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CALIFORNIA
ENERGY COMMISSION

July 20, 2022

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

Data Requests Set 2 for STACK Trade Zone Park (21-SPPE-02)

Dear Scott Galati:

Pursuant to California Code of Regulations, title 20, sections 1941 and 1716, the California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests Set 2, which is necessary for the staff analysis of the STACK Trade Zone Boulevard Technology Park (STACK Trade Zone Park) (21-SPPE-02). The STACK Trade Zone Park would include an advanced manufacturing building (AMB), the SVY Data Center, the SVY Backup Generating Facility, a parking garage, and related utility infrastructure, which together constitute the "project" under the California Environmental Quality Act (CEQA). This Data Requests Set 2 seeks further information in the areas of biological resources, cultural resources, greenhouse gas emissions, land use, project description, transportation, and utilities and service systems based on the contents of the application submitted thus far and the responses to Data Requests Set 1. 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.

Responses to the data requests are due to staff within 30 days. If you are unable to provide the information requested, object to providing the requested information, or need to revise the timeline, please send written notice to me and the Committee within 20 days of receipt of this letter. The written notification must contain the reasons for not providing the information, the grounds for any objections, or reason(s) for the need to revise the timeline (see Cal. Code Regs., tit. 20, § 1716 (f)). If you have any questions, please email me at lisa.worrall@energy.ca.gov.

Lisa Worrall

Project Manager

Enclosure: Data Requests Set 2

STACK TRADE ZONE PARK SPPE
DATA REQUESTS SET 2

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STACK TRADE ZONE PARK SPPE
DATA REQUESTS SET 2

BIOLOGICAL RESOURCES

Author: Tia Taylor

BACKGROUND: Nitrogen Deposition Modeling

As reported in the response to the CEC staff Data Requests Set 1 number 24, the proposed project is a "covered project" under the Santa Clara Valley Habitat Plan (SCVHP), and 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 habitat, which if significant, would need to be mitigated (CEQA criteria "a", "b", and "c" are pertinent to this potential impact).

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 project site is highly developed and does not contain sensitive habitat, there is critical habitat for the California red-legged frog (federally threatened) within 6 miles of the site, which is, in staff's experience, the typical depositional zone, and the extent to which emissions of nitrogen from a source could have a potentially significant impact, as depicted through modeling. Air emissions, including nitrogen oxides (NOx) and ammonia, were discussed in the SPPE application (TN 240910) and response to the CEC staff Data Requests Set 1 number 5 (TN 243473). However, no modeling results or data were included 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. 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. 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 SPPE project site:

60. 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/hectare/year at the

designated critical habitat for California red-legged frog. Please provide complete citation for references used in determining this number.

61. Please provide an isopleths graphic over the most recent aerial photographs (or equally detailed 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. Include on the aerial the location of the proposed project and the California red-legged frog critical habitat.

CULTURAL RESOURCES

Authors: Lauren DeOliveira and Roger Hatheway

BACKGROUND

Staff has further reviewed the results of the Archaeological Resources Assessment (ARA) written by PaleoWest (PaleoWest 2022) and the March 8, 2022, SPPE Application Supplement – Section 4.5 Cultural Resources. In reviewing these documents, staff has determined that additional missing information is required to complete staff's analysis. The terms Project, Project Site, Study Area, Project Area, and Project Location are loosely used and/or not used consistently in the text of the ARA or depicted on figures in the ARA. By way of example, on pages 11 and 12 in section "Archival Research Results" of the ARA, the terms Project area, Project, study area, and project location are used as descriptors. This is confusing to staff.

As discussed in a conference call held on June 16, 2022, various determinations and/or clarifications regarding terminology were made. It was understood during the conference call that:

- The project description (Project) is still in preparation and that a revised project description will be supplied by Scott Galati for use by PaleoWest in the revised ARA.
- The term Project Site is defined as an area defined by all Project related construction including the proposed new building location, and the length of and both ends of the proposed new above and below ground transmission line.
- The term Project Area is defined as that area including a one-building-band surrounding the Project Site.
- The term Study Area is defined as a 0.25-mile buffer surrounding the Project Area.
- Any other designators deemed necessary by PaleoWest should also be clearly defined and used consistently in the text throughout the ARA.

DATA REQUEST

62. Please clearly define the terms Project area, Project, study area, and project location in the text of the ARA and consistently use these terms as appropriate throughout the text of the ARA. Study Area, Project Area, and Project Site

appear as the most used terms, and it is requested that these terms also be applied to all figures in the report.

BACKGROUND

There are various issues with the figures in the ARA including terminology and descriptors used on the figures, and/or references in the text to data depicted on the figures. By way of example, Figure 1 and Figure 3 on pages 2 and 4 of ARA are both labelled Project Site Map, but they also use the descriptor Project Area and depict two different Project Areas. Additionally, there is no 0.25-mile buffer depicted on Figure 1 as referenced in the text of the ARA on page 1, paragraph 2. Figure 1 is also referenced in the text as collectively depicting the Study Area, and Figure 1 does not depict or refer to a Study Area. The reference to Figure 3 on page 1 paragraph 1 of the ARA references specific parcels and addresses. Much of this information is not depicted on Figure 3.

DATA REQUEST

63. Please revise existing figures in the ARA to include all data and all references described in the text and use the same descriptors on each figure. Also, ensure that any new figures contain information referenced in the text. Minimally, please depict the Study Area, Project Area, and Project Site on one or more figures as necessary.

GREENHOUSE GAS EMISSIONS

Author: Wenjun Qian

BACKGROUND: ENERGY CONSUMPTION

Note 2 of Table 4.8-1 on page 23 of the applicant's responses to Data Requests Set 1 (TN 243473) states that the maximum capacity of the project would include 90 megawatts (MW) for data center buildings plus 3 MW for the advanced manufacturing building (AMB). With the assumed PG&E 2018 carbon intensity factor of 206 pounds of carbon dioxide per megawatt-hour (lbs. CO_2/MWh), staff calculates the greenhouse gas (GHG) emissions for energy consumption to be 76,124 metric tons of carbon dioxide per year ($MTCO_2$/yr). However, Table 4.8-1 shows the GHG emissions for energy consumption would be 73,668 $MTCO_2$/yr, which would be based on a maximum capacity of 90 MW. To correctly estimate the GHG emissions due to energy consumption, staff needs clarification on the maximum capacity of the whole project, including the data center buildings and the AMB.

DATA REQUEST:

64. Please clarify the maximum capacity of the whole project, including the data center buildings and the AMB.

STACK TRADE ZONE PARK SPPE
DATA REQUESTS SET 2

BACKGROUND: HYDROFLUOROCARBON PROHIBITIONS

California is required to reduce hydrofluorocarbon (HFC) emissions 40 percent below 2013 levels by 2030 under Senate Bill 1383 (Health & Saf. Code § 39730.5). To help meet the HFC reduction goal, California Air Resources Board (CARB) adopted HFC prohibitions and consolidated the California HFC prohibition regulation (previously Cal. Code Regs., tit. 17, §§ 95371-95377) and the statute (SB 1013, Health and Saf. Code § 39734) into one place:The current Cal. Code Regs., tit. 17, § 95375(c)(1)[1] states that no person shall sell, lease, rent, install, use, or otherwise enter into commerce in the State of California any end-use equipment or product manufactured after the effective date that does not comply with Table 3 (which includes chillers) of section 95374(c) of the subarticle, with exceptions stated under Cal. Code Regs., tit. 17, § 95375(c)(2). Under Cal. Code Regs., tit. 17, § 95375(c)(2)(A), new centrifugal chillers and new positive displacement chillers are allowed to use HFC-134a for military marine vessels and allowed to use R-404A and HFC-134a for human-rated spacecraft and related support equipment where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements. A summary of the HFC prohibitions and the effective dates from Cal. Code Regs., tit. 17, § 95374 can be found on the CARB website: https://ww2.arb.ca.gov/resources/fact-sheets/hydrofluorocarbon-hfc-prohibitions-california. In the response to CEC staff Data Requests Set 1 number 36, the applicant states that the data center buildings would use air cool chillers and the chillers would use refrigerant R-134a. However, the CARB website, which is based on Cal. Code Regs., tit. 17, § 95374, shows that the use of refrigerant R-134a in chillers would be unacceptable as of January 1, 2024, except where allowed under a narrowed use limit. To correctly estimate the GHG emissions due to refrigerant use, staff needs to confirm whether the project would be able to use R-134a in the chillers or if an alternative refrigerant/technology would be used.

DATA REQUESTS:

65. Please confirm when the chillers would be installed and whether the project would be able to use R-134a in the chillers after January 1, 2024, and if the project would be able to use this refrigerant, please explain how it would be allowed.

66. If the project would not be able to use R-134a, please confirm which alternative refrigerant would be used in the chillers and clarify why that refrigerant is permissible or if alternative cooling technology would be used.

[1] Available online at: https://govt.westlaw.com/calregs/Document/I91EE5DBD5F20465388A382C65AD4EB44?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)&bhcp=1

STACK TRADE ZONE PARK SPPE
DATA REQUESTS SET 2

BACKGROUND: SULFUR HEXAFLUORIDE PHASE-OUT

In the response to CEC staff Data Requests Set 1 number 38, the applicant states that sulfur hexafluoride (SF_6) would be used in the 1200A 115 kilovolt (kV) breakers. However, the Amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear has been approved on December 30, 2021 and became effective on January 1, 2022. The Final Regulation Order can be found at CARB's website: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2020/sf6/fro.pdf. Based on the amended regulation (Cal. Code Regs., tit. 17, § 95352), starting on the applicable phase-out dates, no person may acquire SF_6 gas-insulated equipment (GIE) for use in California unless one of following provisions apply:

1. An SF_6 phase-out exemption was approved by the Executive Officer, or SF_6 GIE were acquired in response to a failure, pursuant to section 95357.
2. 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.
3. 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.
4. The SF_6 GIE manufacturer replaces a defective SF_6 GIE device under the terms of the manufacturer's warranty.

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 what the applicable phase out date is 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 breakers.

DATA REQUESTS:

67. If the applicant still proposes to use SF6, given the SF6 phase out regulation, staff needs to determine the applicable SF6 phase out date. So that staff can determine this date, as listed in Table 1 or Table 2, please provide the short-circuit current rating in kilovolt amperes of the breaker and related GIE.

68. Please confirm which of the four provisions the applicant would rely upon to comply with the current SF_6 regulation (Cal. Code Regs., tit. 17, § 95352).

69. If the applicant is going to seek an exemption from the Executive Officer under option 1 of the provisions shown above, please provide a copy of the exemption request application and a copy of the approved exemption .

70. If the applicant is going to use option 3 of the provisions shown above, please confirm whether the proposed 115 kV breakers 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 breakers.

71. If SF_6 would not be used, please provide information on the non-SF_6 alternative to be used in the breakers.

BACKGROUND: REFRIGERANT MANAGEMENT PROGRAM

The Refrigerant Management Program (RMP) requires facilities with refrigeration systems containing more than 50 pounds of high-global warming potential (GWP) refrigerant to conduct and report periodic leak inspections, promptly repair leaks; and keep service records on site. Stationary refrigeration facilities with more than 50 pounds of high-GWP refrigerant in the largest on-site refrigeration system must register with the RMP. Those with at least 200 pounds of high-GWP refrigerant in the largest system have annual reporting and additional duties. Staff needs to confirm how the project would meet the RMP requirements.

DATA REQUEST:

72. Please confirm how the project would meet the RMP requirements.

LAND USE

Author: Andrea Koch

BACKGROUND: PLANNED DEVELOPMENT ZONING PLAN

In its preliminary review letter dated July 2, 2021 (Appendix J of the SPPE application), the City of San Jose Planning, Building, and Code Enforcement Department recommended that the applicant apply for a Planned Development Rezoning. The City stated that as part of the application for the Planned Development Rezoning, the applicant should provide a plan set with proposed allowed uses and draft development standards, including setbacks, heights, and parking requirements. Additionally, the City stated that the plan set should also confirm the site layout, building locations, massing, and setbacks.

The applicant informally shared a copy of the site plan with staff, and upon review, staff saw that some requirements were not included, such as landscaping and lighting. So that staff can properly understand the requirements under the Planned Development overlay and those under the Industrial Park base zoning district, staff needs to know the requirements under the Planned Development Overlay and the requirements under the Industrial Park base zoning district applicable to the project.

DATA REQUESTS

73. Please provide, for the project record, the most recent site plan submitted to the City with draft development standards and allowed uses, and the current status of the City's review and acceptance of the proposed plan.

74. Please provide a list of any standards that may not be referred to on the plan, such as landscaping and lighting, that are required for this project under the Industrial Park base zoning district.

BACKGROUND: COMMENTS FROM OTHER CITY DEPARTMENTS

The City's letter dated July 2, 2021 (Appendix J of the SPPE application) referred to attached comments from Building, Fire, Environmental Planning, and Public Works.

DATA REQUESTS

75. Please provide the attached comments, referenced on pages 13 and 14 of the City's letter in Appendix J, from the City's Building, Fire, Environmental Planning, and Public Works departments.
76. Please provide comments received from the City's Building, Fire, Environmental Planning, and Public Works departments on the most recent site plan submitted to the City.

PROJECT DESCRIPTION

Author: Lisa Worrall

BACKGROUND

For health safety reasons, the building at 1849 Fortune Drive is scheduled for demolition in early 2022 pursuant to a City of San Jose demolition permit.

DATA REQUEST

77. Please provide an update of the demolition status of the building at 1849 Fortune Drive. If the building has not been demolished, please provide an updated estimate of when demolition would occur.

TRANSPORTATION

Authors: Ashley Gutierrez and Andres Perez

BACKGROUND: SURFACE AND GARAGE PARKING

Section 2.3.1.2 of the SPPE application (TN 240910) states that surface parking would be provided for the data center; however, staff cannot find any more detail about the surface parking in the SPPE application. The General Arrangement and Site Plan of the Project (2.2-4) appears to show 17 regular parking spaces and 5 accessible spaces; however, Appendix GHG DR-34 Figure 3.1 Comprehensive Proposed Site Plan from STACK TZP Responses to CEC Data Request Set 1 (TN 243473) notes the location of the parking garage where the surface parking was shown in Figure 2.2-4 from the SPPE application. Neither figure shows where both the surface parking and parking garage are proposed in one figure.

DATA REQUESTS

78. Please provide details on the surface parking and confirm the number of parking spaces, including accessible or other classification (such as EV- electric vehicle).

79. Please update Appendix GHG DR-34 Figure 3.1 and Figure 2.2-4 to clearly show the location of the surface parking spaces and parking garage.

BACKGROUND: THERMAL PLUME ANALYSIS

On page 46 of the SPPE application (TN 2407341-1), the applicant states that the SVY Data Center "will utilize air cooled chillers for office and critical cooling". However, the SPPE application does not address thermal plumes from this building/server cooling system. The SPPE application also does not discuss the thermal plumes associated with the operation of the emergency standby generators. Staff will need to determine whether the thermal plumes from the cooling system and emergency standby generators would be of concern for local aircraft using the nearby airport.

DATA REQUESTS

Staff requests the following information to complete its evaluation of thermal plumes from the currently proposed emergency standby generators and building/server cooling system:

80. Please perform thermal plume modeling of the emergency standby generators and the equipment used to reject heat from the building and data servers.

81. Please describe the equipment used to reject heat from the building and data servers with enough detail so that staff can confirm the thermal plume modeling.

82. Where not already included in the SPPE application, please provide at least the following to support the thermal plume modeling of the emergency standby generators and the equipment used to reject heat from the building and data servers (provide equivalent data if necessary):

    a. Stack (or cooling tower fan cowl) height (m) above ground level (agl)

    b. Exhaust Temperature (degrees K)

    c. Exit Velocity (m/s)

    d. Stack Diameter (m)

UTILITIES AND SERVICE SYSTEMS

Author: Abdel-Karim Abulaban

BACKGROUND

In the SPPE application, Project Description, it is stated that the total water demand for project operation would be about 3 acre-feet per year (AFY) of potable water for indoor uses and about 1 AFY of recycled water for outdoor uses (landscaping). As the Project

Description explains, the project would be air cooled and hence water demand would be low. However, in the Utilities section of the SPPE application it is stated that water demand during project operation would be about 3.5 million gallons per year for indoor uses and about 72 million gallons per year for outdoor uses, for a total of about 76 million gallons per year, or about 232 AFY. That is about 80 times the quantity stated in the Project Description. Also, in the Project Description it is stated that water for landscaping would be recycled water while the Utilities section is silent on the source of the water for outdoor uses.

DATA REQUEST

83. Please provide correct information about the amounts and source(s) of water for indoor and outdoor uses for project operation (data center and AMB).

BACKGROUND

Sections 10910 et seq. of the California Water Code set forth the circumstances in which CEQA lead agencies must seek the preparation of, or prepare themselves, water supply assessments (WSA) for proposed projects that meet certain criteria. The applicant stated in the Utilities section of the SPPE application, under CEQA criterion "b", that a WSA is not required since the project does not meet the criteria of an industrial, manufacturing/processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area. However, one of the criteria for a project to be deemed a "project" for a WSA to be required is if the project's water demand is equal to or greater than the total demand of 500 dwelling units. In the state of California, the demand of a dwelling unit ranges between 0.25 and 0.5 AFY, depending on several factors, such as the area and the cost of water, among other factors. Using those numbers, the demand of 500 dwelling units is between 125 and 250 AFY, with an average of 188 AFY. The California Energy Commission has been leaning towards using the lower end of that range, or 125-150 AFY range because of the drought spell and water deficit in the state that led to implementation of conservation measures. These conservation measures resulted in reductions in water consumption, especially in the southern parts of the state. If the correct demand for the proposed project is 232 AFY, that would be greater than the average demand for 500 dwelling units, and thus the project would meet this criterion triggering the need for a WSA to be prepared.

A fundamental task of a WSA is to determine whether the water supplier's total projected water supplies available during normal, single-dry, and multiple-dry water years will meet the projected water demand associated with a proposed project, in addition to the water supplier's existing and planned future uses. When making such a determination, the authors of the WSA must address several factors including information regarding existing water supplies, projected water demand, and dry year supply and demand. Suppliers are expressly permitted to rely on information contained

in the most recently adopted Urban Water Management Plans, so long as the water needed for the proposed project was accounted for therein.

DATA REQUESTS

84. Please provide any information the applicant might have received from the City of San Jose regarding availability of water (potable and recycled) for the project and the likelihood that the City would grant approval to the project to access recycled water.

85. Please consult with the City on the need to prepare a WSA for the project. Please either provide confirmation from the City that a WSA is not required, or if required, provide an estimated time frame for the city to review and approve the WSA, including the approved WSA.