

SUPPLEMENTAL RESPONSES TO CEC STAFF DATA REQUEST SET 2 (18 AND 58)

Great Oaks South Backup Generating Facility (19-SPPE-
03)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **SV1, LLC**

June 2020



INTRODUCTION

Attached are SV1, LLC's (SV1) supplemental responses to California Energy Commission (CEC) Staff Data Requests 18 and 56 for the Great Oaks South Backup Generation Facility (SGBF) Application for Small Power Plant Exemption (SPPE) (20-SPPE-01). For context the text of the Background and Data Request precede each Data Response.

AIR QUALITY AND PUBLIC HEALTH

BACKGROUND: Testing and Maintenance Frequencies and Loading

Page 18 of the SPPE application states that Section 4.5 provides a complete description of the testing and maintenance frequencies and loading proposed for the GOSBGF. However, staff is not able to find such description. Staff needs a detailed description of the testing and maintenance frequencies and standby engine load points to verify assumptions used in the SPPE analysis.

DATA REQUEST

18. Please provide a detailed description of the testing and maintenance frequencies and standby engine load points for the Cummins QSK95-G9 and Cummins QSX15-G9 engines. For example, the description could include the length and engine load points for each weekly, monthly, quarterly, and annual testing and maintenance events.

SUPPLEMENTAL RESPONSE TO DATA REQUEST 18

SV1 has checked with its operation personnel and the planned maintenance and testing operations include to running 1 hour per engine per month at full load (full load test) and 15 minutes per engine per month at no load/minimal load. (no load test).

UTILITIES AND SERVICE SYSTEMS

BACKGROUND: Recycled Water

The policy of the state as well as the Energy Commission is to use potable water for the highest-value uses, such as drinking and other human sanitary uses. For other uses, such as industrial processes, lower quality waters such as brackish and recycled wastewater are highly encouraged. The proposed use of up to 1,000 AFY of potable water for cooling purposes could be considered unreasonable and wasteful. What makes it even more unreasonable is that potable water is proposed even when recycled water from the South Bay Water Recycling Program (SBWRP) is available in the project area. The reason stated by the applicant for not planning to use recycled water is the local water supplier, Great Oaks Water Company (GOWC), is not a member of the SBWRP, and that GOWC has no plans for joining the SBWRP to have access to recycled water. Even if recycled water were proposed, 1,000 AFY could still be considered unreasonable for this project in comparison with other comparable projects that use much less water. Staff would like to know if the applicant has pursued other options to get recycled water, and also other available cooling technologies that use less water.

DATA REQUEST

56. Provide detailed explanation why other, less water intensive, cooling technologies have not been considered.

RESPONSE TO DATA REQUEST 56

After further research into the recycled water issue, SV1 has made the decision to modify the cooling technology for the Great Oaks South Data Center by replacing the Water-Cooled Chilled Water system with Air-Cooled Chilled Water System with refrigerant-side economizer. The new mechanical system will consist of (72) total 400-ton chillers, (24) per building. Each building's cooling system will operate in a 22+2 redundancy configuration. Attachment UTIL DR-56 includes a modified roofing plan showing the locations of the chillers.

This project modification reduces the total water demand to less than 4 acre feet per year for all three data center buildings.

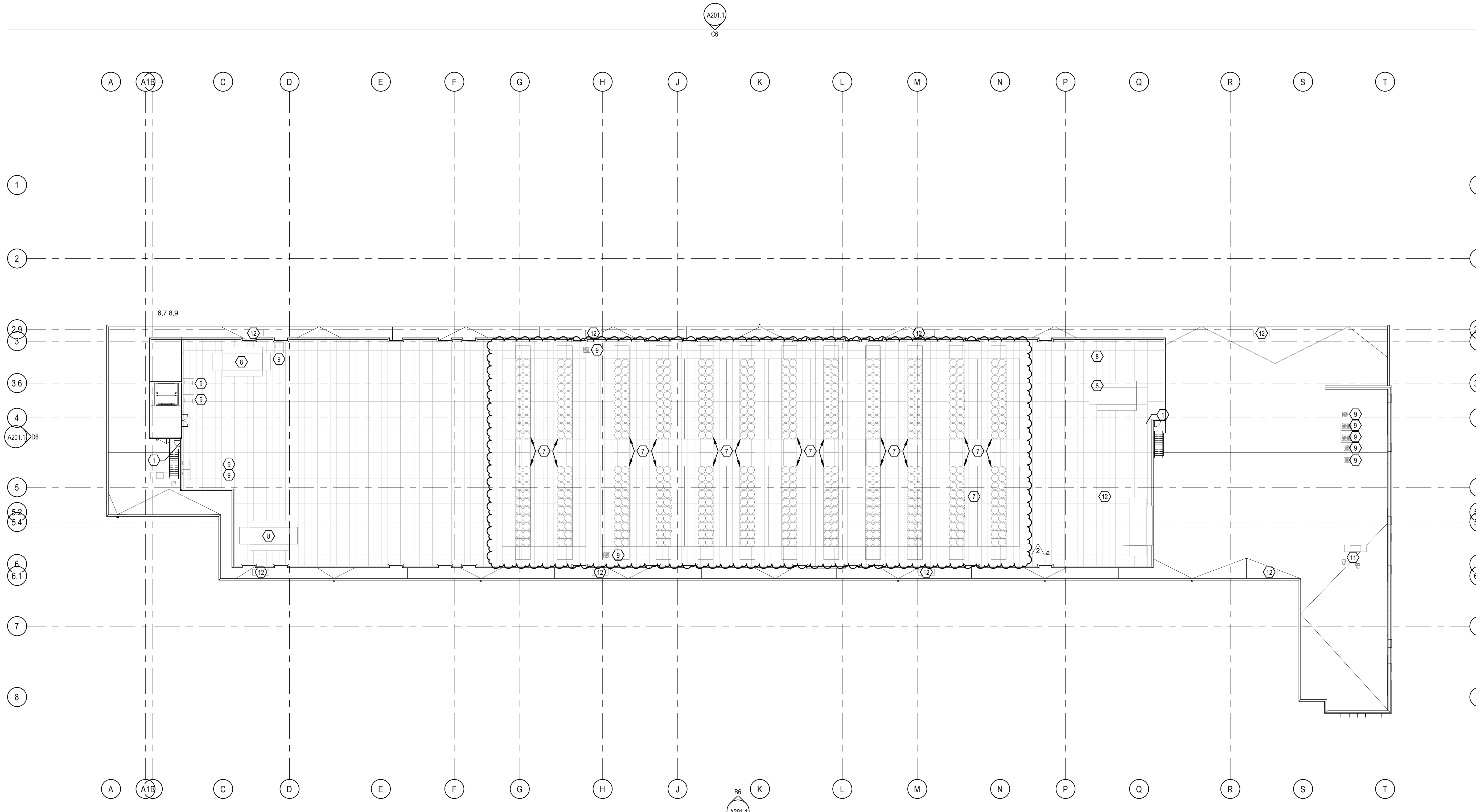
Also included in Attachment UTIL DR-56 is a Memorandum from the consultant who performed the original Noise Assessment for the original configuration, Illingworth & Rodkin Inc. that demonstrates the modification to air-cooled chillers does not change

the original conclusion that the Great Oaks South Backup Generating Facility and the Great Oaks South Data Center will not result in significant noise impacts.

ATTACHMENT UTIL DR-56

Air Cooled Chiller Roof Plan

Noise Memorandum



1 SV-12 - ROOF PLAN - OVERALL
1:300

SHEET NOTES

SHEET KEYNOTES

1	HOLLOW METAL STEEL EXTERIOR DOOR
2	LOCKING GATE DOOR WITH RIBBED METAL PANEL
3	GLAZED ALUMINUM CURTAINWALL SYSTEM
4	WINDOW GLAZING
5	EXTERIOR DUMPSTER
6	COILING DOOR
7	AIR CHILLER PLANT MODULES - SMARTD 400 TONS
8	DOAS MAKE UP AIR UNITS
9	CONDENSER UNITS
11	SUPPLY AND EXHAUST FANS
12	ELECTRICAL/MECHANICAL DOG HOUSE

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NO	DESCRIPTION	DATE
2	SPECIAL USE PERMIT AMENDMENT 1	06/04/2020
1	SPECIAL USE PERMIT AMENDMENT	01/10/2020

DRAWING ISSUES

PROJECT:
SV12/SV18/SV19
SPA15-031-01

**GREAT OAKS BLVD
SAN JOSE, CA 95119**

DWG. TITLE
ROOF PLAN

PROJECT NO: Project Number
DATE: 01/10/2020
SCALE:
DWG. NO:
A101.3

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MEMO

Date: June 16, 2020

To: **Julie Wright**
David J. Powers & Associates, Inc.
San José, CA

From: **Steve Deines**
Illingworth & Rodkin, Inc.
Cotati, CA

**SUBJECT: Equinix SV12, SV18, and SV 19, San José, California
Noise Assessment of Changes to Mechanical Equipment Selection**

An environmental noise and vibration assessment (ENA), dated December 23, 2019, assessed the noise and vibration impacts resulting from the construction and operation of the Equinix SV12, SV18, and SV19 Data Centers project proposed to the north of Santa Teresa Boulevard, between San Ignacio Avenue and Great Oaks Boulevard in San José, California. The project proposed to develop the northeastern 18-acres of the 34-acre site with three (3) three-to-four-story data center buildings totaling approximately 564,000 square feet (sf). A total of 36 3.25-MW diesel-fueled generators were proposed within generator yards located adjacent to the north and south sides of each building.

The purpose of this memo is to assess changes to the project plan as they relate to noise. The current plans, dated January 10, 2020, show a switch from water-cooled chillers to air-cooled chillers. Noise data for the air-cooled chillers shows a decrease in sound power level of about 5 dBA per unit, from 99 to 94 dBA. However, this decrease in individual unit sound levels would be offset by an increase in the number of units per data center building, from 11 to 24 chillers. The remaining rooftop equipment would remain the same as in the ENA. Heating, ventilation, and air conditioning (HVAC) equipment under the current plans now includes 24 air-cooled chiller units, 24 condenser units, four make up air units, and one supply/exhaust fan on the rooftop of each data center building. The HVAC equipment is surrounded by screening walls. The SoundPLAN model from the ENA was updated to include the new air-cooled chillers and rooftop layout and calculations were made to update the two noise scenarios covered previously in the report.

Table 9 and Figure 2, below, are updated from the ENA to reflect the changed equipment plans. Noise levels under both scenarios were found to result in similar levels from those in the previous assessment. Continuous operation of HVAC equipment and simultaneous testing of all generators under full load is not anticipated to exceed the residential limits of 55 dBA L_{eq} at the nearest residential property line to the south. The commercial and industrial noise level limits of 60 and 70 dBA L_{eq} would not be exceeded at surrounding commercial and industrial uses. A day-night average noise level of 47 to 52 dBA DNL at the nearest residences was calculated resulting from all generators operating simultaneously for 8-hours concurrent with operation of HVAC equipment. This would not exceed the ambient noise level at the residences, which was measured to be 65 dBA DNL, nor would it exceed the General Plan limit of 55 dBA DNL for generation of noise by new nonresidential land uses when located adjacent to existing or planned residential or public/quasi-public land uses.

With the changes to the selection of the project’s mechanical equipment, on-site operations would not result in a significant increase in ambient noise at the nearest residences, and hourly noise level limits would not be exceeded at other nearby uses. Impact 1c, identified in the ENA, remains **less-than-significant**.

TABLE 9 Updated Calculated Noise Levels Resulting from On-Site Operations

Receiver Location	Calculated Noise Levels, dBA L_{eq}	
	HVAC Only	HVAC and Generator Testing
Residential Property Line to the South along Santa Teresa Boulevard	40 – 44	43 – 51
Kaiser Permanente Medical Facility	44 – 46	55 – 58
Office, Commercial, and Light Industrial Uses to the West	39 – 42	48 – 53
Office, Commercial, and Light Industrial Uses to the East	35 – 45	46 – 54
Office, Commercial, and Light Industrial Uses to the North	41 – 45	50 – 58

FIGURE 2 Updated Noise Exposure Resulting from HVAC Equipment and Generator Testing

