

**DOCKETED**

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<b>Project Title:</b>	Lafayette Backup Generating Facility
<b>TN #:</b>	234531
<b>Document Title:</b>	Digital Realty Supplemental Responses to Data Requests Set 1 - LBGF
<b>Description:</b>	Replacement DRs 17-52 and 64-67
<b>Filer:</b>	Scott Galati
<b>Organization:</b>	DayZenLLC
<b>Submitter Role:</b>	Applicant Representative
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# Lafayette Data Center

## Supplemental Responses to Data Set

1

## Replacement DRs 17-52 and 64-67

San Jose, California

Prepared for



Prepared by

**Atmospheric Dynamics, Inc.**



**ATMOSPHERIC DYNAMICS, INC**  
Meteorological & Air Quality Modeling

August 2020

**Data Set 1 Response: AIR QUALITY, PUBLIC HEALTH, GREENHOUSE GAS EMISSIONS, AND THERMAL AND VISIBLE PLUMES**

**BACKGROUND: AIR DISTRICT REVIEW**

The proposed LBGF would require a permit from the Bay Area Air Quality Management District (District or BAAQMD). For purposes of consistency, staff needs copies of all correspondence between the applicant and the District promptly to stay up to date on any issues that arise before completion of the initial study.

**DATA REQUESTS**

17. Please provide copies of all substantive correspondence between the applicant and the District regarding the project, including application and e-mails, within one week of submittal or receipt. This request is in effect until staff publishes the initial study.
18. Please identify the current schedule for the BAAQMD permit application submittal. If the application was already filed, please provide a copy of the application. If this application is filed during the CEC proceeding for LBGF, please submit a copy of that application to the CEC docket within five days of submitting it to BAAQMD.

Response 17 – The applicant will provide copies of all substantive correspondence between the applicant and the District regarding the project, including application and e-mails, within one week of submittal or receipt.

Response 18 – The application to the BAAQMD has not been submitted as of the date of this response. A copy of the application will be provided to the CEC within 5 days of submittal.

**BACKGROUND: EMISSIONS CALCULATIONS**

The SPPE application includes an Appendix A, for Air Quality Analysis Technical Appendices (AQ 1 through AQ 5), which documents potential project construction and operation emissions calculations. To validate the applicant’s work, staff requests the spreadsheet files of the applicant’s emissions calculations in Appendix AQ1, AQ3, and AQ4 for staff’s independent review.

**DATA REQUEST**

19. Please provide spreadsheet versions of the emissions calculation’s worksheets supporting the SPPE application in Appendix AQ1, AQ3 and AQ4 with the embedded calculations live and intact.

Response 19 – The spreadsheets supporting the SPPE application in Appendices AQ1, AQ3 and AQ4 with the embedded calculations live and intact will be uploaded to the CEC.

**BACKGROUND: COOLING TOWER**

The SPPE application includes emissions estimates for cooling towers, or wet-surface cooling, in

the form of particulate matter (in spreadsheet AQ1-3 of Appendix AQ1). The Project Description for LDC in Section 2 of the SPPE application does not describe this system and indicates that each generator would be air-cooled (Section 2.2.7 and 2.2.8 of SPPE application). The cooling tower, if proposed, appears to be missing from the modeling data provided electronically for ambient air quality impact evaluation for PM10 and PM2.5.

#### **DATA REQUESTS**

20. Please clarify if cooling towers would be included in the LDC or LBGF project design. If so, please ensure that particulate matter emissions are included in all facility-wide estimates and that the associated water use is correctly presented throughout the SPPE application.
21. Please ensure that PM10 and PM2.5 ambient air quality impacts from the cooling tower are included in facility-wide impacts to air pollutant concentrations.

Response 20 – The facility will not be using water based cooling towers. This change was made subsequent to submittal and inclusion of the air quality consultants air analysis for the SPPE. The current proposed air cooled chillers (93 units) to be mounted on the building roofs will not use or discharge water. A description of the air cooled chillers can be found in Appendix F (Noise Analysis) of SPPE Application.

Response 21 – The proposed air cooled chillers will not emit PM10 or PM2.5, therefore no analysis for ambient air quality impacts is required.

#### **BACKGROUND: CALEEMOD MODELING FILES**

The applicant used CalEEMod to estimate demolition and construction emissions (shown in Table 4.3-6 of the SPPE application) and miscellaneous operational emissions (shown in Table 4.3-15). To validate the applicant's work, staff requests the CalEEMod files with live cells and formulas that the applicant used to estimate emissions.

#### **DATA REQUEST**

22. Please provide the CalEEMod files with live cells and formulas used to estimate demolition and construction emissions (shown in Table 4.3-6) and miscellaneous operational emissions (shown in Table 4.3-15).

Response 22 – The CalEEMod files for construction were provided previously to the CEC. The input file generated by CalEEMod is an Excel file, and the output is a PDF file. These files will be uploaded to the CEC.

#### **BACKGROUND: CONSTRUCTION PERIOD**

Section 2.3.4 on page 16 of the SPPE application (TN 233041-1) states that:

The demolition and construction activities are estimated to last approximately 24 months to the initial occupancy of the building, with construction activities to last an additional 60 months to bring the building to full occupancy.

However, section 4.3.2.3, Table 4.3-6 on page 55 states the construction period is approximately 21 months or 462 workdays. Starting on page 106 of 174 of the SPPE application, Part 2 Section 5 – App A-C (TN 233041-2) shows that demolition and construction are expected to be in 5 different phases over a period of around 24 months. The 60-month construction period shown above from section 2.3.4 does not agree with the assumptions in CalEEMod. Staff needs clarification on the length of the construction period. Staff would also like to know why it would take so much time to construct the proposed project, while it takes typically less than 2 years (24 months) to construct other data centers.

#### **DATA REQUESTS**

23. Please describe the type of activities expected during the 60-month ramp to average occupancy. Would these include fabrication of server bay racks, installation of servers, server bay uninterruptible power supply (UPS) installation, electrical connections, and/or installation of standby generators in the LBGF yard?
24. Please clarify the length of the construction phase.
25. Please explain whether CalEEMod provides conservative emissions estimates assuming a continuous construction period, rather than using the construction schedule specified in section 2.3.4.
26. Please model overlap of construction and operation phases if necessary.

Response 23 – The 60-month period represents the applicants best estimate for full building occupancy, not an extension too or extension of the construction period. As server space is sold, then the server bay racks, servers, and other support systems, including the backup emergency generators would be installed as needed. The applicant does not consider this period to be construction, but rather an installation period. The engine pad areas and support utility connections will be constructed during the 24-month building construction.

Response 24 – The conservative estimate for the construction period is 24 months. This period allows for any unforeseen delays. Emissions from construction activities are also based on 24 months.

Response 25 – Please see Response 23 above. Section 2.3.4 simply states that construction will be for a period of 24 months, which is consistent with the CalEEMod analysis prepared by the Applicant’s air quality consultant.

Response 26 – There is no overlap of construction emissions with operation emissions. Engines will be installed subsequent to construction on an as-needed basis, with all engines installed in the 60-month period following construction.

**BACKGROUND: DISPERSION MODELING FOR CONSTRUCTION IMPACTS** The SPPE application and modeling data provided electronically does not include an ambient air quality impacts evaluation for criteria air pollutants during the demolition and construction phases of the project. As such, the application does not quantify impacts to or demonstrate compliance with National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) during construction for the different averaging times of the standards. Staff needs ground-level impacts analysis using dispersion modeling to evaluate public health impacts and to determine compliance with NAAQS and CAAQS during the demolition and construction of the project.

**DATA REQUESTS**

- 27. Please provide ground-level impacts analysis using dispersion modeling to show public health impacts and compliance with NAAQS and CAAQS of the criteria pollutants during the demolition and construction of the project. Submit this modeling data electronically.
- 28. Please describe the assumptions of the source parameters (e.g., initial dimension and release height of area/volume sources, or stack height, diameter, temperature, and velocity of point sources) used in the dispersion modeling for demolition and construction impacts.

Response 27 – The modeled impacts during construction is presented in the table below.

<b>MODELED MAXIMUM CONSTRUCTION IMPACTS</b>						
<b>Pollutant</b>	<b>Averaging Time</b>	<b>Maximum Construction Impacts (µg/m<sup>3</sup>)</b>	<b>Background (µg/m<sup>3</sup>)</b>	<b>Total Impact (µg/m<sup>3</sup>)</b>	<b>State Standards (µg/m<sup>3</sup>)</b>	<b>Federal Standards (µg/m<sup>3</sup>)</b>
NO <sub>2</sub>	1-hour C	10.09	162	172.1	339	-
	1-hour N	9.76	95	104.8	-	188
	Annual	0.996	24.5	25.5	57	100
SO <sub>2</sub>	1-hour	0.03	18.1	18.1	655	196
	3-hour	0.03	18.1	18.1	-	1300
	24-hour	0.007	2.9	2.9	105	365
	Annual	0.003	0.5	0.5	-	80
CO	1-hour	9.44	2,863	2,872.4	23,000	40,000
	8-hour	4.52	2,405	2,409.5	10,000	10,000
PM10	24-hour	3.58	122	125.6	50	150
	Annual	4.22	23.1	27.3	20	-
PM2.5	24-hour	1.61	42	43.6	-	35
	Annual	0.36	12.8	13.2	12	12.0

Response 28 - Construction emissions from the combustion activities as derived from CalEEMod were apportioned to 24-point sources across the construction area for the appropriate modeling periods. The stack parameters were based on an average sized engine used for construction and included the following:

- 3.048 meter release height
- 750 K exit temperature
- 64.681 m/s exit velocity
- 0.01524 exit diameter

Fugitive PM10 and PM2.5 were modeled as a single polygonal source with a release height of 0.5 meters. The area of the source is 45,825.5 square meters.

Figure 1 presents the point and area sources that were used in the modeling analyses. The red crosses are the combustion source locations and the blue area is the area source for the fugitive dust emissions.

**Figure 1 Point and Area Sources used for Construction**



**BACKGROUND: DIESEL PARTICULATE FILTERS**

Page 70 of the SPPE application shows that the standby engines would be United States Environmental Protection Agency (U.S. EPA) certified Tier 2 units equipped with diesel particulate

filters (DPFs). However, the SPPE application does not show the make or model or control efficiency of the DPFs. Staff needs such information to complete the initial study.

#### **DATA REQUESTS**

29. Please provide the make and model of the DPFs.

30. Please provide control efficiency of the DPFs

31. Please describe the cleaning cycle for the DPFs and explain whether the control efficiency would change during intermittent maintenance and testing of the standby engines.

Response 29 – The Applicant has not yet identified the preferred DPF supplier. Once a supplier has been chosen, the data will be provided to the CEC.

Response 30 – Based on the Applicants review of supplied generic DPF data, we believe that PM10 will be controlled to levels 90% or greater. We also note that the DPFs provide some level of control of other pollutants, such as NOx, CO, and VOCs. Control of these pollutants was not evaluated in the applicant’s emissions calculations. Once supplier data becomes available the Applicant will provide it to the CEC.

Response 31 - The Applicant has not yet identified the preferred DPF supplier. Once a supplier has been chosen, the data will be provided to the CEC.

**BACKGROUND: TESTING AND MAINTENANCE FREQUENCIES AND LOADING** Page 56 of the SPPE application states that Section 4.3.2.3 provides six scenarios of the testing and maintenance frequencies and loading proposed for the LBGF. Staff needs a detailed description of the testing and maintenance frequencies and standby engine load points to verify assumptions used in the SPPE analysis.

#### **DATA REQUEST**

32. Please provide a detailed description of the testing and maintenance frequencies and standby engine load points for the Cummins QSK95-G9 and Cummins QST30 engines. For example, the description could include the length and engine load points for each weekly, monthly, quarterly, and annual testing and maintenance event.

Response 32 – The Applicant is not proposing to use a set schedule of maintenance activities with respect to testing frequency, load points, etc. The Applicant will test the engines as necessary within the confines of the 50 hour per year limit. The emissions scenarios presented in Section 4.3.2.3 were provided to show emissions based on the various sets of emissions factors provided, i.e., as emissions bounding calculations.

#### **BACKGROUND: TESTING AND MAINTENANCE LIMITS**

The annual emissions and impacts analysis in the SPPE application is based on the assumption of 50 hours per year of testing and maintenance. The daily emissions and impacts analysis is based



on the assumption of testing 10 of the larger QSK95 engines per day. It is also assumed that the engines would be tested only from 7 AM to 5 PM in the impacts analysis. Also, the short-term impacts analysis assumes only one engine will be tested at any one time during a single hour. Staff would like to verify that these assumptions would be made enforceable.

#### **DATA REQUESTS**

33. Please confirm whether the applicant would request from the District an annual limit, not to exceed in terms of hours per year, on operating each engine for readiness testing and maintenance testing.
34. Please confirm that the applicant would request the District to require an enforceable limit that would allow testing of no more than 10 of the larger QSK95 engines per day.
35. Please confirm that the applicant would request the District to require an enforceable limit that would allow the testing of engines only between 7 AM to 5 PM daily.
36. Please confirm that the applicant would request the District to require an enforceable limit on concurrent testing of engines so that only a single-engine operates for maintenance and testing at any given time.

Responses 33 through 36 – Yes, the Applicant will request and accept enforceable permit conditions on the four (4) issues.

#### **BACKGROUND: SENSITIVE RECEPTORS**

On page 68 of the application (Table 4.3-17) and Appendix AQ5, the applicant provided a list of sensitive receptors near the project site. On page 70 of the application, the applicant listed four receptors: PMI – Point of maximum impact, MEIR – Maximum exposed individual residential receptor, MEIW - Maximum exposed individual worker receptor, and MEIS - Maximum exposed individual sensitive receptor. Staff needs more information to check the validity of the health risk assessment (HRA).

#### **DATA REQUESTS**

Please provide the following information for PMI, MEIR, MIEW, MEIS, and all the sensitive receptors on Table 4.3-17.

37. Their Hot Spots Analysis and Reporting Program (HARP) receptor numbers.
38. Their latitude and longitude along with Universal Transverse Mercator (UTM) coordinates. Staff needs this information for the cumulative HRA.

Responses 37 and 38 – The Applicant wishes to clarify that the list of sensitive receptors presented in Appendix AQ5 is simply a delineation of sensitive receptors near the facility boundary. There are many more residential and worker receptor locations around the facility, and these locations are covered in the extensive modeling grid for the air quality and HRA analysis. It is highly likely that the MEIR and MEIW will not be receptors on the Appendix AQ5 list. The sensitive receptor list in

Appendix AQ5 is presented below. The coordinates are in UTM format only (latitude and longitude are not used in the modeling or HRA). Staff can convert the UTM to lat/long if they so desire.

In addition, the following should be noted: the UTM coordinates for the list of sensitive receptors were derived from Google Earth and represent moderately accurate locational data. Receptors on the main modeling grid are more precise and in most cases were used to establish the PMI, MEIR, MEIW, and MEIS locations and attendant HRA values.

**BACKGROUND: CONSTRUCTION HRA**

On page 70 and 73 (Table 4.3-21) of the application, the applicant reported the construction health risk for the PMI as 2.56E-6 (or 2.56 per million). However, staff could not verify this number from the modeling files (HARP output) provided by the applicant. The cancer risk of PMI staff found from HARP output is 7.64E-6 (or 7.64 per million). Also, the title of Table 4.3-21: LBGF Residential/Sensitive Health Risk Assessment Summary is confusing.

**DATA REQUESTS**

- 39. Please confirm if Table 4.3-21: LBGF Residential/Sensitive Health Risk Assessment Summary on page 73 is for project construction.
- 40. The results of MEIW were not included in Table 4.3-21. Please include the results of MEIW, PMI, MEIR, and MEIS in the table.
- 41. Please update the table with the correct risk numbers.
- 42. Please provide the assumptions of the construction HRA, such as the duration.
- 43. Please also provide the updated HRA files if an updated HRA is completed.

Response 39 – Table 4.3-21 has nothing to do with construction risk. The table is clearly labeled as LBGF Residential/Sensitive Receptor HRA summary. As such, the results presented are for the 30-year exposure analysis for residential and sensitive receptors.

Response 40 – Table 4.3-21 is not the Worker HRA summary. Table 4.3-22 presents the worker HRA summary data and is clearly labeled as such. Table 4.3-21 contains the summary data for the proper receptors per the Residential/Sensitive receptor analysis, and Table 4.3-22 contains the summary data for the identified receptors for the worker analysis based on the operational emissions. No changes are necessary.

Response 41 – The operational and construction HRAs have been updated. Tables 4.3-21 and Table 4.3-22 are updated as follows:

**Table 4.3-21: LBGF Operational Residential/Sensitive Health Risk Assessment Summary**

Location	Receptor #	UTM	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	51	593354.91, 4136644.49	8.94E-06	0.00207	NA	NA
MEIR	3628	593024.94, 4135677.43	1.30E-07	0.000030	NA	NA

MEIS	4531	592005.25, 4136664.00	1.56E-07	0.000036	NA	NA
Notes: See acronym definitions above.						

**Table 4.3-22: LBGF Operational Worker Health Risk Assessment Summary**

Location	Receptor #	UTM	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	51	593354.9, 4136644.49	2.69E-06	0.00207	NA	NA
MEIW	1608	593397, 4136613	1.59E-06	0.00199	NA	NA
Notes: See acronym definitions above.						

Response 42 – The HRA input and output files supplied previously clearly indicate the assumptions for the construction analysis. The updated analysis files also indicate all the assumptions. The following presents a brief list of the non-default assumptions:

- Construction emissions evaluated for a two (2) year exposure period for purposes of HRA impacts.
- BAAQMD health tables enabled
- FAH=1 for residential risk
- Construction emissions from the combustion activities as derived from CalEEMod were apportioned to 24-point sources across the construction area for the appropriate modeling periods. The stack parameters were based on a average sized engine used for construction and included the following:
  - 3.048 meter release height
  - 750 K exit temperature
  - 64.681 m/s exit velocity
  - 0.01524 exit diameter
- Fugitive PM10 and PM2.5 were modeled as a single polygonal source with a release height of 0.5 meters
- Construction risk is based solely on DPM emissions.
- Construction risks for the PMI, MEIR, MEIW, and MEIS are as follows:

**Table 4.3-23 Revised Construction Risk Summary**

Location	Receptor #	UTM	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	3	593353.97, 4136661.85	1.07E-05	0.00624	NA	NA
MEIR	3628	593024.94, 4135677.43	6.5E-08	0.000038	NA	NA
MEIW	1608	593397, 4136613	5.85E-07	0.00539	NA	NA

MEIS	4531	592005.25, 4136664.00	7.18E-09	0.000042	NA	NA
Notes: See acronym definitions above.						

Response 43 – the updated HRA modeling files for operations and construction will be supplied as an upload to the CEC.

**BACKGROUND: OPERATION HRA**

On page 72 of the application, the applicant stated: “the excess lifetime cancer risk associated with concentrations in air estimated for the LBGF PMI location is estimated to be 0.00000595 (5.95E-6 or 5.95 per million).” But this number does not match the PMI number reported in Table 4.3-22 on page 73. Staff could not verify the rest of the numbers in Table 4.3-22 by checking the modeling files (HARP output) provided by the applicant, either. Also, the title of Table 4.3-22: LBGF Worker Health Risk Assessment Summary is confusing.

**DATA REQUESTS**

- 44. Please confirm if Table 4.3-22: LBGF Worker Health Risk Assessment Summary on page 73 is for project operation.
- 45. Please update Table 4.3-22 for operation risk with the correct risk numbers, including the receptors of PMI, MEIR, MEIS, and MEIW.
- 46. Please also provide the updated HRA files if an updated HRA is completed.

Response 44 – As noted in Responses 39 and 40, Table 4.3-22 is the worker HRA summary for operational emissions, not construction.

Response 45 – See the revised tables in Response 41 above. The worker table (Table 4.3-22 does not contain the MEIR, because the MEIR for operational emissions is presented in Table 4.3-21. The assumptions inherent in the worker analysis do not apply at residential locations.

Response 46 – See Response 43 above.

**BACKGROUND: OPERATION PHASE IMPACT**

On page 56 of the application, the applicant stated: “for conservative evaluation purposes, it was assumed that testing (weekly, monthly, quarterly, annual, and special testing) would occur for no more than 50 hours per year.” However, on page 65 of the application, the applicant stated: “each engine was assumed to operate up to 10 hours per day (7AM-5PM) to conservatively represent 10 different engines operating one hour each in any one day for 3-hour, 8-hour, and 24-hour averaging times.” The information is mixed and confusing, so staff would like to clarify the assumptions of HRA.

## **DATA REQUESTS**

47. Please confirm that the operation HRA was based on the 50 hours of operations per engine per year concurrently.
48. Please explain the assumption of 10 hours per day and how it affected the results of the HRA.
49. Please explain the assumptions of the operation HRA, such as the load scenarios.
50. In air quality impact analysis, if there are any different assumptions used to evaluate criteria pollutants versus toxic air contaminants, please justify these differences and explain in detail.

Clarification for Responses 47 through 50 – Whenever maintenance and readiness testing occur, regardless of whether it is daily, weekly, monthly, etc., the following will apply. (1) only one engine will be operated in any clock hour, i.e., there will never be a clock hour where more than one engine is operated for maintenance and readiness testing, (2) each engine will operate a maximum of 50 hours per year, but there will be no single clock hour where more than one engine is operated, and (3) there is nothing confusing about running a single engine for 10 hours to simulate 10 engines running for an hour each, the emissions on an hourly basis are the same. This same logic applies to other averaging periods such as 3 hours, 8 hours, and 24 hours.

Response 47 – Each engine will be permitted to run a maximum of 50 hours per year, but only one engine will operate in any single clock hour. There will be no concurrent engine operations during maintenance and readiness testing.

Response 48 – The HRA for the proposed engines is based solely on DPM emissions. DPM is the approved and accepted surrogate compound for whole diesel exhaust. DPM health risks are only evaluated for cancer risk and chronic hazard index values based on annual emissions, not hourly or daily emissions, i.e., acute hazard indices. The modeling files used in the HRA analysis were adjusted to account for the 50 hour per year runtime for each engine, accounting for the imposed runtime period of 10 hours per day (7 am to 5 pm, per the City of Santa Clara CEQA analysis and Planning Dept permit conditions), total emissions hours per year, etc.

Response 49 – Load scenario test schedules were not used or proposed by the applicant. See Response 32 above.

## **BACKGROUND: CUMULATIVE IMPACTS**

On page 75 of the application, the applicant stated “[a]s of March 2020, the BAAQMD is currently

updating the CEQA Cumulative Modeling Impact Guidelines. LBGF will submit, under separate cover, a cumulative impact assessment once the BAAQMD provides the updated procedures.” However, the BAAQMD has already updated its Tools and Methodologies for cumulative HRA<sup>1</sup>.

<sup>1</sup> <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>

#### **DATA REQUESTS**

51. Please provide the results of cumulative HRA for the project.

52. The cumulative HRA should include the following receptors: PMI, MEIR, MEIS, and MEIW, and impacts within 1,000-ft of each receptor.

Response 51 – The Applicant has requested, but not yet received a source listing approved by the BAAQMD. Once this list is received, the cumulative analysis will be prepared and submitted to the CEC. See Attachment 1 for a copy of the source list request.

Response 52 – The Applicant has requested, but not yet received a source listing approved by the BAAQMD. Once this list is received, the cumulative analysis will be prepared and submitted to the CEC. See Attachment 1 for a copy of the source list request.

#### **BACKGROUND: THERMAL AND VISIBLE PLUME ANALYSIS**

On page 112 of the SPPE application (TN 233041-1), the applicant states: “Water consumption results in indirect emissions from electricity usage for water conveyance and wastewater treatment. Indoor uses at the project site would generate a potable water demand of approximately 67 acre-feet per year”. In the SPPE application Part 2 Section 5 App A-C (TN 233041-2) on page 63 of 174, the applicant identifies cooling towers – Wet Surface (Wet Sac) condensers, which would be used to cool the data center building. The SPPE application does not address thermal or visible plumes from the building/server cooling system and staff could not find any discussion of a thermal or visible plume analysis for traffic hazards. Staff will need to determine whether thermal and/or visible plumes from the cooling system would be of concern for local aircraft using the nearby airport or reach the Central Expressway and be a hazard to motorists.

#### **DATA REQUESTS**

Staff requests the following information in order to complete its evaluation of thermal plumes from the currently proposed building/server cooling system.

64. Please perform thermal plume modeling of the equipment used to reject heat from the building and data servers.

65. Please perform a visible plume analysis of the equipment used to reject heat from the server building of data servers.

66. Please describe in detail the heat-rejection units, including adiabatic cooling towers, with enough detail so that staff can confirm the thermal or visible plume modeling.

67. Please provide at least the following to support the thermal and visible plume analysis (provide equivalent data if necessary):
- a. Stack (or cooling tower fan cowl) height (m) above ground level (agl)
  - b. Exhaust Temperature (degrees K)
  - c. Exit Velocity (m/s)
  - d. Stack Diameter (m)
  - e. Moisture Content (% by weight) (visible plume analysis)
  - f. Exhaust Temp (F) (visible plume analysis)
  - g. Exhaust Flow Rate (lbs/hr) (visible plume analysis)

Responses to 64 through 67 – the facility will not be using cooling towers or wet surface condensers. The facility will be using air cooled chillers. A description of these air-cooled chiller units, which will be mounted on the building roofs, is presented in Appendix F of the SPPE in the Noise Analysis. There will be 93 (proposed) air cooled units. These units are not connected in any manner to the emergency backup generator engines. These units are used strictly for building and server room cooling.

The thermal plume analysis will be submitted under separate cover during the first week of September 2020.

## **Attachment 1**





# Stationary Source Data Request



## Instructions

Please provide all contact and project information and submit this form with a printout of the Stationary Source Risk and Hazards Screening Report (instructions below) available via the [Permitted Stationary Source Risk and Hazards GIS map](#) to Areana Flores at [aflores@baaqmd.gov](mailto:aflores@baaqmd.gov). **This form is not applicable for school projects.** Please submit a [Public Records Request](#) for all data requests related to school projects.

## Information

Contact Name	Greg Darvin	Project Name	Lafayette Data Center
Affiliation	ADI	Address	2525 Lafayette St.
Phone	831-620-0482	City	Santa Clara
Email	<a href="mailto:darwin@atmosphericdynamics.com">darwin@atmosphericdynamics.com</a>	County	Santa Clara
Date	8/26/20	Type (residential, commercial, mixed use, industrial, etc.)	Comm/Ind

Fill in requested data parameters and additional comments below:

IS THIS THE CURRENT DATA FOR  
THE SOURCES LISTED ON P. 2 ?

### Process for retrieving screening report:

1. Go to [GIS map](#)
2. Click on the "screening" widget (top left)
3. Click on "draw"
4. Select draw mode
5. Draw parcel of interest
6. Click "report"
7. Download CSV and print pdf

## Summary

Name	Count	Area(ft <sup>2</sup> )	Length(ft)
Permitted Facilities 2018	9	N/A	N/A

## Permitted Facilities 2018

#	FACID	Name	Address	City	St	Zip	County	Cancer
1	41	Owens Corning Insulating Systems, LLC	960 Central Expressway	Santa Clara	CA	95050	Santa Clara	0.000
2	2853	Spray Technology	701 Comstock Street	Santa Clara	CA	95054	Santa Clara	0.010
3	13815	Katarzyna Grzyb ems	2845 Lafayette Street	Santa Clara	CA	95050	Santa Clara	3.610
4	14991	Donald Von Raesfeld Power Plant	850 Duane Avenue	Santa Clara	CA	95054	Santa Clara	64.750
5	15588	Bi-CMOS Foundry	975 Comstock Street	Santa Clara	CA	95054	Santa Clara	0.670
6	15791	Global Satcom Technology	701 Walsh Avenue	Santa Clara	CA	95050	Santa Clara	0.000
7	19181	Comstock Data Center	1201 Comstock Drive	Santa Clara	CA	95054	Santa Clara	2.060
8	20574	2805 Lafayette	2805 Lafayette Street	Santa Clara	CA	95050	Santa Clara	3.920
9	23373	W L Gore & Associates Inc	2890 De La Cruz Blvd	Santa Clara	CA	95050	Santa Clara	0.000

#	Hazard	PM_25	Type	Count
1	0.000	0.000	Contact BAAQMD	1
2	0.000	0.010	Contact BAAQMD	1
3	0.010	0.000	Generators	1
4	1.100	26.270	Contact BAAQMD	1
5	0.000	0.000	Contact BAAQMD	1
6	0.000	0.000	Contact BAAQMD	1
7	0.010	0.000	Generators	1
8	0.010	0.000	Contact BAAQMD	1
9	0.000	0.000	Contact BAAQMD	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.

