DOCKETED					
Docket Number:	19-SPPE-02				
Project Title:	Walsh Data Center				
TN #:	229276				
Document Title:	CEC Data Requests for Walsh Data Center, Set 1				
Description:	N/A				
Filer:	Patty Paul				
Organization:	California Energy Commission				
Submitter Role:	Commission Staff				
Submission Date:	8/8/2019 10:37:45 AM				
Docketed Date:	8/8/2019				





August 8, 2019

651 Walsh Partners, LLC c/o Scott Galati 1720 Park Place Drive Carmichael, CA 95608

Re: Data Requests for the Walsh Data Center (19-SPPE-02)

Dear Mr. Galati:

Pursuant to Title 20, California Code of Regulations, sections 1941 and 1716, the California Energy Commission staff is asking for the information specified in the enclosed Data Requests Set 1 to more fully understand the Walsh Data Center project.

Responses to the data requests are due to staff within 30 days. To facilitate an expedited review, staff requests written responses to the enclosed data requests on or before August 16, 2019.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send written notice to me and the Committee within 20 days of receipt of this letter. Such written notification must contain the reasons for not providing the information, the need for additional time, or the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions, please call me at (916) 651-0966, or email me at <u>leonidas.payne@energy.ca.gov</u>.

Leonidas Payne Project Manager

Enclosure

Air Quality

Author Tao Jiang

BACKGROUND AIR QUALITY APPLICATION TO THE AIR DISTRICT

The proposed Walsh Data Center (WDC or project) will require a permit from the Bay Area Air Quality Management District (District or BAAQMD) Therefore, staff will need copies of all correspondence between the applicant and the District in a timely manner in order to stay up to date on any issues that arise prior to completion of the initial study

DATA REQUEST

1 Please provide copies of all substantive District correspondence regarding the application to the District, including application and e-mails, within one week of submittal or receipt This request is in effect until staff publishes the initial study

BACKGROUND CONSTRUCTION AND OPERATION EMISSION CALCULATIONS

The small power plant exemption (SPPE) application appendices AQ1 (Emissions Support Data), AQ3 (Modeling Support Data), and AQ4 (Construction Emissions) are used to document emissions calculations Staff needs the spreadsheet files of the emission estimates with live, embedded calculations to complete the review

DATA REQUEST

2 Please provide the spreadsheet versions of the worksheets in appendices AQ1, AQ3, and AQ4 with the embedded calculations live and intact

BACKGROUND CONSTRUCTION IMPACTS ANALYSIS

The applicant provided ground-level impacts analysis for criteria pollutants during operation of the project However, the applicant did not provide ground-level impacts analysis for criteria pollutants during construction of the project, including the demolition of existing buildings and construction of the proposed WDC Staff needs a construction modeling analysis or justification for not doing modeling analysis for criteria pollutants during construction, to complete the staff analysis for construction air quality impacts

DATA REQUESTS

- 3 Please justify why ground-level impacts analysis was not done for criteria pollutants during construction of the project
- 4 Please provide ground-level impacts analysis for criteria pollutants during construction of the project to show compliance with the California Ambient Air Quality Standards and the National Ambient Air Quality Standards

BACKGROUND CUMULATIVE AIR QUALITY IMPACTS

The application does not include a complete cumulative air quality modeling analysis The cumulative analysis should include all reasonably foreseeable new projects with a potential to emit 5 tons per year or more and located within a 6-mile radius of WDC. This includes all projects that have received construction permits but are not yet operational and those that are either in the permitting process or can be expected to be in permitting in the nearfuture

A complete cumulative impacts analysis should identify all existing and planned stationary sources that affect the baseline conditions and consider them in the modeling effort Staff needs a cumulative modeling analysis, or additional justification why an air quality cumulative modeling analysis is not needed for this project, to complete the staff analysis for cumulative air quality impacts

DATA REQUESTS

- 5 Please justify why cumulative impact analysis was not done for the project
- 6 Please provide a list from the District of existing and planned cumulative sources located within 6 miles of the project site
- 7 Please provide the list of sources to be considered in the cumulative air quality impact analysis
- 8 Please provide the cumulative impact modeling analysis, including WDC and other identified new and planned projects within 6 miles of the WDC site

BACKGROUND NOX EMISSION OFFSETS

Table 4 3-13 on page 60 of the application shows that the annual oxides of nitrogen (NO_x) emissions of the project would be 19 57 tons per year (tpy), based upon operating WDC up to 50 hours per year of non-emergency operation. The application states that NOx emissions will be fully offset through the participation in the BAAQMD minor source offset bank or through the purchase of emission reduction credits. Staff needs to understand how the applicant would get any required offsets. If the project's NOx potential to emit (PTE) could be limited to 35 tpy, the project should qualify for offsets provided from the BAAQMD's Small Facility Banking Account according to BAAQMD Rule 2-2-302. However, according to BAQMMD "Policy Calculating Potential to Emit for Emergency Backup Power Generators", when determining PTE for an emergency backup power generator, the District shall include emissions resulting from emergency operation of 100 hours per year, in addition to the permitted limit for reliability-related and testing operation.

DATA REQUESTS

- 9 Please discuss whether the project's NOx PTE, including emissions resulting from emergency operation of 100 hours, could be limited to 35 tpy, so that it may qualify for offsets provided from the BAAQMD's Small Facility Banking Account
- 10 Please provide evidence showing that the NOx emissions of the project would be offset if WDC does not qualify for offsets provided from the BAAQMD's Small Facility Banking Account

BACKGROUND BUILDING SERVER ROOMS COOLING

The applicant indicates that the data center to house the servers requires electricity and 24 hour cooling to operate The largest of the building loads is the mechanical systems to provide cooling for the server rooms

- 11 Please describe the cooling system in detail and identify if the cooling system consumes water
- 12 Please evaluate whether the cooling system would generate PM emissions and calculate the emissions

Cultural and Tribal Cultural Resources Authors Matthew Braun and Melissa Mourkas

BACKGROUND

The application (DJP 2019 Appendix C-1) references a series of historical maps and aerial photographs used for the analysis provided in the Phase I Environmental Site Assessment (ESA) (Rosso 2016) Copies of these maps and aerial photographs were not included in the ESA Cultural resources staff needs to understand the history and development of the project site for the purpose of analyzing the project and potential impacts to the environment under the California Environmental Quality Act (CEQA)

DATA REQUESTS

Please provide the following

- 13 Copies of the 1961 and 1966 Sanborn Fire Insurance maps (Rosso 2016 8–9)
- 14 Copies of the 1939, 1948, 1950, 1956, 1963, 1968, 1974, 1982, 1993, and 1998 aerial photographs (Rosso 2016 9–11)
- 15 Copies of the 1889, 1897/1899, 1953, 1961, 1968, 1973, 1980, and 2012 USGS 7 5minute series topographic maps (Rosso 2016 11–13)

BACKGROUND

The application and associated cultural resources technical report (DJP 2019, Psota 2018) do not include copies of the reports and records acquired from the Northwest Information Center (NWIC), a formal evaluation of the existing buildings on the property slated for demolition, or a survey of adjoining properties containing built environment resources 45 years or older This information is needed for cultural resources staff's independent analysis of the project and its potential for impacts to the environment under CEQA

DATA REQUESTS

Please provide the following

16 Copies of the reports and records acquired from the NWIC, identified as follows

- a Cartier (1980)
- b Kaijankoski et al (2012)
- c Leventhal et al (1990)
- d Nadolski and St Clair (2002)
- 17 Results of a built environment survey completed within the last five years inclusive of the project site, extending to no less than one parcel's distance from all proposed Walsh Data Center site boundaries, and a windshield survey conducted along all proposed linear routes to identify all buildings, districts, structures, sites, or objects that are 45 years or older

Those properties identified as 45 years or older shall be documented and evaluated on Department of Parks and Recreation (DPR) 523(A) forms and appropriate DPR 523 detail forms A technical report summarizing this information shall be included with the data response

REFERENCES

- **Cartier 1980—Robert Cartier** Archaeological Site Record for CA-SCL-430/H (P-43-433) On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park
- DJP 2019—David J Powers & Associates Small Power Plant Exemption Application Walsh Backup Generating Facility June Submitted by Walsh Partners Submitted to California Energy Commission, Sacramento TN 228877-2
- Kaıjankoskı et al 2012—Philip Kaıjankowski, Jack Meyer, and Julia Costello Extended Phase I Archaeological Excavations for the US 101/DeLa Cruz Boulevard/Trimble Road Interchange Improvement Project, San Jose, Santa Clara County, California On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park Study S-40756
- Leventhal et al 1990—Alan Leventhal, Rosemary Cambra, and Andrew Galvan Archaeological Site Record for CA-SCL-702 (P-43-1080) On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park
- Nadolski and St Clair 2002—John A Nadolski, and Michelle St Clair Archaeological Investigations for the 650 Walsh Avenue, Santa Clara Wireless Communications Site, CA2216D On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park Study S-25327
- Psota 2018—Sunshine Psota Letter Regarding Results of a CEQA Archaeological Literature Search for 651 Walsh Ave, City and County of Santa Clara, California July 13 Confidential Holman & Associates, San Francisco Prepared for David J Powers & Associates, San Jose, CA On file, California Energy Commission, Sacramento
- Rosso 2016—Rosso Environmental, Inc Phase I Environmental Site Assessment 601-711 Walsh Avenue, Santa Clara, Santa Clara County, California November 29 Appendix C-1 in Small Power Plant Exemption Application Walsh Backup Generating Facility June Submitted by Walsh Partners Submitted to California Energy Commission, Sacramento TN 22997-1

Land Use and Planning

Author: Andrea Koch

BACKGROUND: LOT COVERAGE

The application states on Figure 2-1 Site Plan, under Lot Data, that lot coverage is 32.4 percent, but it does not state the building footprint square footage to substantiate the lot coverage calculation.

DATA REQUEST

18. Please provide the square footage of all the structures used to calculate lot coverage, including the building footprints of the four-story Data Center Building and the attached three-story Power Base Building, and ensure that the lot coverage calculation meets the City's definition of lot coverage, which is "the area of a lot occupied by the principal structure or structures and accessory structures" (COSC 2019).

BACKGROUND: FLOOR AREA RATIO

The application states that the project would include construction of a 435,050 square-foot data center building, but at times it refers to the Walsh Data Center as including two buildings, the four-story Data Center Building and the attached three-story Power Base Building.

DATA REQUEST

19. Please confirm whether or not the floor area square footage provided in the application includes both the four-story Data Center Building and the three-story Power Base Building and provide the floor area square footage for both buildings.

REFERENCES

COSC 2019 – City of Santa Clara. City Code, Chapter 18.06: Definitions. Available online at: https://www.codepublishing.com/CA/SantaClara/#!/SantaClara18/SantaClara1806.html#1 8.06. Accessed July 17, 2019.

Population and Housing

Author Lisa Worrall

BACKGROUND PROJECT CONSTRUCTION

Staff needs to know more about the construction of the WDC and Walsh Backup Generator Facility (WBGF), including infrastructure The SPPE application notes on page 15 that construction of the WBGF would take 6 months and require 10-15 construction workers including one crane operator. The SPPE application notes on pages 15 and 16 that WDC is to take 19 months with construction to begin in October 2019, but there is no indication of the number of construction workers necessary for this part of the project. There is also no overall project schedule and description of the phasing of project activities. The schedule and phasing are necessary for staff to understand how the project components would be constructed over time. Staff has the following associated questions and requests.

DATA REQUESTS

- 20 What is the estimated number of project construction workers during peak activities and on average?
 - a Please provide an overall construction workforce number (peak and average)
 - b Please provide a construction workforce number (peak and average) for the WDC and WBGF, individually
- 21 Are there any construction activities for the WDC and WBGF that would not be sequential and instead overlap with other activities?
 - a Please provide an overall project construction schedule and a schedule for construction of the WDC and WBGF, individually
 - Please explain how the other associated activities, such as project site demolition and cleanup, are incorporated into components of the project (e g WDC and WBGF)
 Please explain if and how the schedule and number of workers would overlap
- 22 Construction of the generator yard is listed as part of the construction activities of both the WDC and the WBGF Please clarify whether or not the workforce and the schedule for construction of the generator yard would be captured in the WDC or WBGF workforce and schedule

BACKGROUND PROJECT CONSTRUCTION AND OPERATION WORKFORCE

Staff needs to know about the assumptions used for the construction and operations workforce for the project (WDC and WBGF) No assumptions were discussed in the SPPE application

DATA REQUESTS

- 23 From where are the project construction and operation workforce estimate to be derivedlocally within the Greater Bay Area or non-locally (beyond a two-hour commute of the project site)?
- 24 What portion of the construction and operation workforce does the applicant anticipate would be local and what portion would be non-local?

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Project Description

Authors Andrea Koch, Lisa Worrall, Laiping Ng, and Gerry Bemis

BACKGROUND STORMWATER CONTROLS

According to the SPPE application on page 17, the existing storm water lift station structure on the southwest corner of the project site would be removed and a new storm water lift station structure, piping, and pump would be provided to transport storm water from the site drainage system to the existing storm water main on Walsh Avenue Figure 2-1 presents a site plan for the project, however, the location of the new storm water lift station structure, piping and pump are not marked on the plan

DATA REQUEST

25 Please update Figure 2-1 to note the location of the new storm water structure, piping, and pump

BACKGROUND SILICON VALLEY POWER (SVP) ELECTRICAL FACILITIES

Page 17 of the SPPE application notes that the applicant would construct a new distribution substation to support the WDC and the substation would be ultimately owned and operated by SVP as part of its distribution network

According to the SPPE application, while SVP has not designed the 60-kV transmission lines that would come into the project site, it estimates that one line would come from the north and one would come in from the south with both routes paralleling the existing Union Pacific Railroad (UPRR) rail lines. In addition, there may be up to six new transmission poles installed. Staff has the following questions and requests to better understand the connection of the project site to the SVP electrical facilities.

- 26 How would the construction of the transmission lines and poles connecting the project site to the SVP electric system fit in the overall project schedule and construction workforce numbers?
- 27 The site plan presented in the SPPE application as Figure 2-1 does not indicate where the transmission lines would connect with the project site or the exact locations of the transmission poles. Please update the site plan to show where these lines would connect, and to show the locations of the transmission poles.
- 28 When would the transmission line work take place in the overall project schedule?
- 29 Please include the number of construction workers necessary into the overall project construction workforce count (peak and average)
- 30 UPRR expressed concerns about another project when a new transmission line was proposed to parallel UPRR's rail lines Has UPRR reviewed the project and if so, please provide a copy of any comments If UPRR has not reviewed the project, please consult with UPRR on the planned transmission lines connecting to the project site and provide staff a copy of any comments

31 What is the estimated height (both above and below grade) of the tubular steel transmission poles and the diameter at ground level?

BACKGROUND TRANSMISSION AND INTERCONNECTION

Section 2 0 (Project Description) of the SPPE application indicates that the WDC includes an onsite 60-kV substation with an electrical supply line that would connect to an SVP 60kV line Understanding the proposed interconnection to SVP would assist staff in determining the likelihood that the back-up generators would be operated and thus any potential impacts on the environment from their operation. Staff needs more detailed information on the 60-kV substation, 60-kV interconnection line, and transmission poles than was provided in the Project Description section.

DATA REQUESTS

- 32 Please provide the name(s) of the existing SVP 60-kV line(s) that would supply power to the WDC
- 33 Please describe the interconnection to the SVP system Is the WDC connecting though a single radial 60-kV line? Is the connection through a looped system where either of two connections could supply 100 percent of the WDC site load?
- 34 Please provide a one-line diagram showing how the WDC would be connected to the existing SVP system Please label the name of the lines and provide the line voltages
- 35 Please provide a one-line diagram showing the existing SVP system lines above 60 kV Please provide the names and voltages of the transmission facilities
- 36 Please provide a complete one-line diagram for the new 60-kV WDC substation Show all equipment ratings including bay arrangement of the breakers, disconnect switches, buses, redundant transformers or equipment, etc that would be required for interconnection of the WDC project
- 37 Please provide the conductor name, current carrying capacity in Ampere, and conductor size for the transmission lines that would be required for interconnecting the WDC to the SVP 60-kV system
- 38 Please provide the pole configurations that would be used to support the transmission lines from the SVP 60-kV system to the WDC Show proposed pole structure configurations and measurements
- 39 Please provide a map showing the proposed transmission line route
- 40 Please provide the expected frequency of outage of the 60-kV system that would serve the WDC
- 41 Please identify all other data centers using the 60-kV line and loop proposed to interconnect to WDC

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- 42 If there are any other data centers on the 60-kV line that WDC proposes to interconnect to, have any of the data centers experienced an SVP power supply outage(s)?
 - a What was the cause, duration, recovery process from the outage(s)?
 - b Are there breakers on the 60-kV line or disconnect switch(es) and did they isolate the faults?
 - c What was the response to the outage(s) by the data centers to the outage (i e, initiated operation of some or all back up generation equipment, data off-shoring, data center planned shutdown, etc)?

BACKGROUND GRID POWER OUTAGES AND DATA CENTER EMERGENCY GENERATOR OPERATIONS

Because emergency operations and the outages that instigate them are rare events, there is limited information and examples of the operational protocol of the backup diesel generators during grid power loss at data centers. Staff is aware of just two power outages in the Santa Clara region and the Silicon Valley Power (SVP) grid that resulted in the activation of local data center's backup diesel generators. Other power outages appear to have not resulted in data center emergency operations

One May 28 and 29, 2016 SVP outage resulted in emergency generator operation at the Vantage Santa Clara data center Information about the impacts of the outage on the operation of the Vantage Santa Clara data center backup generators will assist staff in understanding what can be expected in the context of the Walsh project and other adjacent data centers and ultimately better inform the California Energy Commission and public regarding what data center emergency operations entail

Another outage on the SVP system occurred on December 2, 2016 We have limited information on how this outage affected local data centers, if any

- 43 Please describe the events that resulted in the Vantage Santa Clara Campus operating the diesel-fueled backup engines on May 28 and 29, 2016 Please describe the Vantage Santa Clara Campus connection to the SVP grid
- 44 Are you aware of any other data centers that lost SVP power and operated their dieselfueled backup generators?
- 45 Why, during the May 28 and 29, 2016 outage--which has been described as an approximately <u>12 hour</u> outage--did two engine gensets operate for approximately 7 hours and four engine gensets operate for approximately 19 hours? Note that SVP describes the outage as lasting 7 hours 23 minutes from late on the 28th to early on the 29th

46 TN 224450 "Vantage Data Center's Responses to CEC Data Requests" filed in the McLaren Data Center proceeding (17-SPPE-01) states in Attachment A, Table 2 "Emergency Run Events at Campus" [relevant pages attached] that Sources S-17 and S-19 ran for 7 hours each

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- a What was the start time for each genset, and what was the end time?
- b What was the load point for each genset?
- c What type of load was served by each genset?
- d If Vantage Santa Clara Campus data servers were being powered by either generator, how were these data servers loaded (as in, percent of capacity of data server)?
- e Were these two engine gensets shutdown as Vantage Santa Clara Campus shed load to match actual load (response d)?
- f Was any engine used for "essential services" rather than data server load?
- g Did Vantage Santa Clara Campus data services supported by the engine gensets shutdown or cease operation at some point during the emergency?
- h When was grid power restored to the Vantage Santa Clara Campus data center?
- When was the Vantage Santa Clara Campus data center switched from the backup generators and returned to grid connectivity?
- J When were customer data server activities resumed?
- 47 In the same table, it is stated that Sources S-24, S-25, S-26 and S-27 each ran for approximately 19 hours each
 - k What was the start time for each engine, and what was the end time?
 - I What was the load point for each engine?
 - m What type of load was served by each generator?
 - n If Vantage Santa Clara Campus data servers were being powered by either generator, how were these data servers loaded (as in, percent of capacity of data server)?
 - o Why did the shutdown or start vary slightly from genset to genset?
 - p Was any engine used for "essential services" rather than Vantage Santa Clara Campus data server load?
 - q Did Vantage Santa Clara Campus data services supported by the engine gensets shutdown or cease operation at some point during the emergency?
 - r When was grid power restored to the data center?
 - s When was the Vantage Santa Clara Campus data center switched from the backup generators and returned to grid connectivity?
 - t When were customer data server activities resumed?
- 48 How many engine gensets in total were installed at the Vantage Santa Clara Campus facility on May 28 and 29, 2016? If these did not need to operate, why?
- 49 What would be the applicability of the May 28/29, 2016 outage to other data centers in the vicinity of the Vantage Santa Clara Campus facility?
- 50 How would the emergency operations of the other backup generators differ from the operations that occurred at the Vantage Santa Clara Campus facility during the May 28 and 29, 2016 outage

51 Did the Vantage data center, or other local data centers, lose grid connectivity on a short 12 minute SVP outage on Dec 2, 2016? Please describe the response to that outage, if there was one, and how it may differ than the data center responses to the May 28 and 29, 2016 outage

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Public Health

Author Huei-An Chu (Ann), Ph D

The SPPE application and appendices provides little information on how the applicant conducted the health risk assessment (HRA)

BACKGROUND CONSTRUCTION PHASE IMPACTS

On page 69 of the application (TN # 228877-2), the applicant states "Since construction activities are temporary and would occur well over 1,000 feet from the nearest sensitive receptor community risk impacts from construction activities would be less than significant" However, since the construction would last 21 months, staff believes a quantitative HRA is necessary to make sure impacts from construction would be less than significant

DATA REQUEST

52 Please provide a quantitative health risk impact assessment (including cancer risk, chronic non-cancer health index, and UTM coordinates) for the 21-month construction period. These impacts should include the following receptors at point of maximum impact (PMI), maximally exposed individual sensitive receptor (MEISR), maximally exposed individual resident (MEIR), and maximally exposed individual worker (MEIW). Please also provide the HRA files

BACKGROUND OPERATION PHASE IMPACTS

On page 71 and 72 of the application, the applicant provides the information of excess cancer risk during the operation of WDC However, staff needs more information to check the validity of the HRA

- 53 Please provide the input files of data (i e the "* ROU" files) for AERMOD and HARP which contain the information of sensitive receptors and residence receptors, including grid identification numbers (i e HARP receptor numbers), type (ex day care centers, nursing homes, schools) and corresponding locations (UTMs), so that staff can differentiate them from all other grid receptors
- 54 Please provide all other related files to enable staff to replicate the health risk assessment
- 55 Please specify the HARP receptor number of the closest sensitive receptors one residence and two schools specified on Table AQ5-1
- 56 Please provide the health risk impacts (including cancer risk, chronic non-cancer health index, and UTM coordinates) at PMI, MEISR, MEIR and MEIW
- 57 On Table 4 3-14, it states that "Annual emissions for each engine are based on the maximum allowed runtime of 50 hours per year " Please confirm that the HRA was based on the 50 hours of operations per engine per year

58 Other than diesel particulate matter (DPM), does the health risk assessment (HRA) for operation include speciated total organic gases (TOGs) in diesel exhaust from the backup generator exhaust? If no, please justify excluding TOGs If yes, please provide more detailed information, including their speciation profiles, 1-hr concentrations (μg/m3) Please also calculate the Acute Hazard Index (HI)

Transportation

Author Ellen Lefevre

BACKGROUND DEMOLITION AND CONSTRUCTION TRIP GENERATION

The Project Description section of the SPPE application states there would be demolition and construction activities but no information is provided on the daily roundtrips generated by workers commuting to the project site and delivery and truck haul trips for demolition and construction activities. The SPPE application also states during the demolition and construction of WDC "roughly 51,000 cubic yards of soil and undocumented fill would be removed from the site, to be replaced by 60,000 cubic yards of fill to be purchased from an existing commercial fill provider and imported to the site" (page 16) However, no information is provided on the number of roundtrips generated from the removal and delivery of soil and/or fill

DATA REQUEST

59 Please provide the average number of daily roundtrips, including both worker and delivery and truck haul trips, for the demolition and construction period of the project (WBGF and WDC)

BACKGROUND OPERATION TRIP GENERATION

Page 162, section 4 17 2 Vehicle Trips states, "Based on ITE [Institute of Transportation Engineers] rates, the project would generate an estimated total of 48 weekday AM peak hour trips and 39 weekday PM peak hour trips, while the existing warehouse use on the site (land use code 150) generates 29 AM peak hour trips and 33 PM peak hour trips. The WDC would result in a nominal increase of 19 AM peak hour trips and 10 PM peak hour trips."

DATA REQUESTS

- 60 Please verify the trip calculations, there is an inconsistency in the increase of PM peak hour trips
- 61 Please provide the average number of daily roundtrips, including both worker and delivery and truck haul trips, for operation of the project (WBGF and WDC)

BACKGROUND VEHICLE MILES TRAVELED

As a result of recent updates to the CEQA Guidelines, which include analyzing transportation impacts pursuant to Senate Bill 743, staff requests information on the vehicle miles traveled for the demolition, construction, and operation generated trips

- 62 Please provide the estimated one-way trip lengths for the workers, deliveries, and truck haul trips generated by the project's demolition and construction activities
- 63 Please provide the estimated one-way trip lengths for the workers, deliveries, and truck haul trips generated during project operation

BACKGROUND THERMAL PLUMES

According to the SPPE application, the project would have emergency generators and air cooled chillers and the project site is located approximately 0.3 mile from the Norman Y Mineta San Jose International Airport

DATA REQUEST

64 In order to evaluate potential plume hazards to aviation, please model (using the Spillane methodology) and provide analysis of the plume's velocity for the project's emergency generators and chillers

BACKGROUND PUBLIC ROADWAYS AND INTERSECTIONS

Page 164 of the SPPE application states, " project construction or operations will not permanently alter any public roadways or intersections"

DATA REQUEST

65 Would project demolition, construction, or operations temporarily alter any public roadway or intersection? If so, please identify which roadway and/or intersection would be affected, describe the alteration, and provide the duration of the activities on the affected roadway and/or intersections

Utilities and Service Systems Author Abdel-Karim Abulaban

- 66 The SPPE application states that telecommunication services for the project would be obtained from city connections. However, staff is not aware that the City of Santa Clara provides telecommunication services. Please confirm the information in the application, and if it is found to be incorrect, provide the correct information on who would provide those services to the project.
- 67 The SPPE application did not give any information regarding amount or source or water for construction Please provide this information that staff needs to complete the analysis for the construction phase of the project

Vantage Data Center's Responses to CEC Data Requests McLaren Back Up Generating Facility (MBGF) 17-SPPE-01

1. What is the history of diesel-fueled engines needing to operate at other Vantage data centers located in the vicinity of the proposed site for McLaren? We would hope to have recent and historical information on:

<u>Response</u>: It is important to note that Vantage's other campus (Santa Ciara) was developed over time and the Santa Ciara campus generators are connected in parallel. In order to facilitate construction and expansion at the Santa Ciara campus, some generators needed to run. Those hours are not included in these responses because they were part of construction and are not relevant to understanding the proposed operations at the MBGF

The MBGF generators will not be constructed in parallel and instead will be constructed in a manner that would allow a set of generators to serve a specific floor of the respective buildings Once that set of generators is constructed ("4 to make 3" discussed in Response 1 d below) it is dedicated to the floor and will not be used for construction or expansion activities for subsequent phases

Therefore, the responses provided below are limited to maintenance and testing operations or operation during an emergency and not for construction and expansion of the Santa Clara Campus

a. Number of readiness testing events and durations;

Response: See Attachment A, Table 1

b. Number of emissions testing events and durations;

Response Vantage does not perform, and the BAAQMD permit does not require, emission testing events

c. Number of engines starts but not loaded, events and durations;

Response See Attachment A, Table 1

d. Number of engines starts and then loaded, events and durations;

Response: There has been only one event at the Santa Clara Campus over the last 8 years that required generation of electricity during an outage The event lasted approximately 12 hours and all of the generators were started and the redundant generators shedded to match the actual load See Attachment A, Table 2 The MBGF facility is designed differently than the units at the Santa Clara Campus Rather than shedding individual generators to match load and allow redundancy which is done at the Santa Clara Campus, the MBGF Facility is designed with a "4 to make 3" configuration In this configuration 4 generators will share the electrical load The maximum electrical load equals the continuous rating of 3 generators so that if one of the 4 generators were to fail, the load can be supplied by the 3 generators remaining in the cluster Therefore during a similar outage that was experienced at Santa Clara, all of the MBGF generators will be started and then all 4 generators in each cluster will be adjusted to match the load necessary for that particular cluster

e. Electrical grid outages types (e.g., complete loss of connection, voltage drop, transients) and frequency; and

<u>Response.</u> As discussed in Response to 1 d above, the Santa Clara Campus has only experienced one event in 8 years. The outage affected the entire campus and lasted for approximately 12 hours. MBGF has been designed with a UPS system that will address the other types of outages.

f. Number of internal-to-the-data-center events that trigger an engine start.

Response: Other than construction activities and expansion, no internal-tothe-data-center events have triggered an engine start at the Santa Clara Campus As described above because the MBGF has been designed differently than the Santa Clara Campus, the MBGF generators will not be run to allow construction and expansion of subsequent phases There are no internal-to-the-data-center events that would trigger an engine start expected at the MDC

Vantage provides security for its customers so that they can rely on the safety and accessibility of their critical business electronic data Although an outage is very unlikely, it is not impossible. Since the loss of a business' critical data could be catastrophic, Vantage has invested heavily in constructing the distribution substation for Silicon Valley Power (SVP), which is dedicated solely to distribute electricity to the MDC. The SVP substation is connected directly to the transmission system and the SVP Substation is served by redundant utility feeds. Vantage's investment in the dedicated SVP distribution substation will provide further protection from utility outages.

2. Would the above information be affected by which utility (e.g., PG&E vs SVP vs SMUD) serves the data center?

<u>Response:</u> Vantage does not believe the information provided above would be affected by which utility serves the data center Both the Santa Clara facility and

the MDC are served by SVP SVP has an outstanding track record for electrical delivery

3. Would the above information be affected by whether the data center is connected at the distribution level or at higher voltages through a dedicated switchyard?

Response: Vantage believes that the SVP distribution substation for the MDC will provide additional security from outages because it is dedicated solely to the MDC and is interconnected at the transmission level with access to redundant utility feeds

4. How is the switchyard that would serve the proposed McLaren facility connected to SVP and are any other data centers on the transmission line?

<u>Response</u>: As discussed above in Responses to 1 f and 3 above, the SVP distribution substation is not connected to any other data centers served by redundant utility feeds

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Table 2	Emergency	Run	Events	at Campus

Generator Source Numbe		Data	Meter Reading			Description	
Generator	Source Number	Date	Start	Stop	Run Time (hours)	Description	Lategory
SC1-V1-GEN#1	S-17	5/29/2016	195	202	7	Generator started due to loss of utility power	Emergency Run
SC1-V1-GEN#3	S-19	5/29/2016	195	202	7	Generator started due to loss of utility power	Emergency Run
SC1-V3-GEN#1	S-24	5/29/2016	105 3	124 4	19 1	Generator started due to loss of utility power	Emergency Run
SC1-V3-GEN#2	S-25	5/29/2016	121 2	140 2	19	Generator started due to loss of utility power	Emergency Run
SC1-V3-GEN#3	S-26	5/29/2016	103 8	122 9	19 1	Generator started due to loss of utility power	Emergency Run
SC1-V3-GEN#4	S-27	5/29/2016	125 7	144 8	19 1	Generator started due to loss of utility power	Emergency Run

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