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CALIFORNIA
ENERGY COMMISSION

January 10, 2020

Mr. Jerry Salamy
Jacobs Engineering
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

Re: Data Requests Set #2 for the San Jose City Data Center (19-SPPE-04)

Dear Mr. Salamy:

Pursuant to Title 20, California Code of Regulations, sections 1941 and 1716, the California Energy Commission staff requests the information specified in the enclosed data requests necessary to conduct a complete environmental review of the small power plant exemption (SPPE) application for the San Jose City Data Center.

The requested information in Data Requests Set #2 (Requests 32-52) covers the topic areas of Air Quality, Greenhouse Gas Emissions, and Utilities and Service Systems. Staff requests expedited written responses to the enclosed data requests (Set 2) on or before January 29, 2020.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to me and the Committee. The 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 email me at scott.polaske@energy.ca.gov.

|s|
Scott Polaske, Planner II
Environmental Office

Enclosure

SAN JOSE CITY DATA CENTER (19-SPPE-04)
DATA REQUESTS SET 2 (Nos. 32 – 52)

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AIR QUALITY, GREENHOUSE GAS EMISSIONS

BACKGROUND

The proposed project would require a permit from the Bay Area Air Quality Management District (District or BAAQMD). For purposes of consistency, staff needs copies of all correspondence between the applicant and the District in a timely manner in order to stay up to date on any issues that arise prior to completion of the initial study.

DATA REQUEST

32. Please provide copies of all substantive correspondence between the applicant and the District regarding the project, including application and e-mails, within one week of submittal or receipt. This request is in effect until staff publishes the initial study.

BACKGROUND

The SPPE application includes Appendix 3.3, which documents potential project emissions calculations. To validate the applicant's work, staff requests the spreadsheet files of the applicant's Appendix 3.3 emissions calculations for staff's independent review.

DATA REQUEST

33. Please provide spreadsheet versions of the emissions calculations worksheets supporting the SPPE application in Appendix 3.3 with the embedded calculations live and intact.

BACKGROUND

The SPPE application shows the assumptions for air quality impact analyses of the typical readiness and maintenance testing emissions (p.3.3-22). Assumptions in Air Quality and Greenhouse Gas sections include having only a single generator engine in use at a time, during any given hour of testing, and no more than 42 hours per year per engine for testing (p.3.3-22 and p.3.8-8). The air quality analyses also limit routine readiness testing to occur within certain hours of the day (p.3.3-21). Additionally, for impacts to be consistent with those predicted by the modeling files, the stacks should not have horizontal releases or rain-caps. Staff would like to verify that these project features and/or analytical assumptions can be made enforceable.

DATA REQUESTS

34. Please confirm that the applicant would request the District to require an enforceable limit on concurrent operation of standby engines during all readiness

and maintenance testing scenarios so that only a single generator operates for maintenance and testing at any given time.

35. Please confirm that the applicant would request the District to require an enforceable limit that would allow no more than 42 hours per year per engine for readiness and maintenance testing.
36. Please confirm that the applicant would request the District to require an enforceable limit that would allow testing of standby engines only between the hours of 7 AM to 7 PM daily.
37. Please confirm that all standby engine exhaust stacks would not have horizontal releases or rain-caps.

BACKGROUND

The SPPE application (p.3.3-21) and the applicant's modeling files indicate that the refined analysis used to evaluate the project's compliance with California's ambient air quality standard for 1-hour nitrogen dioxide (NO_2) used ARM2 and the default federal processing procedure for 1-hour NO_2 concentrations, which is automatically enabled in AEROMOD through the setting "POLLUTID NO2." Staff is concerned that this setting that is for federal NO_2 processing may have underestimated the highest 1-hour NO_2 concentrations in the evaluation of exceedances against California's 1-hour NO_2 ambient air quality standard (CAAQS). Additionally, staff would like to efficiently locate modeling details within the electronic files for ambient air quality impacts tabulated in the application (pp.3.3-32 to 3.3-36).

DATA REQUESTS

38. Please confirm that use of the setting "POLLUTID NO2", as in the applicant's refined 1-hour NO2 CAAQS analysis, provides a conservative result that matches or exceeds the result that would otherwise be obtained by setting "POLLUTID NO2 H1H". If not, please reevaluate 1-hour NO_2 impacts using "POLLUTID NO2 H1H."
39. Please list the modeled source or source-groups, and the modeled years, that correspond with the modeled concentrations presented in each of the results in Tables 3.3-18, 3.3-19, and 3.3-20.

BACKGROUND

The proposed project would include generators with engines certified to achieve US EPA Tier 4 exhaust standards. Conservatively, the SPPE application applies Tier 2 emission factors in calculations for nitrogen oxides (NOx) emissions to reflect the "likelihood of each generator's SCR (selective catalytic reduction device) not achieving full functionality during the short-duration maintenance and testing events" (p.3.3-14). During a longer-duration run of the engines, the SCR would presumably achieve full functionality and reduce the NOx emissions rates below those presented for short-

duration testing. Staff seeks to clarify how the SCR would become effective as the duration of operation increases. Staff needs to clarify how the District would determine Potential To Emit (PTE) for purposes of determining the applicability of the Prevention of Significant Deterioration (PSD) program.

DATA REQUESTS

40. Please specify the in-stack conditions that must occur before Tier 4 emissions rates could be achieved.
41. Please describe the duration of operation (in minutes or hours) and/or loads required before the engines could reach the Tier 4 emissions standards.
42. Please identify the anticipated emissions rates, stack temperatures, and release velocities that should be considered during the times the engines comply with the Tier 4 emissions standards.
43. Please describe how Tier 2 and/or Tier 4 NOx emissions factors were used to determine emergency and routine operations emissions estimates for facility-wide total NOx emissions (99 tons per year, maximum Potential To Emit [PTE]), as presented in the comparison against the Title V permitting thresholds (in SPPE application Table 3.3-5, Table 3.3-16 and in Appendix 3.3-B, Table 1). This response should include tables that detail the emissions by events, durations, and emission control equipment operations.
44. Please consult with the District and respond with what is the appropriate number of standby engines that should be assumed to operate for 142 hours per year to compute PTE for purposes of determining PSD applicability, as in Tables 3.3-5 and 3.3-16.
45. Please describe the appropriate "in-stack ratio" of NO_2/NOx that should be used in modeling impacts after each generator's SCR achieves full functionality and meets Tier 4 emissions standards. This response should address whether or not the Tier 4 equipment to be used in the facility would be certified by CARB under Cal. Code Regs. tit. 13, §§ 2702 (f) or 2706 (a) which would certify that the equipment would meet the "in-stack" NO to NO_2 conversion ratio (ISR) specified in these certification requirements. If not, please describe the effect of the Tier 4 equipment on the ISR and any similar performance guarantee that would affect the ISR.

BACKGROUND

The SPPE application indicates that PG&E has "an outage frequency for the period of 2014 to 2018 of 99.8 and 99.9 percent on the two, 230-kV supply lines into the substation" (p.2-4, underline added) – which staff takes to mean that the historic outage rate is 0.1 to 0.2% of the time. To explore the potential nature of emergency operations of the diesel-powered engines, staff needs to confirm and refine our understanding of electrical system outages. The SPPE application does not specify whether the historic

outage rate should be viewed as representative of the types of outages that could cause a loss of PG&E electric service to the data center.

DATA REQUESTS

46. Please provide information that reviews the frequency and durations of historic outages of the 230 kV facilities that would be likely to trigger a total loss of service to the proposed onsite substation and lead to emergency operations of the diesel-powered generators. This response should identify the reliability of service historically provided by PG&E to other similar data centers in its service territory.
47. Please provide information on the historic outages of the 230 kV portion of the Los Esteros Substation.
48. Please describe whether a loss of the 230 kV portion of the Los Esteros Substation could cause a loss of service to the proposed data center.
49. Please describe whether the existing Newark-Los Esteros or Metcalf-Los Esteros 230 kV circuits could be looped into the data center's onsite substation and if feasible, whether doing so would increase or decrease electric service reliability to the data center.
50. Please describe some possible examples of groupings of generators that could be in use during emergency operations and the corresponding engine loadings. For example, one scenario could be 30 generators (such as G1-G12, G21-32, G37-G42) at full loads and a different scenario could include a greater number of generators operating at partial loads. If all engines, or engines in dedicated set(s), randomly respond to an emergency, please describe how those random responses cumulatively affect or are planned for in maintenance activities and run-time accounting.

UTILITIES AND SERVICE SYSTEMS

BACKGROUND

The Introduction section states that reclaimed water would be used for landscaping purposes (p. 1-6). The Project Description section states that reclaimed water would be used for landscaping and cooling purposes (p.2-22 and p.2-3). The expected total water demand, including recycled and potable waters, is approximately 29.1 acre-feet per year (p.2-22).

DATA REQUESTS

51. Please clarify the use of reclaimed water. Of the expected 29.1 acre-feet per year water use, how much is expected to be potable water and how much will be reclaimed water?
52. Please provide information from the supplier about the availability of reclaimed water service for the proposed project.