their 2.75 MW continuous rating. Using the operating scenario that the applicant has proposed 44 generators operating at 80% load will lead the project to emit over 100tons per year of NOx and be subject to PSD and Title V.

impact because it leaves 66.7 tons per year of unmitigated NOx emissions which exceeds BAAQMD 10 tpy threshold for significance.

Cumulative Impacts

The initial study fails to conduct a cumulative impact analysis for air quality impacts. CEQA requires that the lead agency must analyze cumulative impacts whenever a proposed project's individual impacts have the potential to combine with related impacts from other projects to compound environmental harm. The Guidelines define cumulative impacts as two or more individual effects which, when considered together, are considerable or compound or increase other environmental impacts. If the proposed project will not make any contribution to the cumulative impact, the lead agency need not address it. **However, if even a tiny portion of the cumulative impact is caused by the proposed project, an EIR** must analyze it. The ultimate goal of this analysis is to determine whether the proposed project's incremental contribution is cumulatively considerable and thus significant. A project's incremental impact may be individually limited but cumulatively considerable when viewed together with the environmental impacts from past, present, and probable future projects. A proposed project's incremental effects may be cumulatively considerable even when its individual effects are limited. **In other words, CEQA does not excuse an EIR from evaluating cumulative impacts simply because the project-specific analysis determined its impacts would be less than significant**. Similarly, a less than significant impact conclusion at the project-level does not guarantee the project's contribution to a significant cumulative impact will be less than cumulatively considerable.

In Section 5.3-1 of BAAQMD's 2017 CEQA document the agency lays out its requirements for a cumulative impact analysis. The document states, "*A Lead Agency shall examine TAC and/or PM2.5sources that are located within 1,000 feet of a proposed project site. Sources 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. Land uses that contain permitted sources, such as a landfill or*

manufacturing plant, may also contain non-permitted TAC and/or PM2.5sources, particularly if they host a high volume of diesel truck activity. A Lead Agency should determine what the combined risk levels are from all nearby TAC sources in the vicinity of sensitive receptors. ***Lead agencies should use their judgment to decide if there are significant sources outside 1,000 feet that should be included".***[4] Additional requirements apply to an area that is included in BAAQMD's Community at Risk Program (CARE). **The facility is located in an area included in the BAAQMD's CARE program.** According to BAAQMD, "*While overall air pollution continues to decrease in the Bay Area, some communities still experience higher pollution levels than others. These communities are generally near pollution sources (such as freeways, busy distribution centers, and large industrial facilities) and negative impacts on public health in these areas are greater. The CARE Program aims to reduce these health impacts linked to local air quality.*

The goals of the CARE Program are to:

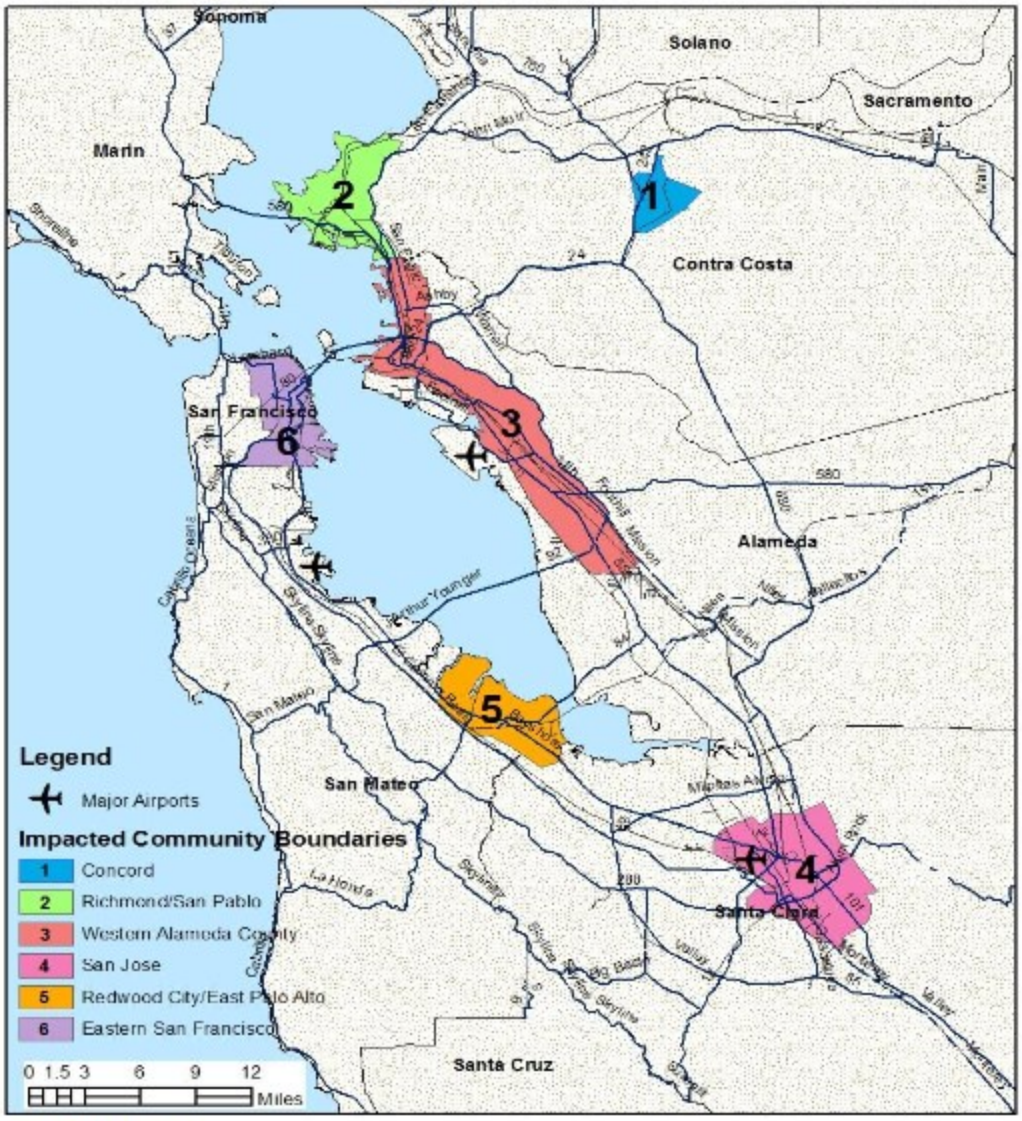
- *Identify areas where air pollution contributes most to health impacts and where populations are most vulnerable to air pollution.*
- *Apply sound scientific methods and strategies to reduce health impacts in these areas.*
- ***Engage community groups and other agencies to develop additional actions to reduce local health impacts.****"*[5]

As the guidance document states, "*in all areas, but especially within impacted communities identified under BAAQMD's CARE program, the Lead Agency is encouraged to develop and adopt a Community Risk Reduction Plan. To determine whether an impacted community is located in a jurisdiction, the Lead Agency should refer to Figure 5-1."*

[4] http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en
Page 69 0f 224

[5] http://www.baaqmd.gov/?sc_itemid=AD652ACE-4CD0-4283-8992-BDF6FB0AAB65

Impacted Communities Figure 5-1



Source: BAAQMD 2009

The Laurelwood data center project is surrounded by Intel Corporation's Mission campus. The approximate 50-acre campus houses several corporate organizations: engineering (design, research and development), software engineering, sales and marketing, legal, supply network, and human resources, **and has more than 7,000 employees**. The Intel campus also houses data centers with many diesel generators.

BAAQMD has estimated the cancer risk for the facility of 205 in a million.[6] BAAQMD has provided me with the 2019 emissions data presented in Appendix 1.[7] On the other side of the LDC is highway 101 with its large amount on NOx, PM and TAC emissions, that the initial study fails to quantify or examine. Montague expressway, another busy major roadway, sits on the other side of the LDC.

A new data center has been approved by the City of Santa Clara at 2305 Mission College Blvd. The 2305 Mission College Boulevard data center would employ 120 625-kW diesel-fueled engine generators located within a generator yard west of the data center building. The 120 emergency backup generators would each be tested once per month at full load for up to one hour. No more than 45 generators would be tested at any one time.[8] The generators would provide 75 MW of backup power generation capacity. Diesel fuel for the generators will be stored in 24,10,000-gallon above ground tanks, with one tank located beneath each block of five generators.[9] The existing improvements on the site would be demolished to allow for construction of the project. Demolition and construction activities would last approximately 15 months. The map below depicts its location.

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[6] www.baaqmd.gov/~/media/files/planning-and-research/ceqa/santaclara-6ft.kmz?la=en

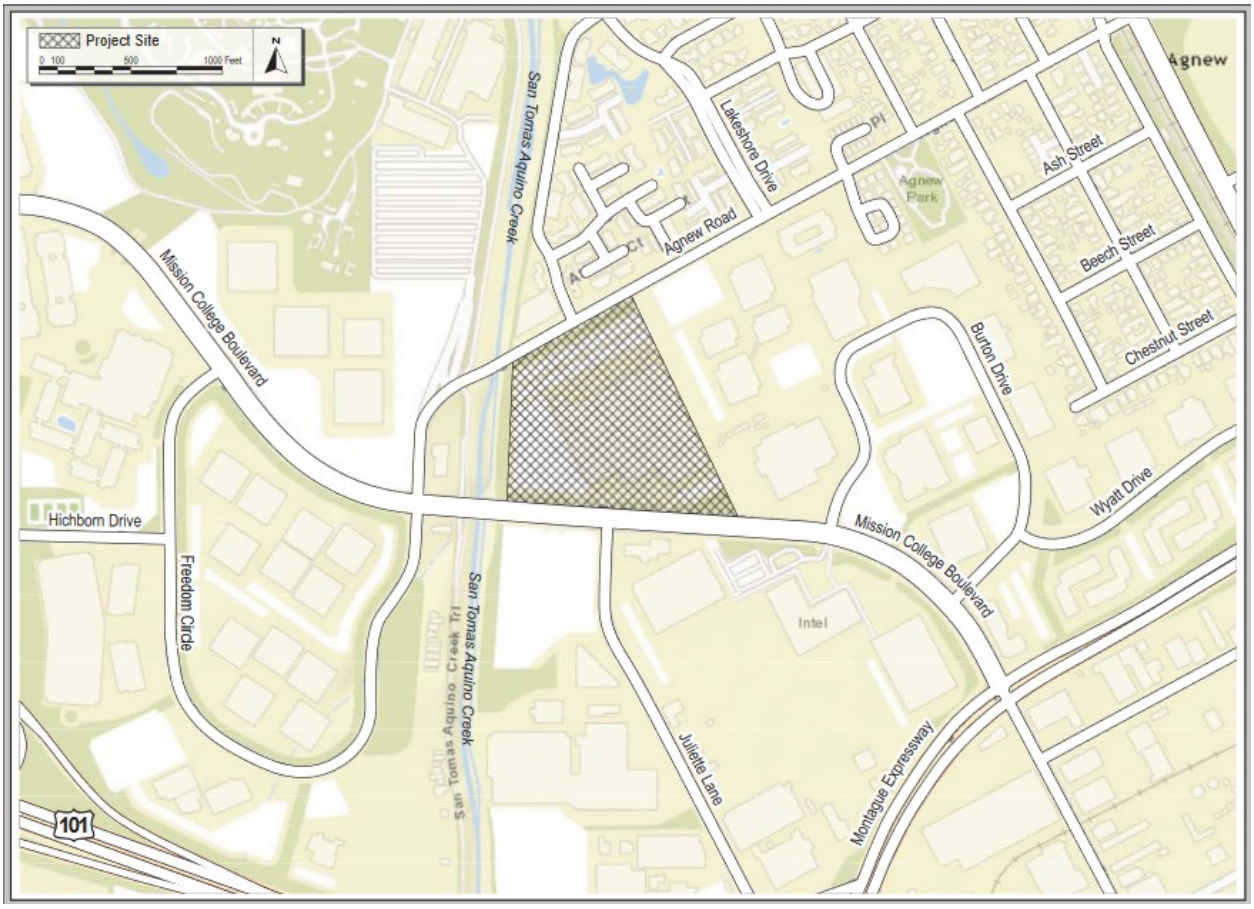
Source **632**

Santa_Clara_May_2012_schema:FID	962
Santa_Clara_May_2012_schema:PlantNo	632
Santa_Clara_May_2012_schema:Name	Intel Corporation
Santa_Clara_May_2012_schema:Address	2150 MISSION COLLEGE BLVD
Santa_Clara_May_2012_schema:City	Santa Clara
Santa_Clara_May_2012_schema:UTM_East	591780.560374
Santa_Clara_May_2012_schema:UTM_North	4137722.21689
Santa_Clara_May_2012_schema:Cancer	205.00
Santa_Clara_May_2012_schema:Hazard	0.200
Santa_Clara_May_2012_schema:PM25	3.260

[7] Email from **AREANA FLORES ENVIRONMENTAL PLANNER** Bay Area Air Quality Management District375 Beale St. Suite 600 | San Francisco, CA 94105415-749-4616 | aflores@baaqmd.gov on September 16 , 2019

[8] Initial Study for the2305 Mission College Boulevard Data Center Project March 2018 http://santaclaraca.gov/home/showdocument?id=56607 Page 13 of 126

[9] Initial Study for the2305 Mission College Boulevard Data Center Project March 2018 http://santaclaraca.gov/home/showdocument?id=56607 Page 11 of 126



According to the initial study, "*Electricity for the LDC would be supplied via a new San Tomas Junction (STJ) substation constructed on the project site, connecting through SVP's 60 kV Northwest Loop."*[10] The northwest loop provides electrical supply to 10 data centers. An outage on that loop could impact as many as 10 data centers and an unknown number of diesel generators. The initial study recognizes that,

> "Wildfire policies could impact SVP's ability to supply power to customers if curtailments on the Pacific Gas and Electric (PG&E) system interrupt SVP's electricity supplies. A Public Safety Power Shutoff (PSPS) could indirectly limit electricity supplies to SVP. A PSPS essentially de-energizes power lines in order to prevent the lines from causing wildfires. The PSPSs are generally limited to high fire risk zones and only implemented under special conditions. While the SVP service territory is not in a high risk zone, a line deenergization in one of PG&E's high risk zones to reduce the risk of lines causing a wildfire could reduce the electricity supplied to SVP through PG&E lines. Electricity supplies to SVP through PG&E could also be reduced if transmission lines

[10] TN 229584 MND/Initial Study Page 20 of 291

were de-energized to avoid damage from a wildfire. **The potential impact of safety shutoffs on the PG&E system are not currently known or well defined by SVP or PG&E.**[11]

The initial study also recognizes that, "*The types of major regional events that are normally excluded from AAQS violation as extreme events could also cause the project to operate the standby engine generators in emergency mode due these events causing regional or local electrical outages. The peak demand of the SVP service territory exceeded 526 MW in 2018 (SVP 2019a), and growth in demand, including new data centers being added to SVP's system, would increase the need to rely on generation that is not local, which could increase the potential for future outages if transmission is shutoff forcing load to be dropped."*[12]

Despite these CEQA and BAAQMD requirements and the potential wildfire impacts, the initial study fails to conduct a cumulative impact analysis, even though this project is located in an area recognized by BAAQMD as a Community at Risk.

CONTRUCTION HEALTH RISK ASSESEMENT IS INADEQUATE

The construction HRA conducted in the initial study concludes that the health risk from construction would result in an excess cancer risk of 75.26 in a million, a significant impact. According to the initial study, ***"Diesel particulate matter (DPM) was the only TAC modeled; its emissions result from exhaust of onsite diesel-fueled construction equipment and vehicles. Since DPM was assumed to be best represented by PM10 emitted as a result of onsite fuel combustion, fugitive dust emissions were excluded as they are not expected to include DPM."*** [13] The project site has had a release of the solvent trichloroethene to the soil and the groundwater.[14] Construction activities will resuspend this contaminated soil and impact local workers at Intel and other sensitive

[11] TN 229584 MND/Initial Study Page 21 of 291
SEE also Page 49 of 291 "The types of major regional events that are normally excluded from AAQS violation as extreme events could also cause the project to operate the standby engine generators in emergency mode due these events causing regional or local electrical outages."
[12] TN 229584 MND/Initial Study Page 49 of 291
[13] TN 229584 MND/Initial Study Page 66 of 291
[14] http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL20230848m

receptors near the project. The construction health risk assessment is clearly inadequate.

THE LDC AS PROPOSED HAS A SINGIFCIANT IMPACT ON ENERGY RESOURCES

The initial study states that the total quantities of diesel fuel used for all the generators operating at full load would be approximately 14,280 barrels per year (bbl/yr).[15] A significant impact under CEQA occurs when a project uses energy in a wasteful, inefficient manner. This project proposes to burn 14,280 barrels of diesel fuel, the most polluting fossil fuel available and it doesn't produce any energy. This would be the definition of inefficient and wasteful use of energy. Even while not producing any energy and assuming the project will only be tested for 21 hours a year the project will emit 24.7 tpy of NOx while the project area is in nonattainment for ozone and particulate matter.

According to the initial study the, "Project operation would not have a significant adverse effect on local or regional energy supplies and would not create a significant adverse impact on energy resources." The publicly available facts demonstrate that Silicon Valley Power will have to obtain additional resources to accommodate the load growth generated by the LDC and other data centers in the SVP service area. According to the 2019 electricity planning forms submitted by SVP to the energy commission, peak load in the SVP service area was 758.8 MW in 2018 and 774 .8 MW in 2017.[16]

line	**Historic LSE Peak Load:**	**Year 2017**	**Year 2018**
19	Annual Peak Load / Actual Metered Deliveries	774.8	758.8
20	Date of Peak Load for Annual Peak Deliveries	9/1/17	7/25/18
21	Hour Ending for Annual Peak Deliveries	17	17
22	Interruptible Load called on during that hour (+)		
23	Self-Generation and DG Adjustments		
24	Adjustments for Major Outages		
25	Adjusted Annual Peak Load	**774.8**	**758.8**

17

[15] That could be reduced to 5997 barrels per year should the applicant actually accept and the intial study require a 21 hour limit on testing for each generator but there is no requirement in the initial study for the 21 hour limitation and the project has no BAAQMD permit to operate so the 21 hour operation scenario is speculative and not the worst case scenario,

[16] Applicant and Staff indicate they believe peak load is 586 MW but that number does not include line loss, municipal use and other factors,

[17] https://ww2.energy.ca.gov/almanac/electricity_data/supply_forms_2019/

The Silicon Valley Power Authority currently has ownership of 1100.4 MW of generation.[18] The product mix is included in Appendix 2.[19]

This leaves a surplus of approximately 342 MW in SVP's portfolio to serve additional customers. It should be noted that 223 MW of the portfolio are intermittent renewables, mostly wind. These products do not provide the baseload energy required by data centers.

Currently there are over 656 MW of data centers in construction or in review which is close to SVP's current demand. The CEC itself has approved the 99.4 MW McLaren Data Center, and is reviewing three data centers with a combined load of over 274 MW. The CEC data center applications total 373.17 MW which would require new resources or facilites for just the CEC approved data centers. In addition, the City of Santa Clara has approved another 73.5 MW with the 2175 Martin Avenue Data Center and 60 MW at the 2305 Mission College Data Center, which is located approximately 1,000- feet from the LDC. The 18 MW Core Site is currently under construction. Cyrus 1 has announced land acquisition for a 144 MW site and Digital Realty has announced a site purchase for 48 MW.

McLaren Data Center	17-SPPE-01	98.67 MW[20]	Under Construction
Laurelwood Data Center	19 SPPE-01	99 MW[21]	CEC Review
Walsh Data Center	19-SPPE-02	80 MW[22]	CEC Review
Sequoia Data Center	19-SPPE-03	95.5 MW[23]	CEC Review
2175 Martin Avenue Data Center	Santa Clara CEQA	13.5 MW[24]	Approved
2305 Mission College Blvd Data Center	Santa Clara CEQA	60 MW[25]	Approved
Cyrus 1 data center		144 MW[26]	Site Purchased

[18] The planning forms submitted to the CEC show only 854 MW of supply in 2018 https://emma.msrb.org/ER1173549-ER917302-ER1317844.pdf Page 21 of 196

[19] https://emma.msrb.org/ER1173549-ER917302-ER1317844.pdf Page 21 of 196

[20] https://ww2.energy.ca.gov/sitingcases/mclaren/

[21] https://ww2.energy.ca.gov/sitingcases/laurelwood/

[22] https://efiling.energy.ca.gov/GetDocument.aspx?tn=229419-1&DocumentContentId=60822

[23] https://ww2.energy.ca.gov/sitingcases/walsh/ Page 10 of 222

[24] http://santaclaraca.gov/home/showdocument?id=65138 Page 6of 290

[25] http://santaclaraca.gov/home/showdocument?id=56607 Page 11 of 126

[26] https://datacenterfrontier.com/cyrusone-preps-144-megawatt-santa-clara-campus-with-on-site-power/ "The company expects to deploy 96 megawatts of capacity on its first 15-acre property, which it acquired in August for $53.1 million. The adjacent 8-acre parcel will house a 48-megawatt data center." Property also houses a 25 MW co-gen which would reduce its footprint to 123 MW.

Digital Realty	Lafayette Street	48 MW[27]	Site Purchased
Core Site		18 MW[28]	Under Construction
Total[29]		656.67 MW	

The Laurelwood data center will require up to 99 MW of **baseload power** as the facility will operate around the clock. Intermittent renewables such as wind and solar will not provide the baseload power necessary to operate the LDC. The LDC power usage will lead to additional resource needs, which intermittent renewables will not provide.

The initial study claims the project has no energy impacts since it is consistent with the Santa Clara Climate Action Plan. In order to tier off the Climate Action Plan, the plan must be being fully implemented and on track to meet its target. The initial study does not discuss this.

Regardless, an examination of the Santa Clara Climate Action Plan demonstrates that the project is not consistent with the Plan. The GHG emission reduction strategy in the City of Santa Clara's Climate Action plan is focused on reducing overall electricity use"[30] The City has adopted a Performance metric for 2020 of 159,100 MWh of electricity savings for the entire city which would achieve an estimated reduction in GHG emissions of 27,600 MTCO2e. The Laurelwood data Center, "would consume up to the maximum electrical usage of 867,240 MWh per year," [31] which would be 600 % of the reduction target and clearly not be compliant with the City of Santa Clara GHG emission reduction strategy. According to the 2013 CAP the Santa Clara community needs to reduce emissions by an additional 309,600 MTCO2e by 2020 to achieve the emissions target (15% below 2008 baseline levels). Operation of the project would generate 255,583 metric tons of CO2e per year in indirect emissions alone. Inclusion of emissions from the LDC's maximum possible

[27] https://datacenterfrontier.com/digital-realty-plans-for-next-phase-of-growth-in-silicon-valley-manassas/
[28] https://datacenterfrontier.com/coresite-buys-expansion-property-in-santa-clara/
[29] There are likely other data centers planned that have not made announcements.
[30] City of Santa Clara Climate Action Plan http://santaclaraca.gov/home/showdocument?id=10170 Page 53 of 116
[31] TN 227273 Laurelwood Application Page 103 of 172

electricity use and other non-stationary sources brings this contribution to a maximum of 14 percent of the total City GHG emissions.[32]

The initial study also argues that the LDC would be consistent with the Santa Clara Climate Action Plan because 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 of 15 kilowatts or more to achieve a PUE of 1.2 or lower. According to the initial study, "*the project would have an average rack power rating range of 8 to 10 kilowatts (Jacobs 2019a, §3.8.3). This would be below the criteria in Measure 2.3, such that a feasibility study of energy efficient practices is not required. The project would be consistent with the CAP.*"[33] This does not demonstrate compliance with the cap it demonstrates that the projects rack power rating is not 15 kilowatts or more. BAAQMD recommends in its 2013 comments on the Santa Clara CAP that "***Data centers should require existing rather than just new data centers to complete a feasibility study to achieve a power use effectiveness rating of 1.2 or lower."***[34] BAAQMD's recommendation does not include limiting the 1.2 PUE analysis to just data centers with a rack rating of 15 kilowatts or more. LDC is proposing a PUE of 1.25 which is higher than BAAQMD's 1.2 PUE recommendation.

The data centers surrounding the LDC are achieving and proposing PUE's far lower than 1.25. The intel campus located next to the LDC contains data centers. One of the data centers, "*uses close-coupled evaporative cooling that relies on recycled water, to help it to reach an annualized PUE of 1.06."*[35] "*Elsewhere in the old semiconductor fabrication plant are smaller data centers, including D2P4, which has 5MW of power*

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[32] TN 227273 Laurelwood Application Page 104 of 172

[33] BAAQMD recommends in its 2013 comments on the Santa Clara CAP that "**Data centers to require existing rather than just new data centers to complete a feasibility study to achieve a power use effectiveness rating of 1.2 or lower. BAAQMD recommendation does not include limiting the 1.2 PUE to just data centers with a rack rating of 15 kilowatts or more**
http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA%20Letters/Santa%20Clara%20CAP%20letter_11_20_13.ashx?la=en

[34] Appendix 3 page 1

[35] **Inside Intel: From silicon fabrication plant, to energy-efficient data center**
https://www.datacenterdynamics.com/analysis/inside-intel-silicon-fabrication-energy-efficient-data-center/

capacity across 5,000 square feet (465 sq m). Thanks to free air cooling, it, too, has a PUE of 1.06 - "they have exactly the same PUE, but totally different techniques. The two facilities have the lowest PUE of any of Intel's data centers. "We've closed lots of small, inefficient data centers, and are trying to reduce our average PUE across our data centers to near 1.06."[36]

The MND for the 2305 Mission College Boulevard Data Center states, "*with implementation of the proposed mechanical and electrical design of the building and the anticipated data center occupancy, the PUE of the data center would be1.09*."[37] "*Google senior director of data center operations Joe Kava reported that the company's trailing 12-month average PUE for 2011 was 1.14, an improvement from 1.16 in 2010. That includes a quarterly PUE of 1.12 for the fourth quarter of the year, when one facility recorded a PUE of 1.08 - the lowest ever for a Google data center."* [38] Google recently reported that, "*Our fleet-wide PUE has dropped significantly since we first started reporting our numbers in 2008. The TTM energy-weighted average PUE for all Google data centers is 1.11, making our data centers among the most efficient in the world.*"[39] The intel campus located next to the LDC contains data centers. One of the data centers, "*uses close-coupled evaporative cooling that relies on recycled water, to help it to reach an annualized PUE of 1.06."*[40] "*Elsewhere in the old semiconductor fabrication plant are smaller data centers, including D2P4, which has 5MW of power capacity across 5,000 square feet (465 sq m). Thanks to free air cooling, it, too, has a PUE of 1.06 - "they have exactly the same PUE, but totally different techniques. The two facilities have the lowest PUE of any of Intel's data centers. "We've closed lots of small, inefficient data*

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[36] **Inside Intel: From silicon fabrication plant, to energy-efficient data center**
https://www.datacenterdynamics.com/analysis/inside-intel-silicon-fabrication-energy-efficient-data-center/

[37] http://santaclaraca.gov/home/showdocument?id=56607 Page 71 of 126

[38] https://www.datacenterknowledge.com/archives/2012/03/26/google-our-pue-is-lower-and-its-scrupulous

[39] https://www.google.com/about/datacenters/efficiency/internal/index.html

[40] **Inside Intel: From silicon fabrication plant, to energy-efficient data center**
https://www.datacenterdynamics.com/analysis/inside-intel-silicon-fabrication-energy-efficient-data-center/

centers, and are trying to reduce our average PUE across our data centers to near 1.06."[41]

The PUE for the LDC is too high. The project, *"would consume up to the maximum electrical usage of 867,240 MWh per year,"* [42] Requiring the LDC to achieve a similar PUE of 1.6 to 1.9 as the adjacent data centers currently achieve would lead to a reduction in electrical needs of approximately 164,755 MWh to 137,758 MWh per year. Achieving a PUE of 1.2 as recommended by BAAQMD would result in a reduction of electrical usage of approximately 43,362 MWh.

The LDC's diesel generators will consume up to 14,280 barrels per year of diesel fuel and will produce no energy- a complete waste and a significant impact to energy resources. The LDC's proposed PUE is far above what other data centers are regularly achieving in the project area and will amount to a wasteful and inefficient use of energy- a significant impact under CEQA requiring an AFC level analysis for the project.

GHG Emissions Are Significant

The initial study states that, "*CEQA requires lead agencies to address the consistency of individual projects requiring discretionary approvals with reduction measures in the 2013 CAP and goals and policies in the Santa Clara General Plan designed to reduce GHG emissions. Compliance with appropriate measures in the City's CAP would ensure an individual project's consistency with an adopted GHG reduction plan.*" The project is not eligible to use the CAP to evaluate full-build emissions to determine its significance under CEQA, because the CAP is based on 2020 GHG reduction goals and this project will not be completed before 2023. Therefore, the initial study does not provide the substantial evidence needed to justify a less than significant determination.

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[41] **Inside Intel: From silicon fabrication plant, to energy-efficient data center** https://www.datacenterdynamics.com/analysis/inside-intel-silicon-fabrication-energy-efficient-data-center/

[42] TN 227273 Laurelwood Application Page 103 of 172

If the Climate Action Plan is utilized to determine if the project has a significant impact to the environment, the conclusion will be that the project does have a significant GHG impact. BAAQMD commented on the Santa Clara Climate Action plan in 2013. BAAQMD commented that Santa Clara needed to expand Measure 2.3 to state that, ***"Data centers to require existing rather than just new data centers to complete a feasibility study to achieve a power use effectiveness rating of 1.2 or lower. Staff recommends that this measure also encourage and incentivize data centers to utilize alternatives to diesel powered back-up generators to reduce GHG emissions and other pollutants from the testing and use of these generators."***[43] The LDC fails to achieve a 1.2 PUE and also includes the use of 56 back-up diesel generators.

The initial study concludes that the projects emissions from the diesel generators is not significant because the potential to emit from the generators would not exceed the BAAQMD significance level of 10,000 MTCO2e/yr. Despite BAAQMD's proposed prohibition of back up diesel generators to lower criteria air pollutant and GHG emissions at data centers, LDC still proposes their use with 56 of these extremely polluting devices. Recently BAAQMD has implemented a new policy regarding multiple back up diesel generators, which requires that 100 hours of emergency operation per year be assumed in calculating the potential to emit. The initial study estimates that the back-up diesel generators will emit 2,583 MTCO2e/yr while operating for 21 hours a year per engine for testing and maintenance. The applicant estimates that the back-up diesel generators will emit 6,142 MTCO2e/yr. Neither estimate includes the GHG emissions that will result from 100 hours of emergency operation as required by the new BAAQMD Policy entitled, "Calculating Potential to Emit for Emergency Backup Power Generators."[44] GHG emissions from 100 hours of emergency operation will be approximately 12,300 MTCO2e/yr and would be a significant impact under BAAQMD's regulatory scheme.[45]

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[43] http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA%20Letters/Santa%20Clara%20CAP%20letter_11_20_13.ashx?la=en Letter is included as Appendix 3

[44] http://www.baaqmd.gov/~/media/files/engineering/policy_and_procedures/banking-and-offsets/calculating-pte-for-emergency-generators-06032019-pdf.pdf?la=en

[45] A rough estimate would be 100/21 x 2,583 MTCO2e/yr = 12,300 tpy MTCO2e/yr

According to the 2013 City of Santa Clara CAP the Santa Clara community needs to reduce emissions by an additional 309,600 MTCO2e by 2020 to achieve the emissions target (15% below 2008 baseline levels). Operation of the project would generate 255,583 metric tons of CO2e per year. Inclusion of emissions from the LDC's maximum possible electricity use and other non-stationary sources brings this contribution to a maximum of 14 percent of the total City GHG emissions.[46] The LDC is clearly not consistent with the Santa Clara CAP. Instead of reducing GHG emissions by 15%, it increases current GHG emissions in Santa Clara by 14%.

The initial study concludes that, *" With implementation of the efficiency measures to be implemented with the project, in combination with the green power mix used by SVP, GHG emissions related to the project would not conflict with the Santa Clara CAP or other plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs."* Clearly as explained above, the projects GHG emissions are not consistent with the Santa Clara CAP. No proof that the Santa Clara CAP is fully implemented and achieving its GHG reductions is included in the initial study. The Santa Clara Cap only covers the period up until 2020 and is not applicable to the project. As illustrated in the table below the power mix of SVP for non-residential projects is almost identical to the State of California Power Mix.[47] Inclusion of emissions from the LDC's maximum possible electricity use and other non-stationary sources brings this contribution to a maximum of 14 percent of the total City GHG emissions. This is a significant impact.

[46] TN 227273 Laurelwood Application Page 104 of 172 Initial study estimates GHG emissions to be less at 171,770 **MTCO2e/yr Initial Study Page 163 of 291 Discrepancy is not explained.**

[47] http://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label

2018 Power Content Label

SILICON VALLEY POWER				
ENERGY RESOURCES	SILICON VALLEY POWER RESIDENTIAL MIX	SILICON VALLEY POWER NON-RESIDENTIAL MIX	SANTA CLARA GREEN POWER (100% VOLUNTARY)	2018 CA POWER MIX**
Eligible Renewable	**45%**	**31%**	**2%**	**31%**
Biomass & Biowaste	0%	2%	0%	2%
Geothermal	0%	5%	0%	5%
Eligible Hydroelectric	0%	13%	0%	2%
Solar	26%	0%	2%	11%
Wind	19%	11%	0%	11%
Coal	**0%**	**0%**	**0%**	**3%**
Large Hydroelectric	**55%**	**11%**	**0%**	**11%**
Natural Gas	**0%**	**34%**	**0%**	**35%**
Nuclear	**0%**	**0%**	**0%**	**9%**
Other	**0%**	**0%**	**98%**	**<1%**
Unspecified sources of power*	**0%**	**24%**	**0%**	**11%**
TOTAL	**100%**	**100%**	**100%**	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.
** Percentages are estimated annual by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.

[48]

Conclusion

Section 1934 of Title 20 states the purpose of the Small Power Plant Exemption. ***"It is the policy of the State Energy Resources Conservation and Development Commission to promote the development of electric energy supply technologies that prudently conserve and economically use energy resources. A major purpose of these regulations is to encourage the use of those technologies by expediting the procedures necessary for the approval and development of alternate sources of electric generation."*** The Laurelwood Data Center is not an innovative technology for producing electricity, nor does the project prudently conserve

[48] http://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label

and economically use energy. Therefore, the small power plant exemption is not available to the LDC. In addition, the Laurelwood Data Center is not eligible for a small power plant exemption because it consists of 165 megawatts of back-up diesel generators, which is over the 100 MW limit for the Small Power Plant Exemption. The initial study fails to examine the cumulative impacts of the project and fails to consider that the project is located in the Community At Risk Program area for the BAAQMD, which entails additional requirements. Because the construction health risk assessment doesn't include fugitive dust, which contains contamination from previous activities at the site, the HRAs for the construction of the project is inadequate. The initial study also fails to utilize BAAQMD's new policy for calculating the potential to emit for the emergency back-up generators, which lead to false conclusions about the significance of the projects operational emission. The applicant needs to file an AFC for this project as the LDC does not qualify for the SPPE process and the LDC has significant energy and environmental impacts.

Appendix 1-Intel Campus Emissions 2019 [49]

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: SEP 16, 2019
DETAIL POLLUTANTS - ABATED
MOST RECENT P/O APPROVED (2019)
Intel Corporation (P# 632)
PLANT TOTAL:
lbs/day Pollutant

7.50E-06 Arsenic (all) (1030)
8.62E-03 Benzene (41)
4.40E-06 Beryllium (all) pollutant (1040)
1.88E-05 Cadmium (1070)
2.89E+02 Carbon Dioxide, non-biogenic CO2 (6960)
1.36E+00 Carbon Monoxide (CO) pollutant (4990)
3.88E-07 Chromium (hexavalent) (1095)
8.11E-02 Diesel Engine Exhaust Particulate Matter (1350)
7.13E-04 Formaldehyde (124)
1.59E-05 Lead (all) pollutant (1140)
2.50E-05 Manganese (1160)
5.30E-06 Mercury (all) pollutant (1190)
1.15E-02 Methane (CH4) (6970)
3.04E-04 Nickel pollutant (1180)
5.82E+00 Nitrogen Oxides (part not spec elsewhere) (2990)
2.31E-03 Nitrous Oxide (N2O) (2030)
4.09E-01 Organics (other, including CH4) (990)
3.96E-05 PAH's (non-speciated) (1840)
2.81E-03 Sulfur Dioxide (SO2) (3990)

[49] Email from **AREANA FLORES ENVIRONMENTAL PLANNER** Bay Area Air Quality Management District375 Beale St. Suite 600 | San Francisco, CA 94105415-749-4616 | aflores@baaqmd.gov on September 16 , 2019

Appendix 2 – SVP Power Supply Resources

CITY OF SANTA CLARA
ELECTRIC UTILITY DEPARTMENT
POWER SUPPLY RESOURCES
(For the Fiscal Year Ended June 30, 2018)

Source	Capacity Available (MW)	Recorded Energy (GWh)	Percent of Total Energy
City-Owned Generating Facilities[1]			
Cogeneration	7.0	43.49	1.2%
Stony Creek Hydro System	11.6	9.81	0.3
Gianera Generating Station	49.5	5.87	0.2
Grizzly Project	17.7	29.78	0.8
Donald Von Raesfeld Power Plant	147.8	768.52	20.6
Jenny Strand Solar Park	0.1	0.20	0.0
Purchased Power:[2]			
Western Area Power Administration (Western)[3]	136.0	277.17	7.4
Manzana Wind	50.0	136.16	3.6
G2 (Landfill)	1.6	12.59	0.3
Ameresco (Landfill)	0.8	2.81	0.1
Ameresco FWD (Landfill)	4.2	30.85	0.8
Ameresco VASCO (Landfill)	4.3	32.77	0.9
TriDam-Beardsley	11.5	68.76	1.8
TriDam-Donnells	72.0	225.13	6.0
TriDam-Tulloch	25.9	139.24	3.7
TriDam-Sandbar	16.2	98.23	2.6
Rosamond (Recurrent Solar)	20.0	59.36	1.6
Graphics Packaging	27.7	57.24	1.5
Friant 1	25.0	110.32	3.0
Quinten Luallen (Friant 2)	7.3	50.46	1.3
Santa Clara Tioga Canopy	0.4	0.46	0.0
Joint Power Agencies[2]			
NCPA			
Geothermal Project	55.7	347.04	9.3
Combustion Turbine Project	31.0	6.34	0.2
Hydroelectric Project	93.6	177.97	4.8
Lodi Energy Center Project	77.9	276.41	7.4
Seattle City Light[4]	32.6	(21.1)	(0.6)
M-S-R PPA			
San Juan[5]	51.0	196.89[5]	5.3
Big Horn I Wind Energy	105.0	269.76	7.2
Big Horn II Wind Energy	17.0	42.78	1.1
Market Purchases	--	278.40	7.5
Total[6]	1,100.4	3,733.4	100.0%

50

50 https://emma.msrb.org/ER1173549-ER917302-ER1317844.pdf Page 21 of 196

Appendix 3 BAAQMD Comment Letter on Santa Clara CAP

November 20, 2013

Payal Bhagat
Assistant Planner II
City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050

Subject: City of Santa Clara Climate Action Plan

Dear Ms. Bhagat,

Bay Area Air Quality Management District (Air District) staff has reviewed the City of Santa Clara's (City) Climate Action Plan (Plan). The Plan defines the City's strategy to address climate change and contains measures to avoid, reduce, and sequester greenhouse gas (GHG) emissions. Air District staff commends the City's initiative in addressing GHG emissions and supports the City's efforts in developing a Climate Action Plan. Air District staff has the following specific comments on the City's Plan.

We commend the City for including local actions, that when coupled with state actions, will help Santa Clara achieve its 2020 goal of reducing GHG emissions by 15 percent below 2008 emission levels. In fact, the City anticipates that it will surpass its goal and achieve a 24 percent reduction in GHG emissions by 2020. However, in order to meet the State's and Air District's climate stabilization goal of an 80 percent reduction below 1990 levels by 2050 (Executive Order S-3-05, Resolution), California will to need to explore all feasible avenues to achieve significant emission reductions. In this spirit, we have identified additional feasible measures that have proven effective at reducing GHG emissions in other jurisdictions and are not included in the Plan. Air District staff recommends that the Plan strengthen its GHG reduction approach in the following ways.

1) Expand Measure 1.1, Coal-free by 2020, to include increasing the City's renewable energy power mix beyond the requirements of the Renewable Portfolio Standard. We strongly commend switching from coal to natural gas; however, we encourage the City to commit to increasing the City's power mix from renewable resources to fifty percent or higher. In addition, we recommend that the City include more information on how the emission reductions were calculated for this measure to better understand the change in the City's power mix from 2008 to 2020.

2) Expand Measure 2.3, Data centers, to require existing, rather than just new, data centers to complete a feasibility study to achieve a power usage effectiveness rating of 1.2 or lower. Staff recommends that this measure also encourage and incentivize data centers to utilize alternatives to diesel powered back-up generators to reduce GHG emissions and other air pollutants from the testing and use of diesel generators.

3) Extend Measure 5.2, Alternative construction fuels, to prohibit the use of diesel generators and use on-site grid power at construction sites when feasible. Due to the high amount of future construction the City anticipates, prohibiting the use of diesel generators provides a significant opportunity to reduce GHG emissions as well as other air pollutants.

4) Expand Measure 7.2, Urban cooling for parking lots, to require the installation of cool roofs in new developments and to incentivize cool roofs for existing developments.

Staff supports the Plan's strong implementation program for annual reporting and monitoring. To further track the implementation of required measures in new projects, staff recommends that the City consider preparing a compliance checklist for new developments.

We commend the City for addressing the critical issue of climate change through local action. We believe that the City's Climate Action Plan will likely achieve its GHG reduction target and that the City will be in a good position to use the CAP as a tierable document under CEQA.

Air District staff is available to assist the City in addressing these comments. If you have any questions, please contact Sigalle Michael, Senior Planner, at (415) 749-4683 or smichael@baaqmd.gov.

Sincerely,

Jean Roggenkamp
Deputy Air Pollution Control Officer

cc: BAAQMD Director Cindy Chavez
BAAQMD Chair Ash Kalra
BAAQMD Director Liz Kniss
BAAQMD Director Jan Pepper

RESUME OF ROBERT SARVEY

Academic Background
BA Business Administration California State University Hayward, 1975
MBA California State University Hayward, 1985

Experience
San Joaquin Valley Air Pollution Control District Citizens Advisory Board Industry Representative: Analyzed proposed air quality regulations and made recommendations to the Governing Board for approval.

GWF Peaker Plant 01-AFC-16: Participated as an Intervenor in the project and helped negotiate and implement a 1.3 million dollar community benefits program. Successfully negotiated for the use of local emission reduction credits with GWF to offset local air quality impacts.

Tesla Power Project 01- AFC-04: Participated as an Intervenor and provided air quality testimony on local land use and air quality impacts. Participated in the development of the air quality mitigation for the project. Provided testimony and briefing which resulted in denial of the PG&E's construction extension request.

Modesto Irrigation District 03-SPEE-01: Participated as an Intervenor and helped negotiate a $300,000 air quality mitigation agreement between MID and the City of Ripon.

Los Esteros: 03-AFC-2 Participated as an Intervenor and also participated in air quality permitting with the BAAQMD. Responsible for lowering the projects permit limit for PM-10 emissions by 20%.

SFERP 4-AFC-01: Participated as an Intervenor and also participated in the FDOC evaluation. My comments to the BAAQM D resulted in the projects PM -10 emission rate to be reduced from 3.0 pounds per hour to 2.5 pounds per hour by the District. Provided testimony on the air quality impacts of the project.

Long Beach Project: Provided the air quality analysis which was the basis for a settlement agreement reducing the projects NOx emissions from 3.5ppm to 2.5ppm.

ATC Explosive Testing at Site 300: Filed challenge to Authority to Construct for a permit to increase explosive testing at Site 300 a DOE facility above Tracy. The permit was to allow the DOE to increase outdoor explosions at the site from 100 pounds per charge to 300 pounds per charge and also grant an increased annual limit on explosions from 1,000 pounds of explosive to 8,000 pounds of explosives per year. Succeeded in getting the ATC revoked.

CPUC Proceeding C. 07-03-006: Negotiated a settlement with PG&E to voluntarily revoke Resolution SU-58 which was the first pipeline safety waiver of GO112-E granted in the State of

California. Provided risk assessment information that was critical in the adoption of the Settlement Agreement with PG&E which, amongst other issues, resulted in PG&E agreeing to withdraw its waiver application and agreeing to replace the 36-inch pipeline under the sports park parcel after construction.

East shore Energy Center: 06-AFC-06: Intervened and provided air quality testimony and evidence of cancellation of Eastshore's power purchase agreement with PG&E.

Colusa Generating Station: 06-AFC-9: Participated as air quality consultant for Emerald Farms. Filed challenge to the PSD Permit.

CPUC proceeding 08-07-018: Tesla Generating Station CPCN participated in proceeding which was dismissed due to motion by IEP. Reviewed all filings, filed protest, signed confidentiality agreement and reviewed all confidential testimony.

GWF Tracy Combined Cycle 08-AFC-07: Participated in negotiation of the Air Quality Mitigation Agreement with the San Joaquin Valley Air Pollution Control District and GWF.

CPUC Proceeding 09-09-021: Provided Testimony on behalf of CAlifornians for Renewable Energy. Demonstrated PG&E failed to follow its environmental protocol in the LTPP. Provided testimony and evidence that PG&E's need had fallen since 2007 and that the Commission should limit PG&E's procurement to the 950-1000 MW Range.

CPUC Proceeding A. 09-04-001: Represented CAlifornians for Renewable Energy in the proceeding. Demonstrated PG&E had violated terms of Mariposa Settlement Agreement. PG&E was fined $25,000 for breach of settlement.

CPUC Proceeding A. 09-10-022: Provided Testimony on behalf of CAlifornians for Renewable Energy. Provided confidential evaluation of PPA value. Provided testimony and evidence that PG&E had violated the Mariposa Settlement. Provided testimony that demonstrated PG&E's demand had fallen sharply since the issuance of D. 07-12-052.

Oakley Generating Station 09-AFC-04: Participated as an intervenor. Provided testimony in Alternatives, Air Quality, Environmental Justice, and Water Quality. Negotiated settlement with CCGS to not use ERC's and instead exclusively use 2.5 million dollars to create real time emission reductions through BAAQMD real time emission reduction programs.

Pio Pico PSD Permit: Participated in the Pio Pico PSD permit. Comments resulted in a remand to the air district and a lowering of particulate matter emission limits by 10%

CPUC Proceeding A.11-12-003: Was credited by the decision for demonstrating that an additional 5 MW of firm capacity was not needed from the Thermal Energy Biomass Plant.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of McLaren Laurelwood Data Center
Docket Number 19-SPPE-01

Declaration of Robert Sarvey

I Robert Sarvey Declare as Follows:

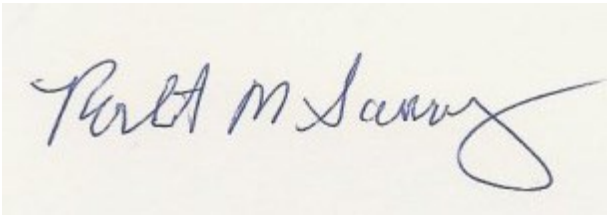
1. I prepared the attached testimony on the IS/MND for the Laurelwood Data Center.

2. A copy of my professional qualifications and experience is included with this Testimony and is incorporated by reference in this Declaration.

3. 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.

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.

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 in Tracy, California on October 3, 2019.



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