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Filer:	Lon Payne
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CALIFORNIA
ENERGY COMMISSION

November 29, 2023

STACK Infrastructure
C/O Scott A. Galati
1720 Park Place Drive
Carmichael, California 95608

Data Requests Set 1 for SVY03A Data Center Campus (23-SPPE-01)

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 a complete staff analysis of the SVY03A Data Center Campus under the California Environmental Quality Act (CEQA).

This Data Requests Set 1 seeks further information in the areas of air quality and greenhouse gas emissions, biological resources, hydrology and water quality, project description (transmission, water), transportation, and utilities and service systems, 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 additional time, please send written notice to me within 10 days of receipt of this letter.

If you have any questions, please email me at leonidas.payne@energy.ca.gov.

_____/S/_____

Leonidas Payne
Project Manager

Enclosure: Data Requests Set 1

SVY03A DATA CENTER CAMPUS
DATA REQUESTS SET 1

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Authors: Huei-An (Ann) Chu, Ph.D., Andres Perez, 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 STACK Infrastructure (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: Appendix A Missing Equipment Information

In Appendix A of the Application for Small Power Plant Exemption (SPPE), the applicant included the emissions control system manufacturer specification sheets for the C3516E and C3512C backup generator engines (TN 252251; pp. 32 and 34, respectively). However, the emissions control system manufacturer specification sheet for the C32 backup generator engine appears to be missing from Appendix A.

Page 88 of the subject application (TN 252249) also states that an air quality screening analysis was performed to determine which backup generator load case resulted in the highest 1-hour NO_x concentration. The applicant stated that the load analysis would be provided in Appendix AQ-3 of Appendix A, however, staff could not locate the analysis in Appendix AQ-3.

Staff also could not locate the ammonia emissions associated with the proposed selective catalytic reduction (SCR) device for all three engine types in either the subject application or Appendix A.

DATA REQUESTS

3. Please provide the emissions control system manufacturer specification sheet for the C32 backup generator engine.

4. Please provide the 1-hour NO_x averaging period load analysis performed for the backup generator engines.

5. Please quantify the potential ammonia emission rates and anticipated levels of ammonia slip during operation of the proposed backup generator engines.

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BACKGROUND: Enforceable Permit Conditions, Annual Operations

Air quality impact modeling 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 REQUEST

6. 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 7:00 a.m. to 5:00 p.m. daily.

BACKGROUND: Stationary Source Greenhouse Gas (GHG) Emissions

On page 146 of Part 1 of the application, the project's annual GHG emissions from testing and maintenance of the backup generators are estimated to be 2,801 short tons (or 2,541 metric tons) from Table 4.3-8 in the Air Quality section. However, a review of Table 4.3-8 reveals that the estimate is only for the 24 D3516E gensets. The emissions for C32 and 3512C gensets are not included.

DATA REQUEST

7. Please include the GHG emissions for the C32 and 3512C gensets in the estimate of annual emissions from testing and maintenance.

BACKGROUND: Indirect Greenhouse Gas Emissions

On page 129, the maximum annual electricity demand is calculated in the Energy section. However, the GHG emissions associated with this electricity demand is not.

DATA REQUEST

8. Please calculate the GHG emissions associated with electricity use.

BACKGROUND: Insulative Gas Used in Circuit Breakers and Transformers

On page 31 of Part 1 of the application, the PG&E switchyard and the project substation will not use sulfur hexafluoride (SF6) unless the short circuit current rating is greater than 63kA to align with California Air Resources Board (CARB) requirements.

DATA REQUEST

9. Please discuss the alternative that will be used instead of SF6 and quantify the GHG emissions associated with the alternative.

BACKGROUND: Additional Air Quality Analyses Schedule

On page 79 of the subject application, the applicant states that "refrigerant use was not provided at the time of this analysis and will be submitted under separate cover."

Additionally, on page 103 of the subject application, the applicant also states that "when provided by the BAAQMD, a cumulative air quality and public health risk assessment will be prepared and submitted under separate cover."

Staff would like a schedule from the applicant detailing when information on refrigerant emission information and the cumulative air quality and public health risk assessment should be expected by CEC staff.

DATA REQUESTS

10. Please provide a schedule detailing when refrigerant emission information would be provided to CEC staff.

11. Please provide a schedule detailing when the cumulative air quality and public health risk assessment would be provided to CEC staff.

BACKGROUND: Additional Construction BMPs from BAAQMD Comments

Applicant proposed design measure AIR-1.1, includes eight of BAAQMD's nine Basic Best Management Practices (BMPs) listed in BAAQMD's 2022 CEQA Guidelines (Table 5-2, page 5-5). BMP B-6 of Table 5-2, which requires that dust-producing construction activities be suspended when average wind speeds exceed 20 miles per hour, is not present in AIR-1.1.

Additionally, AIR-1.1 does not contain any of the enhanced BMPs listed in BAAQMD's 2022 CEQA Guidelines (Table 5-3, pages 5-5 and 5-6) nor any of the BMPs recommended by BAAQMD in their comments on the STACK Trade Zone Park Environmental Impact Report (Docket No. 21-SPPE-02; TN 249100; pages 2 and 3).

Staff will be proposing to include BMP B-6 from BAAQMD's 2022 CEQA Guidelines, the enhanced BMPs from BAAQMD's 2022 CEQA guidelines, and the additional BMPs recommended by BAAQMD in their comments on the STACK Trade Zone Park Environmental Impact Report to the applicant's proposed design measure AIR-1.1.

DATA REQUEST

12. Please confirm whether the applicant would commit to implementing BMP B-6 from BAAQMD's 2022 CEQA Guidelines, the enhanced BMPs from BAAQMD's 2022 CEQA guidelines, and the additional BMPs recommended by BAAQMD in their comments to the STACK Trade Zone Park Environmental Impact Report, and if not, please provide justification for why the applicant cannot implement the additional measures.

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DATA REQUESTS SET 1

BIOLOGICAL RESOURCES

Author: Tia Mia Taylor

BACKGROUND: Special Status Plants and Wildlife

Appendix B of the SPPE Application (TN 252251) contains a discussion of sources and databases that were consulted to assess potential project impacts on special status plant and wildlife species. However, the information provided is incomplete and does not conform with the CEC's requirements for an SPPE contained in section (g)(13)(B)(i) of 20 CCR Div. 2 Ch. 5 App. B.

DATA REQUEST

13. Provide detailed maps at a scale of 1:6,000 or color aerial photographs taken at a recommended scale of 1-inch equals 500 feet (1:6,000) with a 30 percent overlap (provided under confidential cover) and 1:350,000 (for public viewing) that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the CNDDB, and the associated areas where biological surveys were conducted. Label the biological resources and survey areas as well as the project facilities.

BACKGROUND: Nitrogen Deposition

Section 4.4.2.1 (Project Impacts) on pages 110-111 of the SPPE Application (TN 252249) notes, "To assess the potential effects of nitrogen deposition from the testing and maintenance of the backup generators, the applicant has commissioned a nitrogen deposition analysis on lands contained in the Eden Landing Ecological Reserve. Excessive nitrogen deposition on low-nitrogen habitats can potentially result in adverse impacts to the habitat. The analysis was not complete at the time of the filing of this SPPE Application and will be docketed under separate cover when available."

DATA REQUEST

14. Submit a completed assessment of nitrogen deposition from the project on low-nitrogen habitats in the vicinity. The assessment must comply with the CEC's requirements for an SPPE Application contained in section (g)(13)(B)(ii) of 20 CCR Div. 2 Ch. 5 App. B, as follows:

(ii) Provide an aerial map of the isopleth graphic depicting modeled nitrogen deposition rates. *The geographical extent of the nitrogen deposition map(s) should include the entire plume and a radius of 6 (six) miles from the source, specifically identifying acres of sensitive habitat(s) within each isopleth* (emphasis added). Modeling parameters and files shall be provided.

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HYDROLOGY AND WATER QUALITY

Author: Adam White

BACKGROUND: Wastewater Pretreatment

The application (page 170) states, per the City of Hayward 2040 General Plan, PFS-4.11 Industrial Pretreatment, that the city shall enforce appropriate industrial pretreatment standards and source control to prevent materials prohibited by federal and state regulations from entering the wastewater system and to ensure compliance with the city's local discharge limits. The city shall work with the business community to maintain and implement programs to ensure compliance with all federal, state, and local discharge requirements.

DATA REQUESTS

15. Please provide a discussion, prepared by a licensed engineer, regarding project impacts associated with the proposed wastewater from the project. Include the city pretreatment application and associated attachments for calculated flow, constituent concentrations, proposed pretreatment (if any) and all other aspects of the proposed discharge.

16. Please provide documentation from the city indicating they have sufficient treatment capacity and willingness to serve this project for the expected life of the project.

BACKGROUND: Water Quality Control Plan

The application (pages 245-248) states a domestic water line, operated by the City of Hayward, will serve the project, the City of Hayward purchases 100 percent of its potable water from the San Francisco Public Utilities Commission (SFPUC), and, under normal conditions, the SFPUC meets demand in its service area from its watersheds, which consist of the Tuolumne River, San Antonio Creek, Upper Alameda Creek, Arroyo Honda, and San Mateo Creek watersheds.

DATA REQUESTS

17. Please revise Part 4.10.2.1 Project Impacts, Section (e) to discuss any potential conflict with State Water Resources Control Board, Resolution No. 75-58, Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling, specifically as it relates to demonstrating that the use of other water supply sources or other methods of cooling would be environmentally undesirable or economically unsound.

18. Please provide analysis, prepared by a licensed civil engineer, demonstrating findings of environmental undesirability, economical unsoundness, or otherwise, as it relates to the use of water supply sources or methods of cooling.

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PROJECT DESCRIPTION—TRANSMISSION

Author: Laiping Ng

BACKGROUND

The SPPE application indicates that the SVY03A Backup Generating Facility (SVY03ABGF) would deliver electricity to SVY03A Campus. The SVY03ABGF includes an onsite substation with two electrical supply lines that would connect to a new PG&E switchyard. Staff requires a complete description of the both the SVY03A Campus interconnection to the PG&E transmission grid and the reliability of the PG&E grid in order to understand the potential operation of the back-up generators.

DATA REQUESTS

19. Please provide a complete one-line diagram for the new PG&E switchyard. Show all equipment ratings, including bay arrangement of the breakers, disconnect switches, buses, and related equipment that would be required for interconnection of the on-site project substation. Please label the name of the transmission lines which connect the switchyard to the PG&E system.

20. Please provide the conductor name, type, current carrying capacity, and the overhead conductor size for the 115 kV transmission lines which connect the existing PG&E Eastshore-Grant 115 kV line to the new switchyard. Provide a map showing the route and pole locations of the extensions.

21. Please provide pole configurations that would support the 115 kV overhead line which would loop into the new switchyard and to the on-site substation.

22. Please provide information that reviews the frequency and duration of historic outages of the Eastshore-Grant 115 kV line and related facilities that would likely trigger the loss of electric service to the proposed onsite substation and could lead to the emergency operations of the diesel-powered generators. This response should identify the reliability of service historically provided by PG&E to similar customers in this part of its service territory.

23. Please explain whether adding the SVY03A Campus would cause an overload to the PG&E transmission system which would require upgrades to the existing system.

24. Please provide the following relative to Public Safety Power Shutoff events:
    a. Would historical Public Safety Power Shutoff events have resulted in the emergency operations at the proposed SVY03A Campus?

b. Have there been changes to the PG&E system around the SVY03A Campus that would affect the likelihood that future Public Safety Power Shutoff events would result in the operation of emergency generators at the proposed SVY03A Campus?

PROJECT DESCRIPTION--WATER

Author: Adam White

BACKGROUND: Wastewater Discharge

The application (page 34) states the use of the evaporative cooling system would result in approximately 2.8 acre-feet per year (AFY) (approximately 50,000 gallons per day (GPD) during peak use) of wastewater discharge to the existing City of Hayward wastewater system. The application (page 249) also states that "The project would generate on average approximately 14,827 gallons of wastewater per day."

DATA REQUESTS

25. Please correct this discrepancy and indicate a correct amount of projected wastewater discharge and assure consistency throughout the application document.

26. Wastewater discharge rates expressed in AFY and GPD are inconsistent. Provide consistent amounts, prepared by a licensed civil engineer, to clarify rates in AFY and GPD.

BACKGROUND: Potable Water Used for Cooling

The application (Section 2.3.11.2) states the project will require approximately 9.5 AFY of potable water, of which 5.2 AFY will be used for cooling.

Also, Table 2.3-1 indicates a projected demand of 9.5 AFY, but the application (page 249) also states "The project would have an annual water demand of 8.9 acre-feet per year."

DATA REQUESTS

27. Please provide information, prepared by a licensed civil engineer, indicating how potable water use quantities provided were calculated. Include a description of plant processes along with water balance diagrams depicting peak water use, systems, associated flow in GPD and AFY.

28. Please have a licensed civil engineer correct this discrepancy between the amounts stated in Table 2.3-1 and page 249 and indicate the amount of water demand for all projected uses and make sure to be consistent throughout the application documents.

BACKGROUND: Recycled Water Used for Cooling

The application (pages 42) states the applicant investigated the use of recycled water to be used at the site for evaporative cooling and was rejected because Hayward's recycled water is not sufficient, would require expensive treatment, and the infrastructure is not close to the site.

DATA REQUEST

29. Please provide analysis, prepared by a licensed civil engineer, demonstrating your determination that recycled water use for cooling is infeasible. Include consideration of insufficiency (or lack of availability), and associated cost for treatment and delivery. A complete discussion along with supporting analysis is required. Include a discussion of factors relevant to the project as it relates to the Hayward Recycled Water Project.

BACKGROUND: Potable Water Used for Landscape

Table 2.3-1 indicates a projected demand of 3.75 AFY for landscaping. The application (page 149) references City Policy NR-6.9 and states "The project would be designed to meet CALGreen requirements for building efficiency including use of water efficient plumbing fixtures and would utilize water efficient landscaping plants and irrigation systems to reduce water demand on-site. Therefore, the project would be consistent with this measure."

DATA REQUEST

30. Please provide analysis, prepared by a licensed civil engineer, providing information on how project demand for landscaping was calculated, what plans and systems were considered to reduce water demand on-site, and why evaporative cooling system wastewater or recycled water could not be used instead of potable water for landscape irrigation.

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TRANSPORTATION

Author: Ashley Gutierrez

BACKGROUND: Federal Aviation Administration (FAA) Form 7460-1, Notice of Proposed Construction or Alteration for SVY03A Data Center Campus

The Hayward Executive Airport is located approximately 1.75-miles (9,290-feet) north of the project site. Title 14, Part 77.9 of the Code of Federal Regulations requires 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). Runway 10R/28L at the Hayward Executive Airport is 5,694 feet in length.

The threshold for the FAA notification 100 to 1 surface exceedance height is approximately 92 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.

The small penthouse on the roof top of the data center building would extend to a height 116.5 feet therefore the project applicant must file FAA Form 7460-1 Notice of Proposed Construction or Alteration to comply with federal requirements. Compliance with this federal requirement is established through FAA determinations.

DATA REQUEST

31. Please prepare and submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA for the proposed project's buildings, transmission poles, and temporary construction equipment, such as cranes, that would exceed the 100 to 1 surface height of 92 feet. Submit the FAA's determinations to the project docket log once they are received.

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 1.72 miles north of the Hayward Executive Airport. Therefore, staff will require the following information to complete its evaluation of thermal plumes from the 28 emergency generators and server chilling units that would serve the SVY03ADC1 and SVY03ADC2 buildings to ensure air traffic safety and analyze any potentially significant impacts from such plumes.

DATA REQUESTS

32. Please perform a thermal plume modeling analysis of the project's emergency generators for the SVY03A and provide modeling files (or calculation spreadsheets) with all calculations embedded in.

Please perform a thermal plume modeling analysis of the heat rejection equipment used to cool the buildings and data servers at the SVY03ADC1 and SVY03ADC2 and provide modeling files (or calculation spreadsheets) with all calculations embedded in.

33. Please describe in detail the Heating Ventilation Air Conditioning equipment with enough detail to confirm the thermal plume modeling.
34. Please provide a labeled schematic, showing all mechanical equipment on the roof of the SVY03ADC1 and SVY03ADC2 buildings.
35. Please provide the following information to support the thermal plume analysis (provide equivalent data if necessary):
    a. Stack Height (meters) for the data hall air handling units (DAHUs) for the SVY03ADC1 building, the computer room air conditioning (CRAC) units for the SVY03ADC2 building, and the emergency engines for both buildings.
    b. Exhaust Temp (Kelvin) for the DHAUs, CRAC units, and emergency engines.
    c. Exit Velocity (meter per second) for the DHAUs units, CRAC units, and the emergency engines.
    d. Stack Diameter (meters) for the DHAUs, CRAC units, and the emergency engines.
    e. Number of DHAU, CRAC, and emergency engine unit stacks.
    f. Arrangement and distance between similar exhaust/heat rejection equipment (e.g., DHAUs, CRAC units, and emergency engine stacks) (meters).

BACKGROUND: Traffic Scoping Memorandum

According to the City of Hayward Transportation Impact Analysis Guidelines, to initiate the Transportation Impact Analysis Process, project consultants must draft a traffic scoping memorandum after completing a planning application. The traffic scoping memorandum provides project description and background information on the project and will be used by Public Works-Transportation staff to determine the various analyses to be included in the transportation impact analysis (Hayward 2020).

DATA REQUEST

36. Please provide a copy of the traffic scoping memorandum that was submitted to the City of Hayward.

REFERENCES

Hayward 2020 – City of Hayward Transportation Impact Analysis Guidelines, Final Draft, Dated December 2020. Available online at: https://www.hayward-ca.gov/sites/default/files/documents/MTCTO11_Hayward-TIAGuidelines_Final.pdf

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UTILITIES AND SERVICE SYSTEMS

Author: Adam White

BACKGROUND: City of Hayward 2040 General Plan

The application (page 244) states, per the City of Hayward 2040 General Plan, PFS-3.13 New Development, that the city shall ensure that water supply capacity is in place prior to granting building permits for new development.

DATA REQUEST

37. Please provide documentation (in the form of an agreement or will serve letter) from the City of Hayward indicating they have sufficient water supply and willingness to serve this project for the expected life of the project.

BACKGROUND: Wastewater Average Dry Weather Flow

The application (page 249) states "In 2020, 3,922 million gallons of wastewater were collected from the City of Hayward at the Water Pollution Control Facility. This would equate to approximately 10.7 mgd [million gallons per day]. The Water Pollution Control Facility is permitted to accommodate up to 18.5 mgd of wastewater. The project would generate on average approximately 14,827 gallons of wastewater per day, which would represent approximately 0.08 percent of the Water Pollution Control Facility's permitted daily amount. The wastewater values are reflective of the project's proposed usage and no deduction was taken to account for the existing uses on-site. The project would not exceed the treatment capacity of the Water Pollution Control Facility nor would the project increase the need for wastewater treatment beyond the capacity of the Water Pollution Control Facility." Waste Discharge Requirements (East Bay Dischargers Authority, NPDES Permit CA0037869), Discharge Prohibitions, limits the average dry weather influent flow to 18.5 MGD for the City of Hayward facility. Average dry weather influent flow is determined from three consecutive dry weather months (May 1 to October 31) each year. A relation does not exist between an average total amount of wastewater collected over the 2020 year and the permitted average dry weather influent flow limit. The potential for limit exceedance is not based on the percentage of flow in relation to the permitted limit. Rather, it would be determined based on available treatment capacity in relation to a projected maximum daily flow from the project.

DATA REQUEST

38. Please have a licensed civil engineer prepare an assessment of actual treatment plant dry weather influent flows, available treatment facility capacity, and the relative increase resulting from project wastewater inflow. Also, provide written confirmation from the City of Hayward.