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RESPONSE TO CEC STAFF DATA REQUEST SET 1

Bowers Backup Generating Facility (22-SPPE-01)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **GI Partners**

December 2022



INTRODUCTION

Attached are GI Partners responses to California Energy Commission (CEC) Staff Data Request Set No. 1 (1-50) for the Bowers Backup Generating Facility (BBGF) Application for Small Power Plant Exemption (SPPE) (22-SPPE-01). Staff issued Data Request Set No. 1 on October 28, 2022.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (1-50). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found in Attachments at the end of the document and labeled with the Data Request Number for ease of reference.

For context, the text of the Background and Data Request precede each Data Response.

GENERAL OBJECTIONS

GI Partners objects to all data requests that require analysis beyond which is necessary to comply with the California Environmental Quality Act (CEQA) or which require GI Partners to provide data that is in the control of third parties and not reasonably available to GI Partners. Notwithstanding this objection, GI Partners has worked diligently to provide these responses swiftly to allow the CEC Staff to prepare the Draft Environmental Impact Report (DEIR).

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

BACKGROUND: Air Quality District Application

The proposed project would require a permit from the Bay Area Air Quality Management District (BAAQMD). For purposes of inter-agency consistency, staff needs copies of all correspondence between GI Partners (applicant) and the BAAQMD in a timely manner to stay up to date on any issues that arise prior to completion of the environmental document.

DATA REQUESTS

1. Please provide copies of all substantive correspondence between the applicant and BAAQMD regarding the project, including application and e-mails, within one week of submittal or receipt. This request is in effect until staff publishes the environmental document.

Response To Data Request 1

GI Partners will docket copies responsive to this request as directed within one week of submittal. To date there has been no correspondence between GI Partners and the BAAQMD regarding the project.

2. Please identify the current schedule for the BAAQMD permit application submittal. Please submit a copy of that application to the docket when it is submitted to BAAQMD.

Response To Data Request 2

GI Partners has not yet filed an application for BAAQMD permits for the emergency generators and will not likely file any application until after Staff produces its environmental document.

BACKGROUND: Screening for Low-load Conditions

The air quality impact analysis in the small power plant exemption (SPPE) application (TN 245769, p. 76) indicates that testing of the engines can occur over a range of load conditions. However, the analysis says that “an air quality screening analysis was not performed,” and “...the worst-case stack condition and the worst-case engine location could be determined from the screening analysis” (TN 245769, p. 76). Staff needs a detailed description of the types of testing and maintenance scenarios, the frequency of full-load tests and low-load tests, and confirmation of impacts at various standby engine load points to verify the assumptions used in the SPPE analysis.

The applicant assumed that the 100 percent load case would produce the maximum

ground-based concentrations (TN 245769, p. 76). In calculating the nitrogen oxides (NOx) emissions for the 100 percent load case, the applicant assumed a warm-up period of 0.25 hour (15 minutes) for the selective catalytic reduction (SCR) to become effective. For lower load cases (e.g., 100, 75, 50, 25, and 10 percent load), it may take more time for the SCR to warm up. Staff needs to confirm whether the NOx emissions during lower load cases would be lower than those estimated for the 100 percent load case. If a Tier 4 emission factor is assumed for part of the hour for these load cases, the applicant needs to provide documents/certificates from the SCR vendor to verify the warm-up period of the SCR to reach Tier 4 emission rates for these load cases.

In addition, lower exhaust temperatures and slower exhaust velocities at lower loads could result in higher ground-level concentrations, even if the mass emissions would be lower. Without modeling, staff would not be able to confirm whether the ground-level impacts for the lower load cases would be lower than those for the 100 percent load case.

DATA REQUESTS

3. Please provide a detailed description of the testing and maintenance frequencies and standby engine load points for the Cummins QSK95 engines. The description should include the length and engine load points for each weekly, monthly, quarterly, and annual testing and maintenance event.

Response To Data Request 3

As noted in the application, the maximum hourly emissions for each engine are based a full 60-minute M&R testing run, and the maximum annual emissions are based 50 hours per year of M&R testing.

Schedule Scenario 1 - Based on the above, if each engine is run for a full hour per test for 50 hours per year, this would indicate one test per week per engine for 50 weeks, with 2 weeks per year per engine in which M&R testing could not occur.

Schedule Scenario 2 - In real world circumstances, the engines are most likely to be M&R tested for periods less than the 1-hour maximum. Since the engines will have runtime meters this would indicate that the engines could be run at the discretion of the applicant for periods less than a full hour, as long as the annual hours did not exceed 50 per year per engine. The resulting schedule could be testing each week for 52 weeks up to the 50-hour annual limit.

The above represents the best estimate of engine M&R testing schedules. The Applicant believes the actual M&R testing schedule will more closely align to Scenario 2.

4. Please provide NOx emission calculations for the representative range of engine load points (e.g., 100, 75, 50, 25, and 10 percent load). If a Tier 4 emission rate is assumed for part of the hour for these load cases, please provide documents/certificates from the vendor to verify the warm-up period of the SCR to reach Tier 4 emission rates for these load cases.

Response To Data Request 4

The following table presents the estimated emissions for loads ranging from 100 to 25% (data for 10% load case was not presented by Cummins).

Load %	100	75	50	25
BHP	4309	3225	2185	1145
Fuel, Gal/hr	208	159	117	67
Exhaust, CFM	23369	19592	15921	9963
Stack Temp, F	830	711	670	628
Uncontrolled Emissions				
HC, g/bhp-hr	0.07	0.1	0.18	0.3
NOx, g/bhp-hr	5.2	4.2	3.3	3.4
CO, g/bhp-hr	0.2	0.1	0.2	0.5
PM10, g/bhp-hr	0.04	0.06	0.1	0.21
SO2, g/bhp-hr	0.005	0.005	0.005	0.005
HC, lbs/hr	0.665	0.711	0.867	0.757
NOx, lbs/hr	49.4	29.86	15.9	8.58
CO, lbs/hr	1.90	0.711	0.963	1.26
PM10, lbs/hr	0.38	0.427	0.482	0.53
SO2, lbs/hr	0.047	0.036	0.024	0.013
Controlled Emissions				
HC, g/bhp-hr	0.14	-	-	-
NOx, g/bhp-hr	1.53	-	-	-
CO, g/bhp-hr	2.6	-	-	-
PM10, g/bhp-hr	0.015	-	-	-
SO2, g/bhp-hr	0.005	-	-	-
HC, lbs/hr	1.33	-	-	-
NOx, lbs/hr	14.49	-	-	-

CO, lbs/hr	24.7	-	-	-
PM10, lbs/hr	0.142	-	-	-
SO2, lbs/hr	0.047	-	-	-
Source: SPPE Application, Appendix B QSK-95 G9, Cummins Engine Data. Emissions represent a M&R testing hour (60 minutes max). DPF control for PM10 is active for the full hour. NOx and CO controls are active for 45 minutes per hour after a 15 minute warm-up cycle.				

- Please provide a screening review of short-term (1-hour) ambient air quality impacts during testing for a representative range of engine load points (e.g., 100, 75, 50, 25, and 10 percent load) to confirm that full-load testing would produce the highest ground-level concentrations.

Response To Data Request 5

Cummins provided the uncontrolled (Tier 2) emission factors for loads of 100, 75, 50 and 25 percent which also included the stack parameters of flow rate and exit temperature. Since the focus of data request 5 had to do with the SCR and NO_x, a screening level analysis of the impacts of the different load cases on the modeled results was assessed for the California 1-hour NO₂ standard. The NO_x emissions were left at the Tier 2 levels (no control was assumed for the SCR for this screening analysis). The screening analysis used both ARM2 and the ozone limiting method (OLM). Background NO₂ concentrations were not included in the modeling input files. The results of the modeling are consistent with past modeling analyses of reciprocating engines under a variety of load conditions in that the maximum modeled impacts, regardless of the use of additional Tier 4 controls, always occur during the 100% load case. Typically, sources with stack heights that are adjacent to structures where significant downwash is occurring, plume rise does not play a significant role in determining the final modeled concentrations. The modeling input/output files will be made available to the CEC.

BACKGROUND: Particulate Matter Emission Factor

Appendix AQ-1 in Appendix A of the SPPE application shows that the applicant assumed the emission factor for particulate matter (PM) of 10 micrometers or less in diameter (PM10) and particulate matter of 2.5 micrometers and smaller in diameter (PM2.5) to be 0.015 grams per brake horsepower-hour (g/bhp-hr). However, the MIRATECH performance warranty data (sent electronically from applicant to staff) shows that the target outlet PM10 emission factor would be 0.02 g/bhp-hr. Staff needs to confirm the PM emission factor to make sure the PM impacts were not underestimated.

DATA REQUESTS

6. Please confirm which PM emission factor is correct and provide documentation of the correct emission factor.

Response To Data Request 6

The PM10 emissions factor of 0.015 g/bhp-hr is correct. The Miratech specification for the SCR/DPF control system indicates that PM10 (raw engine data) is 0.04 g/bhp-hr reduced by 50% which equals 0.02 g/bhp-hr. DPF systems typically yield control efficiency values of well above 70%. To achieve a value of 0.015 g/bhp-hr would require the Miratech system to operate at a control efficiency of 62.5%. Past projects, presented to the CEC that utilize the same engine and DPF system have provided emission guarantees of DPM at 0.015 g/bhp-hr and the applicant believes that this project will obtain the same guarantee. The Applicant will submit to the BAAQMD a permit application that will be based on the 0.015 g/bhp-hr level.

7. If the PM emissions would be 0.02 g/bhp-hr, please revise the emissions calculation, criteria pollutant impact analysis, and health risk assessment accordingly.

Response To Data Request 7

No revision is necessary. See Response to Data Request 6 above.

BACKGROUND: Testing of Stacked Engines

The SPPE application states that the engines would be installed in a stacked configuration. The applicant assumed that the engines would be tested individually for up to one hour at any one time from 7 AM to 5 PM. Staff would like to verify that these assumptions would be made enforceable.

If the two engines in a stacked pair could be tested on the same day, the modeled emission rates from the shared stack should be doubled in evaluating the 24-hour average impacts for PM10, PM2.5, and sulfur dioxide (SO2). The 8-hour carbon monoxide (CO) impacts would also be doubled if the engine pair would be tested within 8 hours. If two engines in a stacked pair would not be tested on the same day, staff would like to verify that such assumption would be made enforceable.

DATA REQUESTS

8. Please confirm that the applicant would request BAAQMD 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.

Response To Data Request 8

As a point of clarification, the stacked engine concept does not mandate that both engines be run in the same hour or on the same day. The Application clearly states that no two (2) engines will be run concurrently during M&R testing, i.e., this limitation applies to the stacked engine pairs. If an engine pair are run on the same day, they will not, based on the above limitation, be run in the same hour, so emissions from each engine will be evaluated and accounted for and no adjustments to emissions are required. Since the Applicant has clearly stated that only a single engine will be run in any hour, it follows that the Applicant is willing to request and accept such a condition on the BAAQMD permit.

9. Please confirm that the applicant would request BAAQMD to require an enforceable limit that would allow testing of engines only between 7 AM to 5 PM daily.

Response To Data Request 9

The Applicant will request and accept a condition that limits M&R testing to hours between 7 AM and 5 PM.

10. Please confirm whether two engines in a stacked pair would be tested on the same day. If not, please confirm that the applicant would request BAAQMD to require an enforceable limit that would prevent testing of the two engines in the stacked pair on the same day.

Response To Data Request 10

The modeling of each engine assumed that each engine would be tested for up to 10 hours each day, so it would not matter if the same stacked pair were tested during a single day. From the application:

The engines were assumed to be tested anytime from 7 AM to 5 PM (controlled using the EMISFACT/HROFDY model option). Although the engines will typically only be tested individually for up to one hour at any one time, each engine was assumed to operate up to 10 hours/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. Thus, the worst-case stack condition and the worst-case engine location could be determined from the screening analysis. All 32 engines were assumed to be tested for annual averages, with emissions proportioned accordingly.

Such a condition is not warranted based upon the modeling methodology described above.

BACKGROUND: Health Risk Assessment (HRA) for Volatile Organic Compounds (VOC) Emissions from Storage Tanks

On page 69 of the SPPE application (TN 245769), it is written that 'the engines will be stacked in pairs. Each engine pair will have a single 12,000-gallon [ultra low sulfur diesel] ULSD storage tank as well as a 500-gallon ULSD "day tank". The storage capacity of these two (2) tanks have been combined for purposes of VOC emissions estimates. Total fuel storage capacity will be 200,000 gallons. See Appendix AQ-1 for the tank VOC emissions estimates.' Also, in Table AQ1-3 in Appendix A (TN 245767), the applicant provided VOC-related air toxics emissions from ULSD storage tanks. Staff needs to verify if the VOC emissions from these tanks were included in the HRA.

DATA REQUEST

11. Please explain if the VOC emissions from these tanks were included in the HRA. If yes, please provide the detailed HRA modeling files. If no, please justify why these emissions were not included in the HRA.

Response To Data Request 11

The Applicant would refer staff to Appendix A, Tables AQ1-2 and 1-3, note the following.

1. Total VOC emissions for the diesel fuel storage tanks is approximately 18.48 lbs/yr.
2. Speciation of VOC into benzene, toluene, and xylenes yields the following:
 - a. Benzene emissions 0.00000186 lbs/hr and 0.0163 lbs/yr
 - b. Toluene emissions 0.0000102 lbs/hr and 0.0891 lbs/yr
 - c. Xylene(s) emissions 0.00000886 lbs/hr and 0.0776 lbs/yr
3. BAAQMD Rule 2-5, Table 2-5-1 (Toxics NSR), indicates that the significance threshold values for these three pollutants are as follows:
 - a. Benzene Acute 0.012 lbs/hr Chronic 2.9 lbs/yr
 - b. Toluene Acute 2.2 lbs/hr Chronic 16000 lbs/yr
 - c. Xylenes Acute 9.7 lbs/hr Chronic 27000 lbs/yr

Based on the above, the emissions of the three speciated VOC HAPs from diesel storage tank losses are highly "insignificant" and were therefore not included in the operations HRA analysis.

BACKGROUND: Refrigerant Use in Air-Cooled Chillers

The SPPE application states that the project would use air-cooled chillers to provide cooling to the data center. However, it does not describe the type of refrigerant to be used in the chillers.

California Health & Saf. Code § 39730.5 requires the state to reduce hydrofluorocarbon (HFC) emissions 40 percent below 2013 levels by 2030 . The California Code of Regulations, Title 17, section 95375(c)(1) states that no person shall sell, lease, rent, install, use, or otherwise enter into commerce in the State of California regarding any end-use equipment or product manufactured after the effective date that does not comply with Table 3 (which includes chillers) of section 95374(c) of the subarticle, unless projects meets the exceptions stated under California Code of Regulations, Title 17, section 95375(c)(2).

In addition, on September 30, 2022, the Governor signed SB 1206¹, which prohibits a person from offering for sale or distribution, or otherwise entering into commerce in the state, bulk HFCs or bulk blends containing HFCs that exceed a specified Global Warming Potential (GWP) limit beginning January 1, 2025, and lower GWP limits beginning January 1, 2030, and January 1, 2033. However, the bill does not restrict the authority of the California Air Resources Board (CARB) to establish regulations lowering the maximum allowable GWP limit below the limits established by the bill.

Staff needs information regarding the refrigerant proposed to be used in the chillers to determine whether the use of the refrigerant would be prohibited. Given the restrictions established by SB 1206 and the potential for more stringent limits to be imposed by CARB in the future, staff needs to know how the proposed refrigerant would be initially charged, handled during maintenance and repair, and replenished after the sale and distribution prohibition timelines established in SB 1206. Staff also needs the carbon dioxide equivalent (CO₂e) emissions estimation due to annual refrigerant leakage to complete the greenhouse gas (GHG) emissions analysis.

DATA REQUESTS

12. Please identify the refrigerant proposed to be used in the air-cooled chillers.

Response To Data Request 12

The Air Cooled Chillers would use Refrigerant R-513a.

13. Please explain how the use of the proposed refrigerant would be allowed under the HFC prohibition regulation.

Response To Data Request 14

Refrigerant R-513a has a low GWP that complies with the current form of regulation. The existing regulations would therefore not be applicable. GI Partners disagrees that the information regarding compliance with potential changes in regulations that are neither contemplated nor proposed, is necessary for the CEC to perform its CEQA analysis.

CEQA specifically prohibits speculation. GI Partners would comply with regulations as they are updated and applicable but cannot speculate what those regulations may require.

14. Please explain how the proposed refrigerant would be initially charged, handled during maintenance and repair, and replenished after the sale and distribution prohibition timelines established in SB 1206.

Response To Data Request 14

See Response to Data Requests 12 and 13 above.

15. Please provide an estimate of GHG emissions (as CO2e emissions) due to annual refrigerant leakage and failure rates for the proposed air-cooled chillers.

Response To Data Request 15

The table which follows presents the estimated emissions of r-513a.

Parameter	Value
Refrigerant Type	R-513a
GWP Value	537
# of Proposed Chiller Units	42
Charge per Chiller	812 lbs
Total Charge (all chillers)	34104 lbs
Estimated Annual Loss Rate	<= 0.5% (0.005)
Annual R-513a Losses	170.52 lbs
CO2 Equivalent	91569.24 lbs 41.528 Mtpy

BACKGROUND: Sulfur Hexafluoride Emissions

The project would include electrical equipment such as circuit breakers and transformers. The CARB adopted Amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear on December 30, 2021, which became effective on January 1, 2022. Based on the amended regulation (Cal. Code Regs., tit. 17, § 95352), starting on the applicable phase-out dates, no person may acquire sulfur hexafluoride (SF6) gas-insulated equipment (GIE) for use in California unless one of following provisions apply:

- a) An SF6 phase-out exemption was approved by the Executive Officer, or SF6 GIE**

were acquired in response to a failure, pursuant to section 95357.

- b) *The SF6 GIE device was present in California and reported to CARB pursuant to section 95355(a) for a data year prior to the applicable phase-out date listed in Table 1 or Table 2.*
- c) *The SF6 GIE device was purchased by the GIE owner prior to the applicable phase-out date listed in Table 1 or Table 2 for the relevant GIE characteristics and enters California no later than 24 months after the purchase date.*
- d) *The SF6 GIE manufacturer replaces a defective SF6 GIE device under the terms of the manufacturer's warranty.*

Staff needs to confirm whether SF6 would be used in the circuit breakers and transformers of the project. Staff needs to confirm which of the four provisions the applicant would rely upon to comply with the current SF6 phase out regulation (Cal. Code Regs., tit. 17, § 95352) and the applicable phase out date based on the proposed GIE characteristics. If SF6 would not be used, staff needs information on the non-SF6 alternative to be used in the circuit breakers and transformers. Staff needs an estimate of the leakage of SF6 or non-SF6 alternative from the electrical equipment to include in the GHG analysis.

DATA REQUESTS

- 16. Please confirm whether SF6 would be used as the electrical insulator for any electrical equipment for the project.

Response To Data Request 16

SF6 will not be used as an electrical insulator for any electrical equipment for the project.

- 17. Please provide the voltage and short-circuit current rating of the circuit breakers and transformers and determine the applicable SF6 phase out date.

Response To Data Request 17

See Response to Data Request 16.

- 18. Please confirm which of the four provisions the applicant would rely upon to comply with the current SF6 phase out regulation (Cal. Code Regs., tit. 17, § 95352).

Response To Data Request 18

See Response to Data Request 16.

19. If the applicant is going to use option c) of the provisions shown above, please confirm whether the proposed circuit breakers and transformers would be purchased before the applicable SF6 phase-out date and enter California no later than 24 months after the purchase date, therefore, the project would be able to use SF6 in the circuit breakers and transformers.

Response To Data Request 19

See Response to Data Request 16.

20. If SF6 would not be used, please provide information on the non-SF6 alternative to be used in the circuit breakers and transformers.

Response To Data Request 20

The project will use “clean air” equipment as an alternative to SF6.

21. Please provide an estimate of the quantity used and the amount of annual SF6/non-SF6 alternative leakage.

Response To Data Request 21

Not applicable. See Response to Data Request 20.

CULTURAL AND TRIBAL CULTURAL RESOURCES

BACKGROUND: Description and Characterization of Excavation

Assessment of potential impacts on cultural and tribal cultural resources hinges in part on knowing the extent and character of ground-disturbing activities associated with a project. The application provides little information about the depth of excavation required to demolish the existing improvements on the project site and to build the proposed project, indicating only that “The project would require excavation to depths of up to 16 feet” (TN 245769, pp. 115 and 136).

DATA REQUEST

22. Please describe and characterize the scale of excavation (particularly depth) required for various project components, including:
- a. Demolition of existing buildings and landscaping
 - b. Site grading
 - c. Installation of supporting generators
 - d. Construction of data center building
 - e. Landscaping
 - f. Stormwater treatment features
 - g. Recycled water pipeline extension
 - h. Electrical substation
 - i. Generator equipment yard
 - j. Surface parking
 - k. Utility interconnects
 - l. Electrical distribution features (including transmission poles and interim power solution)

Response To Data Request 22

- a. Demolition of existing buildings and landscaping = 5' deep
- b. Site grading = 5' deep
- c. Installation of supporting generators = 3' deep
- d. Construction of data center building = 7' deep
- e. Landscaping = 5' deep

- f. Stormwater treatment features = 5' deep
- g. Recycled water pipeline extension = 16' deep
- h. Electrical substation = 3' deep
- i. Generator equipment yard = 3' deep
- j. Surface parking = 3' deep
- k. Utility interconnects = 16' deep
- l. Electrical distribution features (including transmission poles and interim power solution) = 3' deep

BACKGROUND: Parcel Evaluation in Buffer

The SPPE application states that “the geographic area for cultural resources is the project site, recycled water line extension alignment, and adjacent parcels;” however, the application does not include adjacent parcels in its analysis of historic resources (TN 245769, pp. 120–121). Additionally, the reconnaissance survey for the Historical Resources Assessment only assessed the building at 2805 Bowers Avenue (TN 245765, Appendix C, p. 1). Staff is aware of at least seven adjacent parcels containing buildings or structures that are 45 years or older: the Uranium Substation at 2747 Bowers Avenue, the parcels at 2810 Bowers Avenue, 2855 Bowers Avenue, 2800 Kifer Road, 2800 Mead Avenue, 2820 Northwestern Parkway, and 2551 Walsh Avenue (City of Santa Clara 2022). CEC cultural staff applies a minimum one-parcel built environment study area as the Project Area of Analysis for urban projects.

DATA REQUEST

23. Please provide an evaluation of all parcels within a one-parcel buffer from the project site or the recycled water line extension alignment that have structures, buildings, or objects that are 45 years or older on California Department of Parks and Recreation 523 series forms for their eligibility for listing on the California Register of Historical Resources or as a local landmark.

Response To Data Request 23

This work has been undertaken by PaleoWest and will be submitted under separate cover when completed.

GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

BACKGROUND: Subsurface Geotechnical Soil Properties

Appendix D of the SPPE application includes a Soil Report generated from the Natural Resources Conservation Service's website. Natural Resources Conservation Soil Reports do not provide sufficient subsurface geotechnical soil properties to determine the potential of site-specific geologic hazards such as the potential for liquefaction, the presence of expansive materials, or the lateral and vertical extent of undocumented fill material at the site. This information is necessary for staff to complete their analysis.

DATA REQUESTS

24. Provide site-specific subsurface geotechnical soil information.

Response To Data Request 24

GI Partners is currently engaging a geotechnical engineering consultant to conduct an preliminary geotechnical investigation and prepare a preliminary report responsive to this request. GI Partners will provide the report when received.

25. Provide any adverse soil conditions present including, but not limited to, liquefaction potential, the presence of expansive soils, and the presence of existing fills at the site.

Response To Data Request 25

See Response to Data Request 24.

26. If such adverse soil conditions are present, provide the maximum depths of disturbance for each of the possible foundation solutions noted in Section 3.7.2.1 (mat slab, soil-mixed columns, and drilled displaced piers).

Response To Data Request 26

See Response to Data Request 24.

BACKGROUND: Potential Fossil Yield Classification Ranking

In the SPPE application, Section 3.7.1.2, Paleontological Resources, the applicant referenced the City of Santa Clara Draft General Plan, dated January 2011, page 328, and noted,

“The site is situated on alluvial fan deposits of the Holocene age. These sediments have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources. However, these recent sediments overlie sediments of older Pleistocene age sediments with high potential to contain paleontological resources. These older sediments, often found at depths of ten feet or more below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates. Ground disturbing activities of ten feet or more have the potential to impact undiscovered paleontological resources in older Pleistocene sediments.”

In addition to the information provided, the potential for paleontological resources to occur in the project area should also be evaluated using the federal Potential Fossil Yield Classification (PFYC) system developed by the Bureau of Land Management (BLM 2016). Because of its demonstrated usefulness as a resource management tool, the PFYC has been utilized for many years for projects across the country, regardless of land ownership. It is a predictive resource management tool that classifies geologic units based on their likelihood to contain paleontological resources on a scale of 1 (very low potential) to 5 (very high potential) or Unknown. This system is intended to aid in predicting, assessing, and mitigating impacts to paleontological resources.

DATA REQUEST

27. Provide the PFYC ranking for the project site.

Response To Data Request 27

GI Partner’s consultants attempted to access the BLM PFYC ranking tool including downloading the source ARCGIS files and it does not appear to include California properties. The paleontology section will be updated after the geotechnical report as described in Data Response 24 is received.

LAND USE

BACKGROUND: City of Santa Clara General Plan Amendment and Minor Modification

In the SPPE application, the applicant stated that the City of Santa Clara recommended that the applicant apply for a General Plan amendment to make the project site's General Plan land use designation consistent with the zoning designation. The applicant would apply to change the General Plan land use designation from High Intensity Office/R&D to Light Industrial for consistency with the Light Industrial zoning designation. The applicant also stated that the project would need to obtain a minor modification from the City of Santa Clara to increase the project height above the maximum of 70 feet allowed by the Light Industrial zoning designation.

DATA REQUESTS

28. Please discuss the planned approximate timeline of the General Plan amendment process.

Response To Data Request 28

The GPA process will take place after the CEC grants the SPPE. The City will then utilize the CEC's CEQA document to support consideration of the project, including the GPA, by the City. Therefore, since the GPA process cannot take place until the CEC has completed its review and issued a decision on the SPPE the exact timing cannot be determined. The City has estimated between 4 weeks and 4 months after the CEC is completed is the best estimate.

29. Please discuss the planned approximate timeline of the minor modification process to increase the allowed height above the maximum of 70 feet permitted in the Light Industrial zoning district.

Response To Data Request 29

The height variance will also take place after the CEC considers and renders a decision on the SPPE Application.

30. Please provide copies of any written communications with the City of Santa Clara about these issues if available.

Response To Data Request 30

GI Partners will forward future communications with the City to the CEC. However, because the CEC will complete its review prior to the City action, we believe the timing is irrelevant to the CEC's preparation of the EIR and consideration of the SPPE.

POPULATION AND HOUSING

BACKGROUND: Project Construction

Staff needs to know more about the construction of the BDC and BBGF, collectively “the project.” The SPPE application notes on page 16 that construction of BBGF is expected to take 6 months and require 10–15 construction workers including one crane operator. The SPPE application notes on page 26 that demolition, grading, excavation, and construction activities are estimated to last approximately 24 months and the “construction workforce is estimated to have a peak number of workers of approximately 125 per month and an average of approximately 100 per month”. Staff has the following associated questions and requests:

DATA REQUEST

31. What is the estimated number of construction workers during peak activities and on average for the whole project (BBGF and BDC)?

Response To Data Request 31

The SPPE Application attempted to break out the description of the BBGF from the BDC because Applicant’s counsel continues to believe that while the CEC has a responsibility under CEQA to complete an environmental document as lead agency for the whole of the action which includes both the BBGF and the BDC, the CEC’s findings to grant a Small Power Plant Exemption applies only to the BBGF. While the Commission has not supported Applicant’s counsel’s position in the past, GI Partners prepare the SPPE Application in its current form should a future lawsuit challenging the Commission Final Decision raise the issue of the scope of CEC jurisdiction.

To that end, Staff should treat both the timing of the construction and the number of estimate construction workers and operations workers to include both the BBGF and the BDC. In other words the estimates for the BDC include the estimates of the BBGF. In addition, the estimates of construction workers include all workers to bring the facility to commercial operation stage, which would include commissioning activities of all systems, including the generators.

BACKGROUND: Project Construction and Operation Workforce

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

DATA REQUESTS

32. What is the estimated number of operations workers for the project (BBGF and BDC)?

Response To Data Request 32

See Response to Data Request 31.

33. Are the estimated project construction and operation workers expected to be derived from locally within the Greater Bay Area or non-locally (beyond a two- hour commute of the project site)?

Response To Data Request 33

As with all other SPPE Applications to the CEC for data centers proposed in Santa Clara, all of the construction and operation workers are expected to be derived from locally within the Greater Bay Area.

34. What portion of the construction and operation workforce does the applicant anticipate would be local and what portion would be non-local?

Response To Data Request 34

See Response to Data Request 33.

PROJECT DESCRIPTION

BACKGROUND: Recycled Water Line Extension Alignment

According to the SPPE application, per Section 2.3.8, the project would construct a 2,600-foot recycled water line extension to connect to the existing recycled water pipeline located at the intersection of Walsh Avenue and Northwestern Parkway. The recycled water line extension is shown on Figure 2.13 but is not shown on other relevant project figures, including Figure 2.2 (Vicinity Map), Figure 2.3 (Aerial Photograph and Surrounding Land Uses), and Figure 2.4 (Site Plan).

DATA REQUEST

35. Please provide revised figures, Figure 2.2 (Vicinity Map), Figure 2.3 (Aerial Photograph and Surrounding Land Uses), and Figure 2.4 (Site Plan), that depict the recycled water line extension route.

Response To Data Request 35

These figures are being revised and will be submitted under separate cover. However, the update of these figures is not necessary for the CEC to continue its evaluation of the project pursuant to CEQA as Figure 2.13 and the Project Description provide enough information to understand and document the potential impacts of the recycled water pipeline.

BACKGROUND: Construction Staging and Parking

The SPPE application Section 2.3.4 provides information on the timing and duration of demolition, grading, excavation and construction activities. Staff requires additional information on the location of worker parking as well as material laydown and staging areas.

DATA REQUEST

36. Please provide additional information on whether all construction parking and material laydown and staging areas would occur on the site for all phases of the project, including demolition, site grading, excavation, and construction. If not, please provide a description of the location and a map of any off-site parking and material laydown and staging areas.

Response To Data Request 36

All construction parking and material laydown and staging areas are anticipated to occur on site for all phases of the project.

BACKGROUND: Project Interconnection and System Reliability

The SPPE application Section 2.3 indicated that the BDC includes an onsite new substation with three electrical supply lines that would connect to the Silicon Valley Power (SVP) Uranium Substation. Staff requires a complete description of the BDC interconnection to the SVP system to understand how the interconnection would affect the potential operation of the back-up generators.

DATA REQUESTS

37. Please provide complete one-line diagrams for the new project 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 BDC.

Response To Data Request 37

GI Partners had requested this information from SVP and will provide the responses when received.

38. Please provide a detailed description and one-line diagrams of the Uranium Substation with the interconnection of the BDC. Please label the name of the lines and provide the line voltages and SVP loop information.

Response To Data Request 38

Please See Response to Data Request 37.

39. Please provide for the 60 kilovolt (kV) loop on the SVP system that would serve the BDC:
- a. A physical description
 - b. The interconnection points to SVP service
 - c. The breakers and isolation devices and their 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

Response To Data Request 39

GI Partners believes that the answers provided by SVP for the CA3BGF and CA3DC Project should be applicable for the BBGF and BDC. GI Partners has requested SVP to confirm or modify the CA3 responses.

40. Please provide the pole configurations which would be used to support the overhead transmission lines from the SVP 60 kV system to the BDC. Show proposed pole structure configurations and measurements.

Response To Data Request 40

Please See Response to Data Request 37.

41. Please provide a detailed description and drawing of the proposed 60 kV transmission line route, length, possible interconnection points to the existing SVP system, and possible pole locations. Please provide a legend and label the drawing to show the proposed line route, pole locations and the existing transmission facilities.

Response To Data Request 41

Please See Response to Data Request 37.

42. Please describe any past outages or service interruptions, including Public Safety Power Shutoffs (PSPS), on the 60 kV systems that would serve the proposed BCD. Based on these prior events, please also provide the following:
- a. Describe any equipment upgrades or operational changes implemented by SVP to reduce the likelihood of a repeat of the events that led to an outage.
 - b. Describe the responses to the outage(s) by any existing data centers (i.e., initiated operation of some or all backup generation equipment, data off-shoring, data center shutdown, etc.)?

Response To Data Request 42

See Responses to Data Requests 39.

43. How would local and regional PSPS events be implemented on the 60 kV system compared to PSPS events on the 115 kV system (in other words, would a customer who is extremely concerned about reliability prefer one system over another)?

Response To Data Request 43

See Responses to Data Requests 39.

44. Please provide the follow in regard to PSPS events:
- a. Please describe how, if historical PSPS events were to occur, the emergency operations of the generators at the proposed project would be engaged?
 - b. Have there been any changes to the SVP system, since PSPS events began, that would affect the likelihood that future PSPS events would result in the operation of emergency generators at the proposed project?

Response To Data Request 44

Please See Responses to Data Requests 39.

LAND USE

BACKGROUND: Thermal Plume Analysis

According to the SPPE application, the project would have emergency generators and air-cooled chillers and the project site is located 1.87 miles west of the Norman Y. Mineta San Jose International Airport. Therefore, staff will require the following information in order to complete its evaluation of thermal plumes from the proposed BBGF emergency generators and the BDC building and server chilling units to ensure air traffic safety and analyze any potentially significant impacts from such plumes.

DATA REQUESTS

45. Please perform a thermal plume modeling of the project's emergency generators for the BBGF and provide modeling files with all calculations embedded in.

Response To Data Request 45

The thermal plume analysis is being prepared by Atmospheric Dynamics Inc. and will be docketed when received.

46. Please perform thermal plume modeling of the equipment used to cool the building and data servers at the BDC and provide modeling files with all calculations embedded in.

Response To Data Request 46

Please See Response to Data Request 45.

47. Please describe in detail the Heating Ventilation Air Conditioning equipment, including the chiller units, with enough detail to confirm the thermal plume modeling.

Response To Data Request 47

Please See Response to Data Request 45.

48. Please provide a schematic, showing all mechanical equipment on the roof of the BDC.

Response To Data Request 48

Please See Response to Data Request 45.

49. Please provide the following to support the thermal plume analysis (provide equivalent data if necessary):
- a. Stack Height (meters) for the BDC chiller units and BBGF emergency engines
 - b. Exhaust Temp (Kelvin) for both the chiller units and emergency engines
 - c. Exit Velocity (meter per second) for both the chiller units and the emergency engines
 - d. Stack Diameter (meters) for the chiller units and the emergency engines
 - e. Number of chiller unit stacks
 - f. Arrangement and distance between the chiller unit stacks (meters)

Response To Data Request 49

Please See Response to Data Request 45.

UTILITIES AND SERVICE SYSTEMS

BACKGROUND: Cumulative Impacts

In the SPPE application, Section 3.19.2.1 Project Impacts, under cumulative impact UTL-C, within the paragraph entitled Electricity, Natural Gas, and Telecommunication Services, an impact “EN-3” is referenced from Section 3.6 characterizing the project as not a significant energy impact. However, there are only two impacts listed in Section 3.6: EN-1 and EN-2. Neither impact EN-1 or EN-2 pertains to whether the project would result in a significant energy impact.

DATA REQUEST

50. Please include the description and discussion of impact EN-3 in Section 3.6.2 as referenced in Section 3.19.2.1 of the SPPE application.

Response To Data Request 50

The reference to EN-3 is a typographical error and should be deleted. Section 3.6 does demonstrate the project will not have a significant impact on energy resources using the specific queries recommended in the CEQA Guidelines.