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CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

February 10, 2023

Martin Avenue Properties, LLC
C/O Scott A. Galati
1720 Park Place Drive
Carmichael, California 95608

Data Requests Set 1 for Martin Backup Generating Facility (22-SPPE-03)

Dear Mr. 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 Martin Backup Generating Facility (MBGF) and Martin Data Center (MDC). Together, these constitute the "project" under the California Environmental Quality Act (CEQA). The project would include one four-story data center building, an onsite substation and onsite switching station, generator equipment yard (constituting the MBGF), surface parking and landscaping, and a recycled water pipeline extension.

This Data Requests Set 1 seeks further information in the areas of air quality and greenhouse gases, cultural and tribal cultural resources, hazards and hazardous materials, land use, transportation, and project description, based on the contents of the application submitted thus far. While CEC staff has made a concerted effort to capture all outstanding data needs, additional subsequent data requests in these, and other resource areas are possible, based on further information received or as necessary for a complete analysis of the project.

To assist CEC staff in timely completing its environmental review and to meet the requirements of CEQA (see Cal. Code Regs., tit. 14, §§ 15108, 15109), CEC 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 eric.veerkamp@energy.ca.gov.

Eric Veerkamp
Project Manager

Enclosure: Data Requests Set 1

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MARTIN MBGF SPPE
DATA REQUESTS SET 1

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Authors: Brewster Birdsall, Winston Potts

BACKGROUND: Air Quality Management 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 Martin Avenue Properties LLC (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.

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.

BACKGROUND: Contiguous or Adjacent Sources

The project site at 651 Martin Avenue would be near or adjacent to other recent similar data center projects reviewed by the CEC, including the CyrusOne Sequoia Data Center (2600 De La Cruz Blvd.). BAAQMD Regulation 1-215 defines a facility as any property, real or personal, which may incorporate one or more plants all being operated or maintained by a person as part of an identifiable business on contiguous or adjacent property. Please provide information clarifying whether this project would be under common control with any adjacent properties.

DATA REQUEST

3. Please identify the ownership interests of the applicant, Martin Avenue Properties LLC. If there is a common parent company for the proposed project and any adjacent property, please describe whether the BAAQMD could be expected to incorporate the proposed project with another permitted facility.

BACKGROUND: Emissions Impact of Project Phasing

One of the Project Objectives (SPPE application p. 1-2) is to allow construction of two phases of the data center. CEC staff is concerned that air quality impacts during Phase II of construction (SPPE application p. 2-17) could overlap with the emissions and impacts of operating the proposed stationary sources (backup generators) installed with Phase I.

DATA REQUEST

4. Please describe and analyze the air pollutant emissions increases and ambient air quality impacts that could occur during simultaneous operation of Phase I sources and construction activity for Phase II.

BACKGROUND: Air Quality Technical Report Missing Information

In Appendix B of the SPPE application for the Martin Backup Generating Facility (MBGF), the applicant attached a stand-alone Air Quality and Greenhouse Gas Technical Report (11/8/2022; TN# 247329). The Air Quality Technical Report was submitted to the docket without sufficient supporting information. The manufacturer specifications for the proposed sources appear to be missing from Appendix B of the Air Quality Technical Report. Additionally, the applicant's analysis of NO_2 background concentrations, as these are used in the dispersion modeling analysis, appears to be missing from Appendix C of the Air Quality Technical Report.

DATA REQUESTS

5. Please provide the manufacturer specification sheets for the proposed backup generator engines and air pollution control devices.

6. Please provide electronic files and data supporting the analysis of background NO_2 concentrations and how seasonal hour-of-day data are derived.

BACKGROUND: Air Quality Technical Report Emissions Data

Load-specific emissions rates for low-load testing are presented in the Air Quality Technical Report (Tables 24 to 29) without supporting documentation or calculations. CEC staff needs to know if the proposed emissions reflect site-specific considerations, that could appear in the referenced "Potential Site Variation" for the engine specifications. Because air quality impact dispersion modeling results are based on the equipment achieving certain low load emission rates, CEC staff needs to know if the applicant intends for the modeled low load emission levels to become enforceable limits. Additionally, the ability of the proposed emissions control systems to quickly warm up and reduce NOx, reactive organic compounds (ROG) or volatile organic compounds (VOC), and PM10/PM2.5 is not documented. Additionally, the ammonia emissions associated with the proposed SCR are not documented.

DATA REQUESTS

7. Please provide the site-specific Caterpillar 3516E Diesel Generator Specification Sheet (Potential Site Variation) that is cited by the Air Quality Technical Report for the load-specific emissions at low-load points (i.e., 75, 50, 25, and 10 percent load).

8. Please provide emission calculations for the uncontrolled and controlled load-specific emission rates covering the range of low-load points (i.e., 75, 50, 25, and 10 percent load).

9. Please confirm that the applicant would accept enforceable limits on emissions rates during low load operations.

10. Please provide vendor documentation supporting the warm-up period and NOx control effectiveness assumptions in achieving the Tier 4 emissions standards.

11. Please provide vendor documentation supporting the assumption that the SCR system would reduce ROG emissions by 40 percent.

12. Please provide vendor documentation supporting the proposed outlet PM10/PM2.5 emissions factors of 0.02 grams per brake horsepower-hour (g/bhp-hr).

13. Please disclose and quantify the potential ammonia emission rates and anticipated levels of ammonia slip during operation of the proposed backup generators.

BACKGROUND: Emissions from Storage Tanks

The SPPE application (p.2-12) indicates that the proposed engines would be fueled on diesel from 44 individual storage tanks for a combined onsite diesel fuel storage capacity of approximately 237,600 gallons. The Air Quality Technical Report does not appear to include emission calculations for VOC that would be vented from the storage tanks. Additionally, VOC emissions from the diesel storage tanks would contain toxic air contaminants (TACs) that do not appear in Table 38 of the Air Quality Technical Report, and these need to be listed for consideration in the health risk assessment (HRA).

DATA REQUESTS

14. Please disclose and quantify the potential VOC emissions from the 44 diesel storage tanks and include these in facility-wide summaries of VOC emissions.

15. Please disclose and quantify the TACs that would be contained in the VOC emissions from the storage tanks and include these in the HRA or justify why these emissions should not be included in the HRA.

BACKGROUND: Enforceable Permit Conditions, Short-term Emissions

The SPPE application shows certain assumptions for air quality impact analysis of the typical readiness and maintenance testing emissions that need to be verified. Assumptions in the analysis appear to include having no more than a specific group of three generator-engines in use at any one time, for no more than 15 minutes in an hour, at a low load, 10 percent, setting (the "monthly testing" scenario on pgs. 9-10 of

Air Quality Technical Report). The modeling also assumes that single engines may undergo "annual testing" at one of five different loads, although the analysis specifies that emissions from engines at loads greater than 50 percent would be fully controlled by ensuring that the SCR has fully warmed up (p. 10 of Air Quality Technical Report).

DATA REQUESTS

16. Please confirm that the applicant would request the BAAQMD to require an enforceable limit on concurrent operation of standby engines so that all "monthly" testing runs are limited to: no more than three generators in simultaneous use; for no more than 15 minutes in any given hour; and at loads no greater than 10 percent.

17. Please confirm that the applicant would request the BAAQMD to require an enforceable limit on single-engine testing of standby engines so that all testing runs begin with 15 minutes of operation at loads no greater than 10 percent to allow sufficient warm up of the SCR.

18. Please elaborate on whether the engines could potentially be tested from a cold start to full load, 100 percent during any hour, and if not, please explain what steps could be taken by the owner/operator to avoid this type of full load test.

BACKGROUND: Enforceable Permit Conditions, Annual Operations

Emissions estimates assume no more than 35 hours per year per engine for testing overall. Air quality impact modeling also presumes that readiness testing would be limited to occur within certain hours of the day (between the hours of 7:00 a.m. and 5:00 p.m.).

DATA REQUESTS

19. Please confirm that the applicant would request the BAAQMD to require an enforceable limit that would allow no more than 35 hours per year per engine, for readiness and maintenance testing.

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

BACKGROUND: Air Quality Impact Analysis Details

The applicant's air quality impact dispersion modeling uses a customized range of meteorological data (years 2017 to 2021) with a setting of 10.0 meters for the anemometer height for the KSJC station. This customized data deviates from the publicly available data from BAAQMD (years 2013-2017) that has been used by CEC staff on prior similar cases in the vicinity of the project. CEC staff has not verified whether use of the newer data is justified. The BAAQMD default data and webpage

indicates that the anemometer sensor height at KSJC is 7.9 meters (https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools/ceqa-modeling-data); however, the applicant's data appears to assume a sensor height of 10 meters.

DATA REQUESTS

21. Please explain why the publicly available meteorological data from BAAQMD (years 2013-2017) was not used for this project's dispersion modeling and provide the rationale for using a customized range of data.

22. Please verify that the proper anemometer height was included in the processing of the applicant's meteorological data used for dispersion modeling, and if not, please correct the meteorological input files.

BACKGROUND: Cumulative Health Risk Impacts

CEC staff needs to verify the data presented in the summary of cumulative health impacts (Table 45 of the Air Quality Technical Report) and understand the status of the previously approved or proposed nearby facilities that could foreseeably contribute to cumulative impacts. An online query of the BAAQMD Stationary Sources Screening Map provides screening levels of risks and PM2.5 concentrations that differ from those presented in the Air Quality Technical Report. CEC staff needs to understand how the levels in the applicant's cumulative health risk tables were derived if not drawn directly from the online database.

Additionally, several projects that are presently approved, under development, or pending development may need to be included as reasonably foreseeable in the cumulative evaluation health risk impacts (summarized in Tables D1, D2, and D3 of the Air Quality Technical Report).

For example, staff needs a clear picture of the foreseeability of emissions from the following facilities:

- Sequoia Data Center (CyrusOne; 2600 De La Cruz Blvd.)
- Walsh Data Center (Digital Realty Trust; 651 Walsh Ave.)
- Lafayette Data Center (Digital Realty Trust; 2825 Lafayette Dr.)
- 1200 Memorex Drive Data Center (Santa Clara Propco, LLC, 1200 Memorex Dr.)

DATA REQUESTS

23. Please provide the reporting results from the BAAQMD's Permitted Stationary Source Risks and Hazards Screening Tool and the supporting calculations used in estimating risks from stationary, rail, and roadway sources at the various maximally exposed receptors.

24. Please gather information from the City of Santa Clara and/or BAAQMD and provide CEC staff with an update on the status of nearby previously approved or proposed facilities and include these with the cumulative evaluation health risk impacts, as appropriate.

BACKGROUND: Sulfur Hexafluoride Emissions

The project would include a new onsite utility substation (SPPE application p.1-2) that would require project-specific 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 (SF_6) gas-insulated equipment (GIE) unless specific provisions of the regulation are satisfied.

Staff needs to confirm whether SF_6 would be used in the circuit breakers and transformers of the project and how the use of SF_6 would comply with the 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, CEC staff needs information on the non-SF_6 alternative to be used in the circuit breakers and transformers. CEC staff needs an estimate of the leakage of SF_6 or non-SF_6 alternative from the electrical equipment to include in the GHG analysis.

DATA REQUESTS

25. Please confirm whether SF_6 would be used as the electrical insulator for any electrical equipment for the project.

26. Please verify how the project would comply with the current SF_6 phase out regulation (Cal. Code Regs., tit. 17, § 95352).

27. 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.

Please provide an estimate of the quantity of insulating gas to be used and the amount of annual SF_6/non-SF_6 alternative leakage.

CULTURAL AND TRIBAL CULTURAL RESOURCES

Authors: Cameron Travis and Patrick Riordan

BACKGROUND: Records Search Results

Cultural resources staff have reviewed the results of the cultural resources records search provided by PaleoWest in the Cultural Resources Assessment (CRA), docketed under confidential cover on November 10, 2022 (Heller-Leib et al. 2022). CEC staff compared the CEC internal cultural resources inventory to the results listed in the CRA

and have determined the following: 1) After review of Table 4-1 and Appendix A, NWIC Records Search Results, CEC staff determined that the CEC has in its inventory copies of all but 12 of the 95 previous investigations (reports) identified in the CRA. 2) After review of Table 4-2, CEC staff maintains in its inventory copies of all but one of the five previously recorded cultural resources. This is due to the numerous data centers in that area for which the CEC has already received record search information.

DATA REQUEST

28. The following studies (reports) and resource records in the tables below are not on file at the CEC but are indicated in the CRA as components of the records search results. Please provide copies of the listed studies and resource records under confidential cover.

Prior Cultural Resource Investigations [1]

Report No.	Author(s)	Year
S-003453	Meadows et al.	1950
S-007548	Anastasio et al.	1985
S-017855	Cartier et al.	1995
S-021162 (4 parts)	Busby et al.	1997-1998
S-021169 (2 parts)	Busby et al.	1997, 2004
S-028958	Busby, Colin	2003
S-046936	Psota, Sunshine	2015
S-048005 (2 parts)	Walter et al.	2011
S-048738	Grady and Brandi	2011
S-049626 (11 parts)	Byrd et al.	2008-2013
S-050883	Psota, Sunshine	2018
S-053363	Psota, Sunshine	2019

Primary No.	Resource Name	Author(s)	Year
P-43-004159/CA-SCL-001070/H	WDC-050621-CH-01	Bertagnole, Stephanie	2022

BACKGROUND: Project Area of Analysis and Historic Built Environment

The applicant proposes to extend an existing recycled water line that is approximately 100 feet east of the property boundaries to the project site (TN 247325, page 2-20). This may extend the project area of analysis for cultural resources since CEC cultural staff apply a minimum one-parcel built environment study area as the project area of analysis for urban projects. Additionally, the Union Pacific Railroad tracks adjacent to the project site and between the existing recycled water line and the property have not

[1] Source: Table 4-1, Table 4-2 and Appendix A - NWIC Records Search Results (Heller-Leib et al. 2022).

been evaluated as a cultural resource despite the rail corridor being more than 45 years old.

DATA REQUESTS

29. Please provide a map showing the exact location of the existing recycled water line the applicant intends to extend and the path of the extension.

30. Please provide an evaluation of all buildings, structures, and objects that are 45 years or older within a one-parcel buffer from the project site and the proposed recycled water line extension alignment 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.

REFERENCES CITED

Heller-Leib et al. 2022 – Abby Heller-Leib, Andrew Bursan, and John Eddy, *Cultural Resources Assessment of the 651 Martin Avenue Project, City and County of Santa Clara, California*. Prepared for Martin Avenue Properties, LLC, Santa Clara, CA. Technical Report No. 22-455. PaleoWest, LLC. Walnut Creek, California. October 2022.

TN 247325 – Main App and Appendix A. Application for Small Power Plant Exemption Martin Backup Generating Facility (22-SPPE-3). Prepared By Dayzen LLC. 22-SPPE-3. November 2022

HAZARDS AND HAZARDOUS MATERIALS

Authors: Brett Fooks and Michele Shi

BACKGROUND: Urea or Diesel Exhaust Fluid (DEF)

On page 2-13, the project description calls for two 55-gallon drums of diesel exhaust fluid (DEF) to be stored within each generator enclosure to be used by the selective catalytic reduction equipment. On page 4-97, the applicant states each generator would be required to run for a total of four hours per year under maximum load for yearly testing purposes, thus consuming a portion of the DEF.

DATA REQUESTS

31. Please provide a safety data sheet for the DEF and confirm the estimated shelf life of the DEF.

32. Please provide a DEF replenishment strategy and frequency, and how excess or degraded DEF, if any, would be disposed of properly.

33. Please provide a schematic drawing showing the DEF containment within the generator enclosure.

HAZARDS AND HAZARDOUS MATERIALS; LAND USE AND PLANNING; AND TRANSPORTATION

Authors: Brett Fooks and Michele Shi, Steven Kerr and Andrea Koch

BACKGROUND: Project's Conformance with CLUP Policy S-4

The project is within the Turning Safety Zone (TSZ) of the Norman Y. Mineta San Jose International Airport, as designated by the Santa Clara County Comprehensive Land Use Plan (CLUP) for the airport. The applicant proposes above-ground diesel storage tanks (total capacity 237,600 gallons), in violation of Policy S-4 of the CLUP, prohibiting above-ground storage of fuel or other hazardous materials in the TSZ.

The applicant states in Section 4.9.3.5 on page 4-102 that the City of San Jose recently approved revisions to the San Jose International Airport Master Plan which note that Runway 11-29 is now closed. The applicant states that the CLUP should be revised to remove the TSZ overlaying the project site, as it was associated with flights to and from Runway 11-29. Section 4.9.3.5 includes the following statement: *While the CLUP has not been revised to remove the TSZ in conformance with the Master Plan, the purpose of the TSZ crossing the site property is moot. Therefore, the proposed site should not be treated as if it were in a special protection zone that would require placing the generators' tanks below grade.*

DATA REQUESTS

34. Please provide documentation supporting a forthcoming revision of the CLUP to remove the TSZ over the project site, or to show Santa Clara County Airport Land Use Commission (ALUC) and City of San Jose support of above-ground storage tanks at the project site. This supporting documentation must include written communication from the ALUC and city airport planning staff. Written summaries of the applicant's discussions with ALUC and city staff may suffice.

35. Please update, as necessary, the analysis of the project's conformance with CLUP Policy S-4 as it relates to the CEQA Guidelines Appendix G questions in the areas of Transportation, Land Use and Planning, and Hazards and Hazardous Materials, noting written documentation from DR-1, above.

36. If the analysis cannot show project conformance with the CLUP Policy S-4, please submit an alternative design for the fuel storage tanks that would be consistent with this policy. Please note that other nearby data center projects (Lafayette and Sequoia) have provided alternative designs for their fuel storage tanks to conform with the CLUP Policy S-4.

BACKGROUND: Thermal Plume Analysis

On page 4-103, the applicant states an airport consultant has been commissioned to prepare an analysis of established airport procedures to assess the potential for flights at the Norman Y. Mineta San José International Airport encountering either a plume at or below the heights identified in a thermal plume analysis.

DATA REQUEST

37. Please provide the report of the analysis by the airport consultant.

PROJECT DESCRIPTION

Authors: Laiping Ng, Mark Hesters

BACKGROUND: Project Interconnection and System Reliability

The Martin Backup Generating Facility (MBGF) application Section 2 indicated that the MBGF includes an on-site substation and an on-site switching station to provide 60 kilovolt (kV) service from Silicon Valley Power (SVP) to the proposed site. CEC staff requires a complete description of the both the Martin Data Center (MDC) interconnection to the SVP 60 kV system and the reliability of the SVP system to understand the potential operation of the back-up generators.

DATA REQUESTS

38. Please provide a complete one-line diagram for the new on-site 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 MDC.

39. Please provide a detailed description and one-line diagrams of the new on-site switching station with the interconnection of the MDC on-site substation. Please label the name of the lines which connecting the switching station to the SVP system and provide the line voltages.

40. Please clarify which SVP loop the MDC on-site switching station would be interconnected to.

41. Please provide a detailed description and drawings of the proposed 60 kV transmission line route to the on-site switching station, 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.

42. Please provide the pole configurations which would be used to support the overhead transmission lines from the SVP 60 kV system to the on-site switching station, and to the on-site substation. Show proposed pole structure configurations and measurements.

43. Please explain whether adding the MDC would require upgrades to the existing SVP system beyond the direct interconnection to the switching station.

44. Please provide for the 60 kV loop on the SVP system that will serve the proposed project:
    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

45. Please describe any past outages or service interruptions, including Public Safety Power Shutoffs (PSPS), on the 60 kV systems that would serve the proposed project. 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 offshoring, data center shutdown, etc.)?

46. 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)?

47. Please provide the follow regarding 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?