

DOCKETED

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CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:

Laurelwood Data Center

) Docket No. 19-SPPE-01

) **STAFF'S SECOND MOTION FOR LEAVE
TO FILE ADDITIONAL DATA REQUESTS**

On June 13, 2019, MECP 1 Santa Clara 1 (Applicant) filed an updated project description for the Laurelwood Data Center (LDC) SPPE application. The updated project description contains refinements made to the site plan, text incorporated from prior data responses, and an expansion of the project scope to cover some aspects of demolition such as the removal of existing foundations, asphalt, and underground utilities (TN 228748). On June 21, 2019, Applicant filed another updated project description containing further refinements such as a change to the project's building cooling system and overall estimated water demand (TN 228823).

Energy Commission staff (Staff) is authorized under Title 20, California Code of Regulations, sections 1941 and 1716 to issue data requests in connection with the review of a small power plant exemption (SPPE) application. Data requests may cover any information which is "reasonably available to the applicant" and "reasonably necessary" to make a decision on an SPPE application. (Cal. Code Regs., tit. 20, § 1716(b).) However, section 1941 states that "all requests for information shall be submitted no later than 60 days from the application for exemption's filing date or a later date as approved by the presiding member."

On July 8, 2019, Staff filed a motion for leave to file additional data requests (TN 228917). Those data requests pertained to the demolition-related refinements in the updated project description and potential associated impacts in the technical areas of **Hazards and Hazardous Materials** and **Hydrology/Water Quality**.

To date, Applicant has not provided any information on the potential thermal plume impacts associated with the changes to the project's building cooling system design. Accordingly, it is necessary for staff to file additional data requests, attached as **Appendix A**, to determine the potential effects of the recent project description changes on the technical areas of **Transportation** and **Hazards and Hazardous Materials**. Due to LDC's proximity to San Jose International Airport, the thermal plume analysis is relevant to CEQA Guidelines, Appendix G, Section IX, Hazards and Hazardous

LAURELWOOD DATA CENTER (19-SPPE-01)
STAFF'S SECOND MOTION FOR LEAVE TO FILE ADDITIONAL DATA REQUESTS

Materials, Question (e), which asks whether a project located within two miles of a public airport would result in a safety hazard. It is also relevant to CEQA Guidelines, Appendix G, Section XVII, Transportation, Question (c), which asks whether a project would substantially increase hazards due to an incompatible use. The data requests are also needed to clarify some inconsistencies between figures filed with the initial SPPE application that Staff discovered while reviewing the updated materials.

Because Applicant's project description changes—including the cooling system revisions that are the focus of this request—were submitted later than 60 days from the SPPE application's filing date, Staff has good cause to submit these data requests beyond the initial 60-day period and hereby moves for leave to file additional data requests, attached as Appendix A.

On July 9, 2019, the Committee issued a notice of status conference and further orders, which set a status conference for Tuesday, July 23, 2019 (TN 228917). Staff will be available to discuss any questions on these data requests during the status conference.

DATED: July 16, 2019

Respectfully submitted,



NICOLAS OLIVER
Staff Counsel

Enclosure

APPENDIX A

Technical Areas: Transportation and Hazards and Hazardous Materials: Thermal Plume Analysis Jacquelyn Record and Gerry Bemis

BACKGROUND

In the updated project description (TN 228823) docketed on June 21, 2019, water demand was reduced from 640 gallons per minute (336 million gallons per year¹) to 5.4 million gallons per year. This significant reduction in cooling water demand suggests the potential for thermal plumes with different characteristics from the higher water demand in the original project description. This could potentially be a hazard for local aircraft.

The updated project description added details about the building cooling system, specifically on page 2-19, it states: *"Building cooling will be accomplished using cooling towers with adiabatic cooling technology installed. The adiabatic cooling technology uses a radiator-style cooling system with wetted pre-cooling pads installed upstream of the cooling tube bundle. During lower ambient conditions, the tower operates without using water on the wetted pads. However, during higher ambient temperatures, the pre-cooling pads are wetted to reduce the incoming air temperature, resulting in greater heat rejection. The expected project water demand drops significantly to approximately 5.4 million gallons per year, excluding negligible landscaping and other maintenance uses."*

On page 2-2 of this updated project description, the applicant states: *"Heating/ventilation and air-conditioning equipment, including chiller units, will be located on the roof of each building and screened using perforated corrugated steel panels."*

In light of the change in the cooling system, staff took a closer look at the original application (TN 227273-1), specifically Figure 2-2c and Figure 2-3c. The cooling system in Figure 2-2c shows what appears to be a row of four large individual stacks. Figure 2-3c appears to include five (or ten) large stacks. McLaren's cooling system included 72 individual chillers, which is not directly comparable to that shown on LDCs Figures 2-2c and 2-3c.

In addition, Figure 2-2c only includes building 1 and not building 2; both of which are part of the proposed project. Therefore, staff requests the following information in order to complete its evaluation of thermal plumes from the currently proposed building/server cooling system to ensure air traffic safety and analyze any potentially significant impacts from such plumes.

¹ Energy Commission Staff estimate.

DATA REQUESTS

1. Please describe in detail the HVAC equipment, including adiabatic cooling towers and chiller units, with enough detail to conduct thermal plume modeling.
2. Please perform thermal plume modeling of the equipment used to chill the building and data servers.
3. Please confirm the number of stacks on each building and update Figure 2-2c and Figure 2-3c, accordingly.
4. Please provide a figure for building 2, showing all mechanical equipment and the number of stacks.
5. Please provide at least the following to support the thermal plume analysis (provide equivalent data if necessary):
 - a. Stack (or cooling tower fan cowl) Height (m)
 - b. Exhaust Temp (K)
 - c. Exit Velocity (m/s)
 - d. Stack Diameter (m)
 - e. Number of Stacks
 - f. Distance Between Stacks (m)