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CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

January 20, 2023

Microsoft Corporation
C/O Scott A. Galati
1720 Park Place Drive
Carmichael, California 95608

Data Requests Set 1 for San José Data Center 04 (22-SPPE-02)

Dear Scott Galati:

Pursuant to California Code of Regulations, title 14, section 15084(b) and title 20, section 1941, the California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests Set 1, which is necessary for the staff analysis of the San José Data Center (SJDC 04 or project) (22-SPPE-02). The SJDC 04 would include two data center buildings; emergency backup generating facilities; recycled water storage, fire water storage, pipelines, and support buildings; building cooling equipment; an on-site substation and switchyard; potentially two distribution transmission lines; and ancillary support facilities. Together, these constitute the "project" under the California Environmental Quality Act (CEQA). This Data Requests Set 1 seeks further information in the areas of biological resources, geology and soils, hydrology and water resources, land use, population and housing, project description, and transportation based on the contents of the application submitted thus far. Staff may submit subsequent data requests in these, and other resource areas based on further information received or as necessary for a complete analysis of the project.

To assist staff in timely completing its environmental review and to meet the requirements of CEQA (see Cal. Code Regs., tit. 14, §§ 15108, 15109), staff is requesting responses to the data requests within 30 days. If you are unable to provide the information requested or need to revise the timeline, please send written notice to me within 10 days of receipt of this letter.

If you have any questions, please email me at lisa.worrall@energy.ca.gov.

Lisa Worrall

Project Manager

Enclosure: Data Requests Set 1

Table of Contents

SAN JOSÉ DATA CENTER 04 SPPE
DATA REQUESTS SET 1

AIR QUALITY

Authors: Jacquelyn Record, Huei-An (Ann) Chu, Ph.D., Winston Potts, Wenjun Qian, Ph.D., P.E., and Andres Perez

BACKGROUND: AIR DISTRICT REVIEW

The proposed San Jose 04 Data Center (SJDC 04 or project) will include backup generators that would require a permit from the Bay Area Air Quality Management District (BAAQMD). For purposes of consistency, staff needs copies of all correspondence between the applicant and the BAAQMD promptly to stay up to date on any issues that arise before the completion of the initial study.

DATA REQUESTS

1. Please provide copies of all substantive correspondence between the applicant and the 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 initial study.
2. Please identify the current schedule for the BAAQMD permit application submittal. If the application was already filed, please provide a copy of the application. If this application is filed during the CEC proceeding for the project, please submit a copy of that application to the CEC docket within five days of submitting it to the BAAQMD.

BACKGROUND: COOLING TOWERS

The Small Power Plant Exemption (SPPE) application includes emissions estimates for cooling towers, or wet-surface cooling, in the form of particulate matter (SPPE Application App A, Part II, Appendix AQ-1, Tables AQ1-3 through AQ1-5, starting on page 44 of 189). The project description for the project describes an "indirect cooling system" and indicates that each data center building would use the "indirect cooling system" for cooling needs (Section 4.3.2.3 of the SPPE application, page 85). Staff would like a better understanding of the "indirect cooling system".

DATA REQUESTS

3. Please clarify if the indirect cooling system as described in the project description is also referred to as the cooling towers as quantified in Appendix AQ-1 of App A, Part II. If so, please detail whether the indirect cooling system will be closed-loop or open-loop and exposed to the environment.
4. If the system is described as an open system, please perform a visible plume analysis.

SAN JOSÉ DATA CENTER O4 SPPE
DATA REQUESTS SET 1

BACKGROUND: AMMONIA EMISSIONS

With the use of selective catalytic reduction (SCR) to control oxides of nitrogen (NOx) emissions from the proposed engines, unreacted ammonia would also be emitted. Staff needs the ammonia emissions estimate to complete the analysis.

DATA REQUEST

5. Please provide engine ammonia emission rates and total emissions due to the use of SCR.

BACKGROUND: SCREENING FOR LOW-LOAD CONDITIONS

The air quality impact analysis (SPPE application, p. 91) 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," but then goes on to say "…the worst-case stack condition and the worst-case engine location could be determined from the screening analysis" (SPPE application, p. 91). The analysis also says "the screening results are presented in Appendix AQ-3". However, staff was not able to find the screening results.

The applicant assumed that the 100 percent load case would produce the maximum ground-based concentrations (SPPE application, p. 91). However, staff has reviewed projects with worst-case impacts modeled under lower load cases. In calculating the NOx emissions for the 100 percent load case, the applicant assumed a warm-up period of 0.25 hour (15 minutes) for the 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

6. Please provide NOx emission calculations for the representative range of engine load points (e.g., 100, 75, 50, 25, and 10 percent load) for the CAT C175 and CAT C27 engines. 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.

7. 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.

BACKGROUND: SMALLER ENGINES

The SPPE application (p. v and p. 12) indicates that there would be 32 3-megawatt (MW) generators, two 500 kilowatt (kW) administrative generators, and two 800 kW water storage tank yard generators. However, one 500 kW generator may need to increase to 800 kW later as part of the final design and two 800 kW generators may be reduced to 500 kW. To account for this change, the SPPE application (p. 13 and p. 81) states that the air quality impacts analysis conservatively used 800 kW for all four smaller generators.

The diesel engines proposed for the 800 kW generators are rated at 1,214 brake horsepower (bhp), therefore, are required to comply with Tier 4 final emission standards per BAAQMD December 2020 Best Available Control Technology (BACT) policy memo: *BACT Determination for Diesel Back-Up Engines Greater than or equal to 1,000 Brake Horsepower*. However, if the 800 kW generators are reduced to 500 kW, the associated engines would not be required to comply with Tier 4 final emission standards since they would be rated below 1,000 bhp. Emissions and impacts of the smaller engines may be higher than those analyzed in the application. Staff needs to make sure that if there are engine changes, the emissions and impacts of the engines would be analyzed properly.

DATA REQUESTS

8. Please notify the California Energy Commission if there are engine changes in the project design.
9. Please provide an updated air quality impacts analysis, including public health, if there are engine changes in the project design.

BACKGROUND: MODELED EMISSION RATES INCONSISTENCIES

Staff noticed some inconsistencies between emission rates used in the applicant's modeling files and those calculated based on emission rates shown in the application (as shown in the following table). Staff needs to understand the inconsistencies and make sure the project impacts are analyzed correctly.

Source and Modeling File	Modeled Emission Rate (g/s)	Calculated Emission Rate (g/s)
CONST001 through CONST103 in 'Microsoft-Construction-24-HR-PM10.INP' and 'Microsoft-Construction-Annual-PM10...INP' for construction	6.4131E-06	7.3676E-06 = 7.95E-3 tons/year × 2000 lbs/ton ÷ (264 days/year) ÷ (10 hours/day) ÷ 103 sources × 453.6 grams/lbs ÷ (3600 sec/hour)
CONST001 through CONST103 in 'Microsoft-Construction-24-HR-PM25.INP' and 'Microsoft-Construction-Annual-PM25.INP' for construction	6.2648E-06	7.1359E-06 = 7.70E-3 tons/year × 2000 lbs/ton ÷ (264 days/year) ÷ (10 hours/day) ÷ 103 sources × 453.6 grams/lbs ÷ (3600 sec/hour)
CT01 through CT64 in 'Microsoft-24-HR-PM10.INP' and 'Microsoft-24-HR-PM25.INP' for operation CT01 through CT32 in 'Microsoft-Construction2-24HR-PM10.INP' and 'Microsoft-Construction2-24HR-PM25.INP' for overlap period	2.2211E-03	1.11E-03 = 0.0088 lbs/hour × 453.6 grams/lbs ÷ (3600 sec/hour)
CT01 through CT64 in 'Microsoft-ANNUAL-PM10…INP' and 'Microsoft-ANNUAL-PM25.INP' for operation CT01 through CT32 in 'Microsoft-Construction2-Annual-PM10…INP' and 'Microsoft-Construction2-Annual-PM25.INP' for overlap period	1.6807E-03	8.40E-04 = 0.00667 lbs/hour × 453.6 grams/lbs ÷ (3600 sec/hour)
PAREA1 in 'Microsoft-Construction2-24HR-PM10.INP' and 'Microsoft-Construction2-Annual-PM10…INP' for overlap period	0.011607 = 8.3565E-07 g/s/m^2 × 13889.9 m^2	0.01449 = 0.1518 tons/year × 2000 lbs/ton ÷ (264 days/year) ÷ (10 hours/day) × 453.6 grams/lbs ÷ (3600 sec/hour)
PAREA1 in 'Microsoft-Construction2-24HR-PM25.INP' and 'Microsoft-Construction2-Annual-PM25.INP' for overlap period	0.003102 = 2.2335E-07 g/s/m^2 × 13889.9 m^2	0.006596 = 0.0691 tons/year × 2000 lbs/ton ÷ (264 days/year) ÷ (10 hours/day) × 453.6 grams/lbs ÷ (3600 sec/hour)

DATA REQUESTS

10. Please explain the inconsistencies between the modeled emission rates and the calculated emission rates shown above.
11. Please revise the air quality impacts modeling files (and health risk assessment files if applicable) to properly consider the correct emission rates.

SAN JOSÉ DATA CENTER O4 SPPE
DATA REQUESTS SET 1

BACKGROUND: REFRIGERANT USE IN AIR-CONDITIONING UNITS

The application (TN 245946) states that the project will use air-conditioning (AC) units connected to the facility cooling water loop to provide cooling to the data center. The application also states that R-410A will be the refrigerant used in these AC units.

On September 30, 2022, the Governor approved Senate Bill (SB) 1206[1], which would prohibit a person from offering for sale or distribution, or otherwise entering into commerce in the state, bulk hydrofluorocarbons (HFCs) or bulk blends containing HFCs that exceed a specified global warming potential limit beginning January 1, 2025, and lower global warming potential 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 global warming potential limit below the limits established by the bill.

Given the restrictions established by the bill and the potential for more stringent limits to be imposed by CARB in the future, staff needs to know how the proposed refrigerant for the AC units, R-410A would be initially charged, and handled during maintenance and repair, and replenished after the sale and distribution prohibition timelines established in SB 1206.

DATA REQUESTS

1. Please explain how the proposed refrigerant for the air-conditioning units, R-410A, would be initially charged, handled during maintenance and repair, and replenished after the sale and distribution prohibition timelines established in SB 1206.

BACKGROUND: SULFUR HEXAFLUORIDE EMISSIONS

The project would include electrical equipment such as circuit breakers and transformers. The California Air Resources Board (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 (SF_6) gas-insulated equipment (GIE) for use in California unless one of the following provisions apply:

a) An SF_6 phase-out exemption was approved by the Executive Officer, or SF_6 GIE was acquired in response to a failure, pursuant to section 95357.

b) The SF_6 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.

1 https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1206

c) The SF_6 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 SF_6 GIE manufacturer replaces a defective SF_6 GIE device under the terms of the manufacturer's warranty.

Staff needs to confirm whether SF_6 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 SF_6 phase-out regulation (Cal. Code Regs., tit. 17, § 95352) and the applicable phase-out date based on the proposed GIE characteristics. If SF_6 would not be used, staff needs information on the non-SF_6 alternative to be used in the circuit breakers and transformers. Staff needs an estimate of the leakage of SF_6 or non-SF_6 alternative from the electrical equipment to include in the Greenhouse Gas analysis.

DATA REQUESTS

2. Please confirm whether SF_6 would be used as the electrical insulator for any electrical equipment for the project.
3. Please provide the voltage and short-circuit current rating of the circuit breakers and transformers and determine the applicable SF_6 phase-out date.
4. Please confirm which of the four provisions the applicant would rely upon to comply with the current SF_6 phase-out regulation (Cal. Code Regs., tit. 17, § 95352).
5. 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 SF_6 phase-out date and enter California no later than 24 months after the purchase date, therefore, the project would be able to use SF_6 in the circuit breakers and transformers.
6. If SF_6 would not be used, please provide information on the non-SF_6 alternative to be used in the circuit breakers and transformers.
7. Please provide an estimate of the quantity used and the amount of annual SF_6/non-SF_6 alternative leakage.

BACKGROUND: CALEEMOD INDOOR AND OUTDOOR OPERATIONAL WATER CONSUMPTION

Operational water usage for the project would be divided into outdoor and indoor purposes, where outdoor water use would be limited to landscaping, and indoor water use would result primarily from water supplied to operate the building cooling system and for use by on-site employees.

CalEEMod quantifies the indirect greenhouse gas emissions associated with this water usage by calculating the energy used to supply, distribute, treat the water and any

resulting wastewater, and then determining the greenhouse gas emissions resulting from that energy use and any additional emissions resulting from wastewater treatment.

In the explanatory comments for the SJDC 04 data center building CalEEMod Water and Wastewater module (TN 245949, Table AQ4-3), annual operational water usage is stated to be 250.21 million gallons for indoor purposes and 1.79 million gallons for outdoor purposes. The explanatory comments for the water usage module of the other data center building (TN 245949, Table AQ4-4), SJC06, state that the operational water usage for SJC06 would be identical to that of SJC04.

Additionally, Appendix J of the application (TN 245972, Water Supply Assessment), similarly states that 221.5 million gallons of water would be used for indoor purposes every year (the combination of employee usage of potable water and cooling system recycled water needs; not adjusted for leakage) and 3.3 million gallons for outdoor usage (used for landscaping; not adjusted for leakage).

However, the actual operational water usage values used in CalEEMod are significantly less than what is stated in the explanatory comments and Appendix J. Total annual indoor water usage is shown to be 1.62 million gallons and annual outdoor water usage as 0.02 million gallons, the combination of what was inputted for each building.

DATA REQUESTS

8. Please explain the discrepancy between the annual water usage inputted into CalEEMod for each data center building (SJC04 and SJC06) and the annual water usage described in the CalEEMod explanatory comments and Appendix J.
9. Please confirm what the annual operational outdoor and indoor water usage will be for each data center building (SJC04 and SJC06), including predicted leakage.

BACKGROUND: HEALTH RISK ASSESSMENT (HRA)

According to the application (TN#245946), the stationary sources during operation would not only include the project 36 standby diesel generators (page 91), but also the fuel storage, indirect cooling systems (page 85), and miscellaneous sources such as worker travel, deliveries, energy, and fuel use for facility electrical, heating and cooling needs, periodic use of architectural coatings, landscaping, etc. The fuel storage would emit VOC, the indirect cooling systems could emit PM10/2.5, and the miscellaneous sources would emit TAC (page 86). Also, in Table AQ1-5 in Appendix A (TN#245949), the applicant provided the calculation of hazardous and toxic pollutant emissions from cooling towers.

Moreover, on page 273 of the application (TN#245949), it is written that "these potential public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting a health risk assessment.

The results were presented by the level of risk. The potential construction and operation risks are associated with exposure to diesel particulate matter (DPM), total organic gases (TOG) in diesel exhaust, and evaporative and exhaust TOGs from gasoline vehicles. The toxic air contaminants (TACs) from TOG include 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Naphthalene, Propylene, Styrene, Toluene, and Xylene.'"

However, when checking the HRA modeling files, it looks like only DPM from the 36 standby diesel generators was included in the applicant's HRA. Staff needs to verify if all these TACs emissions were included in the HRA.

DATA REQUESTS

10. Other than DPM emitted from the 36 standby diesel generators, did the HRA include the following:
    a. TACs from other sources such as fuel storage, indirect cooling systems, cooling towers, and miscellaneous sources.
    b. Total organic gases (TOG) in diesel exhaust, and evaporative and exhaust TOGs from gasoline vehicles, including 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Naphthalene, Propylene, Styrene, Toluene, and Xylene.
11. If yes, please provide the detailed HRA modeling files for staff to verify the HRA.
12. If not, please justify why these TACs were not included in the HRA.

BACKGROUND: HEALTH RISK ASSESSMENT (HRA) MODELING FILES

The Applicant conducted HRA for construction, operation, and construction and operation overlay. The applicant also provided HRA output electronically. However, staff needs some clarifications and may need more modeling files.

DATA REQUESTS

13. The HARP modeling files are within 3 folders: ICE HRA Files, MDC Const, and MS Overlap. Please explain which folder represents what. Is ICE HRA Files for operation?
14. Please provide the HARP modeling files in a standard form, so it's easier for staff to locate the files and verify the analysis.
    a. Place the files into the folders such as data, glc, hra, plt, and sa.
    b. Please also provide the input ADM file.

SAN JOSÉ DATA CENTER O4 SPPE
DATA REQUESTS SET 1

BIOLOGICAL RESOURCES

AUTHOR: Carol Watson

BACKGROUND: Protected Trees and Linear Features

Offsite linear features are shown in Figure 3.3-10 of the SPPE application (application) (TN 245946), and Exhibit A (TN 245947) depicts the area surveyed for trees protected under the local ordinance. It is not clear if the offsite linears were surveyed for trees.

DATA REQUEST

15. Please describe if offsite linears were surveyed for trees, and either:
    a. provide results, or
    b. describe why this was considered unnecessary.

BACKGROUND: Burrowing Owl

Page 123 of the application states that "The project will result in the permanent loss of 18.6 acres of unoccupied but ostensibly suitable nesting, roosting, and foraging habitat for burrowing owls on the Project Site". Staff understands onsite suitable habitat to consist of annual grasslands, which are described elsewhere (page 111 of the application) as being 20.9 acres.

DATA REQUEST

16. Please review reported acres of impacted burrowing owl habitat (annual grassland) and rectify numbers; explain any initial discrepancies. Update mitigation measure (PDF BIO 5.1) as necessary.

BACKGROUND: Southwestern Pond Turtle

In California, the CDFW ranks and categorizes "southwestern" pond turtle as "western pond turtle" at the full species level (CDFW 2022; page 107-108). "Southwestern" is the nomenclature that applicant used, and is not uncommon, staff will use "southwestern" here. The southwestern pond turtle is a state Species of Special Concern, and a USFWS Sensitive species. Page 126 of the application states that southwestern pond turtle may be impacted by the project during upland (annual grasslands onsite) dispersal and nesting. Further, the application states that conditions 3 and 11 of the Santa Clara Valley Habitat Plan (SCVHP) would avoid and mitigate any impacts to this species. Condition 3 of the SCVHP regulates peak discharge and pollutant runoff (in this project-specific case, to the Guadalupe River) during all project phases. Condition 11 requires a 100-foot setback from the river; however, this species may disperse upland and further than 100 feet from Guadalupe River (and therefore into the proposed project site). Therefore, staff considers this insufficient protection to avoid impacts to the species.

Further, the US Geological Service (USGS) has published a visual survey protocol (2006a) as well as a trapping protocol (2006b) for this species; therefore, protocols for this species exist (albeit the range covered is south of the project), and relevant portions of the protocol could have been adapted and used for this project.

DATA REQUESTS

17. Describe and explain how conditions 3 and 11 of the SCVHP would fully avoid impacts to southwestern pond turtle (western pond turtle) dispersing or nesting in the project site's annual grassland habitat.
18. Describe any further avoidance protocols known to the applicant.
19. Describe why protocol surveys for this species were not followed or implemented, at least partially. Include agency coordination contact information and logs, if available.

BACKGROUND: Point Source Nitrogen Deposition and Indirect Impacts

Impacts of excessive nitrogen deposition to plant communities include direct toxicity and changes in species composition among native species such as enhancement of non-native invasive species. The increased dominance and growth of invasive annual grasses is especially prevalent in low-bio-mass vegetation communities that are naturally nitrogen limited such as serpentine habitats. Although the application site is highly developed and does not contain sensitive habitat, there is serpentine habitat and Northern Coastal Salt Marsh within 6 miles of the project site. Although air emissions including nitrogen oxides (NOx) were discussed in the application, this was relative only to vehicle trips (TN 245946); no model or data to determine the total nitrogen deposition rate as well as the extent of the plume from the testing and maintenance of the proposed project's backup generators was provided. Nitrogen deposition resulting from NOx and ammonia emissions during the testing and maintenance of the backup generators of the proposed project may have potentially significant impacts on sensitive habitats (including critical habitat) and species nearby if the nitrogen deposition plume covers these areas.

While the proposed project is a "covered project" under the Santa Clara Valley Habitat Plan (SCVHP), the fees imposed for mitigation of nitrogen deposition are related to mobile emission sources only. Although mitigation for nitrogen deposition from stationary sources under the SCVHP is not required or covered, there still may be an impact to sensitive habit that needs to be mitigated to less than significant. CEQA criteria a, b, and c are pertinent to this impact. Therefore, a separate evaluation of nitrogen deposition must be made for the backup generators, which contribute as a point source for NOx and ammonia emissions and hence nitrogen deposition.

DATA REQUESTS

Within a 6-mile radius of the project site:

20. Please use AERMOD or an equivalent model to provide an analysis of impacts due to total annual nitrogen deposition (from NOx and ammonia) from the testing and maintenance of the backup generators. The analysis should specify the amount of total annual nitrogen deposition in kilograms of nitrogen per hectare per year (kg N/ha/yr) at sensitive habitat such as serpentine formations and Northern Coastal Salt Marsh. Please provide complete citations for references used in determining this number.
21. Please provide an isopleths graphic over topographical maps of the direct total annual nitrogen deposition rates caused by the backup generators. This will be a graphical depiction of the project's nitrogen deposition contribution. Label the location of the proposed project and sensitive habitat such as serpentine, Northern coastal salt marsh, etc., and ensure that modeled nitrogen deposition rates in each sensitive habitat are clearly marked.
22. Please also provide files corroborating nitrogen emissions calculation, model inputs and outputs (with plot files) for staff to review.

REFERENCES

CDFW 2022 – California Department of Fish and Wildlife (CDFW). Special Animals List. July 2022. California Department of Fish and Wildlife. Sacramento, CA.

USGS 2006a – United States Geological Survey (USGS). USGS Western Pond Turtle (Emys marmorata) Visual Survey Protocol for the Southcoast Region. Sacramento, CA, 2006. Available at: htpps://sdmmp.com/upload/SDMMP_Repository/0/4fnpv18xm0sqtw29j7d3rz56bkychg.pdf#:~:text=This%20protocol%20documents%20standard%20visual%20survey%20techniques%20for,from%20Santa%20Barbara%2C%20California%20to%20the%20Mexican%20boarder%29.

USGS 2006b – United States Geological Survey (USGS). USGS Western Pond Turtle (Emys marmorata) Trapping Survey Protocol for the Southcoast Ecoregion. Sacramento, CA, 2006. Available at: https://sdmmp.com/upload/SDMMP_Repository/0/q4x2pztbkns61wv9hy30rjc78fg5dm.pdf

SAN JOSÉ DATA CENTER O4 SPPE
DATA REQUESTS SET 1

GEOLOGY AND SOILS

Author: Mike Turner

BACKGROUND: Grading Plans

The application and Geotechnical Engineering Report prepared by Terracon do not appear to agree as to the grading plan for the site. The project description of the Geotechnical Engineering Report states:

> *"We understand the site will be elevated up 10 feet to raise the proposed improvements above the design flood risk elevation. We anticipate site grading may consist of fills up to 10 feet and cuts will be made along the northwestern portion of the site to depths up of about 15 feet below current grade. We do not anticipate any cut or fill slopes at the site."*

The Geotechnical Engineering Report also notes the site is relatively flat and that the property varies in elevation from about 26.5 feet to 48.3 feet above Mean Sea Level (MSL) due to the presence of a mound near the northwest edge of the property. However, the application, subsection 3.4.1, Site Grading, Excavation, and Construction Phasing, states:

> *"For purposes of this analysis, it is assumed that up to 90,000 cubic yards of soil and undocumented fill will be removed from the Project Site. Grading of the Project Site is not expected to require the import of fill material."*

The application and Geotechnical Engineering Report do not appear to agree as to the grading plan for the site. Staff needs a clear understanding of the source of the material to be used to raise site grades up to 10 feet and where the 90,000 cubic yards of soil and undocumented fill is to be removed from.

DATA REQUESTS

23. What is the source of the fill material to be used to raise site grades up to 10 feet?
24. Please clarify if the source of the 90,000 cubic yards of soil and undocumented fill to be removed is the mound near the northwest edge of the property.
25. What is the original source of the mound near the northwest edge of the property?
26. If the mound is the source of the fill, has the mound been analyzed as an acceptable fill material from both a geotechnical and an environmental perspective?

BACKGROUND: Maximum Depth of Proposed Piles

In the Geotechnical Engineering Report, the project description states:

> *"If Ground Improvement will not be performed, the proposed improvements should be supported by Deep Foundations to protect the improvements against*

> *the estimated total and differential settlements due to structural loads and Liquefaction. The Deep Foundations may consist of auger cast piles (ACP) or driven piles and should extend through the potentially liquefiable sand layers and derive their support from the subgrade soils below a depth of 60 feet…the ACPs or driven piles should extend through soils susceptible to liquefaction to a minimum depth of 70 feet below existing site grade into underlying firm soil."*

The application indicates in Section 3.4.1, Site Grading, Excavation, and Construction Phasing that the buildings would use a deep foundation system with piles. The piles are anticipated to extend 80 feet below the existing grade surface. Staff needs a clear understanding of the maximum depth of the proposed piles, if this option is selected during the final design, to complete their analysis.

DATA REQUEST

27. Please clarify the proposed depths of the ACPs or driven piles if the deep foundation option is selected.

BACKGROUND

In the application, Section 4.7.1.2, Paleontological Resources, the applicant referenced the City of San José 2040 General Plan EIR (San Jose 2011) and noted:

> *"Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. Most of the City of San José is situated on alluvial fan deposits of Holocene age that have a low potential to contain significant nonrenewable paleontological resources; however, older Pleistocene sediments present at or near the ground surface at some locations have high potential to contain these resources. These older sediments, often found at depths of greater than 10 feet below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates. Based on Figure 3.11-1 of the 2040 General Plan EIR, Palaeontologic Sensitivity of City of San José Geologic Units (San Jose 2011), the Project Site (as well as the Off-Site Infrastructure Areas) are located in an area of high paleontological sensitivity at depth."*

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

28. Provide the PFYC ranking for the site.

REFERENCES

BLM 2016 – Bureau of Land Management (BLM). Potential Fossil Yield Classification System: BLM Instruction Memorandum No. 2016-124. July 8, 2016. Accessed on September 22, 2022. Available online at: https://blm.gov/policy/im-2016-124

San Jose 2011 – City of San Jose (San Jose). Envision San Jose 2040 General Plan. September 2011. Accessed on: September 22, 2022. Available online at: https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/completed-eirs/envision-san-jose-2040-general-plan-4-year/envision-san-jos-2040-general-plan

HYDROLOGY AND WATER QUALITY

Author: James Ackerman

BACKGROUND: Section Reference

In the application, subsection 4.10.2.1 Project Impacts, within the second paragraph, within the parenthesizes of the second sentence, the Section number reference is replaced by the following error message: **Error! Reference source not found.**

DATA REQUEST

29. Please provide the referenced Section number as referenced in Section 4.10.2.1 of the application.

LAND USE

Author: Jeanine Hinde

BACKGROUND: Building Heights

Building heights are discussed under subsection 3.3.4.1 of the application, "Building Heights and Setbacks," where it states the following:

> *The data center buildings will be approximately 101 feet at the roof's high point with parapet walls extending to a height of approximately 136 feet above the Level 1 slab height at the high point. The parapet/screen walls will extend to a height of approximately 40 feet above the roof level to conceal the rooftop mechanical and electrical equipment and provide sound attenuation.*

Based on this paragraph, the height to the top of the screen wall would be 141 feet rather than 136 feet.

Figures 3.3-7 and 3.3-8 show building elevations, which are labeled 96 feet 8 inches for the "roof low point," 108 feet 6 inches for "dunnage," and 135 feet 6 inches for the "screen." (Staff assumes that dunnage refers to a rooftop platform for mechanical equipment.) Based on the height measurements in the application, the dunnage would add roughly from 7 to 11 feet to the roof height, depending on whether it is added to the "roof low point" or "high point" height.

Figure 3.3-7 shows a plain grid pattern for part of the data center structures rather than finalized drawings showing building elements and characteristics.

Figure 3.3-8 shows a longitudinal elevation with an additional marker at 100 feet 5 inches but with no identifying label.

DATA REQUEST

30. Staff requests clarifications of building elements and structure heights and improved elevation drawings, including:
    a. meanings of the roof low point and high point heights,
    b. roof height elevations,
    c. dunnage platform height and description,
    d. parapet wall height and description,
    e. screen wall height and description,
    f. data center height to the top of the screen (text states 136 feet and building elevations state 135 feet 6 inches),
    g. description of the building element that is at a height of 100 feet 5 inches, and
    h. elevation drawings to replace Figure 3.3-7 that more clearly depict the building elements and structure heights.

BACKGROUND: Site Elevation

The Phase I Environmental Site Assessment for the proposed project (TN #245978) states that the property lies at approximately 20 feet AMSL and that the topography of the property area is relatively flat with one small hill on the northern section. It states that the surface elevation of the property varies from approximately 20 to 37 feet.

Figure 3.3-13 of the application, "Grading and Drainage Plan," shows a finished floor elevation of 33.0 feet for data center SJC06 and 32.0 feet for data center SJDC 04.

Staff's analysis of consistency of the proposed project with the Comprehensive Land Use Plan for the San José International Airport requires data on structure heights in feet AMSL. Information in the proposed project application states maximum building heights from a base elevation of zero inches, as shown in the building elevations and described

in the text (Chapter 3, subsection 3.3.4.1 Building Heights and Setbacks; Figures 3.3-7 and 3.3-8; and Section 4.9 Hazards and Hazardous Materials). These measurements do not account for site elevation, which is needed to determine structure heights in feet AMSL.

DATA REQUEST

31. Please provide the site elevations for the two data center buildings in feet AMSL. Please clarify the difference between site elevation and finished floor elevation.

BACKGROUND: Special Use Permit

The proposed project site is in the CIC Combined Industrial/Commercial zoning district. The city of San José requires a Special Use Permit for a data center.

DATA REQUEST

32. Please provide information on when the applicant plans to apply to the City for a Special Use Permit. If the applicant has submitted an application, please provide information on its status.

BACKGROUND: Lot Line Adjustment

The application states under subsection 3.3.1, Site Description, that a portion of the Pacific Gas and Electric Company (PG&E) switching station would be located on Assessor Parcel Number 101-02-019, which would be incorporated into the proposed project through a lot line adjustment.

DATA REQUEST

33. Please provide a figure showing the project site plan with the proposed property lot line adjustment.

POPULATION AND HOUSING

Author: Ellen LeFevre

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 application.

DATA REQUESTS

34. What is the estimated number of operation workers for the project?

35. From where are the project construction and operation workforce estimate to be derived, locally within the Greater Bay Area or non-locally (beyond a two-hour commute of the project site)?

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

PROJECT DESCRIPTION

Author: Laiping Ng

BACKGROUND: Transmission Interconnection

The application Section 3 indicated that the project includes an on-site new substation and a switching station, with two electrical supply lines that would connect to the PG&E Trimble and Newark substations. Also, power outage data was provided for the past 10 years for Trimble Substation and past 6 years for Newark-Lawrence Substation. Staff requires a complete description of the project interconnection to the PG&E system to understand the potential operation of the backup 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 project.
38. Please provide a detailed description and one-line diagrams of the new PG&E switching station with the interconnection of the project substation. Please label the name of the lines and provide the line voltages.
39. Will the new on-site switching station require California Public Utility Commission discretionary action?
40. Please provide the pole configurations which would be used to support the overhead transmission lines from the new switching station to the new project substation. Show proposed pole structure configurations and measurements.
41. Please provide a detailed description and drawing of the proposed 115 kilovolt (kV) transmission line route and length. Show the interconnection points between the new PG&E switching station and project substation, and possible pole locations. Please provide a legend and label the drawing to show the proposed line route and pole locations.
42. Please note if any of the past outages for the two substations are due to Public Safety Power Shutoff (PSPS) events.
43. Have there been changes to the PG&E 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?

SAN JOSÉ DATA CENTER 04 SPPE
DATA REQUESTS SET 1

TRANSPORTATION

Author: Ashley Gutierrez

BACKGROUND: Construction Activities and Worker Vehicle Trips

The San Jose Transportation Handbook, Section 4.19 Construction, states "To the extent possible the operational analysis should include information about the project construction such as duration, hours of operations, any required grading, potential haul routes, traffic control plans, closure or relocation of bus stops, street closures and construction entrances."

Staff reviewed the SPPE Application and the Draft VMT Analysis in Appendix I and could not locate a table or discussion of construction worker vehicle trips required for the construction of the project. A short discussion of construction activities is included in the Draft VMT Analysis however there are not enough details to describe construction activities. For example, Section 3.4 Construction and Operation states "construction worker parking and staging areas will be off-site at an existing commercial property parking lot located at 2825 Lafayette Street, approximately 1.9 miles from the site. Bus transportation between the project and the off-site parking will be provided by the project owner." There's not an associated map to show where the parking and staging areas are located at 2825 Lafayette Street, nor are there identified bus routes. To adequately answer CEQA Transportation question b, the applicant must provide more details related to the construction of the project.

DATA REQUESTS

44. Please provide a table labeled "Construction Trip Generation" that includes offsite construction worker trips that would be routed to the 2825 Lafayette Street parking and staging area. The trip generation table should include information on trip type (delivery/haul trucks, maximum and average amount of construction workers, and total construction traffic) and AM and PM peak hour trips.
45. Please include anticipated schedules for the construction worker shuttle buses.
46. Please provide a map of the construction worker parking and laydown areas. Include the route(s) to be used to get to and from the project site.
47. Approximately how long would construction take to complete the new 1.5-mile recycled water connection?
48. Approximately how long would construction take to complete pedestrian improvements along Component Way? Would improvements take place during project construction?

SAN JOSÉ DATA CENTER O4 SPPE
DATA REQUESTS SET 1

BACKGROUND: Federal Aviation Administration

The San Jose International Airport is located approximately 1,100-feet southwest of the project site. Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for construction or alterations 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 (CFR 2020). The threshold for the FAA notification 100 to 1 surface exceedance height is approximately 10 feet at the project site. If a project's height, including any temporary equipment (such as cranes used during construction) or any ancillary structures (such as transmission poles), exceeds the 100 to 1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

DATA REQUESTS

49. Please prepare and submit Form 7460-1, Notice of proposed Construction or Alteration, to the FAA for the project's proposed buildings, transmission poles and temporary construction equipment such as cranes. Submit the FAA's determinations to the project docket log once they are received.

REFERENCES

CFR 2020 – Code of Federal Regulations (CFR). Title 14, Section 77.9, Construction or Alteration Requiring Notice. Accessed on: October 20, 2022. Available online at: https://gov.ecfr.io/cgi-bin/text-idx?SID=8a9408b6022186a8d9460c5fa676d1ff&mc=true&node=se14.2.77_19&rgn=div8