

**DOCKETED**

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<b>Document Title:</b>	CEC Staff Data Requests for Mission College Data Center, Set 1
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<b>Filer:</b>	Steve Kerr
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December 27, 2019

Oppidan Investment Company  
c/o Scott Galati  
1720 Park Place Drive  
Carmichael, CA 95608

**Re: Data Requests for the Mission College Data Center (19-SPPE-05)**

Dear Mr. Galati:

Pursuant to Title 20, California Code of Regulations, sections 1941 and 1716, California Energy Commission staff is asking for the information specified in the enclosed Data Requests Set 1 necessary for a complete staff analysis of the Mission College 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 January 16, 2020.

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 Cal. Code Regs., tit. 20, § 1716 (f)).

If you have any questions, please call me at (916) 651-0966, or email me at [leonidas.payne@energy.ca.gov](mailto:leonidas.payne@energy.ca.gov).

A handwritten signature in blue ink, appearing to read "Leonidas Payne".

Leonidas Payne  
Project Manager

Enclosure

## **Technical Area: Air Quality, Greenhouse Gas Emissions and Public Health**

**Author(s): Brewster Birdsall, Huei-An (Ann) Chu, Tao Jiang**

### **BACKGROUND: AIR DISTRICT REVIEW**

The proposed Mission College Data Center (MCDC or project) 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 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 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.
2. Please identify the current schedule for the BAAQMD permit application submittal. If this application is filed during the CEC proceeding for MCDC, please submit a copy of that application to the CEC docket within five days of submitting it to BAAQMD.

### **BACKGROUND**

The original project configuration consisted of 120 diesel-fueled 625-kW emergency generators with engines certified to achieve US EPA Tier 4 exhaust standards. Since the approval by the City of Santa Clara, the applicant has reconfigured the project and now proposes to replace the 120 625-kW emergency generators with 43 2.5 MW emergency generators with engines certified to US EPA Tier 2 exhaust standards.

### **DATA REQUEST**

3. Please explain the basis for the Tier 2 engines at a different size in the current project description rather than the Tier 4 engines originally proposed.

### **BACKGROUND: EMISSIONS CALCULATIONS**

The project application to the Energy Commission (SPPE application) includes an Appendix A, with an Air Quality Impact Assessment (AQIA) and the AQIA Appendix AQ-3 and Appendix AQ-4, all of which document potential project construction and operation emissions calculations. To validate the applicant's work, staff requests the spreadsheet files of the applicant's AQIA Appendix AQ-3 and Appendix AQ-4 emissions calculations for staff's internal review.

## **DATA REQUEST**

4. Please provide spreadsheet versions of the emissions calculations worksheets supporting the SPPE application from the applicant's AQIA Appendix AQ-3 and Appendix AQ-4 with the embedded calculations live and intact.

## **BACKGROUND: DISPERSION MODELING FOR CONSTRUCTION IMPACTS**

The SPPE application indicates that ambient air quality impacts were not evaluated for the construction phase of the project (p.74). As such, the application does not quantify public health impacts 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 construction of the project.

## **DATA REQUESTS**

5. 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 construction of the project.
6. 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 construction impacts.

## **BACKGROUND: CONSTRUCTION HEALTH RISK ASSESSMENT (HRA)**

On page 70 of the application, the applicant stated that the 2018 MND adopted for the previously proposed data center facility on the site includes construction period emissions for PM, NO<sub>x</sub>, and ROG. Comparison of the 2018 MND construction emissions to those shown in Table 4.3-7 of the application shows that the construction emissions of PM<sub>10</sub> and PM<sub>2.5</sub> from the proposed Project are less than those of the 2018 MND. Therefore, due to construction time period changes between the project as evaluated in the 2018 MND and also due to project modifications, the proposed Project results in similar or lower construction emissions. It is reasonable to assume that a construction HRA for the proposed Project would result in similar conclusions as the 2018 MND's construction HRA, which was accepted by the City of Santa Clara. Further, it is reasonable to estimate that the HRA results would be lower for the proposed Project due to the reduction in annual PM<sub>2.5</sub> construction emissions resulting from these changes.

## **DATA REQUESTS**

7. Please summarize the bases for changes from the 2018 MND to the proposed MCDC construction emissions.
8. Please complete a short-term screening level HRA for construction-phase DPM emissions. The Applicant should use a duration starting in the 3rd trimester of pregnancy to determine a maximum cancer risk to the most sensitive receptor. Then, if the risk is still above a significance threshold ( $10 \times 10^{-6}$ ) the applicant should refine the modeling beyond a screening level of analysis.
9. Please provide a quantitative health risk impact assessment (including cancer risk, chronic non-cancer health index, and UTM coordinates) for both construction phases. 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.
10. Please update the project's HRA to include construction and operation together, not separately, particularly since the risk driver is diesel particulate matter (DPM) for both.

## **BACKGROUND: OPERATIONAL EMISSIONS**

The SPPE application (p.72) indicates that "...emission calculations assume 24 hours per day for all critical backup generators combined and 24 hours per day for all life safety generators combined." However, the application also indicates that "...Oppidan proposes to limit operation to one generator at a time for routine maintenance and testing activities conducted pursuant to manufacturer specifications" (p.72). Therefore, the application is unclear as to whether all generators should be assumed to run 24 hours per day or one at a time. For example, the application does not make clear assumptions behind the daily peak NO<sub>x</sub> emissions of 928 lb/day (Table 4.3-8 and in Appendix A, Table 4-5). Staff does not anticipate routine testing to normally involve 24 hours of emissions daily.

Additionally, potential emissions of nitrogen oxides (NO<sub>x</sub>) are not consistently presented in the SPPE application. For example, SPPE application Table 4.3-8 (p.73) shows potential emissions of up to 30.29 lb/hr NO<sub>x</sub> per engine. Elsewhere, the potential emissions would be as high as 42.6 lb/hr NO<sub>x</sub> per engine when derived from the emissions factors in the applicant's AQIA (Appendix A, Table 4-7) and in the vendor information in the applicant's AQIA Appendix AQ-2 (5.32 grams per brake-horsepower-hour \* 3,633 horsepower).

Staff needs to verify the different operational restrictions that the applicant views as project features and/or analytical assumptions that can be made into enforceable limitations.

## **DATA REQUESTS**

11. Please confirm that the applicant would request the District to require an enforceable limit on concurrent operation of standby engines during all readiness and maintenance testing scenarios so that only a single generator engine operates for maintenance and testing at any given time.
12. Please confirm the operational limits assumed to be enforceable in the assumption of project operational emissions up to 928 lb/day NO<sub>x</sub> for the generator engines.
13. Please describe the scenario of routine testing that could normally require 24 hours of engine use and emissions in a given day.
14. Please provide evidence to substantiate the assumption of NO<sub>x</sub> emissions of 30.29 lb/hr per engine (SPPE application Table 4.3-8), in light of vendor information in Appendix AQ-2 that specifies potential NO<sub>x</sub> emissions as high as 42.6 lb/hr per engine.

## **BACKGROUND: HEALTH RISK ASSESSMENT (HRA) FOR OPERATION PHASE IMPACTS**

In Table 4.3-12 on page 82 of the application, the applicant said “additional HRA analyses are being prepared at the time of filing of this application to represent more reasonable case operation profiles and will be submitted under separate cover.” Also, the PMI in Table 4.3-12 is 51.39 in one million, higher than the threshold of 10 in a million.

## **DATA REQUESTS**

15. Please provide the additional HRA for operation phase and all related files as stated. The results of risks should include cancer risk, chronic non-cancer health index, and UTM coordinates. These impacts should include the following receptors: (1) point of maximum impact (PMI), (2) maximally exposed individual sensitive receptor (MEISR), (3) maximally exposed individual resident (MEIR), and (4) maximally exposed individual worker (MEIW). Please also provide the HRA files.
16. If the refined PMI calculated by the additional HRA is still higher than the threshold, please provide justification or mitigation measures.

17. Please also provide the risk results (include cancer risk, chronic non-cancer health index, and UTM coordinates) of the sensitive receptors (maximally exposed individual sensitive receptor or MEISR) within 1,000 ft. of the project's boundary.

18. Please update the project's HRA to include construction and operation together, not separately, particularly since the risk driver is DPM for both.

## **BACKGROUND: DISPERSION MODELING WITH URBAN OPTION**

The electronic files showing air quality and public health dispersion modeling settings shows that applicant's runs use the "urban" dispersion algorithm for the surface boundary layer. AERMOD uses empirical relationships that depend on the population of the city to adjust for total turbulence in the surface boundary layer. (Further information can be found in pp.85-90, Section 5.9, Adjustments for the urban boundary layer, within the U.S. EPA report: AERMOD Model Formulation and Evaluation, August 2019.) Because the applicant used an urban population of 127,134, which is much lower than the overall population of urbanized Santa Clara County including San Jose (approximately 1.9 million), staff is concerned that the urban population factor used in the applicant's modeling may not completely capture the actual urban surface characteristics as intended by AERMOD model formulation.

### **DATA REQUEST**

19. Please confirm that the applicant's use of 127,134 as the urban population in AERMOD provides conservative (high) concentration results, when compared with using a population setting of approximately 1.9 million, which would better reflect the setting in Santa Clara County, or revise the modeling to include the correct population.

## **BACKGROUND: DISPERSION MODELING RECEPTOR TYPES**

The SPPE application (p.76) and receptor grid data in the electronic modeling files includes "flagpole" receptors at 1.8 meters, which is in contrast with staff's intent to determine ground-level concentrations (at 0 meters above ground).

### **DATA REQUEST**

20. Please confirm that the "flagpole receptors" setting of 1.8 m provides conservative (high) ground-level concentration results, when compared with using no flagpole receptors. If not, justify the choice of using flagpole receptors or please redo the modeling analysis

## **BACKGROUND: MODELING FOR NITROGEN DIOXIDE**

The modeling files for the 1-hour nitrogen dioxide (NO<sub>2</sub>) concentrations appear to under-represent the potential impact of the maximum short-term NO<sub>x</sub> emission rate of approximately 42.6 lb/hr (based on the emission factor of 5.32 grams per brake-horsepower-hour and 3,633 horsepower per engine) as in the applicant's AQIA Appendix AQ-2.

The modeling files for 1-hour NO<sub>2</sub> impacts assume single-hour emissions at the "annualized" NO<sub>x</sub> emission rate, as disclosed in a footnote in the AQIA (footnote 'f', the applicant's AQIA Table 4-7). However, the maximum potential hourly NO<sub>x</sub> emissions should be used in the evaluation of whether CAAQS would be exceeded. This means that the 1-hour NO<sub>2</sub> impacts in SPPE application Table 4.3-11 appear to be underestimated by modeling an "annualized" emission rate rather than the actual potential short-term emissions that could occur during any hour. For example, the applicant's AQIA Table 4-7 shows the short-term emissions rate for NO<sub>x</sub> of 5.369 grams per second, which contrasts with the modeling for source name: GEN42A, at the emission rate of: 0.03064 grams/second (in modeling file "1hr\_NO2\_CAAQS\_2013-2017.aml"). If the basis for this approach is the March 1, 2011 memorandum from Tyler Fox of the US EPA with the subject line "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO<sub>2</sub> NAAQS," CEC staff notes that this document says on page 9 that "the guideline is not a strict modeling 'cookbook'" and that "case-by-case analysis and judgment are frequently required." The memorandum also says on page 10 that "case-specific issues and factors may arise that affect the application of this guidance" and that "additional discretion may need to be exercised in such cases to ensure that public health is protected." Staff's review of the single-engine scenarios indicate that many scenarios could exceed the 1-hour NO<sub>2</sub> CAAQS (based on results in the applicant's AQIA Appendix AQ-6: Load Screening Analysis Model Total Output).

## **DATA REQUEST**

21. Please update the modeling for NO<sub>2</sub> impacts and re-evaluate compliance with the 1-hour NO<sub>2</sub> CAAQS by analyzing the potential NO<sub>x</sub> emissions that could occur during any single-hour scenario.

## **BACKGROUND: EMERGENCY OPERATIONS**

The SPPE application does not provide an ambient air quality impact analysis considering the potential use of the backup generator engines during power outages. To explore the potential air quality impacts during emergency operations of the diesel-powered engines, staff needs to confirm and refine our understanding of how the generators could be used during electrical system outages.



## **DATA REQUEST**

22. Please describe some possible examples of groupings of generators that could be in use during emergency operations and the corresponding engine loadings. For example, one scenario could be 14 or more generators (such as GEN1-12 or GEN31-42 plus life-safety generators) at full loads and a different scenario could include a greater number of generators operating at partial loads.

## **BACKGROUND: CUMULATIVE AIR QUALITY IMPACTS**

During the Walsh Status Conference held on August 30, 2019, the Walsh Committee had expressed interest in finding out more information regarding other data centers currently operating on the Silicon Valley Power (SVP) 60 kV loop. The co-located data centers on the Walsh loop should be part of a potential cumulative impacts analysis. A cumulative analysis should include all reasonably foreseeable new projects with a potential to emit 5 tons per year or more and also data centers located within the same SVP 60 kV loop proposed for the project. 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. Even though MCDC is not located on the same loop as Walsh, similar information is needed for the cumulative analysis of MCDC.

## **DATA REQUESTS**

23. Please provide a list of existing and proposed data centers that operate/would operate on the SVP 60 kV loop that would supply electricity to MCDC.

24. Please provide clear identifying information on each data center including

- a) Owner(s);
- b) Date of operation of each building or phase;
- c) Critical IT load;
- d) Building loads;
- e) Cooling technologies;
- f) Cooling unit plume characteristics;
- g) UPS type and sizing;
- h) Number of standby generation unit, model number(s), sizing, emissions, testing and operations for emergencies

25. Please provide the list of sources to be considered in the cumulative air quality impact analysis:

- a) Within 6 miles of MCDC and having greater than 5 tons per year of criteria air pollutants;
- b) In the planning phase;
- c) Permitted but not under construction; and,

d) Permitted and under construction.

26. Please provide the cumulative impact modeling analysis, including MCDC, of all existing and proposed data centers co-located on the SVP 60 kV loop and those sources identified above.

## **Technical Area: Biological Resources**

**Author: Tia Taylor**

### **BACKGROUND: DEVELOPMENT AND DESIGN DETAILS**

The SPPE application lacks specificity and additional information is needed to perform the required technical analysis. Energy Commission staff requires the following information listed below to analyze potential impacts of proposed project improvements on biological resources.

### **DATA REQUESTS**

27. The Biological Resources section (4.4) of the SPPE application presents information from the Arborist Report included in Appendix C (Part II) of the application. Due to the lapse in time and the modifications to the original MCD, please confirm that the Arborist Report from February 2017 is still applicable.
28. The Biological Resources section (4.4) of the SPPE application, mentions that the site is highly urbanized, and special-status species are not present on-site. Please provide a copy of any biological survey performed as well as any plant/animal species research such as results from a California Natural Diversity Database search.
29. Please provide more descriptive information (design, materials, location, and so forth) and detailed figures for the following:
  - a. Bioretention/Bioswale areas, including the landscape planting and the impervious surface areas that would drain to these structures. Also, clarify if the bioretention/bioswale areas would function as retention ponds during flood events.
  - b. Clarify whether all construction parking and material laydown would occur on-site. If not please provide details, location, and a map of any off-site parking and laydown areas.

## **Technical Area: Cultural and Tribal Cultural Resources**

**Author(s): Gabriel Roark and Cameron Travis**

### **BACKGROUND**

A critical set of information needed to assess a project's potential impacts on cultural and tribal cultural resources consists of the character and extent of ground disturbance that would be involved in construction of the proposed project. The application for small power plant exemption (SPPE) states that excavation for proposed utilities would extend up to 12 feet below the project's new base elevation (DJP 2019, p.19). The application states that project-related excavation would not exceed 10 feet below the existing ground elevation but does not provide a clear maximum excavation depth for non-utility excavation (DJP 2019, p. 108, Appendix C, p. 53). The application also does not seem to define the type of foundation proposed to support the data center buildings (see DJP 2019, pp.8–20, Appendix C).

### **DATA REQUESTS**

30. Please describe the depths of excavation proposed for the various types of ground disturbance associated with construction of the proposed project.
  - a. Provide the depths in terms of feet below the newly established grade.
  - b. Include ground disturbance required to demolish the existing building and utilities on the project site.
  - c. If a graphical exhibit is necessary for clarity, please use a figure similar in scale to the application's site plan (DJP 2019, Figure 2-1).
  
31. Please identify the type of foundation that would support the proposed data center buildings.

### **BACKGROUND**

The application does not map or appear to describe the construction staging area(s) required to build the proposed project.

### **DATA REQUEST**

32. Please indicate whether construction staging areas would be located onsite or offsite. If offsite, provide a map of the staging area(s) location(s) on a 7.5-minute U.S. Geological Survey topographic quadrangle.

## BACKGROUND

The applicant indicates that there are “no historic buildings and structures on or adjacent to the project site” (DJP 2019, p.93). However, it is unclear whether the applicant is using “historic” to refer to historical resources as defined by CEQA (Cal. Code Regs., tit.14 , section 15064.5.a), or to mean buildings or structures of a certain age. The applicant used clear language describing the age of buildings and structures on the project site as “constructed beginning in 1979,” but used ambiguous language for the adjacent properties, writing that “there are no historic structures on or adjacent to the project site.” The application does not indicate whether any adjacent properties contain buildings or structures 45 years or older, which is the standard age as defined by the Office of Historic Preservation’s *Instructions for Recording Historical Resources* (1995, p.2) to be evaluated for significance. However, please keep in mind that under the California Register of Historical Resources, buildings and structures that are less than 50 years old can also be considered for eligibility if they are exceptionally significant.

## DATA REQUESTS

33. Please define “historic” as used in section 4.5.1.2 in the sentence “There are no historic structures on or adjacent to the project site.”
34. Please indicate whether any properties within one parcel of the proposed project contain buildings or structures 45 years old or older. If any buildings or structures are 45 years or older, please:
  - a. Provide a built environment survey completed within the last five years that includes those properties.
  - b. Document and evaluate these properties 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 in the data response.

## REFERENCES

**DJP 2019—David J. Power & Associates, Inc.** *Small Power Plant Exemption Application: Mission College Backup Generating Facility.* Submitted by Oppidan Investment Company. Submitted to California Energy Commission, Sacramento. November 2019 TN 230848

**OHP 1995—Office of Historic Preservation** *Instructions for Recording Historical Resources,* Sacramento. March 1995.

## **Technical Area: Hazards and Hazardous Materials**

**Author: Ryan Casebeer**

### **BACKGROUND**

The project consists of 3 different emergency generator package configurations. Single stacked emergency generators are equipped with a lower level fuel tank. Double stacked emergency generators are equipped with a top level fuel day tank and lower level fuel tank. Each diesel engine will be readiness tested on a regular schedule, consuming a portion of its fuel.

### **DATA REQUEST**

35. Please provide the fuel tank replenishment strategy and frequency, and the estimated frequency of fuel trucks needing to visit the facility for refueling.

### **BACKGROUND**

Stored diesel fuel is subject to degradation over time, which can render it unsuitable for use and potentially requiring it to be changed-out for fresh fuel.

### **DATA REQUEST**

36. Please describe what measures are planned to maintain adequate quality of the stored fuel. How often might the stored fuel need to be changed-out for new? If needed, how would this be accomplished? How many fuel truck visits would be required?

## **Technical Area: Population and Housing**

**Author(s): Ashley Gutierrez**

### **BACKGROUND: SILICON VALLEY POWER SUBSTATION CONSTRUCTION WORKFORCE**

Page 2 of the Project Description notes that the substation would be constructed by Oppidan Investment Company, then owned and operated by Silicon Valley Power (SVP); however, there is limited information related to the construction of the substation. Staff has the following questions about the substation:

#### **DATA REQUESTS**

37. How long would construction of the substation take? Is the work concurrent with other project work (e.g. Phase I or Phase II) or additive?
  
38. Are substation worker numbers included in the construction worker numbers for MCDC (maximum 100) or MCBGF (maximum 15)? If not, please provide an approximate number of workers needed for the construction of the substation.
  
39. Would SVP contract workers be used or would workers be drawn from the local labor pool?

## **Technical Area: Transportation**

**Author: Ellen Lefevre**

### **BACKGROUND: PROJECT HEIGHT AND FAA NOTIFICATION**

There are inconsistencies in the SPPE application when depicting and describing the height of the proposed buildings (see pages 4, 17, 18, 19, 32 [Figure 2-2], 33 [Figure 2-3], 131, and 142).

Section 18.06.010 of the Zoning Ordinance of the City of Santa Clara provides the following helpful definitions:

(s)(9) "Structure" means anything constructed or erected, except fences not exceeding six feet in height, the use of which requires location on or under the ground, or attachment to something having location on the ground.

(b)(5) "Building" means any structure built for the support, shelter, or enclosure of persons, animals, chattels, or property of any kind. (Per section 18.06.005, the word "building" includes the word "structures".)

(h)(1) "Height of Buildings" is a vertical distance from the "grade" to the highest point of the coping of a flat roof...."

The project proposes to construct two buildings, with the eastern building designated as Phase 1 and the western building as Phase 2. The application includes elevations of a building in Figures 2-2 and 2-3. However, there is no reference to or explanation in the application text of what building these elevations are depicting. Based on a comparison with Site Plan Figure 2-1, the elevations provided appear to be the proposed Phase 1 building because of the number of single and double-stacked generators in the east elevation. Elevations of the Phase 2 building have not been provided.

These data requests assume the building depicted with dimensioned feature heights in Figures 2-2 and 2-3 is Phase 1 and intended to be "typical elevations" representative of the feature heights for the Phase 2 building. Then based on the above City definitions, the heights of the Phase 1 and 2 buildings for the purposes of analyzing potential Zoning Ordinance conflicts would be 87'-6" (grade is labeled as -6" and the top of the parapet, or highest point of the coping of the flat roof is 87'). Whereas, the maximum height of these structures would be 108'-9" (again grade is labeled at -6", and the top of the penthouse is at 108'-3").

Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for any construction or alteration within 20,000 feet of an



airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending outward and upward from the nearest point of the nearest runway of the airport. If a project's height exceeds the 100:1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

Page 131 of the application states the maximum height of the proposed structure would be approximately 87 feet above ground level (AGL), or roughly 117 feet above mean sea level (AMSL). This indicates that the finished grade of the project site would be 30 feet AMSL. However, assuming the maximum project structure height is actually 108'-9" AGL as shown in Figures 2-2 and 2-3, then it would be roughly 139 feet AMSL. As calculated by staff, the threshold for the FAA notification 100:1 surface exceedance height for the project site is approximately 100 feet AGL or 130 feet AMSL. Therefore, the project would exceed the FAA notification surface and the applicant must submit FAA Form 7460-1 to the FAA.

## **DATA REQUESTS**

40. Please confirm the height of the Phase 1 and Phase 2 buildings AGL, consistent with the City's Zoning Ordinance definition of "height of buildings."
41. Please confirm the maximum height of project structures AGL, including both the Phase 1 and the Phase 2 buildings to the top of the penthouse structures.
42. Please provide clearly labeled and dimensioned elevations for both the Phase 1 and Phase 2 buildings or clarify if the building elevations provided in Figures 2-2 and 2-3 are typical elevations with dimensioned heights that would be applicable for both buildings.
43. Please confirm if the finished grade of the project site would be 30 feet AMSL. If not, what would the finished grade of the project site be?
44. Please provide staff a copy of the FAA's determination of No Hazard for the project.

## **BACKGROUND: THERMAL PLUMES**

The project site is located approximately 1.7 miles from the Norman Y. Mineta San Jose International Airport. According to the application, the project would have emergency generators and roof-mounted up-blast fans. This equipment would emit high-velocity thermal plumes.

## **DATA REQUEST**

45. In order to evaluate the potential plume hazards to aviation, please model (using the Spillane methodology) and provide analysis of the plumes' velocities for the project's emergency generators and up-blast fans.

## **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 requires data for the vehicle miles traveled by workers, deliveries, and truck haul trips generated by the demolition, construction, and operation of the project.

## **DATA REQUESTS**

46. 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.

47. Please provide the estimated one-way trip lengths for the workers, deliveries, and truck haul trips generated during project operation.

## **BACKGROUND: SIDEWALK IMPROVEMENTS**

Page 176 of the application notes the project would "improve the existing sidewalk on the project's frontage on Mission College Boulevard".

## **DATA REQUESTS**

48. Please describe the improvements that would be made to the sidewalk. Would the improvements result in temporary closure of the sidewalk or other disruption to pedestrian circulation?
49. What impacts would the sidewalk improvements have on the bus stop located on Mission College Boulevard along the project frontage?

## **BACKGROUND: MISSION COLLEGE BOULEVARD DRIVEWAY**

Page 177 of the application notes "access to the site would be provided by a 50-foot wide driveway in the same location as the existing eastern-most driveway on Mission College Boulevard. The remaining existing driveway entrances off Mission College Boulevard will be closed."

This would close the driveway entrance on Mission College Boulevard that intersects with Juliette Lane and alter an existing intersection configuration. Additionally, the

proposed Mission College Boulevard entrance would only be accessible to vehicles heading west on Mission College Boulevard. There is an existing median strip on Mission College Boulevard that prevents vehicles traveling eastward to enter the site by turning left on Mission College Boulevard.

## **DATA REQUEST**

50. The location of the proposed driveway on Mission College Boulevard in the application is different than the one proposed in the 2018 mitigated negative declaration. Has the City of Santa Clara reviewed the proposed Mission College Boulevard driveway for the project? What were the city's comments?

**Technical Area: Transmission System Interconnection**  
**Authors: Laiping Ng**

**BACKGROUND**

The Mission College Backup Generating Facility (MCBGF) Small Power Plant Exemption application Section 2.0 indicated that the Mission College Data Center (MCDC) includes an onsite 60 kV substation with an electrical supply line that would connect to a Silicon Valley Power (SVP) 60 kV line. 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 to better understand the proposed interconnection to existing SVP facilities.

**DATA REQUESTS**

51. Please provide a complete one-line diagram for the new 60 kV MCDC 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 MCDC project.
52. Please provide a detailed description and a one-line diagram showing how the MCDC would be connected to the existing SVP system. Please label the name of the lines and provide the line voltages and SVP loop information.
53. Since the Phase I of the MCDC may begin operating prior to the completion of the MCDC Substation and a 12 kV line would supply power to the MCDC, please provide:
  - a. A detailed description and schematic diagram showing the interconnection between the exiting Agnew Substation and the MCDC.
  - b. Please provide the conductor name, type, current carrying capacity, and conductor size for the transmission lines that would be required for interconnecting the MCDC to the SVP 12 kV and 60 kV systems.
  - c. Please provide the 12 kV underground cable route and length of the supply line.
54. Please provide for the 60 kV loop on the SVP system that will serve the MCDC:
  - a. A physical description.
  - b. The interconnection points to SVP service.
  - c. The breakers and isolation devices and use protocols.
  - d. A list of other connected loads and type of industrial customers.
  - e. A written description of the redundant features that allow the system to provide continuous service during maintenance and fault conditions.

55. Please provide a description of the SVP system in general and the other 60 kV loops that would serve data centers.
- a. Could you provide a one-line diagram and a “\*.shp” file of the 60 kV and above lines serving the Silicon Valley Power System? Would you have any concerns with us using either of these in a public document?
  - b. Are each of the 60 kV loops designed similarly or do some of them have features that make them more or less reliable than the others?
56. Please describe any outages or service interruptions on the 60 kV systems that will serve the proposed data centers:
- a. How many 60 kV lines serve data centers in SVP, and how many data centers are on each?
  - b. What is the frequency of these outages would require use of backup generators?
  - c. How long were outages and what were their causes?
  - d. Are there breakers on the 60 kV line or disconnect switch(es) and did they isolate the faults?
  - e. What was the response to the outage(s) by the existing 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.)?
57. Please provide the 60 kV overhead conductor name, type, current carrying capacity, and conductor size for the transmission lines that would be required for interconnecting the MCDC to the SVP 60 kV system.
58. Please provide the pole configurations which would be used to support the overhead transmission lines from the SVP 60 kV system to the MCDC. Show proposed pole structure configurations and measurements.
59. Please provide a map showing the proposed 60 kV transmission line route.