DOCKETED	
Docket Number:	19-SPPE-03
Project Title:	Sequoia Data Center
TN #:	235472
Document Title:	Energy Commission Staff's Comments on Motion to Remand
Description:	N/A
Filer:	Ngoc Tran
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	10/30/2020 4:32:04 PM
Docketed Date:	10/30/2020

State of California
State Energy Resources Conservation and Development Commission
1516 Ninth Street, Sacramento, CA 95814
1-800-822-6228 – www.energy.ca.gov

APPLICATION FOR SMALL POWER PLANT EXEMPTION FOR THE:

SEQUOIA BACKUP GENERATING FACILITY

Docket No. 19-SPPE-03

ENERGY COMMISSION STAFF'S COMMENTS ON MOTION TO REMAND

I. Introduction.

On September 9, 2020, the California Energy Commission (CEC) conducted a public hearing to consider the Committee Proposed Decision[1] (proposed decision) on the application for a small power plant exemption (SPPE) submitted by C1-Santa Clara, LLC (Applicant) for the Sequoia Backup Generating Facility (Sequoia)[2] and, after hearing comments from the California Air Resources Board (CARB) and the Bay Area Air Quality Management District (BAAQMD), moved to remand the proposed decision back to the assigned Committee "to consider air quality and public health impacts" in light of "recent energy emergencies."[3] The applicant filed a petition for reconsideration of that action.[4] On October 5, 2020, the Commission issued notice that, on its own motion, it will reconsider its action at the November 11, 2020, business meeting and invited comments from the parties, interested government agencies, and the public.[5] As it had committed to do at the September 9, 2020 business meeting, CARB has since filed formal written comments on the proposed decision[6].

---

[1] Committee Proposed Decision. TN 234416

[2] Application for Small Power Plant Exemption, Sequoia Backup Generating Facility, August 9, 2019. TN 229419-1. Cited hereafter as "application."

[3] Memo re Approval of Motion to Remand Proceedings Back to Committee. TN 234830. See also, Revised Notice of California Energy Commission Hearing to Reconsider Motion to Remand, p.1. TN 234898.

[4] C1-Santa Clara LLC Petition for Reconsideration-Appeal of Order. TN 234649.

[5] Second Revised Notice of California Energy Commission Hearing to Reconsider Motion to Remand. TN 235020, p.2.

[6] Comments by the California Air Resources Board on the California Energy Commission's Proposed Decision for the Proposed Sequoia Data Center Project (19-SSPE-03), docketed October 15, 2020. TN 235271. Cited hereafter as "CARB Comments."

Staff has reviewed these comments and concludes they do not provide evidence necessitating remand of the proposed decision. Staff encourages the CEC to vacate the Motion to Remand and adopt the Committee Proposed Decision granting the exemption at the scheduled business meeting. As discussed in more detail below, the proposed decision is sound, the recent energy emergencies do not change the analysis of the proposed project, and neither BAAQMD's nor CARB's comments provide substantial evidence that the project may have a significant effect on the environment.

II. Standard Upon Which a Decision to Remand Should be Based.

C1-Santa Clara, LLC filed a request for a Small Power Plant Exemption for the Sequoia Backup Generating Facility pursuant to Warren-Alquist Act section 25541.[7] That provision allows the CEC to exempt projects up to 100 megawatts that would otherwise be under its jurisdiction if it finds "that no substantial adverse impact on the environment or energy resources will result from the construction or operation of the proposed facility or from the modifications." The CEC undertakes this analysis as a lead agency under CEQA.[8] Pursuant to these two statutes, the Committee overseeing the exemption application issued a proposed decision making the necessary findings, supported by an initial study and mitigated negative declaration.[9] A decision to remand, thus, would only be reasonable if the CEC believed new information was provided that undermined the foundation on which these findings were based or undermined the use of a mitigated negative declaration to support these findings.

Mitigated Negative Declarations (MNDs) may be used where an initial study shows substantial evidence that significant environmental effects might occur, but the project proponent agrees to modify the project so as to eliminate all such possible significant impacts or to reduce them to a level of insignificance and "there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment."[10]

Under CEQA,

> "substantial evidence means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by *examining the whole record before*

[7] TN 229419-1.
[8] Pub. Resources Code, §25519(c).
[9] TN 234416.
[10] Cal. Code of Regulations, tit. 14, § 15064 subd. (f)(2). Cited hereafter as "Guidelines, §__."

the lead agency. Argument, speculation, unsubstantiated opinion or narrative…does not constitute substantial evidence."[11]

And,

"Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts."[12]

In sum, evidence supporting a fair argument that Sequoia may result in a significant environmental impact must be *substantial* when viewed *in light of the whole record.*[13] As discussed in detail below, neither the recent energy emergencies nor BAAQMD's or CARB's comments on the proposed decision qualify as substantial evidence that this project may have significant adverse impacts on the environment; they wholly constitute argument and speculation and are insufficient to justify remanding the decision back to the Committee.[14]

III. The Recent Energy Emergencies Do Not Undermine the Committee Proposed Decision or Require a Change to How This Project is Analyzed.

The order to remand and CARB's recent interest in these facilities appear to be at least partly based on the concern that the recent energy emergencies mean that backup generators are more likely to run than previously anticipated, so staff will address that issue here before going into the specifics of the agency comments. Information is still being gathered about these energy emergencies, including what precipitated them, what measures were taken to shed load from the grid to backup generators in an attempt to avoid or minimize rotating outages, and what actions can be taken to prevent this from happening again. The California Independent System Operator (CAISO), CPUC, and CEC produced a preliminary root cause analysis reporting on the agencies' initial investigation of these issues.[15] It will follow up with a final analysis once more data is obtained.[16] The preliminary analysis found that 100 megawatts (MW) of data center load was shifted from

---

[11] Guidelines, §15384(a).
[12] Guidelines, §15384(b).
[13] See, *Apartment Association of Greater Los Angeles v. City of Los Angeles (2001)* 90 Cal.App.4th 1162, 1173-1176 [holding that expert opinion that mainly posits that something is "reasonable to assume" or "potentially…may occur" is not substantial evidence. See also, *Citizens' Committee to Save Our Village v. City of Claremont (1995)* 37 Cal.App.4th 1157, 1170 [holding that speculation and conjecture do not amount to substantial evidence even when posed by an expert; expert opinions "rise only to the level of reliability and credibility as the evidence constituting the foundation for those opinions."].
[14] See Remy, M., Thomas, T., Moose, J., & Manley, W. (2007). *Guide to CEQA* [11th Edition]. Solano Press Books. P. 264 ["expert opinions that rely solely on speculation and conjecture do not constitute a 'fair argument' any more than lay opinions would."]
[15] Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm, October 6, 2020. http://www.caiso.com/Documents/Preliminary-Root-Cause-Analysis-Rotating-Outages-August-2020.pdf..
[16] Id. at p. 3.

the grid to onsite backup generators as a result of the grid emergencies.[17] While seemingly a large number, and certainly something the state does not want to repeat, this represents a small proportion of data center-related diesel generation in the state.[18] From even the limited information available from the event, one cannot say that all, or even a large majority of data centers deployed their diesel generators as a result of the recent energy emergencies. And certainly, given the whole of the record before the CEC, it cannot be extrapolated to infer that if Sequoia were to be approved and another load shedding event occurred, Sequoia would be likely to deploy its emergency generation, or, in fact, any more likely than already assumed and analyzed in the proposed decision.[19]

The analysis contained in the proposed decision included data on the frequency of Silicon Valley Power (SVP) data center power outages.[20] Six data center customer interruptions occurred out of 37 operating data centers in the service territory over the last 10 years.[21] That means that over the last 10 years, 31 out of 37 data centers (84% of the data centers) have not had to operate diesel backup generators due to loss of grid power. The six data center interruptions were the result of two separate power outages. One of the data center outages occurred on May 28 and 29, 2016; the interruption lasted for 7 hours and 23 minutes and forced two data centers into emergency operations.[22] The other data center outage occurred on December 2, 2016 and lasted only 12 minutes.[23]

The recent energy emergencies represent at most two more instances where a few facilities have run their diesel generators under emergency conditions. This is insufficient to support any claim that there is now a trend of more frequent emergency operation, or that any given data center is now more likely to operate in emergency mode. In fact, given the historical data, it is still more likely that any particular data center, Sequoia included, will not have to operate.[24] While it is true that the state has no control over whether and to what extent extreme heat events occur in the future, it does have significant control over how resilient the grid will be in order to adjust and adapt to these events. And, as discussed further below, engaging in this initial speculation to assume that Sequoia would definitively run its backup generators in an emergency situation only invites more speculation, as agreeing to attempt to model the potential impacts of such operation requires us to speculate as to at least six different variables concerning such operation, including how and

[17] Id. at p. 61.
[18] There are approximately over 230 data centers currently in the state. See https://www.datacenters.com/united-state/california.
[19] The applicant does not own or operate any existing data center in California and therefore did not participate in any load shedding request during the energy emergencies. C1-Santa Clara, LLC (C1) Petition for Reconsideration, p.3. TN 234649
[20] Committee Proposed Decision, Appendix A, p. 5.3-30.
[21] Id. at Appendix B to Appendix A, p. 7
[22] Attachment, p. 7.
[23] Id.
[24] Id.

when the data center would operate, under what load, with how many engines, for how long, and with what corresponding meteorological conditions. And with no prescribed threshold of significance, the CEC would have to then determine how to interpret the resulting data. All premised on the unsupported assertion that a contained series of events precipitated by a 1 in 35-year heat storm and other confounding factors[25] that the state's main energy agencies have promised to address is now more likely to continue to occur. This does not rise to the level of substantial evidence on which to base a decision to remand the Committee Proposed Decision.

CARB does not present any evidence disputing the facts on which this probability analysis is based or explaining why or how the recent energy emergencies present a marked departure from the logic of this analysis or represents a clear new trend that fundamentally calls the analysis into question. CARB simply argues that the mere fact that the data centers are proposing to build the backup generators must mean that they will be used in emergency situations and, therefore, the CEC must assume they will operate and model accordingly.[26] The backup generators, however, are constructed to provide assurance that there would be continuity of service *if* needed, and the question of *if they are ever needed* is a critical aspect of the analysis that should not be skipped over. The core purpose of the data centers is to provide server support to clients and a steady stream of high-quality electricity supply.[27] The primary source of that electricity is from the grid. The backup generators are an insurance policy for those services that could not abide any interruption. Just as those who reside in Sacramento might buy flood insurance to prevent significant economic loss resulting from an event they expect never to occur. The analysis does not ignore these impacts – it addresses how likely they are to occur and concludes that any events that do occur will be infrequent and attempting to model the criteria pollutant emissions of an infrequent event of this nature could not provide meaningful information about the potential impacts.[28] This is supported by staff's analysis, the standard practice of air quality districts in analyzing similar projects, and the complete lack of any guidance suggesting that modeling of emergency operations is required or showing how it could or should be done and how the results of such modeling should be interpreted to determine significance.[29]

IV. Comments by the Bay Area Air Quality Management District and the California Air Resources Board Do Not Constitute Evidence That the Project May Result in a Significant, Adverse Impact to the Environment or Energy Resources.

The Commission moved to remand the proceeding after hearing concerns expressed by CARB and BAAQMD coupled with the recent energy emergencies experienced by

[25] Preliminary Root Cause Analysis, pp. 2-4.
[26] CARB Comments, p. 6.
[27] Sequoia SPPE Application, p. 1-4.
[28] Committee Proposed Decision, p. 27.
[29] Committee Proposed Decision, pp. 24-27, and Appendix A, pp. 5.3-27 to 5.3-34.

California. As discussed above, CARB followed-up its oral comments with written comments.[30] BAAQMD has not provided any subsequent written comments.

The oral comments made by CARB and BAAQMD at the September 9, 2020 business meeting echoed comments already in the record for this proceeding.[31] Both agencies generally expressed concerns about the "growth in diesel combustion for backup power at data centers,"[32] and a preference for alternatives;[33] they did not, however, provide any new facts or substantial evidence that the CEC's analysis of impacts in Sequoia was flawed. CARB's subsequent written comments argue that staff's analysis should have been done differently, but still fail to provide substantial evidence that the proposed project may result in significant impacts. As discussed further below, the record in this proceeding already addressed the issues raised by these agencies and, as discussed above, the recent energy emergencies do not convert these comments from policy concerns about backup diesel generators in general to evidence that this particular project has a potential for significant impact, nor do they undermine the proposed decision.

1. **BAAQMD's Comments Are Policy Arguments About Reducing the Use of Diesel Generators in General; They Are Not Evidence that Sequoia May Have a Significant Adverse Impact on the Environment or Energy Resources.**

BAAQMD representative Henry Hilken spoke at the September 9, 2020 business meeting regarding the Sequoia proceeding, expressing concern over the "continued dramatic growth in diesel combustion for backup power at data centers,"[34] and the potential for increases in toxic diesel emissions in impacted communities. He did not, however, identify any specific portion of the Commission's analysis that is flawed or present any new evidence that the project may have a significant, adverse effect on the environment.[35]

BAAQMD actively participated in the Sequoia proceeding, providing written comments on CEC staff's Initial Study/Proposed Mitigated Negative Declaration and testifying at the evidentiary hearing. In its written comments, it encouraged the CEC to "promote the use of cleaner alternatives" and "enhance its CEQA analysis and minimize emissions from the Project and future proposed data centers," and expressed disagreement with a few

[30] CARB Comments.
[31] Exhibit 301, February 27, 2020 letter from Greg Nudd, Deputy Air Pollution Control Officer, BAAQMD to Leonidas Payne, Project Manager, California Energy Commission (BAAQMD Comment Letter), p. 1. TN 232242. And Transcript of June 5, 2020 Evidentiary Hearing, pp. 76-77.
[32] Item 13 – Transcript of September 9, 2020 Business Meeting, p. 22. TN 234840. Cited hereafter as 9/9/20 RT.
[33] Id. at 20 and 22.
[34] Id. at p. 21. BAAQMD is a responsible agency in this proceeding, as it has authority to issue the project's air quality permit should the project proceed.
[35] Id. at pp. 21-22.

components of staff's cumulative GHG analysis and health risk assessment, which were subsequently addressed by staff in its Response to Comments.[36] BAAQMD encouraged the CEC to require a reduction in the project's emissions "to the maximum extent possible," "even if the revised analysis does not conclude the Project's emissions will be cumulatively considerable."[37] At the evidentiary hearing, Mr. Henry Hilken testified on behalf of BAAQMD that the health risk assessment concerns expressed in their written comments were addressed in staff's response to comments, though "overall, we are concerned about the ongoing use of diesel."[38]

It is important to note that a generalized concern about the increase of diesel generators is only actionable in the context of this proceeding if it can be shown that this project has the potential to result in significant, adverse cumulative impacts in combination with that general increase. The record includes a thorough discussion of the potential of Sequoia's emissions to cumulatively contribute to a significant impact, including in the areas of greenhouse gas emissions, criteria pollutants, and toxic air contaminants, concluding that there is no such potential.[39] This discussion was further augmented in response to BAAQMD's comments during the proceeding and responses to committee questions.[40] Criteria pollutant and toxic air contaminant emissions from standby engines tend to be very localized impacts; any new facilities would need to be located fairly close to Sequoia to have the potential to result in a cumulative impact.[41] BAAQMD does not assert that the CEC has failed to consider other facilities within the boundaries of the project's potential impact that are otherwise required to be included in the analysis, or indeed identify what those facilities might be. BAAQMD might be reiterating its previously stated comments because of a concern that the recent events might make it more likely that this facility would run its emergency generators. As discussed above, the recent energy emergencies do not constitute substantial evidence that Sequoia may result in significant adverse environmental impacts requiring the CEC to reconsider the proposed decision.

2. **CARB's Comments Are Not Substantial Evidence that Sequoia May Have a Significant Adverse Impact on the Environment or Energy Resources.**

Unlike BAAQMD, CARB did not participate or provide comments in the Sequoia proceeding until the September 9, 2020 business meeting, where CARB's representatives commented

[36] Exhibit 301, February 27, 2020 letter from Greg Nudd, Deputy Air Pollution Control Officer, BAAQMD to Leonidas Payne, Project Manager, California Energy Commission (BAAQMD Comment Letter), p. 1. TN 232242.
[37] Id. at p. 3.
[38] Transcript of June 5, 2020 Evidentiary Hearing, pp. 76-77. TN 233421.
[39] Committee Proposed Decision, pp.17-42.
[40] CEC Staff Responses to Comments on the Initial Study and Proposed Mitigated Negative Declaration. TN 232338. CEC Staff Responses to Committee Questions. TN 233095.
[41]Attachment, p. 5.

they have "technical concerns related to the analysis of these data centers" and "believe better options are available that provide cleaner or zero emission backup power."[42] They subsequently provided written comments that can be divided into three main assertions:

1. The CEC should have done its modeling of air quality impacts from project testing and maintenance of the backup generators differently;

2. The CEC should have modeled the criteria pollutant emissions from emergency operations; and

3. The CEC should have included an alternatives analysis.

Staff generally addresses all three arguments below and in more detail in the attached Staff Responses to CARB Comments. Notably, CARB fails to produce any evidence of an actual impact; its comments wholly involve speculation that *if* the modeling or analysis were done differently, *then* impacts would likely be shown. As discussed above, speculation is not substantial evidence.[43] And importantly, as discussed below and in the attached response to comments, CARB fails to provide proper support for its assertions that the analysis should have been done differently in the first place and is, therefore, inherently flawed. It asserts that a violation would be shown "if the modeling uses more appropriate model inputs"[44] and "the modeling inputs need to be adjusted to reflect best modelling practices"[45] but fails to cite to any official document or guidance that specifies the changes it proposes.

A. Analysis of Air Quality Impacts from Testing and Maintenance.

CARB does not affirmatively show that the project will result in exceedances of the pertinent ambient air quality standards. Nor does it assert that the CEC has failed outright to analyze the impacts. Rather, it asserts that the *way* the impacts were modeled was faulty and *if* the impacts were instead modeled as CARB suggests, the project would violate the state and federal 1-hour NO_2 standard. However, staff is unaware of any official CARB document, or any document or guidance from another agency, that specifies the modeling protocols that CARB advocates in its unsigned comments. Staff conducted the modeling in

[42] 9/9/20 RT, p. 20. CEC staff, following proper CEQA procedure, sent the Sequoia IS/PMND to CARB for comment through the State Clearinghouse at the start of the public comment period for that document – January 23, 2020. CARB was responsible for reviewing and commenting on the IS/PMND within that 30-day comment period, which expired February 28, 2020. No comments from CARB, written or otherwise, were received at that time, or any time prior to the September 9, 2020 business meeting.
[43] It is telling that CARB couches its comments with qualifiers such as "the project… *appears to* cause violations," "*likely* violates the standards," "*it is unlikely* the impacts from [] other projects are properly accounted for," "*this suggests* there are significant adverse environmental impacts," "*is likely more substantial,"* to note just a few of such instances. CARB Comments, pp. 2, 4, 6.
[44] CARB Comments, p. 4.
[45] Id.

accordance with 2011 California Air Pollution Control Officer's Association (CAPCOA)[46] and US EPA guidance[47]; to staff's knowledge the most authoritative, and perhaps only, guidance available for modeling protocols. This approach provides for the use of very conservative initial assumptions followed by subsequent refinement if initial results show an exceedance of a standard. Since the model in this case showed no exceedance using the initial assumptions and some initial refinements, no further refinements were made. If staff had conducted further refined runs of the model, it most certainly would have shown the project's impacts would drop even further below the standard. If the modeling methodology is altered as CARB suggests it should be, there is no evidence that further refined modeling would not similarly demonstrate that the project's emissions would continue to remain below the threshold.

1. Assertion that a Previous Environmental Document Found Significant Environmental Impacts from Sequoia.

CARB incorrectly asserts that the City of San Jose conducted an Initial Study/Mitigated Negative Declaration that shows the project would exceed air quality standards.[48] CARB appears to have this project mixed-up with something else, as this project is located in the City of Santa Clara and San Jose would have no cause or responsibility to produce an environmental analysis for Sequoia. Staff is not aware that any Initial Study/Mitigated Negative Declaration was previously drafted for this facility, by the city of Santa Clara or any other agency, prior to the CEC's review.

2. Recommendation to Conduct All Modeling from Scratch.

CARB makes a point to recommend as a best practice for all data center projects going forward under CEC's purview that CEC Staff perform a complete independent criteria pollutant ambient air quality modeling analysis and toxic air contaminate evaluation, and avoid using only applicant-prepared modeling input data/files implying, perhaps, that applicant-presented models cannot be trusted.[49] Staff ensures that applicant-provided data is confirmed for accuracy and believes that asserting that all modeling must be done from scratch is an extreme position to take. CARB provides no evidence that sufficient oversight cannot be had by double-checking the assumptions made and confirming reasonableness, as staff currently does. Staff conducts a rigorous independent review, critique and testing of

[46] Modeling Compliance of The Federal 1-Hour NO_2 NAAQS. CAPCOA Guidance Document. October 27, 2011. Available Online at: http://www.valleyair.org/busind/pto/tox_resources/CAPCOANO2GuidanceDocument10-27-11.pdf
[47] 40 CFR 51 Appendix W (Guideline on Air Quality Models) revised in 2017. Available at: https://www.epa.gov/sites/production/files/2020-09/documents/appw_17.pdf
[48] CARB Comments, p. 3.
[49] CARB Comments, p. 6.

the analysis done by the applicant, and staff need not start with a "clean sheet of paper."[50] Staff oftentimes finds problems with the applicant's modeling, and invests substantial effort to identify and resolve errors made by the applicant's air quality modeling specialists.[51] When independent modeling is needed, staff's experts often conduct the independent work and document the results for review by all parties.[52] In this proceeding, staff reviewed the applicant's modeling assumptions and confirmed they presented a very conservative scenario, using worst-case assumptions and very dense receptor grid spacing, extending out to 10km from the facility.[53] Staff is not aware of any requirement that agencies reconduct the modeling themselves from scratch and, with the careful review employed by staff, there is no need to start from scratch to ensure that the end product is an accurate and conservative estimation of likely impacts from the project.

3. Generalized Assertions of Deficiencies in the Model.

CARB asserts that there are deficiencies in several aspects of the model, including: partial load NOx emissions rate, exhaust NO_2/NOx ratio, modeling receptor spacing, type of ozone-limiting method used, hourly meteorological missing data procedures, and fence-line modeling receptor locations, but fails to specify what exactly the deficiencies are or cite to any official documents that recommend a different treatment than what is contained in the proposed decision.[54] Staff discusses each of these assumptions in detail in the attachment, and explains the basis for the assumptions made.[55]

4. Assertion that the CEC Must Model a Facility's Maximum 1-hour NO_2 Impact Coupled with the Maximum 1-hour NO_2 Background Level.

CARB asserts that a multi-year average of the background 1-hour NO_2 levels for analyzing compliance with the state standard "does not provide complete information" and suggests that the modeling must use the maximum modeled 1-hour NO_2 impact with the maximum modeled 1-hour NO_2 background level.[56] Staff relied on the aforementioned CAPCOA and US EPA guidance to guide its treatment of NO_2 background concentrations. NO_2 is a rapidly reactive and highly localized pollutant and conducting the analysis as CARB recommends would likely lead to an over-estimation of project impacts. It is unlikely that the project's maximum 1-hour NO_2 impact would occur at the exact same moment the

[50] Attachment, p. 6.
[51] Id.
[52] Id.
[53] Id. at p. 2.
[54] CARB Comments, p. 4.
[55] Attachment, pp. 2-3.
[56] CARB Comments p. 5.

background experiences its maximum 1-hour NO_2 level, and such an approach would not provide a realistic view of whether impacts are likely to occur.[57]

5. Assertion that Using the 2018 Background Data Set Would Automatically Show an Increase in Project Impacts.

CARB also notes that the background NO_2 monitoring dataset used in the model ends in 2017 and the model should include more recent data, asserting that "2018 background data was readily available" when the application was filed and that the 2018 data shows a higher maximum background of 162 $\mu mg/m^3$ (compared to the dataset's maximum of 128 $\mu mg/m^3$), with that increase being "significant."[58] At the time the application was prepared and submitted, BAAQMD had not provided the 2018 meteorological data, without which the 2018 dataset could not be used, so it was appropriate to leave it out.[59]

Without further modeling, it is speculative to assert that the higher NO_2 numbers from 2018 background data necessarily mean the project's impacts would be greater with that year included in the dataset. Although the maximum NO_2 background data in 2018 was higher than that in 2017, the maximum ozone data in 2018 (0.078 ppm) was much lower than that in 2017 (0.121)[60] Ozone concentration limits the conversion of NO to NO_2 and if the 2018 numbers were modeled, they could result in an even lower estimate of NO_2 emissions.

6. Assertion that the Model Must Include Other Data Centers Under Review.

CARB asserts that the model should include emissions from other data centers currently under review.[61] The zone of impact from the plume of an individual engine is confined to a fairly small area in the immediate vicinity of the engine. To confirm that there is very little overlap even with data centers in close proximity, staff modeled the cumulative effect of three adjacent data centers (McLaren, Walsh and Sequoia) to determine what, if any, plume overlap there might be if they simultaneously conducted readiness testing of their engine with the largest incremental impact. Staff confirmed that there was minimal plume impact on the same area; maximum impacts were unique to each data center and minimal plume overlap occurred. Results, with background, were below the California Ambient Air Quality Standards (CAAQS).[62]

---

[57] Attachment, p. 4.
[58] CARB Comments p. 5.
[59] Attachment, p. 4.
[60] Id. Committee Proposed Decision, p. 5.3-4.
[61] CARB Comments p. 5.
[62] Attachment, p. 5.

7. Assertion that the CEC Should Not Consider NOx Offsets When Determining Significance of Impacts.

CARB asserts that the proposed decision should not use the project's proposed NOx emission offsets "as negative emissions" to reduce the project's emissions below the identified significance levels.[63] In conducting this analysis, staff followed the BAAQMD's May 2017 CEQA guidance document which has a 5-step process for addressing mitigation.[64] Specifically, Table 4-1 lists a process wherein the analysis considers the project's impact prior to mitigation (Step 3), then mitigation is added (Step 4) and then mitigated project emissions are compared to the district's thresholds which are listed in Table 2-4.[65] This is the process used by staff to prepare Table 5.3-6 of the Proposed Decision IS/MND.[66] The BAAQMD CEQA guidance document specifically allows purchase of emissions reduction credits to offset facility emissions as follows:

> *"Stationary sources may also be required to offset their emissions of criteria air pollutants and precursors to be permitted. This may entail shutting down or augmenting another stationary source at the same facility. Facilities also may purchase an emissions reduction credit to offset their emissions. Any stationary source emissions remaining after the application of BACT and offsets should be added to the indirect and area source emissions estimated above to arrive at total project emissions."*

This process was used to determine whether the Sequoia project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment for an applicable federal or state ambient air quality standard. The criteria pollutants that are non-attainment for the project location are ozone and PM10. The project is in an area that attains NO_2 standards, and an applicant would not need to otherwise mitigate project-related direct impacts unless readiness testing and maintenance results in significant impacts. Appendix D, page D-47 of the BAAQMD CEQA guidance document states that BAAQMD based its criteria pollutant significance thresholds for NOx emissions on ozone precursors.[67] Final evaluation of the Emission Reduction Credits (ERCs) in terms of their location, quantity or quality, and/or age will be evaluated by the BAAQMD when it reviews the project for compliance with the District's Regulation 2, Rule 2.

ERCs obtained to reduce the project's emissions to below BAAQMD thresholds ensure that the project does not contribute to exceedance of ozone standards. Emissions of NOx can also lead to secondary aerosol formation and could contribute to the non-attainment status for PM10 or PM2.5. However, the ERCs are not used to mitigate direct NO_2 impacts and that is the reason that air quality modeling is performed to evaluate the project's direct NO_2

[63] CARB Comments, p. 10.
[64] Attachment, p. 9.
[65] Id.
[66] Id.
[67] Id.

impacts. During the NO_2 modeling for readiness testing, no credit is taken for ERC reductions. Thus, staff appropriately evaluated the project's potential for impacts and appropriately considered the proposed NOx offsets.

B. Modeling Emergency Operations

CARB argues that the Commission must conduct some modeling of emergency operations for criteria air pollutants. This argument is based on the supposition that outages are "occurring with increasing regularity" and modeling emergency operations is no less speculative than the modeling conducted for testing and maintenance.[68] CARB argues that modeling emergency operations is necessary because the project's modeled emissions with just one generator running make it likely the project would exceed the standard when multiple engines are considered.[69] As explained above, however, this assertion ignores the iterative nature of how models are conducted and ignores the fact that because so many variables go into whether a project's emissions will exceed the standard at any given point in time, it is simplistic to say that there is a high likelihood that this project would actually cause an exceedance if it operated under emergency conditions.[70]Additionally, CARB does not show why a modeled exceedance under these circumstances necessarily results in a significant impact under CEQA.

1. Emergency Operations Have Been Analyzed Throughout the Proposed Decision.

The issue of emergency operation of this facility in general was thoroughly analyzed in this proceeding, with detailed discussions of the situations that might occur that could necessitate the use of the emergency generators and predictions about the potential frequency of their use.[71] The evaluation of the project's emissions of toxic air contaminants also reflected potential emissions during emergency operation and other technical areas of the document discuss emergency operation in detail, including the GHG analysis, Noise, Environmental Justice, and Mandatory Findings of Significance.[72] For the rest of the

---

[68] CARB Comments, pp. 6, 8. It is important to note that CARB focuses its comments on the analysis of one criteria pollutant – NO_2. With regard to toxic air contaminants, which CARB does not mention, but forms a critical piece of analyzing whether a project will result in significant impacts from air emissions, staff analyzed the impacts of all 55 engines for 50 hours every year (an assumption that would easily account for any emergency operation) and concluded the project fell below the thresholds of significance. See, Transcript of June 5, 2020 Evidentiary Hearing, p. 156 and Committee Proposed Decision, p. 5.3-34.

[69] CARB Comments, p. 8.

[70] See Transcript of June 5, 2020 Evidentiary Hearing, pp. 184-185.

[71] Committee Proposed Decision, pp. 24-27, Appendix A, pp. 5.3-27 to 5.3-34. See also Transcript of June 5, 2020 Evidentiary Hearing, pp. 145-149. In its comments, CARB does not cite to the recent energy emergency as support for its arguments. To the extent they may have influenced CARB's decision to comment, the effect of those emergencies on the analysis is discussed at the beginning of this document.

[72] Commission Proposed Decision, pp. 5.3-34 [concluding the project, even with emergency operations, would have less than significant cancer risk, chronic non-cancer, and acute non-cancer effects,], 5.8-9, 5.13-4, 5320-3, 5.21-12. The term "emergency operations" in this context occurs over 80 times in the document.

sections, emergency operation would be no different than routine operation; therefore emergency operation was not called out for separate analysis. Given this, the question posed by CARB isn't whether the proposed decision failed to address emergency operations altogether or failed to analyze it in any respect. It is whether by deciding not to model the project's potential emissions of criteria pollutants, and really one pollutant in particular, NO_2, during emergency operation, the proposed decision deprives the public or decisionmakers of meaningful information regarding the project's potential for impacts. As the record shows, it does not.

2. Modeling NO_2 Emissions During Emergency Operations Requires Too Many Assumptions to Provide Meaningful Information.

After a thorough review of the issues, the proposed decision concluded that any results from modeling criteria pollutants under emergency operation scenarios would be speculative and would not provide meaningful information about whether the project may have a significant impact.[73] The proposed decision concluded that "the number of assumptions required for assessing the impacts of emergency operation of the Backup Generators render the results too speculative to be meaningful," and "the Backup Generators would operate very infrequently, if at all, for emergency operations."[74]

Presumably this is why, except for a few outlier instances, neither CARB nor any air district in the state requires modeling emergency operations when issuing air permits and US EPA acknowledges that modeling intermittent emissions units, such as these, is a "major challenge."[75] This modeling becomes no less speculative with a few new data points from the recent energy emergencies, especially when those data points currently lack any detail about how the outages actually affected the operation of data center backup generators and what that may mean for the future operation of this facility in particular.

Modeling emergency operations would simply raise more questions than it would answer. CARB asserts that modeling emergency operations is no different than modeling testing and maintenance, but there is a significant difference in the likelihood of and knowledge surrounding such operation. We know for certain that this project will test each engine, one at a time, for a specified number of hours every year.[76] Given that frequency, it makes sense to ensure that any of those hundreds or thousands of hours of operation (over the course of the life of the project) would not violate the standard at any given time. And this approach is standard, echoing how the air districts analyze impacts.[77] Emergency operation

[73] Committee Proposed Decision, pp. 26-27.
[74] Committee Proposed Decision, pp. 26-27.
[75] Id. at p. 26; Appendix A, pp. 5.3-31 to 5.3-33.
[76] Transcript of June 5, 2020 Evidentiary Hearing, p. 169.
[77] Id. at p. 132.

is orders of magnitude different in terms of the predictability of the event and the certainty surrounding at least six key aspects of operation that are instrumental in the model, including how many generators would operate, in what configuration, at what load, and for how long; whether there is continuous or variable use of the engines, what are the background air quality conditions of criteria pollutants, and what are the local meteorological conditions.[78] Importantly, modeling criteria pollutant emissions from emergency operations does not represent a standard approach to evaluating impacts adopted and practiced by any agency that staff is aware of.[79]

Of course, one could conduct an academic exercise and perform an absolute worst-case analysis, assuming all of the project's engines are operating at the worst possible load conditions, even though the evidence shows that facilities in Silicon Valley Power territory run on average at 40% of capacity.[80] It would assume that the emergency occurred at the exact same time as the worst meteorological conditions over a five year period. It would assume that the emergency occurred during the hottest temperature conditions, when building loads are at their highest, even though it is unlikely that the worst-case meteorological conditions would occur at the very same time as the hottest temperature occurs. And it would have to guess at how long the engines would operate. Once these parameters are identified, it would need to be determined whether it should model impacts at the fence-line where no person would be likely to be, which CARB appears to suggest and is standard for the analysis of routine operations, or sensitive receptors, which would better identify a possible impact to an actual person. With all of these worst-case assumptions, the modeling for a given project could show an exceedance of an air quality standard. In fact, one might even say that over five years, 43,800 hours, of such extreme worst-case conditions, it is likely that modeling could show multiple hours of an NO_2 exceedance, as CARB suggests. The question, then, would be what the CEC should do with that information. Can it really determine that that modeled exceedance reflects a likely result of this project, given all the extreme assumptions that had to be made, compounded with the probability of there even being an outage in the first place? And is it certain that an exceedance of an air quality standard intended for routine operations means there is a significant adverse impact under CEQA?

Trying to avoid this problem by identifying *reasonable* assumptions for the model so that the results would be more likely to reflect the actual potential impacts of the project is no less fraught. It is unclear what *reasonable* is for each parameter. Perhaps it is reasonable to anticipate 40% of the engines could run (based on the likely capacity identified above), but which 40%? The model is so sensitive that modeling different engines will produce different results. If 40% does not seem conservative enough, then another reasonable

[78] Id. at p. 147.
[79] Id. at p. 132.
[80] Id. at p. 54.

number would need to be identified. Given when California tends to experience outages, it might make sense to assume that emergency operations are more likely to occur on the hottest days, but that does not necessarily align with the worst meteorological events. And how long should one assume the engines run for? CARB would say the length of time does not matter, but perhaps an outage of 24 minutes should be considered differently than an outage of 24 hours? There are so few data points from which to currently draw a reasonable average for these situations. Some have run for as little as 12 minutes, while others have run for more than 7 hours, with a few others operating somewhere in between, and the vast majority never run at all.[81] CARB's proposal that the CEC conduct modeling using several different scenarios complicates matters even more.[82] Which model does one actually choose to base a decision on and what threshold should apply?

3. There is No Clear Significance Threshold to Apply to the Modeled Results.

CARB appears to assert that any modeled exceedance should be considered a significant impact, regardless of whether the model represents a realistic scenario, suggesting staff use the same significance thresholds it uses to analyze impacts from testing and maintenance.[83] But there is no guidance on how to apply these thresholds to emergency operations and no agency has adopted these thresholds for use in evaluating emergency situations.[84] If the CEC were to determine that a single modeled exceedance is not sufficient to show a significant impact for emergency operations, what other threshold should it use? Should the threshold be different depending upon the modeling assumptions used, with a worst-case model having a looser threshold than a more reasonable model? One could try to identify a certain number of exceedances as being too many, with the idea that the more exceedances a model shows, the more likely it is the project would result in an exceedance in real life, akin to the probabilistic analysis undertaken in public health (e.g., 1 in 10 million increased risk of cancer) but there is no guidance available to aid the CEC in determining what that number should be and, ultimately, it would be little different from the current approach of looking at the reliability of the grid and past instances of emergency operation to conclude that from a probabilistic standpoint that such instances would be rare if they occur at all. And that still does not answer the question of whether an exceedance during emergency operation is a significant impact under CEQA.

Staff is currently at a loss as to what an appropriate threshold should even be. CARB's proposal is seemingly too draconian to be reasonable, but at least has the benefit of being

[81] Attachment, p. 7.
[82] CARB Comments, p. 9.
[83] CARB Comments, p. 9.
[84] Attachment, p. 8. See also Committee Proposed Decision, p. 26 and Appendix A, p. 5.3-10 ["emergency operations are exempt from [BAAQMD] permitting."]

simple. Anything else could be likened to pulling a number out of the air or taking an "I will know it when I see it" approach. And there is little guidance to help the CEC choose, as this type of analytical endeavor is not routinely undertaken by even the very air districts who process hundreds of applications every year.[85] All of this is to say: more data does not necessarily mean more useful information. Staff continues to believe that the best indicator that this project will not result in a significant adverse impact to air quality from emergency operations is the continued infrequency of such events and the fact that in the rare instances when they do occur, they are of limited duration.[86]

4. The CEQA Cases Cited by CARB Do Not Support the Assertion that the CEC Must Model Emergency Operation.

CARB cites to several CEQA cases for the proposition that an agency cannot ignore foreseeable development. The proposed decision, however, does not ignore the issue of emergency operations. It simply concludes that attempting to analyze criteria pollutants during emergency operations through the use of modeling technology would not present meaningful information about whether those impacts are likely to be significant and that based on the infrequent nature of any likely operation it finds such potential impacts to be less than significant.

CARB cites to three cases to support its argument that the CEC is required to model emergency operation.[87]These cases involved facts different from the situation at hand, but all are similar in one respect – the agencies failed to include any discussion of the potential impacts of a highly likely project outcome. The fact patterns differ markedly from this proceeding, where the record shows that the project is not reasonably likely to operate under emergency circumstances, but even so, the proposed decision analyzes, within reason, the potential for impacts.

Laurel Heights Improvement Association v. Regents of University of California involved the purchase of a building by a University and whether the future use of that building needed to be analyzed. The building consisted of 354,000 square feet, 100,000 of which would be used immediately by the university's School of Pharmacy.[88] The EIR does not discuss how the remaining space will be used, even though it was uncontroverted that the space would

[85] Transcript of June 5, 2020 Evidentiary Hearing, p. 132.
[86] If the CEC were to decide to consider modeling criteria pollutant emissions during emergency operations and adopting a threshold of significance, that conversation should be broader than just one project and should include other stakeholders, including air districts, as whatever the CEC decides may set a precedent for such analysis and could affect how other agencies will need to analyze these and other types of intermittent engines under their authority.
[87] CARB Comments, pp. 7-8.
[88] Laurel Heights Improvement Association v. Regents of University of California, 47 Cal.3d 376, 393.

ultimately be used by the university.[89] The question was not *if* the space would ever be used in that capacity, only how it would be used.[90] Moreover, the record was clear that the university intended to use the facility for biomedical research and chose not to disclose that fact and that such a use was reasonably foreseeable.[91] The court found that the university could provide "meaningful, reliable data" as to the future activity and, thus, was required to do so.[92] Notably, the court states that they are not requiring the university to "predict precisely what the environmental effects, if any, of future activity will be;" only that "an agency must use its best efforts to find out and disclose all that it reasonably can."[93] Here, the proposed decision reflects the Committee's best efforts to identify and disclose impacts from emergency operation.

Whitman v. Board of Supervisors involved approval of a test well and the issue before the court was whether the environmental document had to analyze the environmental effects that would occur if the well produced oil. The document included only one sentence addressing this potential outcome, mentioning only that a pipeline and one truck per day would be needed.[94] It did not discuss any environmental effects of the pipeline. The court concluded that the pipeline was part of the overall plan for the project and "could have been discussed in the EIR in at least general terms."[95] Thus, the court's concern was that the impacts from the pipeline were not discussed at all. Here, the proposed decision spends countless pages discussing potential emergency operation, providing meaningful analysis where it can, and explaining why modeling criteria pollutant emissions cannot provide meaningful information.

Compare the above case, though, with *Brentwood Association for No Drilling, Inc. v. City of Los Angeles*, which involved a conditional use permit for two exploratory core holes for oil, and whether the city should have considered the environmental effects of hypothetical oil wells producing oil in the event oil was found.[96]While the court held an EIR was required for other reasons, it concluded that the agency did not need to analyze the hypothetical, relying on the fact that only 55% of core holes successfully find oil, even though 99% of those that do are successful in getting a commercial permit to drill.[97] The court found that " to require the preparation of an environmental impact report with regard to commercial drilling rather than mere exploratory drilling would seem, in the instant case, to '... tend

[89] Id.
[90] Id. at 397.
[91] Id. at 398.
[92] Id.
[93] Id at 398-399.
[94] Whitman v. Board of Supervisors, 88 Cal.App.3d 397, 414.
[95] Id.
[96] *Brentwood Association for No Drilling, Inc. v. City of Los Angeles* 134 Cal.App.3d 491, 495.
[97] Id. at 502.

toward uninformative generalities'."[98] As the record here shows, staff concluded that there is only a 1.6% chance that the project's generators would operate in an emergency situation in any given year; even if one added this probability over 30 years, it would still be below what this court found insufficient to require further review.[99]

Lastly, *City of Antioch v. City Council* involved the approval of an unconnected boulevard and utility systems and whether the environmental document had to analyze future development that might occur as a result of the project.[100] The agency did not discuss in any manner the development that might be prompted by the proposed approval, or its environmental effects.[101] The court expressed concern that the project was being "piecemealed" from the subsequent development it would make possible.[102] The court found that subsequent development was "virtually certain" to occur and the "sole reason" for the project was "to provide a catalyst for further development" and, thus, that development needed to be addressed.[103]The court was also persuaded that because the CEQA Guidelines specified that the extension of a sewer line with capacity to serve a new development will normally be deemed a significant effect, so too would the project's proposal to extend a sewer trunk line.[104] Here, emergency operation is not virtually certain to occur and the proposed decision discusses the environmental effects in the event it does to the extent it can in any meaningful way.

As CARB notes, staff continues to discuss these issues with the agencies and hopes to be able to reach agreement on some reasonable assumptions and significance thresholds in the future, though whether such an agreement can be reached and, if so, how long it will take to arrive at consensus, remains to be seen. Until then, staff considers modeling criteria pollutant emissions during emergency operations speculative, and none of the comments made so far present evidence that this project may have significant, adverse impacts that were not analyzed as completely as possible in a meaningful way.

C. Alternative Technologies

In its oral comments, CARB stated that the CEC should consider project alternatives such as Tier 4 engines, batteries, or fuel cells instead of the project's proposed Tier 2 diesel engines.[105] BAAQMD made identical comments to CARB's oral comments in its CEQA

---

[98] Id.
[99] Committee Proposed Decision, p. 25.
[100] *City of Antioch v. City Council*, 187 Cal. App. 3d 1325.
[101] Id. at 1329.
[102] Id. at 1333-1334.
[103] Id. at 1337.
[104] Id.
[105] 9/9/20 RT, p. 20.

comment letter.[106] In its written comments, CARB exhorts the CEC to analyze two alternative technologies in more detail: gas-fired engines and Tier 4 diesel generators.[107] In some respects this discussion is premature, and by itself provides an insufficient basis on which to remand this proceeding. CEQA does not require an alternatives analysis for MNDs. The CEC's regulations require a project applicant to provide one with an SPPE application[108], but does not require one as part of the agency's documentation. The applicant provided an analysis with its application.[109] Any requirement to expand that analysis at this point would be immaterial to the question currently before the CEC: can it find that the project will not result in any substantial adverse impact to the environment or energy resources? From a strictly legal perspective, the existence or non-existence of alternative technologies does not factor into this determination.[110]

As noted above, CARB commented in oral comments that they would like these facilities to use cleaner or zero-GHG technology. While ensuring these facilities are as clean as possible is an admirable goal, it arguably lies outside the CEC's authority if a project is otherwise found to result in less than significant impacts, as this one has been found to do. Even if the CEC had such authority, staff does not currently believe there are any technology alternatives that would definitively reduce impacts further or meet the reliability objectives of these facilities.[111] Nevertheless, staff has been actively investigating the feasibility of these potential alternatives for backup diesel generators, concluding that, while promising for future consideration as the technologies evolve, there currently are significant drawbacks to each of those suggested.

1. Natural Gas-Fired Engines

CARB suggests the CEC further investigate the use of natural gas-fired engines as an alternative to the diesel backup generators proposed.[112] The project application contains a brief analysis of this technology alternative, explaining why it does not appear to meet the responsiveness and reliability needs identified by the project applicant. Staff will continue to evaluate this technology in future proceedings, expanding the evaluation as more information about the technology and its evolution is gathered.

---

[106] BAAQMD Comment Letter for Sequoia Data Center MND, p.3. TN 232242.
[107] CARB Comments, pp. 11-16.
[108] Cal. Code Regulations, tit. 20, Division 2, Chapter 5, Appendix F.
[109] TN 229419-1, pp. 5-1 to 5-3.
[110] See Committee Proposed Decision, pp. 48-49 [concluding that an alternatives analysis for this proceeding is unwarranted.]
[111] Exhibit 201, CEC Responses to Comments Received on the Initial Study and Proposed Mitigated Negative Declaration, p. 6. TN 232338. See also Exhibit 1, Sequoia Backup Generating Facility Small Power Plant Exemption Application, pp. 5-1 to 5-3 (discussing project objectives and alternatives). TN 229419-1.
[112] CARB Comments, p. 11.

2. Tier 4 Engines

A Tier 4 engine differs from a standard Tier 2 engine in two main respects: it contains a diesel particulate filter for the control of particulates and selective catalytic reduction (SCR) for the control of NOx. It is important to note that Sequoia is not just deploying Tier 2 level emissions control technology but also utilizing diesel particulate filters to further reduce emissions. So, the only difference between what is being proposed and what CARB suggests be a required consideration is the addition of SCR. While SCR has the potential for additional emissions reductions, the engines must reach a certain temperature before the additional emission reductions the technology provides can be realized and would only provide potential benefits once this temperature is reached. Models currently in use generally take 20-30 minutes to reach the necessary temperature, meaning emissions would be controlled only during the annual load tests and emergency operations that approach or exceed one or more hours of operation. Monthly testing emissions would likely not be controlled. Newer technology from certain manufacturers may reduce the time it takes to get to the appropriate temperature, though information is still being gathered about this and the feasibility of using this technology for the large engines considered here. Another important consideration is that using SCR can also lead to ammonia slip, which can add to particulate matter emissions. The analysis does not support requiring this technology in this proceeding, but the project will require a permit from BAAQMD, who would have the authority to declare these engines Best Available Control Technology (BACT) pursuant to its rules established under the Clean Air Act, and require the technology in that forum, as noted by CARB. To date, BAAQMD has not identified Tier 4 engines as BACT, but the proposed decision would not impede its ability to do so, if justified by the district's own permitting analysis.[113]

3. Batteries

Batteries used for the purpose of providing extended backup electricity (as opposed to the UPS systems currently employed as a temporary bridge between grid power and the backup diesel generators) may hold future promise but take up more space than the current site allows and can provide reliability for only approximately 4 hours, which does not meet the project objectives for reliability of Sequoia.[114]

4. Fuel Cells

By staff's estimation, fuel cells would be difficult to configure on the current site. The current technology requires either large tanks of cryogenic hydrogen, the use and storage of which may be restricted in some locations, such as near airports, or a constant supply of natural

[113] Attachment, p. 11. See also Transcript of June 5, 2020 Evidentiary Hearing, p. 85.
[114] TN 229419-1, pp. 5-2 to 5-3.

gas, which could become unavailable during a natural disaster such as an earthquake and, thus, would be unlikely to provide the reliability needed by these facilities. For these reasons, staff does not consider the technology to have matured enough to be suitable for large data centers such as Sequoia.

Staff looks forward to continuing discussions with CARB, BAAQMD, and project owners about possible alternatives that could meet project needs, but does not expect any to be identified as viable in the near-term, and does not believe the record justifies remanding this proceeding for the purposes of expanding the alternatives discussion.

V. Conclusion

The proposed decision, and the analysis that undergirds it, remains a comprehensive and defensible analysis of the project's potential for significant, adverse impacts even in light of CARB's and BAAQMD's comments and the recent energy emergencies. Staff is not unsympathetic to the general policy goal of eliminating the use of diesel generators at data centers, but the record shows that the requirements of Warren-Alquist Act section 25541 and CEQA have been met here and an exemption from the CEC's jurisdiction is warranted. Staff recommends the CEC vacate its Motion to Remand and adopt the Committee Proposed Decision granting a small power plant exemption to the Sequoia Backup Generating Facility.

DATED: October 30, 2020

Respectfully submitted,

APPROVED BY:

_____

Lisa DeCarlo
Senior Attorney
California Energy Commission
1516 9th Street, MS-14
Sacramento, CA 95814
Ph: (916) 654-5195
Lisa.DeCarlo@energy.ca.gov

ATTACHMENT

Staff's Responses to CARB's Comments to Sequoia (TN #:235271)

Ambient Air Quality Impact Evaluation (page 3)

Comment: *The project, as proposed, appears to cause violations of the state 1-hour NO_2 standard and may violate the federal standard as well (p. 2, p. 1).*

> **Response:** This is an unsubstantiated comment. ARB did not provide modeling evidence that the project would violate either the state or federal ambient air quality standard (AAQS). Staff's analysis does not show a violation of any AAQS.

Comment: *The City of San Jose conducted an "Initial Study/Mitigated Negative Declaration" (IS/MND) for the project that contains information that both the state and federal 1-hour NO_2 standards would be exceeded (p. 3, p. 2).*

> **Response:** The footnote used to justify this statement does not include the City of Santa Clara's IS/MND or one from the City of San Jose. Furthermore, the ARB comments are incorrect when they state that the City of San Jose (rather than the City of Santa Clara) conducted an IS/MND for an earlier version of this project. ARB did not provide any documentation that either the City of Santa Clara or San Jose determined the version of the project that they reviewed would cause exceedance of either a state or federal AAQS.

Comment: *The modeled 1-hour average NO_2 impacts are at 98% and 99% of the allowable state and federal ambient air quality standards, respectively, as a result of maintenance and testing operation of the backup generator engines. Thus, any increase in modeled NO_2 ambient impacts for the proposed project would be a concern given the small compliance margin remaining before a 1-hour average ambient NO_2 standard is exceeded (p. 4, p. 1).*

> **Response:** Staff's modeling analysis relied on a 2011 CAPCOA guidance document[115] which allows for refinement in the modeling approach. Staff's analysis stopped at a more conservative level of refinement since the project's impacts were already below the standard. Had staff continued with further refinement, as allowed in the CAPCOA guidance document, the modeled impacts would have been lower.

Comment: *The operation of only one generator likely violates AAQS (p.4, pp. 2.)*

> **Response:** Energy Commission staff do not agree with this comment. If it becomes appropriate to conduct further air quality modeling, further refinement of

[115] Modeling Compliance of The Federal 1-Hour NO_2 NAAQS. CAPCOA Guidance Document. October 27, 2011. Available Online at: http://www.valleyair.org/busind/pto/tox_resources/CAPCOANO2GuidanceDocument10-27-11.pdf

the modeling approach could be conducted. Based upon the work conducted to date, it is not correct to say that the project "likely violates standards."

Comment: *ARB staff believe that modeling inputs need to be adjusted to reflect "best modeling practices" (p.4, p. 2).*

Response: Staff is unaware of any "best practices" that are not being used for this analysis. Staff used guidance from CAPCOA and US EPA. If ARB has a written document that shows the CAPCOA or US EPA guidance is not "best practice" then staff requests that ARB produce it.

Comment: A*RB describes the need to consider "appropriate modeling assumptions" and then lists several--specifically, partial load NOx emissions rate, exhaust NO_2/NOx ratio, modeling receptor spacing, type of ozone-limiting method used, hourly meteorological missing data procedures, and fence line modeling receptor locations (p. 4, p. 2).*

Response: ARB comments did not identify any deficiencies in the modeling assumptions used in the analysis. Staff checked the applicant's modeling assumptions very carefully and staff believes they did use appropriate modeling assumptions.

The applicant performed a detailed modeling analysis considering full load and multiple partial load cases. The results of this detailed analysis were provided in Appendix G: Air Dispersion Modeling Report included in the document titled Appendices A-N - part 2 (TN# 229419-3). Table 5.3-8 on pages 5.3-22 and 5.3-23 of the IS/MND shows the worst-case impacts from all load conditions. For example, as explained in notes a and b under Table 5.3-8, the worst-case 1-hour NO_2 impacts for CAAQS was from engine "C1SWEG01" at a 75 percent load from staff's independent analysis. The worst-case 1-hour NO_2 impacts for NAAQS was from "C1WEG019" at a 100 percent load from the applicant's analysis.

The NO_2/NOx in-stack ratio was selected based on data from onsite generators of the same make and model as the proposed generators, and from US EPA's Nitrogen Dioxide/Nitrogen Oxide In-Stack Ratio (ISR) Database[116]. The NO_2/NOx in-stack ratio used for the proposed backup emergency generators was 0.1, meaning that 90 percent of the NOx is in the form of NO at the stack exit, while the remaining 10 percent is in the form of NO_2. The 10 percent ISR is higher than the values provided by US EPA database.

The applicant used very dense receptor grid spacing in the modeling: 10-meter resolution for fence line receptors and 20-meter resolution extending from the fence line to 1,000 meters downwind. In addition, per staff's request in Data

[116] Nitrogen Dioxide/Nitrogen Oxide In-Stack Ratio (ISR) Database, Available online at: https://www.epa.gov/scram/nitrogen-dioxidenitrogen-oxide-stack-ratio-isr-database

Request 35, the applicant expanded the receptor grid to 10 km from the facility (100 m resolution from 1 km to 2 km, 500 m resolution from 2 km to 5 km and 1,000 m resolution from 5 km to 10 km). Staff expects such dense receptor grid would sufficiently capture the worst-case project impacts. In addition, staff checked the fence line receptor locations and believes they match the proposed project boundary.

The NO_2 impacts analysis approach used by staff is designated as a "Tier 3" (most in-depth/more refined) method by US EPA. It requires matching hourly meteorology and ozone concentrations (ozone controls rate of conversion of NO to NO_2) to run the model. It is more refined than a "Tier 1" or a "Tier 2" approach. The Tier 3 approach is used when the results of a Tier 1 or Tier 2 approach lead to results that exceed the AAQS and more refinement is still possible, as determined by consultation with the regulatory agency (normally, the air district). The Ozone Limiting Method (OLM) and the Plume Volume Molar Ratio Method (PVMRM) are both approved regulatory options in AERMOD for Tier 3 NO_2 modeling[117]. The Sequoia project IS/MND used the PVMRM method. If ARB determines that a Tier 3 approach is inappropriate, they need to justify the basis for their determination.

Per staff's request in Data Requests 37, 38, and 39, the applicant updated the modeling analysis using meteorological data provided by BAAQMD (see applicant's Response to CEC Staff Data Request - Set 1 [1-92], TN# 229938-1). Staff believes the BAAQMD used appropriate procedures for filling the hourly missing meteorological data.

Comment: *For purposes of modeling compliance with the state 1-hour NO_2 standard, the maximum modeled 1-hour NO_2 impact for the proposed project should be added to the maximum 1-hour NO_2 background level for the project area (p.5, pp. 1).*

Response: Staff is unaware of any adopted state guidance on how to model to show compliance with the CAAQS. Staff welcomes official recommendations from ARB to refine the analysis. To date, lacking guidelines adopted by ARB, staff relies on a 2011 CAPCOA guidance document[118] which allows for refinement in the modeling approach.

Due to the challenges of conducting NO_2 modeling relative to the 1-hour NO_2 standard and the extreme intermittency of engine operation, staff used the aforementioned guidance documents and the applicant's submittals to guide our

[117] 40 Code of Federal Regulations (CFR) Part 51, Appendix W, Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Fine Particulate Matter, Federal Register Vol 82, No. 10, published January 17, 2017. Available online at: https://www.epa.gov/sites/production/files/2020-09/documents/appw_17.pdf

[118] Modeling Compliance of The Federal 1-Hour NO_2 NAAQS. CAPCOA Guidance Document. October 27, 2011. Available Online at: http://www.valleyair.org/busind/pto/tox_resources/CAPCOANO2GuidanceDocument10-27-11.pdf

treatment of NO_2 background concentrations. As a rapidly reactive and highly localized pollutant, using the single maximum 1-hour NO_2 background would likely over-predict project impacts. If ARB recommends implementing such an approach for all compliance demonstrations, staff suggests that ARB develop and publish this recommendation in formal guidance from the Executive Officer of the ARB. Until ARB issues formal modeling guidance, we propose to continue to use the CAPCOA guidance.

Furthermore, if adding the maximum background value to the maximum project incremental impact leads to a result that indicates a modeled exceedance of an AAQS, staff believes the modeling approach would need to be examined to ensure that it is appropriate to add these two components together, including making sure that the meteorology of the 1-hour event could justify this combination. Adding the maximum background value to the maximum project incremental impact assumes the two values occur at the same time or under similar meteorological conditions, but usually they will not. An alternative approach to that recommended by ARB would be to further refine the analysis by using concurrent data for baseline NO_2 concentrations as well as ozone concentrations, wind speed, and wind direction. Nevertheless, ARB fails to identify any authority that shows that staff's approach is flawed.

Comment: *The applicant-prepared background NO_2 monitoring dataset ends in 2017 and therefore does not represent the most current data available. The SPPE application for the proposed project was submitted in August 2019, and 2018 background data was readily available at that time. Given that the maximum background 1-hour NO_2 level for the dataset ending in 2017 is approximately 128 µg/m while the maximum level for the dataset ending in 2018 is approximately 162 µg/m3, including the 2018 data results in a significant increase of approximately 34 µg/m3 in the combined 1-hour NO_2 impacts for the proposed project (p. 5, pp. 2).*

Response: Modeling for NO_2 impacts is challenging due to the many factors that must be considered, as noted above. Lacking clear direction from ARB, staff used a refined modeling approach for 1-hour NO_2 standards according to the 2011 CAPCOA guidance (which admittedly was written to evaluate the 1-hour NO_2 NAAQS). It should be noted that even though the maximum NO_2 background data in 2018 was higher than that in 2017, the maximum ozone data in 2018 (0.078 ppm) was much lower than that in 2017 (0.121 ppm) as shown in Table 5.3-3 of the IS/MND. The ozone concentration is used in the NO_2 modeling and it limits the conversion from NO to NO_2. If staff uses the lower ozone data in 2018, the maximum NO_2 project impact might be lower. Without a detailed modeling analysis, one cannot conclude that using 2018 data would definitely result in higher total modeled impacts. Additionally, the district did not provide the 2018 meteorological data when the IS/MND was prepared and published in

January 2020. The meteorological data, the background ozone data, and the background NO_2 data are all required for the detailed NO_2 modeling analysis.

As noted above, staff is unaware of any formally adopted state guidance on how to model to show compliance with the 1-hour NO_2 CAAQS. That is why staff used the CAPCOA guidance for the federal standard; staff used a more tailored approach. Staff believes this provides a reasonable analysis of potential impacts, but we are happy to discuss whether a modification to our approach for cases going forward is reasonable. However, the details of the analysis approach need to be developed and agreed upon among representatives of BAAQMD, ARB, project developers and their air quality modeling specialists and CEC staff. The analysis needs to be protective of public health as applied to very intermittent sources such as the backup engines at proposed data centers.

There are federal air quality modeling guidelines in 40 Code of Federal Regulations (CFR) Part 51, Appendix W, but this guidance is not applicable to highly intermittent sources. The 2011 CAPCOA guidance listed the "paired-sum" approach, which pairs hourly project impacts with concurrent hourly NO_2 background data. The 2011 CAPCOA guidance states that the "paired-sum" approach can be used with the approval of the reviewing agency for the 1-hour NO_2 NAAQS compliance demonstration. Staff could further refine the NO_2 modeling analysis with the "paired-sum" approach. However, the federal guidance (40 CFR Part 51, Appendix W) published in January 2017 (referenced in footnote 3 at the bottom of Page 3) states that hourly or daily pairing of monitored background and modeled concentrations should not be used if it is not protective of public health. However, the federal 1-hour NO_2 standard is based on 3-year average of the 98th percentile of the annual distribution of daily maximum 1-hour concentrations, while the 1-hour NO_2 CAAQS cannot be exceeded. Staff has asked ARB staff for guidance relevant to intermittent sources and welcomes documented, written guidance from ARB to refine the analysis for the 1-hour NO_2 CAAQS.

Comment: *Because one generator appears to cause violations, operating multiple generators almost certainly would lead to further exceedances (p. 5, pp.3).*

Response: It has not been determined that one generator would cause a violation of an AAQS. If the result from adding the maximum background concentration to the maximum project increment is above the AAQS, then a more refined analysis may lead to a result less than the AAQS.

Comment: *It would be appropriate to consider ambient air quality impacts of multiple data centers—not just multiple generators (p.5, pp. 4).*

Response: The zone of impact from the plume of an individual engine is confined to a fairly small area in the immediate vicinity of the engine. Staff evaluated the possibility of concurrent readiness testing at McLaren, Walsh and

Sequoia and conducted modeling which showed that there would be no significant plume overlap if each site's engine with the largest incremental impact were to be readiness tested at the same time. There was no significant plume interaction and staff was satisfied that this very improbable condition would not lead to an air quality impact even if it were to occur. Due to the unlikely possibility of such concurrent readiness testing, the work was not expanded further and there was no need to publish results.

Comment: *This suggests there are significant adverse environmental impacts from this proposed project that require additional mitigation measures or a full environmental impact report—or even that the SPPE is not appropriate for this project (p. 6, pp. 2).*

Response: Staff does not agree that significant adverse environmental impacts have been shown. ARB staff have not provided an air quality impact analysis nor have they demonstrated that there would be any significant adverse environmental impacts associated with this facility if approved and operated as described in the application.

Comment: *ARB staff recommends that staff perform a complete independent criteria pollutant ambient air quality modeling analysis and toxic air contaminate evaluation and avoid using only applicant-prepared modeling input data/files (p. 6, pp.3).*

Response: Staff conducts a rigorous independent review, critique and testing of the analysis done by the applicant, and staff need not start with a "clean sheet of paper." We oftentimes find problems with the applicant's modeling, and we invest substantial effort to identify and resolve errors made by the applicant's air quality modeling specialists. When independent modeling is needed, staff's experts often conduct the independent work and document the results for review by all parties.

Emergency Operation (page 6)

Comment: *"(Power outages) … have been occurring with increasing regularity (p. 6, pp. 4)".*

Response: The evidentiary record for this case does not identify an increased frequency of outages to data centers within the SVP service territory.

Comment: *Forecasting a reasonable range of uses during power outages is appropriate. Such use is reasonably foreseeable (p. 6, pp. 5).*

Response: The issue of emergency operation of this facility was thoroughly analyzed qualitatively in this proceeding, with detailed discussions of the situations that might occur that could necessitate the use of the emergency generators and predictions about the potential frequency of their use.[119] The

[119] Decision, pp. 25 ,19-23, 35-36, Appendix A, pp. 5.3-1 and throughout chapter 5.3, with specific focus on pp. 5.3-42 to 5.3-53. TN 234401.

proposed decision concluded that "the number of assumptions required for assessing the impacts of emergency operation of the Backup Generators render the results too speculative to be meaningful," and "the Backup Generators would operate very infrequently, if at all, for emergency operations.

Comment: *The conditions under which data centers may operate (i.e., heat storm events) may already include poor air quality, meaning the incremental contribution of data centers to this pollution may also be cumulatively significant (p. 6, pp. 6).*

Response: It has not been shown that heat storm events would lead to increased operation of the emergency engines. There is no relationship between heat storm events and the need to run these emergency generators due to a heat storm. While it is true that very recently, in response to an Emergency Declaration by Governor Newsom, data center(s) shed load from the grid to help avoid a widespread power outage, the state is committed to ensuring that this does not become a routine practice.

Comment: *In CARB's view, data center emergency operations are not speculative, and an evaluation of their operations during loss of power—for which the centers are being specifically designed, and for which they are marketed to customers—is also not speculative. CEQA requires an appropriate evaluation even of foreseeable impacts otherwise imprecise in scope or contingent in occurrence (p. 7, p. 2).*

Response: Staff's analysis (p. 5.3-30) included data on the frequency of SVP data center power outages. Information from SVP included in the Proposed Decision as Appendix B, on page 7 indicates that six data center customer interruptions occurred out of 37 operating data centers in the service territory over the last 10 years. That means that over the last 10 years, 31 out of 37 data centers (84% of the data centers) have not had to operate diesel backup generators due to loss of grid power.

The six data center interruptions were the result of two separate power outages. One of the data center outages occurred on May 28/29, 2016; the interruption lasted for 7 hours and 23 minutes and forced two data centers into emergency operations. The other data center outage occurred on December 2, 2016 and lasted only 12 minutes. It is speculative to assume a given data center will have to operate in emergency mode. It is more likely that they will not have to operate. It is more speculative to try and guess how and when the data center would operate, and under what load, with how many engines, and with what corresponding meteorological conditions.

Comment: *When quoting Whitman v. Board of Supervisors, ARB staff included a statement that said the (subject project's) … overall plan for the project could have been discussed in the EIR in at least general terms (p.7, p. 4).*

Response: Staff evaluated the potential impacts during emergency operations "in general terms" when describing the potential for emergency operations.

Comment: A*t least some simultaneous operation of backup generators during power outages is reasonably foreseeable and will only continue to become more so as the climate continues to warm. (p. 8, p. 2).*

Response: As stated above, the evidence in the record does not support a conclusion that a warming climate will lead to increases in emergency operations, which is what seems to be implied by the statement.

Comment: *Because some emergency operation is foreseeable and anticipated and because reasonable assumptions can be made similarly to model various scenarios of emergency operation, at least some meaningful analysis of emergency operation emissions impacts can be conducted (p. 8, p. 3).*

Response: Energy Commission staff look forward to continuing discussion of whether or not reasonable assumptions for emergency operation can be agreed-up. As discussed elsewhere, though, this is not a simple matter and involves an equally complicated discussion of appropriate thresholds of significance.

Comment: *"... further analysis (apparently, of multiple engines operating concurrently) is important because results to date are so close to the CAAQS" (p. 8, p. 3).*

Response: The results to date are just below the CAAQS and staff believe that further analysis would lead to a lower impact.

Comment: *ARB staff recommend that several (emergency) operating scenarios be analyzed (p. 9, p. 1)*

Response: Energy Commission staff looks forward to further discussion of these issues as they apply to future projects, but still believes that modeling emergency operations requires speculation. The proposed decision is not deficient for failing to engage in such speculation.

<u>CEQA Significance Thresholds (Page 9-10)</u>

Comment: C*ARB is of the view that multiple (CEQA Significance) thresholds are appropriate for the evaluation (p.9, p 2).*

Response: CEC staff used multiple thresholds in our published analysis. ARB failed to identify additional threshold of significance that should have been included or would change staff's conclusion.

Comment: *CARB also notes that evaluation of emergency operations would likely use the same significance thresholds as CEC uses for evaluation of generator maintenance impacts (p. 9, p. 2).*

Response: There is no guidance on how to apply these thresholds to emergency operation or if they should be applied to emergency situations.

Comment: *"... a fuller analysis of the project's significance may be masked by the use of offsets" (p. 9, p. 3).*

Response: CEC staff believe that we followed BAAQMD threshold guidance in evaluating this project's impacts. The IS/MND text cited by ARB shows that the use of offsets is sufficient to reduce the impact of project's annual emissions increase to below the BAAQMD threshold of significance. These offsets are not a "CEQA mitigation measure" but rather an applicant-proposed action required by BAAQMD regulation.

Comment: *While there is some question as to whether the NOx emission offsets shown above are being used as a CEQA mitigation measure, it is clear that the NOx emission offsets are being treated as negative emissions and used to reduce the proposed project's emissions below CEQA significance levels (p. 10, p. 2).*

Response: Staff followed the BAAQMD's May 2017 CEQA guidance document which has a 5-step process for addressing mitigation. Specifically, Table 4-1 lists a process wherein the analysis considers the project's impact prior to mitigation (Step 3), then mitigation is added (Step 4) and then mitigated project emissions are compared to the district's thresholds which are listed in Table 2-4. This is the process used by staff to prepare Table 5.3-6 of the Proposed Decision IS/MND. The BAAQMD CEQA guidance document specifically allows purchase of emissions reduction credits to offset facility emissions as follows:

> *"Stationary sources may also be required to offset their emissions of criteria air pollutants and precursors to be permitted. This may entail shutting down or augmenting another stationary source at the same facility. Facilities also may purchase an emissions reduction credit to offset their emissions. Any stationary source emissions remaining after the application of BACT and offsets should be added to the indirect and area source emissions estimated above to arrive at total project emissions."*

This process was used to determine whether the Sequoia project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment for an applicable federal or state ambient air quality standard. The criteria pollutants that are non-attainment for the project location are ozone and PM10. The project is in an area that attains NO_2 standards, and an applicant would not need to otherwise mitigate project-related direct impacts unless readiness testing and maintenance results in significant impacts. Appendix D, page D-47 of the BAAQMD CEQA guidance document states that BAAQMD based their criteria pollutant significance thresholds for NOx emissions on ozone precursors. Final evaluation of the Emission Reduction Credits (ERCs) in terms of their location, quantity or quality, and/or age will be

evaluated by the BAAQMD when they review the project for compliance with their Regulation 2, Rule 2.

ERCs obtained to reduce the project's emissions to below BAAQMD thresholds ensure that the project does not contribute to exceedance of ozone standards. Emissions of NOx can also lead to secondary aerosol formation and could contribute to the non-attainment status for PM10 or PM2.5. However, the ERCs are not used to mitigate direct NO_2 impacts and that is the reason that air quality modeling is performed to evaluate the project's direct NO_2 impacts. During the NO_2 modeling for readiness testing, no credit is taken for ERC reductions.

Comment: *"... the community would not experience simultaneous benefits from these offsets during operation … because they are not concurrent in time." (p. 10, p. 2)*

Response: As stated above, the BAAQMD will determine the adequacy of the offsets before issuing a permit for this project. If ARB staff believes that the BAAQMD staff is not correctly evaluating the applicability of the offsets, they should review the permitting conducted by BAAQMD.

Furthermore, the air quality regulatory community understands that offsets are not always contemporaneous in time or place. That is why offsets are not included in the air quality modeling analysis, which is required to ensure that the project would not cause or contribute to air pollutant concentrations that would exceed health-based AAQS.

Comment: *In addition to this obvious timing issue, emission offsets are not re-evaluated at the time of use to ensure that they continue to represent real surplus emission reductions for the area in question (p. 10).*

Response: Once again, this is the task of BAAQMD during permitting.

Comment*: CARB recommends that the CEC Staff do not treat emission offsets as negative emissions when comparing the proposed project's emissions to CEQA significance thresholds, and to include more analysis on the NOx offsets themselves (p. 11, p. 1).*

Response: Staff does not treat emission offsets as negative emissions when comparing the proposed project's emissions to CEQA significance thresholds. Additional details on the analysis for NOx offsets is provided above.

Alternatives (page 11)

Comment: *For the reasons discussed above, a full analysis of the proposed project's impacts would lead to the conclusion that it has significant adverse environmental impacts, and hence prompt a thorough review of alternatives (p. 11, p. 2).*

Response: Energy Commission staff do not agree that ARB has determined that the project would have significant adverse impacts.

Comment: *"... at least two alternatives should be considered: the use of gas-fired engines and the use of Tier 4 diesel generators" (p. 11, p. 4).*

> **Response:** Energy Commission staff agree that both of these alternatives are promising and deserve future study. However, we did not require further analysis or call for implementation of either of these alternatives because we did not determine there was a need for either to mitigate the project's impacts.

Comment: *"... (natural gas engines could be used to mitigate the project's impacts) …" (bottom of page 11 and near top of page 13).*

Response: CEC staff agree that natural gas engines would reduce the impact of readiness testing and during any emergency operation, if that were to occur. Since we did not determine that there would be adverse impacts, we did not determine there was a need to use them.

Comment: *"... (Tier 4 engines could be used to mitigate the project's impacts) … (p. 13, p. 2).*

> **Response:** CEC staff agree that Tier 4 engines would reduce the impact of readiness testing and during any emergency operation, if that were to occur. Since we did not determine that there would be adverse impacts without use of Tier 4 engines, we did not determine there was a need to use them. However, if the BAAQMD were to determine that Tier 4 engines were required as Best Available Control Technology (BACT), the analysis conducted by staff would likely overpredict the impacts of the project with Tier 4 engines.

Comment: *BACT may be determined to be Tier 4 engines at the time of permitting (lower portion of page 14).*

> **Response:** This determination would be made by BAAQMD, which has not to date made such a determination for any of the approximately 40 projects they reviewed in the local region. If they determine that Tier 4 engines are now required for BACT, the analysis conducted by staff would be very conservative, as stated immediately above.

BACT (page 14)

Comment "*..... trigger BAAQMD New Source Review (NSR) BACT requirements for carbon monoxide (CO) and NOx, and that the use of EPA-certified Tier 2 diesel engines complies with these BACT requirements. While this conclusion is consistent with the BAAQMD BACT guideline for emergency diesel generators, it is important to note that this guideline has not been updated for nearly ten years" (page 15).*

> **Response:** The engines proposed in all the applications reviewed by BAAQMD to date are no lower in emissions than the engines proposed for this project. Staff believed that Tier 2 engines would be determined by BAAQMD to be BACT at

the time of this publication of the Initial Study. The BAAQMD is the responsible agency for determining a final BACT determination and analysis.

Comment: *"To ARB's knowledge, this (the BACT determination) has not occurred to date for the proposed project" (near the top of page 16).*

Response: BAAQMD has not yet issued a permit for this facility. That is the appropriate process for determining BACT.

Comment: *"..... CARB recommends that the BACT discussion in the IS/MND for the proposed project be revised to clearly indicate that BACT determinations are made on a case-by-case basis using the most current information available" (near the bottom of page 16).*

Response: Staff agrees to include this language in future analyses and will be expanding our discussions to include a more detailed discussion on how BAAQMD determines BACT, but notes that such language, or its omission, is not relevant to the CEC's analysis of project impacts. Until BAAQMD determines otherwise, Tier 2 is currently BACT according to the agency.