

**DOCKETED**

<b>Docket Number:</b>	19-SPPE-03
<b>Project Title:</b>	Sequoia Data Center
<b>TN #:</b>	236344
<b>Document Title:</b>	Sarvey Sequoia Status Report January 18, 2021
<b>Description:</b>	Sequoia Status Report January 18, 2021.
<b>Filer:</b>	Robert Sarvey
<b>Organization:</b>	Robert Sarvey
<b>Submitter Role:</b>	Intervenor
<b>Submission Date:</b>	1/18/2021 2:12:17 PM
<b>Docketed Date:</b>	1/19/2021

State of California  
State Energy Resources Conservation and Development Commission

In the matter of:

Sequoia Data Center

Docket 19-SPPE-03

Intervenor Sarvey's February 18, 2021 Status Report

a. Does BAAQMD's December 21, 2020, letter change the description of the Project?

Yes. The project now must use a cleaner technology to lower NOx emissions. The applicant now has an opportunity to use fuel cells or natural gas engines to lower NOx emissions and completely eliminate all diesel particulate emissions. The commission has the opportunity to require utilization of a cleaner technology than diesel and protect the environmental justice community that the commission has already approved over 500 MW of diesel backup engines in.

b. Will the requirement to use diesel backup generators that meet the Tier 4 emissions standards necessitate further environmental analysis? If yes, what additional information will be needed to conduct the analysis? By when can the analysis be completed?

Yes. The applicant will have to redesign the project. A revised project description will be needed. The air quality modeling will have to be performed. The project will now use ammonia and will require a transportation and storage assessment. The use of ammonia will increase the potential for secondary particulate from the project which needs to be assessed. The use of ammonia will require an update to the health risk assessment. Depending on the type of ammonia the applicant proposes to utilize additional risk may occur and need to be assessed.

3. The Committee would like to receive detailed information about why both Staff and Applicant stated in their responses to Committee questions<sup>12</sup> that the modeling discussed in the IS/PMND for routine testing and maintenance, in which the temporal pairing of the Project's NO<sub>2</sub> impacts (as modeled by Applicant) with the NO<sub>2</sub> background concentrations used by the Applicant (as modified by Staff), addresses CARB's concerns that the averaging used in that analysis does not provide complete information about worst case impacts.

It's not clear why CEC Staff continues to create their own version of the California ambient air quality standard. CEC Staff wants to apply averaging provisions to the project background. As CARB has advised the Commission, *"Because the 1-hr California Ambient Air Quality Standard is a simple not-to-exceed 1- hour average standard and not a multi-year averaged standard (like the 1-hr National Ambient Air Quality Standard), a multi-year average of the background 1-hour NO<sub>2</sub> levels for modeling compliance with the state standard does not provide complete information. For purposes of modeling compliance with the state 1-hour NO<sub>2</sub> standard, **the maximum modeled 1-hour NO<sub>2</sub> impact for the proposed project should be added to the maximum 1-hour NO<sub>2</sub> background level for the project area.**"*<sup>1</sup>

Historically CEC Staff has properly assessed compliance with the State 1-hour NO<sub>2</sub> standard. CEC Staff testified in 2010 in the Los Esteros combined cycle amendment that, *"The federal NO<sub>2</sub> standard of 188 µg/m<sup>3</sup> is much lower than the 339 µg/m<sup>3</sup> state 1-hour NO<sub>2</sub> standard. It also requires federal guidance to evaluate a project's impact relative to the new standard because the format of the new federal standard is the 98th percentile of the daily maximum 1-hour value averaged over 3 continuous years, not the **maximum 1- hour value of the year, as required by the state standard.**"*<sup>2</sup>

When determining the NO<sub>2</sub> impact from the Marsh Landing Project Mr. Brewster Birdsall testified in the Final Staff Assessment, *"All 1-hour NO<sub>2</sub> results shown here are the maximum concentration for any one year. These results are not comparable to the*

---

<sup>1</sup> TN 235271 California Air Resources Board Comments - CARB Comments on Air Quality Analysis Page 5

<sup>2</sup> Los Esteros Critical Energy Facility Project (03-AFC-2C)  
**Staff Analysis of Proposed Project Modifications** Page 7

*new standard promulgated in 2010 by U.S. EPA, which is expressed as a 3-year average of the 98th percentile value of the daily maximum 1-hour NO<sub>2</sub> concentrations.”<sup>3</sup>*

In the Lodi energy center when modeling the California NO<sub>2</sub> Standard staff member **Tao Jiang** stated, *“The direct impacts of NO<sub>2</sub>, in conjunction with worst-case background conditions, would not create a new violation of the 1-hour or annual NO<sub>2</sub> ambient air quality standard.”<sup>4</sup>*

In the Pio Pico FSA CEC Staff analyzed compliance with the California NO<sub>2</sub> standard utilizing, *“Project-related modeled concentrations..... added to highest background concentrations to arrive at the total impact of the project even if they are not likely to occur at the same time. The total impact is then compared with the ambient air quality standards for each pollutant to determine whether the project’s emissions would either cause a new violation of the ambient air quality standards or contribute to an existing violation.”<sup>5</sup>*

California’s Air districts utilize the maximum background NO<sub>2</sub> value when modeling compliance with the California NO<sub>2</sub> standard. South Coast AQMD Modeling Guidance for AERMOD states, *“For all CAAQS and most NAAQS pollutants, the maximum value from the most recent 3 years should be used. The exceptions to this is for the NAAQS pollutants with special design values. This includes 1-hour NO<sub>2</sub> (3 year average of the 98th percentile of the daily maximum 1-hour average) and 1-hour SO<sub>2</sub> (3 year average of the 99th percentile of the daily maximum 1-hour average).”<sup>6</sup>*

The Santa Barbara County APCD utilizes the Highest recorded hourly concentration from the most recent three years of data in modeling compliance with the California ambient air quality Standard as illustrated in Table 4.1.1-1 illustrated below.

---

<sup>3</sup> **Marsh Landing Generating Station Power Plant (08-AFC-3) STAFF ASSESSMENT** Page 4.1-22

<sup>4</sup> **LODI ENERGY CENTER PROJECT (08-AFC-10) STAFF ASSESSMENT** Page 4.1-22

<sup>5</sup> **PIO PICO ENERGY CENTER (11-AFC-1) FINAL STAFF ASSESSMENT** Page 4.1-18

<sup>6</sup> South Coast AQMD Modeling Guidance for AERMOD

Santa Barbara County APCD June 2020 AQIA Modeling Guidelines  
**Table 4.1.1-1: Background Concentrations for the AAQS Analysis**

Pollutant	Averaging Period	Form Description	Background Concentration
NO <sub>2</sub>	1-hour	CAAQS: Not to be exceeded	Highest recorded hourly concentration from the most recent three years of data
		NAAQS: 98 <sup>th</sup> percentile of 1-hour daily maximum concentrations, multi-year average	Average of the 8 <sup>th</sup> highest hourly concentrations for the most recent three years of data
	Annual	CAAQS: Annual average for individual year	Maximum average annual concentration from the most recent three years of data

7

4. The Committee is not planning to identify a threshold of significance or provide guidance to the parties on modeling emergency operations. If the parties believe such modeling would provide useful information, the parties and CARB are invited to perform such modeling and identify a threshold of significance. The Committee may provide an opportunity to present such analysis at an evidentiary hearing. Information regarding whether such modeling will be performed, the time to complete such modeling, the process for determining the inputs and parameters of such modeling, identifying an applicable threshold of significance, and any other necessary steps involved, shall be included in the first status report to be filed **no later than January 18, 2021**.

Modeling emergency operations is not an optional requirement. In order to approve this project, the CEC must demonstrate no substantial adverse impact on the environment will result from the construction or operation of the powerplant. There is no evidence in this proceeding that emergency operation will not result in a substantial adverse impact.

BAAQMD evaluated the Santa Clara Data Centers air quality impacts in emergency operation in its ATC for the Santa Clara Data Center. The ATC states, *“The modeling results that were attached to the Initial Study estimated ambient NO2 concentrations based on NOx emissions from emergency operation of all 32 engine-generators from an assumed scenario with loads ranging between 1100 to 1700 kW. An estimated overall NOx control of 65% was also assumed to allow for warm up and cool down modes during which the SCR system is not operational. The modeling was performed using conservative screening-level approach with the SCREEN3 dispersion model which*

*includes the simplification that all emissions are released through single stack This model predicted worst case 1-hour NO2 concentration of 1276 ug/m3 which would exceed the state 1- hour NO2 standard of 338 ug/m3.*<sup>8</sup> The results were significant enough for BAAQMD to limit the projects combined operation to 700 hours per year and also limited the times the diesel engines could be operated to certain hours during the day to prevent NO2 violations.

When modeling emergency operations the modeling should include the operation of all engines as according to the applicant's attorney all engines will be employed during emergency operations. Different engine load levels can be utilized in the modeling. Worst case air quality should be assumed as emergency operation will likely occur during a PSPS event or an electrical emergency. The threshold of significance would be violation of any ambient air quality standards. Diesel particulate and NO2 impacts would need to be evaluated.

5. The Committee is interested in receiving additional information regarding how frequently backup diesel generators have operated at Applicant's similar data center facilities. The data reported shall include a description of the specific reason the backup generators operate, including, but not limited to, operation for testing and maintenance, during a utility power outage, and for addressing power quality concerns. The Committee is specifically interested in better understanding how the design and deployment of the uninterruptible power supply system components affect the need to operate the backup diesel generators, including the effect on the number of generators needed and the duration of their operation.

Of course, the applicant will not provide this information because it will demonstrate that data center emergency generator use is not limited to power outages from the data centers utility provider. Both Staff and applicants' arguments for not performing an emergency operations analysis depend on relying only on Silicon Valley Power's reported outages to determine the frequency of emergency generator operation at the Sequoia Data Center.

6. Each party shall provide a detailed schedule for the resolution of this proceeding, including dates by which any additional analyses will be performed, the filing deadline for additional testimony and exhibits, and dates for any evidentiary hearing that may be

---

<sup>8</sup> 11 SPPE-01 Initial Study and Negative Declaration Recommendation Page 36 of 122  
<https://ww2.energy.ca.gov/2012publications/CEC-700-2012-001/CEC-700-2012-001.pdf>

required. This information shall be included no later than the first status report to be filed **no later than January 18, 2021**.

March 12, 2021 Applicant files revised application including Tier 4 diesel engines or some other technology. Applicant files emergency operations analysis.

March 19, 2021 Staff files supplemental analysis.

March 26, 2021 All parties file reply testimony and additional exhibits.

April 5, 2021 Evidentiary hearing