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CALIFORNIA
ENERGY COMMISSION

September 14, 2021

Jerry Salamy
Jacobs Engineering
2485 Natomas Park Drive Suite 600
Sacramento, California 95833

Staff's Data Request Set 6 for the San Jose Data Center (19-SPPE-04)

Dear Jerry Salamy:

Pursuant to Title 20, California Code of Regulations, sections 1941 and 1716, California Energy Commission staff is asking for the information specified in the enclosed Data Requests Set 6. These data requests are in response to the recent revised project description and technical sections submitted to the project's docket on August 20, 2021, changing the backup generator technology from diesel to renewable natural gas. Responses to the data requests below are necessary for a complete staff analysis of the San Jose Data Center.

Staff requests that responses to the data requests be provided to staff within 30 days. If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send written notice to me and the Committee within 20 days of receipt of this letter. Such written notification must contain the reasons for not providing the information, the need for additional time, or the grounds for any objections (see Title 20, California Code of Regulations, section 1716(f)).

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

_____/S/_____

Lisa Worrall
Senior Environmental Planner

Enclosure: Data Requests Set 6

DATA REQUESTS SET 6 (Nos. 64 – 88)

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SAN JOSE DATA CENTER

DATA REQUESTS SET 6

AIR QUALITY

BACKGROUND: AMBIENT AIR QUALITY IMPACT ANALYSIS FOR CONSTRUCTION

The applicant's Supplemental Filing (Supplemental Filing) revised the construction-phase emissions estimates (Appendix 3.3A of the SPPE Application; TN# 239413, 8/20/2021) and provided an analysis of potential health risks caused by toxic air contaminants during construction (Table 3.3-20, p. 3.3-39; TN# 239409, 8/20/2021). For toxics, the applicant decided to model 437 individual construction-phase point sources (Table 3.3-12 and Appendix 3.3D, Table 1), but the analysis does not explain why this number of point sources was selected, where they emit on or near the site, or why area or volume sources would not be more representative of construction. The Supplemental Filing concluded the discussion of construction-phase impacts without quantifying criteria pollutant ambient air quality impacts. The analysis should show the concentrations of criteria air pollutants resulting during construction.

DATA REQUESTS

64. Please provide an ambient air quality impact analysis that confirms whether the construction-phase criteria pollutant emissions would comply with the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS).

65. Please support the analysis of construction-phase criteria pollutant impacts by describing how the construction sources are represented in the dispersion model and how concentrations of criteria air pollutants during different averaging times are derived. This information should demonstrate how daytime-only construction activities are represented in the consideration of 1-hour and daily impacts.

BACKGROUND: COMPLIANCE WITH REACH CODE ORDINANCE

In the Supplemental Filing, the applicant's discussion of the City of San Jose Natural Gas Infrastructure Prohibition and Reach Code Ordinances indicates that the "natural gas-fired generators will meet the distributed generation criteria pollutant emission standards of 17 CCR 94203," as stated in the Greenhouse Gas Emissions analysis (Section 3.8 of the SPPE Application). However, the criteria air

pollutant emissions rates submitted in the Air Quality analysis (e.g., Table 3.3-11) are higher than those that would be allowed under the Air Resources Board's Distributed Generation Certification Program. The Air Quality section says the natural gas-fired engines "do not qualify as distributed generation resources under 17 CCR 94201" (p.3.3-8). Staff needs clarification on whether the project's natural gas-fired generators would be guaranteed not to exceed the emissions limits in the Distributed Generation Certification program.

DATA REQUEST

66. Please confirm whether the project's 224 natural gas-fired generators would be guaranteed by the manufacturer to achieve the emissions standards in the Air Resources Board's Distributed Generation Certification program and provide a copy of the manufacturer guarantee with this demonstration.

BACKGROUND: CUMULATIVE HEALTH RISK ASSESSMENT

The Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act (CEQA) Guidelines for assessing cumulative health risk impacts recommend investigating all sources of toxic air contaminants (TACs) within 1,000 feet of a proposed project. The Supplemental Filing only analyzed the health risk impacts related to the project itself. Staff needs the cumulative health risks evaluation to complete the Environmental Impact Report.

DATA REQUESTS

67. Please contact the BAAQMD for information on the potential cumulative TAC health risks for all sources of TACs including railroad, highway, and stationary sources within 1,000 feet of the proposed project boundary.

68. Please analyze the project's contribution to cumulative health risk impacts in conjunction with the impacts of the nearby sources reported by BAAQMD.

69. Please provide a cumulative TAC health risks analysis to include all sources of TACs within 1,000 feet of the proposed project.

ENERGY AND ENERGY RESOURCES

BACKGROUND

In the original SPPE application, the project's PUE was projected to be 1.25. In the revised project where diesel backup generators would be replaced with natural gas generators, the project's annual average PUE would be 1.20. The applicant did not

provide calculations regarding the original and revised PUEs. Additionally, it is unknown whether the 1.25 PUE figure was based on peak or annual average conditions. Peak PUE represents the worst case—hottest day with all server bays occupied and all servers operating at 100 percent capacity. Annual average PUE is based on annual average site temperatures and less than maximum power loads.

DATA REQUESTS

70. Please provide calculations for the project's revised annual average PUE of 1.2 (total facility load divided by total IT load).

71. Also, please provide the revised project's peak PUE figure, along with the total facility load and the total IT loads used to arrive at this PUE figure.

BACKGROUND

The applicant-selected backup generators for the original project were Cummins diesel gensets for all IT, cooling, and admin loads. In the revised project, the applicant replaced all of the Cummins gensets. The project replaced the IT and cooling load gensets with Enchanted Rock's natural gas ICEs and the administrative gensets with Caterpillar diesel gensets. In the original application, the applicant provided data staff used to calculate the quantities of diesel fuel needed for hours of testing and maintenance for all Cummins diesel generators. This data was provided in barrels per year (bbr/yr). For the revised project, the applicant does not provide the quantities of natural gas and diesel fuel, or data to calculate the estimated fuel quantities.

DATA REQUESTS

72. Please provide cut sheets for the Enchanted Rock's natural gas ICEs and the Caterpillar diesel generators.

73. Please provide the quantities of natural gas and diesel fuel to be used for the hours of testing and maintenance (bbr/yr).

HAZARDS AND HAZARDOUS MATERIALS

BACKGROUND: Hazards and Hazardous Materials

On page 3.9-9 of the Supplemental Filing, the project description states there are 40 standby generators, each with a storage capacity of 9,100 gallons of diesel fuel.

DATA REQUEST

74. Please update page 3.9-9, to be consistent with the current revised project description of providing natural gas-fired generators.

BACKGROUND: Fuel Tank Replenishment Strategies

On page 3.3-18 of the Supplemental Filing, the project description specifies that two administrative generators will have a separate diesel fuel tank. On page 3.3-20, the two administrative generators are expected to operate less-than 42 hours per year. Assuming each administrative generator is operated for 42 hours per year at their respective fuel usage rates of 92.3 and 34.4 gallons per hour, both generators would together consume 5,435 gallons of diesel fuel annually. Diesel fuel would be used during routine testing and maintenance, and emergencies, if they occurred. Each generator would be run approximately once a month for approximately 25 minutes with 100 percent load on the engine.

DATA REQUEST

75. Please provide the fuel tank replenishment strategy and frequency for the administrative generators, and the estimated frequency and number of fuel trucks needing to visit the facility for refueling per year.

BACKGROUND: Urea or Diesel Exhaust Fluid (DEF)

On page 3.3-16 of the Supplemental Filing, the project description specifies the use of urea or diesel exhaust fluid (DEF) being used during the selective catalytic reduction (SCR) process. The SCR would not likely be fully functional during routine maintenance and testing events.

DATA REQUESTS

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

77. Please provide an estimate of how much DEF would be used in a year per diesel engine

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

79. Please provide a schematic showing if the DEF would be located in a secondary containment.

BACKGROUND: Natural Gas Supply Lines

On page 2-3 of the Supplemental Filing, the project description states the project will include two separate natural gas supply lines at the southern border of the project site, which uniquely provides redundancy in the natural gas supply. Each line will run directly south from the project boundary to Pacific Gas and Electric Company's (PG&E's) existing gas lines. One natural gas supply line will interconnect with Line 109 and the other with Line 101.

DATA REQUESTS

80. Please provide the natural gas supply line pressure prior to connecting to the natural gas-fired generators.

81. Please provide the natural gas pressure required at each 0.45 MW natural gas-fired generator.

82. In the event of an earthquake or accident, please describe how the natural gas supply lines would be automatically shut-off or isolated to prevent natural gas being released to the project site.

LAND USE AND PLANNING

BACKGROUND: Exemption from Natural Gas Prohibition

The Supplemental Filing provides a general discussion of multiple ways the project could be exempt from the City of San Jose's prohibition of natural gas infrastructure. The applicant states on page 3.11-9:

> *Section 17.845.030 of the (City of San Jose) Municipal Code prohibits natural gas infrastructure within newly constructed buildings and natural gas infrastructure extending into any system or device within a building for which an equivalent all-electric system or design is available. However, Section 17.845.040(B) provides an exception to the prohibition of natural gas infrastructure for facilities with a distributed energy resource that protects public health, safety, or economic welfare in the event of an electric grid outage, until December 31, 2024. The project would include 224 natural gas-fired generators, which will operate for load shedding, demand response and behind the meter RA in support of the electric grid as well as provide emergency power to the Project. Therefore, the project meets the necessary operational requirements for the protection of public health, safety, and economic welfare in the event of an electric*

grid outage. With concurrence from the City of San Jose, the project would be eligible for the exception provided under Section 17.845.040(B) of the Municipal Code. Further, the Applicant may apply for the Limited Exemption for Manufacturing and Industrial Facilities or the Hardship Exemption provided under Sections 17.845.045 and 17.845.050 of the Municipal Code, respectively.

DATA REQUEST

83. Please provide a focused, specific description of the basis for how the project is exempt from the natural gas infrastructure prohibition discussed in Section 17.845 of the City of San Jose Municipal Code and correspondence with the City confirming the exemption.

PROJECT DESCRIPTION

BACKGROUND

The Supplemental Filing indicates that the natural gas backup generators would provide load shedding, demand response, and resource adequacy ancillary services. Staff needs to understand how these services would be provided.

DATA REQUEST

84. Please explain how the backup natural gas generators would respond to load shedding, demand response and resource adequacy ancillary services when they are not connected to the grid.

BACKGROUND

The Supplemental Filing has a discrepancy concerning the proposed connection of the natural gas pipelines. There are references to the two proposed gas pipelines connecting to existing PG&E pipelines under Alviso-Milpitas Road and also at Ranch Drive. For example, Figure 1.2R shows the connection to what is Alviso-Milpitas Road but the text in Section 2.1.6, page 2-5, reads:

The project will include two separate natural gas supply lines at the southern border of the project site, which uniquely provides redundancy in the natural gas supply. Each line will run directly south from the project boundary to PG&E's existing gas lines located within Ranch Drive. One natural gas supply line will interconnect with Line

109 and the other with Line 101. Each gas supply line will be approximately 75 feet in length.

Earlier, in Section 1.2, page 1-7, the text reads:

Natural gas will be provided by Pacific Gas and Electric Company (PG&E) via two independent pipeline interconnections; one to natural gas Lines 101 and another to Line 109, both located within Alviso- Milpitas Road located adjacent to the southern portion of the project site.

Alviso-Milpitas Road is directly south of the project site. Ranch Drive is about 1/3 mile to the northeast of the project site. It appears there is some confusion in various sections of the SPPE application as to the name of the road directly south of the project site.

DATA REQUEST

85. Please identify the correct pipeline connection location and revise the application as needed.

UTILITIES AND SERVICE SYSTEMS

BACKGROUND

In the original SPPE application, the project's total water demand was approximately 29 acre-feet per year (AFY). In the revised project where diesel backup generators would be replaced with natural gas generators, the project's expected water demand jumped to approximately 535 AFY, which is more than 18 times the original amount. The applicant did not provide any information regarding this substantial increase in the water demand.

DATA REQUEST

86. Please explain why the project's water demand has increased to 535 AFY.

BACKGROUND

Sections 10910 et seq. of the California Water Code set forth the circumstances in which CEQA lead agencies must seek preparation of, or prepare themselves, water supply assessments (WSA) for proposed projects that meet certain criteria. One of the criteria is if a project's water demand is equal to or exceeds the total demand

of 500 dwelling units. In the state of California, the demand of a dwelling unit ranges from 0.25 to 0.5 AFY, depending on several factors, such as the area and the cost of water, among many other. Using those numbers, the demand of 500 dwelling units is between 125 and 250 AFY. Since the demand of the revised San Jose Data Center project would be exceed the total for 500 dwelling units, it meets this criterion and thus a WSA is needed.

A fundamental task of a WSA is to determine whether 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.

In the original SPPE application the applicant relied on a WSA that was prepared by the city of San Jose for a previous version of the San Jose Data Center. The water demand for that project was approximately 130 AFY. The city determined that it had sufficient supplies to meet the previous project's needs. CEQA allows a project to tier off an approved Environmental Impact Report (EIR) if the impact of a newly proposed project was accounted for in the approved EIR, or if the impact of the newly proposed project is comparable to that of the project for which the EIR was approved if that project has been canceled. However, the impact is substantially greater than that of the canceled project (535 AFY vs. 130 AFY). The assumption that the conclusion of the previous WSA that sufficient water supply was available for the project would still apply to the revised project, whose water demand is more than four times that of the project for which the WSA was prepared, is not valid.

Staff would like to know if the applicant contacted the City regarding the preparation of a new WSA for the revised project and the likelihood that the City would approve the request for total expected water demand (recycled and potable).

DATA REQUESTS

87. Please provide any information the applicant might have received from the City of San Jose regarding availability of water (recycled and potable) for the project

and the likelihood that the City would grant approval to the project to use recycled water.

88. Please consult with the City on the need to prepare a new WSA for the revised project and provide any information the applicant might have regarding the time frame for the City to process the request.