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State of California
State Energy Resources Conservation and Development Commission

In the matter of:

Sequoia Data Center

Docket 19-SPPE-03

Intervenor Sarvey's Response to Staff and Applicant on Cumulative Impact Assessment

Introduction

On August 29, 2019 the committee for the Walsh Data Center held a status conference for the application. At that conference the committee expressed an interest in the cumulative air impact analysis of the project in conjunction with other data centers on the SVP South Loop. As the Committee stated at the August 29 status conference for the Walsh Data Center:

“A further area is cumulative impacts. What projects have been previously approved or are under construction that are being used for the cumulative impacts analysis? For example, in Walsh, is Walsh on the same loop as say SC-1, McLaren, and Laurelwood, for determining cumulative impact for reliability?”

Similarly, this would also impact air quality. And I know that there were several data requests that staff put forward about these types of issues in terms of cumulative impacts analysis, but we're also very interested in that. And air quality always raises to me then issues of public health and environmental justice.

So again we're not looking for answers today, but we do expect to see some analysis and evidence to help us make an informed decision when it comes time for that.”

In response to the committee's interest expressed at the August 29 status conference in a cumulative air quality impact assessment of data centers on the SVP South Loop CEC Staff filed data requests set 1 in the Sequoia Data Center proceeding

on September 13. ¹ In Data Request 11 Staff requested a list of data centers operating on SVP 60-kv loop. In data request 12 staff requested information on each data center operating in the SVP 60 -kv loop including the owner of the data center, operation of each phase, the critical IT load, the building loads, cooling technologies, plume characteristics, and UPS type and size.

In data request 13 staff asked for a list of data centers that operate on the SVP 60-kV loop that would feed SDC and the number of standby generation units, model number(s), sizing, emissions, scope of monthly and annual readiness testing and any use of the engines during emergency operations. In data request number 13 staff asked for a list of sources Within 6 miles of SDC and having greater than 5 tons per year of criteria air pollutants; In the planning phase; Permitted but not under construction; and, Permitted and under construction.

Finally, in data request 14 staff requested a cumulative impact modeling analysis, including SDC, existing data centers collocated on the SVP 60-kV loop and those sources identified above.

On October 10, 2019 the applicant replied to the data requests stating *“C1 is attempting to obtain the information necessary to perform a cumulative air quality modelling analyses in accordance with the Responses to Data Request 11 and 13, but much of the information is within the control of third parties.”*²

On December 17, 2019 the committee for the Sequoia Data Center held a status conference and that committee also expressed interest in a cumulative impact assessment including the many data center projects the commission is considering.

Moving on to the broader issue of cumulative impacts, we are, of course, aware that the Energy Commission has approved or is considering approval of Small Power Plant Exemption for a number of data centers with backup generation in relatively close proximity. And we, of course, need to consider whether those facilities contribute to a cumulatively considerable impact. The Committee will be expecting discussion and evidence on and testimony on the potential for the Sequoia Backup Generating Facility to operate at the same time as other facilities with backup generation, including but not limited to those

¹ TN 229737 Data Requests Set 1 September 13,2019

² TN 229938-1 C-1 Santa Clara’s Response to CEC Data Request Set 1 Page 15 of 61

permitted by the Energy Commission and if simultaneous operation is foreseeable or likely, whether this contributes to any potential cumulative impact, including on air quality and public health. Of course, that's only a facet of the cumulative impacts assessment but it's an important aspect³

I was granted intervention on January 16, 2020.⁴ Seven days later on January 23, 2020 the CEC Staff issued the initial study.⁵ After reviewing the initial study I realized even staff had not prepared the cumulative risk assessment requested by the committee. I then prepared my motion to compel the applicant to perform the assessment on February 22, 2019 assuming Staff and Applicant were ignoring the committee's direction.

Data Centers have overlapping impacts and sensitive receptors.

According to CEC Staff, "*staff did perform modeling to identify the "worst" SBGF engine (highest impacts) during readiness testing and the "worst" engine testing during readiness testing from McLaren and Walsh and found no overlap in impacts.*"⁶

Evidence in the McLaren and Sequoia data center proceedings show the two projects impact the same sensitive receptors and general areas. The Sequoia Data Center's emissions impact a youth soccer field in Santa Clara depicted below in the orange triangle.⁷ The large white building to the right of the soccer field is the Santa Clara Data Center with its 32 diesel generators totaling 72 MW which was approved by the CEC in 2012.⁸ Because of the Santa Clara Data Centers high NO₂ and TAC impacts BAAQMD restricted operations of the project to 700 hours combined for all generators including emergency operation. BAAQMD also limited the times when the generators could be tested, "The owner/operator shall further limit the hours of operation from 12am to 8am

³ TN 232007 Transcript of Committee Conference 12-17-19 Page 42 of 56

⁴ TN 231546

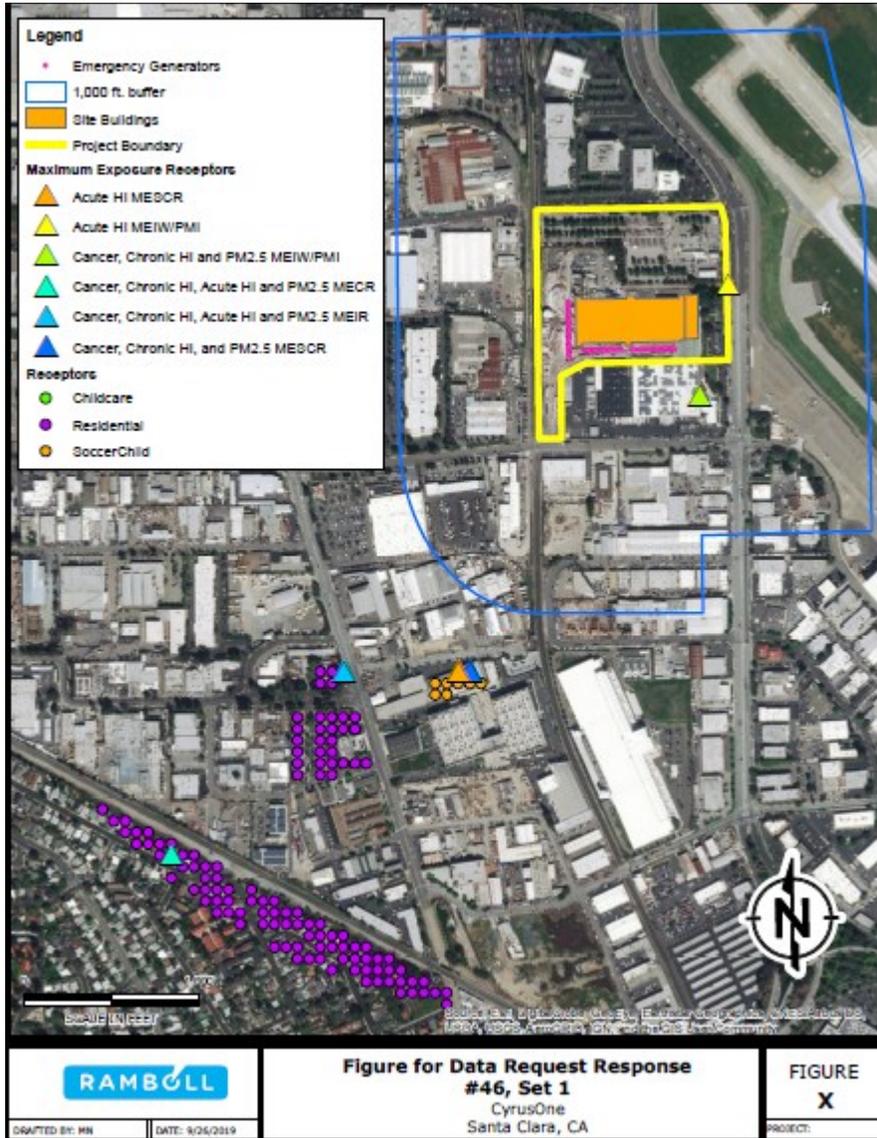
⁵ TN 231651

⁶ TN 232332 Staff Response to Intervenor Robert Sarvey's Motion to Compel Page 5 of 9

⁷ TN229938-2 C1 Santa Clara, LLC's Response to CEC Staff Data Request - Set 1 - SBGF Appendices Page 135 of 138

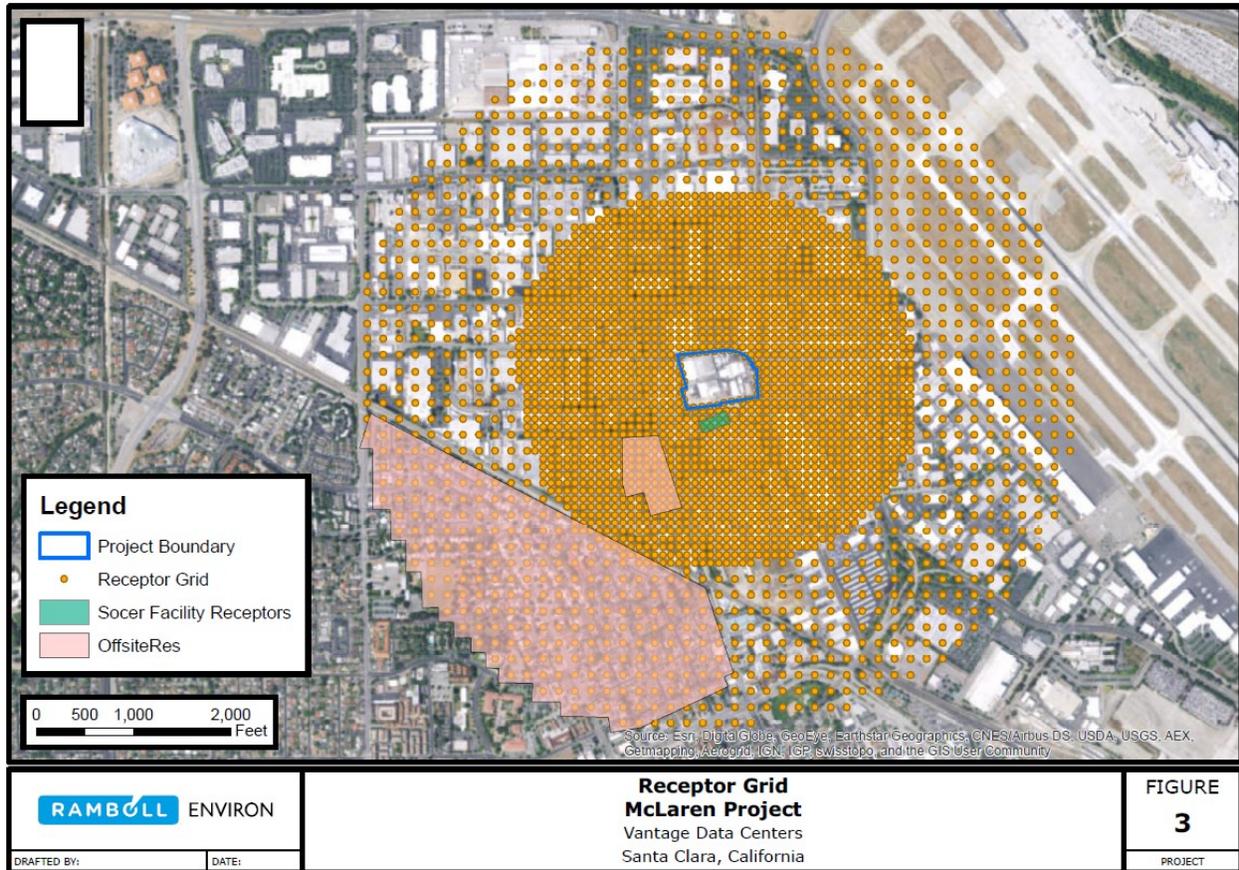
⁸ <https://ww2.energy.ca.gov/sitingcases/santaclara/>

to 300 hours, from 8am to 4pm to 200 hours of operation, and from 4pm to up to 12am to 200 hours citing a Cumulative Increase District Regulation Rule 51”⁹



⁹ Santa Clara Data Center Appendix D BAAQMD Authority to Construct for Permit Application No. 17020, Plant No. 18801 (July 15, 2010) Page 272 of 376 https://ww2.energy.ca.gov/sitingcases/santaclara/documents/applicant/SPPE_Application/02_Application_Appendices_A-H.pdf

The same youth soccer field is across the street from the McLaren Data Center as depicted in the green rectangle in the map below from the McLaren Data Center proceeding.



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According to table 5.3-8 (below) from the initial study the worst case NO₂ impact from the Sequoia Data Center is 98% of the State NO₂ standard and 99% of the Federal NO₂ standard with only 1 engine operating. With that high of an impact it would take very little overlap from any of the data centers testing to violate the NO₂ standards. With that impact from just one diesel generator operating two or more generators in emergency mode would lead to violations of both the Federal and State NO₂ standards. But the applicant didn't even model any emergency operations much less a cumulative impact scenario.

¹⁰ TN 222041-11 Application for Small Power Plant Exemption for McLaren Backup Generating Facility - Appendix E Page 54 of 142

TABLE 5.3-8 SEQUOIA MAXIMUM IMPACTS DURING READINESS TESTING AND MAINTENANCE-TESTING ONLY ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	0.76	69.8	70.6	50	141%
	Annual	0.05	21.9	22.0	20	110%
PM2.5	24-hour	0.58	31.0	31.6	35	90%
	Annual	0.05	10.6	10.7	12	89%
CO	1-hour	3,053	2,748	5,801	23,000	25%
	8-hour	1,967	2,061	4,028	10,000	40%
NO ₂	State 1-hour ^a	---	---	333	339	98%
	Federal 1-hour ^b	---	---	187	188	99%
	Annual	13.2	24.1	37.3	57	65%
SO ₂	State 1-hour	0.21	9.4	9.6	655	1%
	Federal 1-hour	0.19	6.1	6.3	196	3%
	24-hour	0.08	2.9	3.0	105	3%

Notes:

Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.

Results are the worst-case impact of a single generator in use because only a single generator would operate at a given time for testing and maintenance.

The federal 24-hour PM2.5 background of 31.0 $\mu\text{g}/\text{m}^3$ is based on 98th percentile averaged over 3 years of recent data (2015-2017) excluding 2018.

^a For CAAQS 1-hour NO₂ impacts, this is the project impact and seasonal hour of day background for source "C1SWEG01" at a 75% load; staff reports the highest 1-hour NO₂ modeled result (on 5/12/2017).

As seen above the projects NO₂ emissions are within 1% of the Federal NO₂ Standard and 2% of the California NO₂ standard. The siting of several other CEC reviewed data center projects will introduce another 205 tons per year of NO₂ in close proximity to the project just for testing.¹¹

¹¹ NOx Emissions from CEC reviewed Data Centers

CEC Data Centers	Address	NOx tpy
Mission Data Center	2305 Mission College Boulevard	33 ¹¹
Walsh Avenue Data Center	651 Walsh Avenue	34.9 ¹¹
Sequoia Data Center	2600 De La Cruz Blvd	35.9 ¹¹
McLaren Data Center	651, 725, and 825 Mathew Street	40 ¹¹
San Jose Data Center	1657 - Alviso-Milpitas Road in San Jose	36 ¹¹
Laurelwood Data Center	2201 Laurelwood Road	24.7 ¹¹
Tons Nox per year		205.56

CEQA and BAAQMD Guidelines require a cumulative assessment including reasonably foreseeable projects.

According to staff no cumulative impact assessment is necessary because, *“Pursuant to the BAAQMD Guidelines, if a project’s emissions are below the thresholds of significance, staff concludes that the project would not result in a significant adverse cumulative air quality impact and no further analysis is necessary.”*¹² BAAQMD CEQA Guidelines state, *“While thresholds of significance give rise to a presumption of insignificance, thresholds are not conclusive, and do not excuse a public agency of the duty to consider evidence that a significant effect may occur under the fair argument standard.”* *Meija*, 130 Cal. App. 4th at 342. *“A public agency cannot apply a threshold of significance or regulatory standard ‘in a way that forecloses the consideration of any other substantial evidence showing there may be a significant effect.’”* *Id.* *This means that if a public agency is presented with factual information or other substantial evidence establishing a fair argument that a project may have a significant effect on the environment, the agency must prepare an EIR to study those impacts even if the project’s impacts fall below the applicable threshold of significance.”*¹³

A project’s emissions may be below the air districts significance levels but can still violate an air quality standard and be a significant impact. Without the cumulative or emergency operations analysis demonstrating that the projects emissions will not cause or contribute to a violation of any air quality standard it cannot be determined that the projects emissions are not cumulatively considerable or individually considerable in emergency mode.

BAAQMD CEQA Guidelines for assessing cumulative impacts states, *“ A project would have a cumulative significant impact if the aggregate total of all past, present, and **foreseeable future sources** within a 1,000 foot radius (or beyond where appropriate) from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds, An excess cancer risk levels of more than 100 in one million or a chronic hazard index greater than 10 for TACs or 0.8 µg/m³ annual average*

¹² TN 232332 Staff Response to Intervenor Robert Sarvey's Motion to Compel Page 6 of 9

¹³ BAAQMD CEQA Guidelines Page 165 of 224

PM2.5.”¹⁴ As the energy commission is siting a large number of data centers these are reasonably foreseeable projects that the BAAQMD CEQA guidelines require be included in the cumulative health risks.

Regardless of BAAQMD’s Guidelines CEQA provides that a proposed project may have a significant effect on the environment when the possible effects on the environment are individually limited but “cumulatively considerable.” (Pub. Resources Code, §21083(b); Cal. Code Regs., tit. 14, §15065.) “Cumulatively considerable’ means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the **effects of probable future projects.**” (Cal. Code Regs., tit. 14, §15065, emphasis added.) 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. (Cal. Code Regs., tit. 14, §15130, subs. (a)(1) & (b)(1).)

California courts have repeatedly emphasized that the rationale for the cumulative impact analysis is to provide the decisionmaker a broad perspective on the overall impact of a project. (See *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263; *Citizens Association v. County of Inyo* (1985) 172 Cal.App.3d 151.) In *Bozung*, the State Supreme Court termed the CEQA cumulative impact requirement a “vital provision” which “directs reference to projects, existent and planned, in the region so that the cumulative impact of all projects in the region can be assessed.” (*Bozung v. Local Agency Formation Com.*, supra, 13 Cal.3d 263, 283, emphasis added.) As noted by the courts, “a cumulative impact analysis which understates information concerning the severity and significance of cumulative impacts impedes meaningful public discussion and skews the decisionmaker’s perspective concerning the environmental consequences of a project, the necessity for mitigation measures, and the appropriateness of project approval.” (*Citizens to Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421, 431)

¹⁴ BAAQMD CEQA Guidelines Page 5-16

The list of reasonably foreseeable projects that are under construction or permitting is long. The CEC itself is evaluating or has recently approved eight data centers all within the same general vicinity.

DATA CENTER APPLICATIONS BEFORE THE COMMISSION

Facility	Docket #	Total MW	Annau MWh	(MTCO _{2e} /yr)
McLaren Data Center	17-SPPE-01	99 MW ¹⁵	665,760 MWh ¹⁶	154,958 ¹⁷
Laurelwood Data Center	19 SPPE-01	99 MW ¹⁸	867,240 MWh ¹⁹	171,770 ²⁰
Walsh Data Center	19-SPPE-02	80 MW ²¹	700,800 MWh ²²	109,164 ²³
Sequoia Data Center	19-SPPE-03	95.5 MW ²⁴	846,340 MWh ²⁵	84,023 ²⁶
San Jose Data Center	19-SPPE-04	99 MW ²⁷	803,730 MWh ²⁸	254,122 ²⁹
2305 Mission College Data	19-SPPE-05	78.1 MW ³⁰	684,156 MWh ³¹	86,762 ³²
Memorex Data Center		99 MW ³³	N/A	N/A
Totals		650 MW	4,568,006	860,799

The City of Santa Clara has recently approved several other data centers including the 1150 Walsh Avenue Data Center located a few blocks from the 651 Walsh

¹⁵ <https://ww2.energy.ca.gov/sitingcases/mclaren/>

¹⁶ McLaren Final Decision TN 225170 Page 128 of 361

¹⁷ McLaren Final Decision TN 225170 Page 129 of 361

¹⁸ <https://ww2.energy.ca.gov/sitingcases/laurelwood/>

¹⁹ Laurelwood Proposed Decision TN 231721 Page 210 of 368

²⁰ Laurelwood Proposed Decision TN 231721 Page 211 of 368

²¹ <https://efiling.energy.ca.gov/GetDocument.aspx?tn=229419-1&DocumentContentId=60822>

²² Walsh Data Center Application TN 228877-2 Page 111 of 203

²³ Walsh Data Center Application TN 228877-2 Page 112 of 203

²⁴ <https://ww2.energy.ca.gov/sitingcases/walsh/> Page 10 of 222

²⁵ Sequoia Data Center Application TN 229419-1 Page 106 of 222

²⁶ Sequoia Data Center Application TN 229419-1 Page 131 of 122

²⁷ <https://ww2.energy.ca.gov/sitingcases/sj2/>

²⁸ San Jose Data Center Application TN 230741 Page 175 of 285

²⁹ San Jose Data Center Application TN 230741 Page 176 of 285

³⁰ <https://ww2.energy.ca.gov/sitingcases/missioncollege/>

³¹ Mission College Data Center Application TN 230848 Page 121 of 222

³² Mission Co0llege Data Center Application TN 230848 Page 122 of 222

³³ https://ww2.energy.ca.gov/sitingcases/all_projects_cms.html

Avenue Data Center.³⁴ The 1150 Walsh Avenue Data Center has ten 3.25 MW diesel generators.³⁵

Santa Clara just approved the 2175 Martin Avenue Data Center Project.³⁶ “The yard would house six 2.75-megawatt (MW) emergency generators that would provide backup power to the data center in the event of an equipment failure or other conditions that would result in an interruption to the electric power service provided by Silicon Valley Power, the electricity provider that serves the project site. The emergency generators would have a total generation capacity of up to 13.75 MW.”³⁷

The 3223 Kenneth Street Data Center Project was approved by the city of Santa Clara.³⁸ A total of six 2.75 megawatt (MW) diesel-fueled engine generators will be installed within a screened generator yard at the south end of the building.³⁹

In 2018 SANTA Clara approved the Coresite SV8 Data Center located at 3045 Stender Way. The project has ten 3 MW diesel backup generators.⁴⁰ The Coronado Data Center located at 3032 Coronado Drive⁴¹ was approved by Santa Clara and includes ten 2.5 MW diesel generators.⁴²

Conclusion

The project area is home to 50 operating data centers currently. The CEC has approved or is reviewing eight different data centers all employing diesel backup generating units.⁴³ The City of Santa Clara has recently approved more than 5 additional data centers in Santa Clara totaling over 120 MW of diesel engines. Every one of these data centers impacts an environmental justice community that according to BAAQMD is already overburdened as depicted in the blue and purple areas of the maps

³⁴ <https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/295/3650>

³⁵ <https://www.santaclaraca.gov/home/showdocument?id=64292> Page 38 of 240

³⁶ <https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/339/3650>

³⁷ <https://www.santaclaraca.gov/home/showdocument?id=65174> Page 5 of 289

³⁸ <https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/185/3650?page=2>

³⁹ <https://www.santaclaraca.gov/home/showdocument?id=52566> Page 12 of 105

⁴⁰ <https://www.santaclaraca.gov/home/showdocument?id=57321> Page 15 of 188

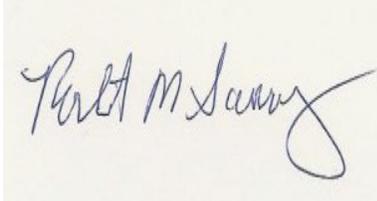
⁴¹ <https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/145/3650?page=4>

⁴² <https://www.santaclaraca.gov/home/showdocument?id=47411> Page 3 of 23

⁴³ See Appendix A below

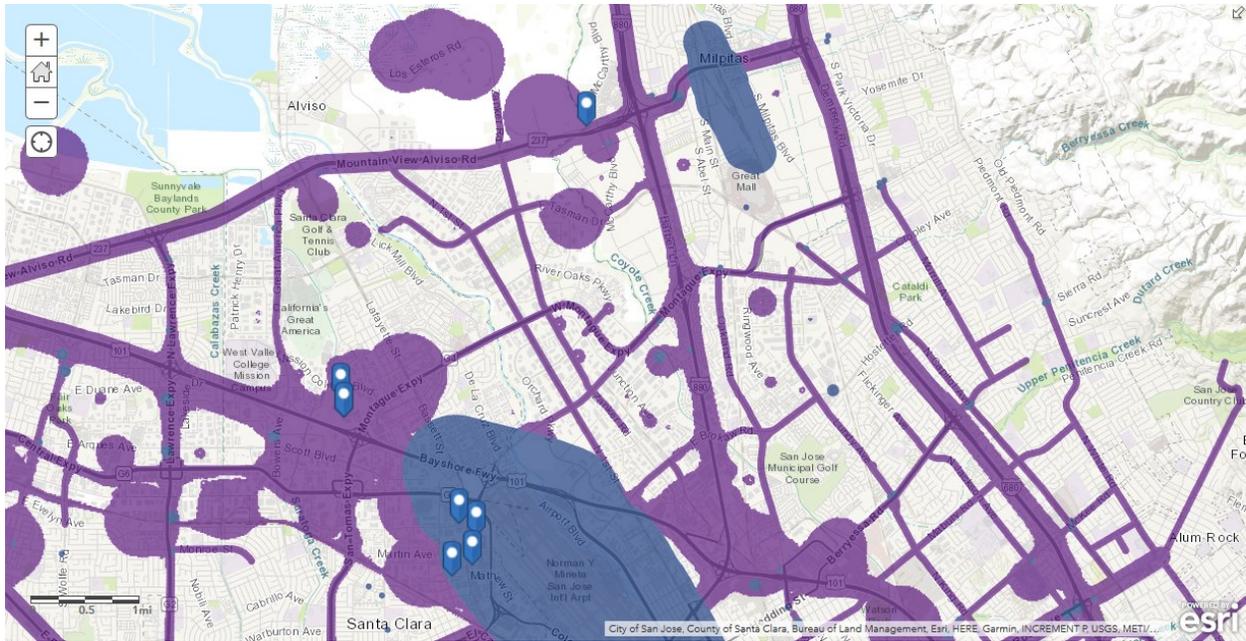
in Appendix A. CEQA and BAAQMD regulations, and environmental justice considerations require that a cumulative impact analysis be performed to assess the projects cumulative impacts in conjunction with the multitude of data centers that are being permitted by the CEC and the City of Santa Clara.

Submitted by,

A rectangular box containing a handwritten signature in blue ink. The signature is cursive and appears to read "Robert M. Sarvey".

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Appendix A



DATA CENTER APPLICATIONS BEFORE THE COMMISSION⁴⁴

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⁴⁴ Applicant has identified the Lafayette Data Center as another Data Center seeking CEC approval.

⁴⁵ <https://ww2.energy.ca.gov/sitingcases/mclaren/>

⁴⁶ McLaren Final Decision TN 225170 Page 128 of 361

⁴⁷ McLaren Final Decision TN 225170 Page 129 of 361

⁴⁸ <https://ww2.energy.ca.gov/sitingcases/laurelwood/>

⁴⁹ Laurelwood Proposed Decision TN 231721 Page 210 of 368

⁵⁰ Laurelwood Proposed Decision TN 231721 Page 211 of 368

⁵¹ <https://efiling.energy.ca.gov/GetDocument.aspx?tn=229419-1&DocumentContentId=60822>

⁵² Walsh Data Center Application TN 228877-2 Page 111 of 203

⁵³ Walsh Data Center Application TN 228877-2 Page 112 of 203

⁵⁴ <https://ww2.energy.ca.gov/sitingcases/walsh/> Page 10 of 222

⁵⁵ Sequoia Data Center Application TN 229419-1 Page 106 of 222

⁵⁶ Sequoia Data Center Application TN 229419-1 Page 131 of 122

⁵⁷ <https://ww2.energy.ca.gov/sitingcases/sj2/>

⁵⁸ San Jose Data Center Application TN 230741 Page 175 of 285

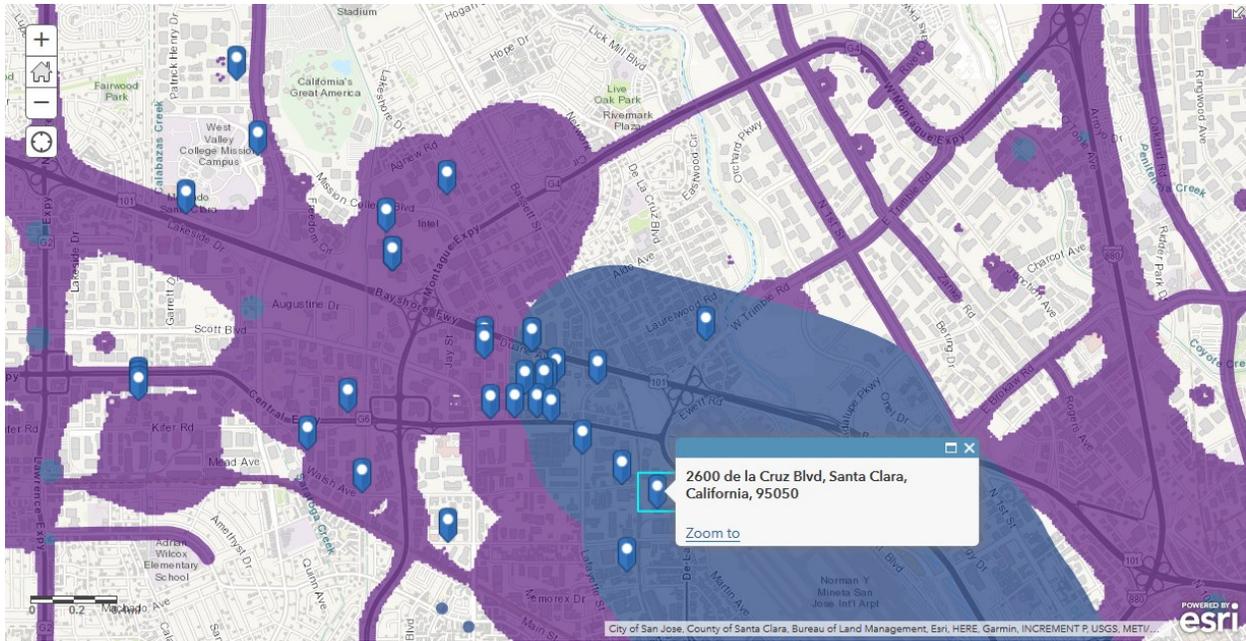
⁵⁹ San Jose Data Center Application TN 230741 Page 176 of 285

⁶⁰ <https://ww2.energy.ca.gov/sitingcases/missioncollege/>

⁶¹ Mission College Data Center Application TN 230848 Page 121 of 222

⁶² Mission College Data Center Application TN 230848 Page 122 of 222

⁶³ https://ww2.energy.ca.gov/sitingcases/all_projects_cms.html



Data Centers currently operating in Santa Clara

Santa Clara Data Centers Under Commission Review and Distance between SDC and Walsh Avenue DC

