Planning and Inspection Department
Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050
Ph: (408) 615-2450

Appeal Form

Instructions

Use this form to appeal a decision of the Architectural Review Committee or Planning Commission. **All appeals must be filed in the Planning Division within seven calendar days of the action being appealed.**

Appeals from the Architectural Review Committee are made to the Planning Commission and will be set for hearing on the next available Planning Commission agenda. Appeals from the Planning Commission are made to the City Council and will be placed on the subsequent City Council Agenda to set a hearing date. Please contact the Planning Division at the number listed above with any inquiries about the process.

Please print, complete, and sign this form before mailing or delivering to the City, along with the fee payment, and supporting documentation, letters, etc. (if any).

Appeal Fees

Appeal Fees are set by the Municipal Code of the City of Santa Clara and are subject to annual review. Please call the Planning Division for the current Appeal Fee. **Fee payment must be received by the City of Santa Clara before this form submittal can be certified as complete.**

Appeal fees may be paid by cash, check, or with VISA, MasterCard, or American Express, at the Permit Center at City Hall. Alternatively, checks or money orders made payable to City of Santa Clara can be mailed or delivered to Planning Division, City Hall, 1500 Warburton Avenue, Santa Clara, California 95050.

Appellant Declaration

Name: Collin McCarthy on behalf of California Unions for Reliable Energy

Street Address: [redacted]

City, State, Zip Code: Sacramento, CA 95814

Phone number: [redacted]

E-mail address: [redacted]

In accordance with the provisions of the Municipal Code of the City of Santa Clara, I hereby appeal the following action of the:

☑ Architectural Review Committee ☐ Planning Commission

at it's meeting of 4-18-2018 .
(date)

Agenda Item No.: 8.F

File No.(s): PLN2017-12535 / CEQ2017-01034

Address:/APN(s): 2305 Mission College Blvd. APN: 104-13-096

Appellant Statement
(If more space is required, attach a separate sheet of paper.)

Action being appealed:

Please see attached letter.

Reason for Appeal:

Please see attached letter.

Certification of Authenticity

Beware, you are subject to prosecution if you unlawfully submit this form. Under penalty of law, transmission of this form to the City of Santa Clara is your certification that you are authorized to submit it and that the information presented is authentic.

[redacted]

Signature of Appellant

4-24-2018

Date

ADAMS BROADWELL JOSEPH & CARDOZO
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

MILA A. BUCKNER
DANIEL L. CARDOZO
CHRISTINA M. CARO
THOMAS A. ENSLOW
TANYA A. GULESSERIAN
MARC D. JOSEPH
RACHAEL E. KOSS
COLLIN S. McCARTHY
LINDA T. SOBCZYNSKI

[redacted]

SO. SAN FRANCISCO OFFICE
601 GATEWAY BLVD., SUITE 1000
SO. SAN FRANCISCO, CA 94080
[redacted]

April 24, 2018

Via Overnight Mail:

Planning Division
City Hall
City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050

Via Email Only:
Steve Le
Planning Division
Email: sle@santaclaraca.gov

Re: **Appeal of the Adoption of a Mitigated Negative Declaration and Architectural Approval for 2305 Mission College Boulevard Data Center (PLN2017-12535 & CEQ2017-01034)**

Dear Planning Division:

We are writing on behalf of California Unions for Reliable Energy ("CURE"), Anthony Hernández and Edme Hernández (collectively, "Appellants") to appeal the April 18, 2018 decision of City of Santa Clara ("City") Architectural Committee ("Committee") to adopt a Mitigated Negative Declaration ("MND") and grant Architectural Approval for the 2305 Mission College Boulevard Data Center Project ("Project"). At the April 18, 2018 public hearing, the Architectural Committee accepted the City staff's recommendation and adopted the MND and approved the Project subject to certain conditions.

The Project, proposed by PR III 2305 Mission College Boulevard, LLC, involves the construction of a 495,610 square-foot data center facility that would include 60 megawatts ("MW") of informational technology power, a generator yard,

an equipment yard for battery and electrical equipment, and parking. The Project would include 120 diesel-fueled engine generators to provide 75 MW of backup power generation capacity. The Project also proposes to construct a new 90 megavolt amps Silicon Valley Power electrical substation. The 15.7-acre Project site is located at 2305 Mission College Boulevard in the City of Santa Clara.

On April 12, 2018, CURE filed extensive comments on the deficiencies of MND, which were prepared with the assistance of technical expert Dr. Phyllis Fox, Ph.D, PE. CURE's comments, as well as Dr. Fox's comments and curricula vitae are incorporated by reference as if fully set forth herein and are attached to this letter as Attachment 1. Additionally, we appeared on behalf of CURE at the Committee's April 18, 2018 public meeting and provided oral comments on the Project. The written and oral comments must be included as part of the Project's record.

I. Statement of Interest

CURE is a coalition of labor organizations whose members construct, operate, and maintain powerplants and other industrial facilities throughout California. CURE encourages sustainable development of California's energy and natural resources. Environmental degradation destroys cultural and wildlife areas, consumes limited water resources, causes air and water pollution, and imposes other stresses on the environmental carrying capacity of the State. Environmental degradation also jeopardizes future jobs by making it more difficult and expensive for industry to expand in Santa Clara, and by making it less desirable for businesses to locate and for people to live and recreate in the area. Continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities for CURE's participating organizations and their members. CURE therefore has a direct interest in enforcing environmental laws and minimizing project impacts that would degrade the environment.

CURE's participating organizations and their members also live, recreate, work, and raise families in the City of Santa Clara and Santa Clara County. CURE, its participating organizations and their members stand to be directly affected by the Project's adverse environmental and health impacts. Members may also work on the Project itself, and would therefore be first in line to be exposed to any health and safety hazards that the Project may create.

Similarly, Anthony Hernández and Edme Hernández live in the City of Santa Clara and would be directly affected by the Project's environmental and health and safety impacts.

II. Basis for the Appeal

Appellants raise three general grounds for this appeal. First, the City lacks permitting authority to approve the Project in the absence of a Small Power Plant Exemption, as required by the Warren Alquist Act, Public Resources Code section 25000 et seq. Second, the City failed to comply with the California Environmental Quality, Public Resources Code section 21000, et seq. and Title 14, California Code of Regulations section 15000 et seq. (collectively, "CEQA") when it adopted the MND and granted Architectural Approval for the Project. Third, the City lacks evidence to support its findings that the Project complies with the standards of design required for Architectural Approval set forth in the City Code.

First, the City lacks authority to approve the Project because it includes a thermal powerplant component – backup diesel generators – with a generating capacity greater than 50 megawatts (MW). Under the Warren Alquist Act, Public Resources Code section 25500, the California Energy Commission ("CEC") has exclusive jurisdiction to approve powerplants exceeding 50 megawatts of generating capacity. As seen in the case of other Santa Clara data center projects, diesel-fueled backup generators serving data center facilities are encompassed within the scope of the CEC's jurisdiction where the collective generating capacity exceeds 50 MW. The CEC may exempt thermal powerplants with a generating capacity of up to 100 MW 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.[1] However, the granting of a Small Power Plant Exemption requires a CEC determination. Here, the project includes 120 diesel generators with a combined generating capacity of 75 MW and the Applicant has not obtained an SPPE, thus the Project remains subject to the powerplant siting jurisdiction of the CEC.

Second, the City's MND fails to comply with the requirements of CEQA. CURE's comments on the MND, including the expert comments submitted by Dr. Phyllis Fox, provide substantial evidence in support of a fair argument that the Project may result in potentially significant impacts on the environment. Specifically, CURE's comments provide substantial evidence supporting a fair

[1] Pub. Resources Code § 25541.

argument that the Project may result in significant environmental impacts as a result of operational noise from emergency equipment; indirect greenhouse gas emissions; nitrogen oxide emissions from backup generator operation; and construction-related particulate matter. Planning Division staff offered limited responses to some of the issues raised in CURE's comments in the hours before the Committee hearing. However, the City's responses do not resolve the issues raised in CURE's comments.

The City's responses also wholly failed to respond to the comments submitted by Dr. Fox, which identified the following omissions in the MND and potentially significant and unmitigated impacts of the Project:

- The Project description is not adequate to evaluate environmental impacts.
- Greenhouse gas (GHG) emissions are significant and unmitigated.
- The air quality analyses are incomplete because they fail to include any air dispersion modeling of Project construction and operational emissions to verify compliance with ambient air quality standards.
- Ozone impacts were not evaluated and are likely cumulatively significant.
- Maximum daily PM10 and PM2.5 emissions during construction are significant and unmitigated.
- Maximum daily NOx emissions during construction are likely significant and unmitigated when discrepancies in the CalEEMod inputs are resolved.
- Operational emissions are underestimated and the IS/MND does not contain sufficient information to correct the omissions.
- Daily NOx emissions from routine emergency operation of the diesel generators are significant and unmitigated.
- Noise impacts during emergency operation are significant and unmitigated.
- Battery impacts were not disclosed or evaluated.
- Cumulative impacts were not evaluated for most impact areas.[2]

Dr. Fox's comment letter was also omitted from the City's Staff Report to the Architectural Committee despite being timely submitted.

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[2] Attachment 2. Letter from Collin McCarthy to Santa Clara Architectural Committee & Steve Le regarding 2305 Mission College Boulevard Data Center Project – Mitigated Negative Declaration and Architectural Approval (PLN2017-12535 and CEQ2017-01034)

Third, as explained in our April 18, 2018 letter to the Architectural Committee members, the Project's potentially significant and unmitigated impacts show that the Committee lacks substantial evidence to make the findings required to grant Architectural Approval under the Santa Clara City Code. Santa Clara City Code section 18.76.020, subsection (c), provides that the Committee must find that the Project is based on the following standards of architectural design, among others:

> (2) That the design and location of the proposed development and its relation to neighboring developments and traffic is such that it will not impair the desirability of investment or occupation in the neighborhood, will not unreasonably interfere with the use and enjoyment of neighboring developments, and will not create traffic congestion or hazard.
> ...
> (4) That the granting of such approval will not, under the circumstances of the particular case, materially affect adversely the health, comfort or general welfare of persons residing or working in the neighborhood of said development, and will not be materially detrimental to the public welfare or injurious to property or improvements in said neighborhood.[3]

As our comments on the MND demonstrate, substantial evidence shows that the Project may have several significant impacts on the environment notwithstanding the proposed mitigation measures. These impacts relate directly to the Project's potentially significant impacts on public health and the use and enjoyment of neighboring properties. The design and location of the proposed development and its relation to neighboring developments and traffic is such that it will unreasonably interfere with the use and enjoyment of neighboring developments. In addition, granting the approval may also materially affect adversely the health, comfort or general welfare of persons residing or working in the neighborhood of the Project, and be materially detrimental to the public welfare or injurious to property or improvements in said neighborhood.

III. Relief Requested

CURE requests that the City grant this appeal, rescind the April 18, 2018 Architectural Committee decision to adopt the MND and grant Architectural Approval. It is further requested that City abstain from considering any future

[3] S.C.C.C. § 18.76.020(c) (Underline added).

approval of the Project until the Applicant obtains a Small Power Plant Exemption from the California Energy Commission, consistent with the Warren-Alquist Act and the CEC's implementing regulations. By doing so, the City and public can ensure that all adverse environmental and public health impacts of the Project are adequately analyzed, disclosed, and mitigated as necessary as is required by law. The City and the public can also ensure that the approval of this powerplant project proceeds in the manner directed by law.

IV. Procedural Requirements for Appeals

CURE has satisfied the procedural requirements for an appeal of a decision of the Architectural Committee as set forth in the Santa Clara City Code. City Code, section 18.76.020(h) states:

> (h) In the event the applicant or others affected are not satisfied with the decision of the architectural committee, he may within seven days after such decision appeal in writing to the Planning Commission. Said appeal shall be taken by the filing of a notice in writing to that effect with the City Planner. The Planning Commission actions are appealable to the City Council in accordance with the procedures set forth in SCCC 18.108.060. The architectural committee may refer any application for architectural consideration to the Planning Commission for its decision with the same effect as if an appeal had been taken.

Here, the Architectural Committee made its decision on the adoption of the MND and approval of the Project on April 18, 2018. This letter and the attached appeal form constitute notice in writing of the appeal.

We have also enclosed a check for $400.00 for the appeal fee for non-applicants.

Thank you for your consideration of this appeal to the Planning Commission.

Sincerely,

[redacted]

Collin S. McCarthy

CSM:ljle

Attachments

Attachment 1

human health and the environment. Additionally, the IS/MND fails to identify all of the Project's potentially significant impacts and to propose mitigation to avoid or lessen impacts to a less than significant level. As explained in these comments, there is more than a fair argument that the Project will cause significant air quality and noise impacts. Furthermore, substantial evidence supports a fair argument that the Project's greenhouse gas ("GHG") emissions will result in a cumulatively considerable contribution to global climate change and are therefore significant. For each of these reasons, the City cannot approve the Project until an Environmental Impact Report ("EIR") is prepared that adequately discloses and analyzes the Project's potentially significant impacts and incorporates all feasible mitigation to avoid or lessen these impacts.

Finally, as discussed in Section X below, because the Project includes a thermal powerplant component exceeding 50 MW, the City cannot approve the Project until the California Energy Commission issues a certification or exemption pursuant to its exclusive powerplant siting authority.

These comments were prepared with the assistance of technical expert Dr. Phyllis Fox, Ph.D, CEQ, PE, DEE. Dr. Fox's technical comments and curriculum vitae are attached to this letter as Attachment 1 and are submitted to the City in addition to the comments contained herein.[1]

I. Statement of Interest

These comments are submitted on behalf of CURE. CURE is a coalition of labor organizations whose members construct, operate, and maintain powerplants and other industrial facilities throughout California. CURE encourages sustainable development of California's energy and natural resources. Environmental degradation destroys cultural and wildlife areas, consumes limited water resources, causes air and water pollution, and imposes other stresses on the environmental carrying capacity of the State. Environmental degradation also jeopardizes future jobs by making it more difficult and expensive for industry to expand in Santa Clara, and by making it less desirable for businesses to locate and for people to live and recreate in the area. Continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn,

[1] Attachment 1. Dr. P. Fox, Comments on the Initial Study/Mitigated Negative Declaration (IS/MND) for the 2305 Mission College Boulevard Data Center (Apr. 5, 2018) ("Fox Comments").

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR, except in certain limited circumstances.[7] The EIR is the heart of CEQA[8] and has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[9] An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project *may* have a significant effect on the environment."[10] The EIR aids an agency in identifying, disclosing, analyzing, and, to the extent possible, avoiding a project's significant environmental effects through implementing feasible mitigation measures.[11]

In certain limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement indicating that a project will have no significant impact. However, because "[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process" by allowing the agency to dispense with the duty to prepare an EIR, negative declarations are allowed only in cases where there is not even a "fair argument" that the project will have a significant environmental effect.[12]

In some circumstances, a project with potentially significant impacts can be modified by the adoption of mitigation measures to reduce the impacts to a level of insignificance. In such cases, an agency may satisfy its CEQA obligations by preparing a mitigated negative declaration.[13] However, a mitigated negative declaration is also subject to the same "fair argument" standard. Thus, an EIR is required whenever substantial evidence in the record supports a "fair argument" that significant impacts may occur as a result of the project even with the imposition of mitigation measures.

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[7] See, e.g., PRC § 21100.
[8] *Dunn-Edwards v. Bay Area Air Quality Management Dist.* (1992) 9 Cal.App.4th 644, 652.
[9] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*") (citing *Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 392); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[10] PRC § 21080(d) (emphasis added); 14 C.C.R. § 15064; see also *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927; *Mejia v. City of Los Angeles* (2005) 13 Cal. App. 4th 322.
[11] PRC § 21002.1(a); 14 C.C.R. § 15002(a), (f).
[12] *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440; PRC §§ 21100, 21064.
[13] PRC § 21064.5; 14 C.C.R. § 15064(f)(2).

inconsistent with CEQA's fundamental purpose of disclosure and inadequate as an informational document. It also prevents full consideration of the Project's potentially significant environmental impacts.

CEQA requires that before a negative declaration can be issued, the initial study must "provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment."[19] Here, as Dr. Fox's comments explain, the IS/MND's failure to disclose information on several critical components of the Project makes it impossible for the public and decisionmakers to meaningfully evaluate the potential environmental impacts of the Project, to identify the required mitigation, and to assess the effectiveness of the mitigation measures proposed.

First, the IS/MND states that the Project will include twenty-four (24) 10,000-gallon aboveground diesel fuel storage tanks. However, the IS/MND glosses over potential impacts from these storage tanks, and offers no analysis to support its conclusion that hazardous materials and air quality impacts will be less than significant. The IS/MND indicates that "there would be minor evaporative emissions of ROG"[20] (reactive organic gases) from the aboveground storage tanks, but its discussion of the emissions is a single sentence that "emissions of ROG from fuel storage are expected to be negligible."[21] The IS/MND does not describe the type of diesel storage tanks to be used in the Project beyond stating that they will be double-walled tanks. As Dr. Fox notes, information on tank type, such as floating or fixed roof, is critical because ROG emissions from diesel storage tanks may vary, particularly on hot weather days.[22]

Furthermore, ROG emissions would occur during the transfer of diesel into the storage tanks. The IS/MND does not disclose fuel transfers as a source of emissions.[23] There is no information on how or how often diesel fuel will be delivered and transferred to the storage tanks, no discussion of the related potential impacts, and no discussion of what measures will be implemented to avoid such impacts from occurring.

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[19] 14 C.C.R. § 15063(c)(5).
[20] IS/MND at p. 33.
[21] Id. at p. 34.
[22] Fox Comments at p. 30.
[23] Id.

of Project emissions and to determine whether the City's conclusions are supported by substantial evidence.

In the absence of the above information on the Project's diesel storage tanks, batteries, and electricity usage, the IS/MND's project description is inadequate. Moreover, the IS/MND does not provide a sufficient factual basis, or substantial evidence, to support a determination that hazardous materials, air quality, and GHG impacts resulting from the Project will be less than significant. The City must disclose this information so that the public and decisionmakers can assess all of the Project's potentially significant impacts and ensure that the Project impacts are mitigated to a less than significant level.

IV. Substantial Evidence Supports A Fair Argument That The Project's Greenhouse Gas Emissions May Be Significant

A. The IS/MND Consistency Analysis Does Not Establish the Project's GHG Emissions Would Be Less Than Signficant

The IS/MND concludes that the Project's GHG emissions would not have a significant impact on the environment because the Project is consistent with the City of Santa Clara Climate Action Plan ("CAP") and other plans, policies, and regulations adopted for the purpose of reducing GHG emissions.[32] However, as explained more fully below, the IS/MND fails to establish that the Project's consistency with these plans and programs will ensure that the Project's contribution to global climate change is not cumulatively considerable. Furthermore, by relying on a qualitative consistency analysis, rather than calculating the Project's emissions, the IS/MND fails to disclose to the public significant GHG emissions that will result from the Project's energy usage. This approach conflicts with CEQA Guidelines section 15064.4(a), which instructs lead agencies to "make a good-faith effort . . . to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project."

As Dr. Fox's comments demonstrate, substantial evidence supports a fair argument that the Project's GHG emissions may be significant notwithstanding the Project's consistency with the Santa Clara CAP, General Plan, and other state and

[32] IS/MND at p. 70.

or not the Project "conforms to the applicable reduction measures in the City's CAP."[37] The IS/MND also considers the Project's consistency with relevant provisions of the City of Santa Clara General Plan. The CAP, which was adopted in 2013 and is now part of the City's General Plan, is a qualified GHG reduction plan for purposes of CEQA.[38] The CAP identifies a series of measures intended to ensure the City "achieve[s] it fair share of statewide emissions reductions for the 2020 timeframe consistent with AB 32, the Global Warming Solutions Act."[39] As directed by the CEQA Guidelines, the IS/MND includes a section outlining the applicable CAP and General Plan provisions. The IS/MND then briefly describes how these measures apply to the Project. On this basis, the IS/MND concludes that the Project is consistent with the CAP and General Plan and therefore its GHG emissions will be less than significant.[40]

The IS/MND's conclusion that the Project will not result in significant GHG impacts because it is consistent with the City's CAP is not supported by substantial evidence for two reasons. First, because the CAP was adopted to achieve 2020 emissions reduction targets, consistency with the CAP does not support a determination that impacts will be less than significant beyond that year. Since the CAP was adopted, the state of California has adopted a more aggressive GHG emissions reduction target of 40 percent below 1990 levels by 2030.[41] This target was set in accordance with the latest scientific evidence regarding the degree of reduction needed to avoid further contributing to the devastating impacts of climate change.[42] As the City's CAP pre-dates the latest standards and scientific data, compliance with its measures alone does not provide substantial evidence that the Project's GHG impacts would be less than significant during the Project's operational life.

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[37] IS/MND at p. 63
[38] See 14 C.C.R. § 15183.5(b)(1); Santa Clara Climate Action Plan, p.8 (Dec. 3, 2013), *available at* http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan/climate-action-plan.
[39] IS/MND at p. 62.
[40] Id. at p. 70.
[41] Health & Safety Code § 38566 (SB 32).
[42] California's 2017 Climate Change Scoping Plan, California Air Resources Board pp. ES2-ES3, 2 (Nov. 2017), *available at* https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm; see also *Cleveland National Forest Foundation,* 3 Cal. 5th at 519 ("CEQA requires public agencies . . . to ensure that [greenhouse gas impact] analysis stay in step with evolving scientific knowledge and state regulatory schemes.")

indicating that the Project is consistent. However, two of the three (waste reduction and off-road equipment) only apply to Project construction. For the third, water conservation, the IS/MND does not explain the effect these measures will have on the Project's operational GHG emissions. The McLaren Data Center IS/MND showed that approximately 99% of that project's operational GHG emissions were the result of the data center energy demand, with slightly less than half a percent attributable to vehicle travel.[49] Thus, even assuming water usage was responsible for the remaining emissions, water conservation measures, while important, will do very little to reduce the Project's total GHG emissions.

Further, with respect to the Project's consistency with relevant General Plan policies, these policies similarly do not address GHG emissions resulting from electricity generation needed for the Project.[50] In fact, the applicable policies relate to largely the same categories as the CAP measures (water conservation, waste disposal). And again, the IS/MND also fails to explain what effect these measures will have in terms of reducing or mitigating the Project's overall operational GHG emissions.

In sum, the fact that the Project is consistent with the City's CAP and General Plan does not provide substantial evidence that GHG emissions will be less than cumulatively considerable, or less than significant. Because the City's CAP was prepared to achieve the City's 2020 GHG emission reduction targets, compliance with the CAP measures at most supports a determination that the Project will not impede the achievement of the City's 2020 targets. Moreover, of the CAP and General Plan measures applicable, few address the Project's primary source of GHG emissions, and the IS/MND wholly fails to explain how these measures will "ensure[] that the project's incremental contribution to the cumulative effect is not cumulatively considerable." As discussed further below, because substantial evidence supports a fair argument that the Project's GHG emissions may be significant notwithstanding its consistency with the City's GHG reduction plans and programs, an EIR must be prepared.

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[49] Proposed Mitigated Negative Declaration and Initial Study McLaren Data Center Project, File No(s): PLN2016-12246/CEQ2016-01023, City of Santa Clara, Appendix B, p. 8 (Feb. 2017), http://santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/167/3650?npage=2 ("Electricity usage makes up nearly 99% of the operational Project GHG emissions, with mobile sources making up slightly under half a percent.") ("McLaren IS/MND").
[50] IS/MND at pp. 68-69; Fox Comments at pp. 10-12.

Similarly, for its consistency analysis with SB 375, the IS/MND includes one sentence that "[t]he project has a low concentration of employment and would not contribute to a substantial increase in passenger vehicle travel within the region."[53]

Finally, after a paragraph describing the Climate Change Scoping Plan, the IS/MND again includes one conclusory statement that "[t]he project would be generally consistent with the Climate Change Scoping Plan, as updated[.]"[54]

As with the CAP consistency analysis, the IS/MND's consistency analysis for regional and statewide GHG reductions plans and programs wholly fails to explain how the Project's consistency with such plans supports its conclusion that the Project would not generate GHG emissions that would have a significant impact on the environment. Conclusory statements that the Project would be "generally consistent with" or "keeping with the general purpose" are not substantial evidence that impacts will be less than significant, as CEQA requires.[55] Moreover, because none of the plans and programs identified address data centers, where the majority of GHG emissions derive from electricity usage, finding that the Project is consistent is of minimal import in this case.[56]

B. Substantial Evidence Supports A Fair Argument That The Project's GHG Emissions Would Result In A Significant Impact

The BAAQMD CEQA Guidelines provide the following thresholds of significance for operational-related GHG emissions for land use development projects:

> Compliance with a qualified GHG Reduction Strategy; or annual emissions less than 1,100 metric tons per years (MT/yr) of CO2e; or 4.6 MT CO2e/SP/yr (residents + employees).[57]

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[53] Id.
[54] Id. at p. 70.
[55] Id. at pp. 69-70.
[56] 14 C.C.R. § 15064.4(b)(3) (Providing that consistency with adopted regulations and requirements is relevant for assessing a project's impacts if such requirements "reduce or mitigate the project's incremental contribution to greenhouse gas emissions.").
[57] BAAQMD CEQA Guidelines (May 2017), p. 2-4.

153,850 MT CO2e per year, 99 percent of which (152,262 MT CO2e/year) was attributed to the data center's energy usage.[64]

Relying on the McLaren Data Center calculations, Dr. Fox determined that the Project's GHG emissions from energy usage would be approximately 151,826 MT CO2e per year.[65] When added to the 1,720 MT CO2e per year from other sources disclosed in the CalEEMod outputs, the Project's total operational GHG emissions are 153,546 MT CO2e per year.[66] This figure is 89 times higher than the GHG emissions disclosed in Appendix A, and exceeds the BAAQMD significance threshold for land use projects by a factor of 140.[67]

Because the overwhelming majority of the Project's operational GHG emissions will not be reduced by the City's CAP and General Plan measures, finding that the Project is consistent with the CAP does not support a determination that the Project's GHG impacts will be less than significant. Moreover, as Dr. Fox's comments provide, substantial evidence shows that the Project's GHG emissions will be cumulatively considerable and therefore significant notwithstanding the Project's alleged consistency with a GHG reduction plan.[68] The City must prepare an EIR to disclose and analyze the Project's GHG emissions, and to incorporate all feasible mitigation.

V. Substantial Evidence Supports a Fair Argument That the Project Will Cause Significant Noise Impacts

Appendix G to the IS/MND explains that the Project's emergency equipment, including the backup generators and battery switchgear, would generate significant operational noise impacts. To reduce these impacts to a less than significant level, the IS/MND contains two mitigation measures addressing operational noise: First, MM NOI-1 requires that "[n]o more than nine powerblocks (45 generators) located on the western boundary of the generator yard may be tested simultaneously."[69] Second, MM NOI-2 provides that "[n]oise attenuation measures will be subject to demonstration of effectives in meeting the City's noise standards, to the satisfaction

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[64] McLaren IS/MND, Appendix B, p. 8.
[65] Fox Comments at p. 4 n. 15.
[66] Id. at p. 4.
[67] Id. at p. 5.
[68] Id. at pp. 4-5.
[69] IS/MND at p. 95.

were included in the Project for a reason and will be used simultaneously when the Project's primary power supply is interrupted. It also prevents the public and decisionmakers from conducting an informed evaluation of the Project's potential noise impacts. Neither the IS/MND nor Appendix G disclose to the reader the sound levels that would result from all 120 generators operating simultaneously.[74] Further, in considering whether the Project would result in a significant increase over ambient noise levels, the projected noise level displayed in the IS/MND was calculated assuming emergency generators operate for no more than four hours in a day.[75]

Contrary to the IS/MND's depiction of the Project's backup generators, SVP's outage history demonstrates that all 120 backup generators will be called on to operate throughout the year. The Silicon Valley Power website shows that the utility has experienced 41 power outages across its entire service area over the course of the last year and a half.[76] These power outages ranged in duration from five minutes to more than five hours, with causes ranging from equipment failure to balloons to animal contact.[77] As these figures show, disruptions to the Project's power supply may reasonably be expected throughout the Project's operational life and all generators will be required to operate simultaneously.

The omission of impacts from all generators operating simultaneously not only renders the IS/MND deficient as an informational document, it renders the City's determination that noise impacts would be less than significant not supported by substantial evidence. The fact that "[e]mergency equipment such as backup generators are not required to meet noise code during emergency operations [per section 9.10.070(a) of the Santa Clara City Code]" does not support a determination that noise impacts would be less than significant under CEQA. While compliance with applicable noise limits is a relevant consideration, CEQA ultimately requires consideration of the Project's effect on the surrounding

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[74] See IS/MND, Appendix G, p.8 (Sound pressure levels displayed are the result of 9 powerblocks and 11 powerblocks tested simultaneously).
[75] Id. at p. 9.
[76] Silicon Valley Power, Outage History, http://www.siliconvalleypower.com/svp-and-community/outages-and-alerts/outages/outage-history (last visited Apr. 11, 2018).
[77] Id.

Property Line	Daytime Noise Limit [dBA]	Nighttime Noise Limit [dBA]
1. Residential to North	55	50
2. Public Space to West	55	50
3. Light Industrial to East	70	70
4. Planned Development to South	65	60

Appendix G concludes that "the *daytime* noise limits will be met if no more than (9) powerblocks (45 generators) and eleven (11) PCS modules are tested simultaneously."[81] Additionally, Appendix G specifies: "To meet code limits at all property lines, *no more than four (4) powerblocks along the west end of the generator yard may be tested simultaneously.*"[82] With these restrictions in place, sound pressure levels would be 54 dBA at receivers 1 and 2, 59 dBA at receiver 3, and 54 dBA at receiver 4, and therefore would be below *daytime limits.*[83]

As the above statements demonstrate, the IS/MND's conclusion that noise impacts will be less than significant with the incorporation of mitigation measures MM NOI-1 and MM NOI-2 is inconsistent with Appendix G. First, despite a brief statement in the IS/MND that "testing would be conducted between the hours of 7:00 AM and 10:00 PM," there is no enforceable restriction on the time equipment testing may occur at the Project. In the absence of an enforceable time restriction, nighttime noise limits at both the north and west property lines would be exceeded during testing (54 dBa during testing compared to 50 dBA nighttime noise limit).

Second, Appendix G states that, "[t]o meet code limits at all property lines, no more than four powerblocks along the west end of the generator yard may be tested simultaneously."[84] However, MM NOI-1 erroneously sets the limit on simultaneous testing at nine powerblocks on the western boundary.[85] There are nine powerblocks along the west end of the property alone.[86] Thus, the Applicant could test all nine

[81] Id. at p. 8 (Italics added).
[82] Id. at p. 9 (Italics added).
[83] Id.
[84] Id.
[85] IS/MND at p. 95.
[86] IS/MND, Appendix G, p. 7, Figure 7.

Furthermore, because the CalEEMod model was run for an annual scenario only, with average daily emissions calculated by dividing annual emissions by 336 work days, the IS/MND's emissions calculations are inaccurate and its conclusions are unsupported. As Dr. Fox explains, CalEEMod can be run for three scenarios: annual or summer and winter with output in pounds per day. It also calculates maximum daily construction emissions. Here, the IS/MND's approach of determining daily emissions averages by division results in an inaccurate calculation of the Project's construction emissions as construction will occur over a 15 month period and emissions will vary depending on seasonal conditions.[92] Averaging emission also fails to account for the fact that construction phases may overlap in time, with multiple pieces of construction equipment operating simultaneously.

Because the IS/MND's emissions calculations are inaccurate, they cannot be relied on to support a determination that air quality impacts from Project construction will be less than significant. Moreover, as discussed further below, substantial evidence supports a fair argument that Project construction will result in significant particulate matter emissions from fugitive dust. Accordingly, an EIR must be prepared to accurately disclose and analyze the Project's construction emissions and to impose all feasible mitigation.

A. Construction Fugitive Dust Emissions Were Omitted from the IS/MND Emissions Calculations

The CalEEMod User's Guide states that the program does not account for fugitive dust emissions from off-road vehicle travel when calculating emissions.[93] This category of emissions includes fugitive dust generated by on-site haul trucks during construction activities.[94] On site haul trucks generate fugitive PM10 and PM2.5 emissions when traveling on unpaved surfaces within a project site, such as during site preparation and grading. Here, the IS/MND states that fugitive dust will be generated during Project construction. It also indicates that project construction will include site preparation, grading, and excavation for the 15.7 acre site. However, the IS/MND does not disclose the size or extent of unpaved surfaces,

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[92] Id. at p. 19.
[93] Id. at p. 21.
[94] Id.; see also IS/MND at p. 31 ("During grading and construction activities, dust would be generated.")

Alternatively, using the AP-42 "Industrial Wind Erosion" guidance and assuming a 2-minute wind speed of 30 mph, Dr. Fox estimated wind erosion PM10 emissions from a similar, but much smaller disturbed area at a construction site (4 acres disturbed) would be 60 lb/day of PM10 and 30 lb/day of PM2.5. However, she explains, "Wind erosion PM10 and PM2.5 emissions calculated using the AP-42 'Industrial Wind Erosion' methodology would be substantially higher if the entire disturbed area were included."[102]

B. Construction PM10 and PM2.5 Emissions Are Significant

Under CEQA, "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the public of the public agency involved, based to the extent possible on scientific and factual data."[103] BAAQMD's CEQA guidelines do not establish a threshold of significance for fugitive dust PM10 and PM2.5 emissions; however, several other California air pollution control districts have adopted significance thresholds for fugitive dust construction emissions. For example, the Monterey Bay Unified Air Pollution Control District has established a significance threshold of 82 pounds per day for construction PM10 emissions; the South Coast Air Quality Management District has established thresholds of 150 pounds per day for PM10 and 55 pounds per day for PM2.5; and the Sacramento Metropolitan Air Quality Management District has established significance thresholds of 80 pounds per day for PM10 and PM2.5 if all feasible control measures are implemented. The CEQA Guidelines provide that "when adopting thresholds of significance, a lead agency may consider thresholds of significant previously adopted or recommended by other public agencies or recommended by experts provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." Here, when taken together, these agencies show a reasonable threshold of significance of construction emissions is 80-150 pounds per day for PM10 and zero-80 pounds per day for PM2.5. [104]

Dr. Fox's calculations demonstrate that when fugitive PM10 emissions are calculated to include off-road vehicle travel and wind erosion, total construction fugitive PM10 emissions may range from 524-648 pounds per day.[105] Furthermore,

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[102] Id. at p. 26.
[103] 14 C.C.R. § 15064(b).
[104] Fox Comments at p. 27.
[105] Id. at p. 28.

- making it more difficult to breathe deeply and vigorously;
- causing shortness of breath and pain when taking a deep breath;
- causing coughing and sore or scratchy throat;
- inflaming and damaging the airways;
- aggravating lung diseases such as asthma, emphysema, and chronic bronchitis;
- increasing the frequency of asthma attacks;
- making the lungs more susceptible to infection;
- continuing to damage the lungs even after symptoms have disappeared; and
- causing chronic obstructive pulmonary disease (COPD).[113]

Ozone also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas, and can cause significant damage during the growing season.[114]

In the Project at hand, sources of VOCs and NOx include Project construction equipment, backup generators, traffic, the generation of electricity, and the diesel storage tanks.[115] Emissions of NOx and VOCs from these sources will increase ambient ozone concentrations, may aggravate existing exceedances of ozone standards and perhaps cause additional exceedances. These exceedances translate directly into adverse health impacts on the affected population and environment.

As the IS/MND shows, the Project's unmitigated construction emissions would exceed BAAQMD thresholds for NOx. After mitigation, average daily construction emissions are estimated to just below the BAAQMD threshold at 51 pounds per day. Furthermore, Project operational emissions from generator testing alone are just below the BAAQMD threshold of significance with the timing restrictions of MM AIR-2 incorporated. These emissions do not account for emissions from actual use of the backup generators in the case of a power outage, which as discussed in section V (A) above, is a highly foreseeable scenario. Moreover, when emissions from nearby Projects, including similar data center

[113] Fox Comments at p. 16.
[114] Id. at p. 16.
[115] Id. at pp. 16-17.

Because MM AIR-2 does not address generator operation during emergency conditions, but rather only operations for maintenance and testing purposes, the IS/MND's conclusion that generators NOx emissions would be less than significant with mitigation incorporated is not supported by substantial evidence. The IS/MND shows that the combined operation of the Project's 120 generators would exceed significance thresholds in a reasonably foreseeable disruption to the Project's power supply. Thus, NOx emissions from operation of the Project's backup generators remain significant and unmitigated.

IX. The IS/MND Fails to Require All Feasible Mitigation

A. All Feasible Mitigation Must Be Required for Construction-Related Fugitive PM10 and PM2.5 Emissions

As demonstrated in section VI(B) above, substantial evidence supports a fair argument that fugitive PM10 and PM2.5 emissions from Project construction activities may be significant. CEQA requires that the City prepare an EIR to analyze these emissions and to implement all feasible mitigation measures when a potentially significant impact is identified. Currently, the IS/MND requires that the Applicant implement BAAQMD's recommended construction mitigation measures. However, as Dr. Fox notes, there are additional feasible mitigation measures to reduce fugitive PM emissions. Mitigation measures that have been required in recent CEQA documents or recommended by the U.S. EPA:[117]

- The number of pieces of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practicable number is operating at any one time.

- Signs shall be posted in designated areas and job sites to remind drivers and operators of the speed limit.

- Low rolling resistance tires shall be used on long haul class 8 tractor-trailers.

[117] Fox Comments at pp. 28-29.

First, the Project could reduce its GHG impacts by installing solar panels to the maximum extent feasible, including over parking spaces and any roof area not being used for cooling towers or other equipment. The Applicant could acquire additional land in the vicinity to install any additional PV panels required to offset 100% of the demand.

Second, the Applicant could be required to enter into a long-term (e.g., 20-year minimum) purchase agreement for renewable energy in which the provider is contractually bound to retire the renewable energy credits associated with the renewable energy on CARB's behalf.

Third, other building envelope and facility operation measures are feasible and should also be required. These include:

- Replace the diesel-powered generators with backup power from on-site solar coupled with battery backup. The Project currently includes batteries, but the IS/MND is silent on their capacity or use.

- Require bus stops, express lanes, and bus stop shelters for existing/planned transit service that supports the Project.

- Use traffic calming measures, including all internal sidewalks a minimum 5 feet wide, all sidewalks with vertical curbs, roadways routed to avoid "skewed intersections."

- Use the following traffic-calming features at internal and adjacent intersections: marked crosswalks, count-down signal times, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts, or mini-circles.

- Participate in funding off-site traffic improvements to reduce idling by increasing traffic flow through synchronized traffic signals.

X. The City Lacks the Authority to Approve Powerplant Projects

In addition to the numerous deficiencies with the IS/MND described above, the City cannot approve the Project because the California Energy Commission ("CEC") has exclusive jurisdiction to approve powerplants, such as that included as part of the Project.

Under the Warren Alquist Act, Public Resources Code section 25500, the CEC has exclusive jurisdiction to certify all sites and related facilities for thermal power plants that generate 50 megawatt (MW) or more within California. For purposes of the Act, "thermal powerplant," is defined as "*any* stationary . . . electrical generating facility using any source of thermal energy, with a generating capacity of 50 MW or more . . . ."[119] As seen in the case of other Santa Clara data center projects, diesel-fueled backup generators serving data center facilities are encompassed with the scope of the CEC's jurisdiction where the collective generating capacity exceeds 50 MW. Here, the combined generating capacity of the Project's 120 backup diesel generators is 75 MW.

Under Public Resources Code section 25500, the siting authority of the CEC supersedes local approval of thermal powerplant facilities. The CEC may exempt thermal powerplants with a generating capacity of up to 100 megawatts 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.[120] However, in the absence of a Small Power Plant Exemption ("SPPE"), construction of a powerplant project may not commence without first obtaining certification for any such site and related facility by the CEC.[121] Here, the Applicant has not obtained an SPPE, thus the Project remains subject to the siting jurisdiction of the CEC.

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[119] PRC § 25120.
[120] PRC § 25541.
[121] PRC § 25517.

ATTACHMENT 1

TABLE OF CONTENTS

1. INTRODUCTION, SUMMARY, AND CONCLUSIONS

I have reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) for the 2305 Mission College Boulevard Data Center Project (Project).[1] The Project will be located at 2305 Mission College Boulevard, Santa Clara, California. The 15.7-acre Project site is currently occupied by a two-story 358,000 square foot (sq ft) office/R&D building and a parking lot. The Project proposes to demolish the existing development and to construct a new 495,600 sq ft, two-story data center, including generator yard, equipment yard, underground water storage, parking for 75 cars (with land banking), and a new Silicon Valley Power (SVP) substation. A total of 120 diesel-fueled engine generators will be installed within a screened generator yard west of the data center building, adjacent to San Tomas Aquino Creek. Interim emergency power will be provided by battery systems in the switchgear yard to the north of the building. Cooling will be provided by about 144 chillers on the roof of the proposed building.

Based on my review, I conclude the IS/MND is fundamentally defective in that it omits crucial information required to understand the Project's significant impacts, thus failing as an informational document under CEQA. Further, it fails to identify many significant impacts and to analyze others. Finally, impacts remain significant after mitigation. My analysis indicates the following omissions and significant and unmitigated impacts:

- The Project description is not adequate to evaluate environmental impacts.
- Greenhouse gas (GHG) emissions are significant and unmitigated.
- The air quality analyses are incomplete because they fail to include any air dispersion modeling of Project construction and operational emissions to verify compliance with ambient air quality standards.
- Ozone impacts were not evaluated and are likely cumulatively significant.
- Maximum daily PM10 and PM2.5 emissions during construction are significant and unmitigated.
- Maximum daily NOx emissions during construction are likely significant and unmitigated when discrepancies in the CalEEMod inputs are resolved.
- Operational emissions are underestimated and the IS/MND does not contain sufficient information to correct the omissions.
- Daily NOx emissions from routine emergency operation of the diesel generators are significant and unmitigated.
- Noise impacts during emergency operation are significant and unmitigated.
- Battery impacts were not disclosed or evaluated.
- Cumulative impacts were not evaluated for most impact areas.

In sum, in my opinion the IS/MND is substantially deficient and does not fulfill its mandate as an informational document under CEQA to inform the public of potential impacts.

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[1] City of Santa Clara, 2305 Mission College Boulevard Data Center Project, March 2018; available at http://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/221/3649.

requirements."[4] In my opinion, as supported below, there is substantial evidence that the GHG emissions are both individually and cumulatively considerable, requiring preparation of an EIR.

2.1. GHG Emissions Are Unsupported and Significantly Underestimated

An estimate of the construction and operational GHG emissions is required to evaluate impacts and identify mitigation. The BAAQMD CEQA guidelines contain a GHG significance threshold for stationary sources of 10,000 metric tons per year (MT/yr).[5] Stationary sources are those that would require a permit to operate from the BAAQMD.[6] GHG impacts from the diesel generators are below the BAAQMD's threshold of 10,000 MT CO_2e/yr and thus are not significant.

The BAAQMD CEQA guidelines also contain an operational GHG significance threshold for land use development projects of 1,100 MT of CO_2e/yr or 4.6 MT CO_2e/SP[7]/yr.[8] All of the GHG emissions from the Project, except those from the diesel generators, arise from land use development components of the Project.

The major source of GHG emissions from data centers is energy demand. The CalEEMod model that the IS/MND used to estimate GHG emissions[9] does not include energy demand from data centers, which is the major source of GHG emissions. These emissions must be separately calculated from data center energy demand. The IS/MND also does not disclose the unmitigated or mitigated data center energy demand of the Project, which is required to estimate GHG emissions from data centers. One may infer that the energy demand is at least 75 MW, as the Project includes 120 diesel-fueled 625-kWe emergency backup generators.[10] However, it is unclear whether the diesel generators are designed to supply 100% of the electricity demand of the Project. Thus, total data center energy demand could be greater than 75 MW.

Further, the main text of the IS/MND does not disclose the GHG emissions for any source other than emergency generators, does not disclose where the GHG emissions may be found, nor explain how they were calculated. My review indicates that a portion of the GHG emissions was estimated using the CalEEMod model, whose output is buried in Appendix A[11] to the IS/MND, where it would be generally inaccessible to non-expert members of the reviewing public. As explained in Comment 4, the CalEEMod model is a black box in which all

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[4] CEQA Guidelines, Section 15064.4.

[5] BAAQMD May 2017, Table D-2.

[6] BAAQMD May 2017, p. 2-4.

[7] SP = Service Population.

[8] BAAQMD May 2017, Table 2.1.

[9] IS/MND, Appendix A, pdf 26: (100)(1401/1720) = 81%.

[10] IS/MND, Appendix A, pdf 11.

[11] IS/MND, Appendix A, pdf 25-43.

threshold of 1,100 MT/yr. The total GHG emissions, including data center demand, are 153,546 MT CO_2e/yr, which exceeds the significance threshold by a factor of 140. Thus, the IS/MND must demonstrate compliance with a qualified GHG reduction strategy. As discussed in Comment 2.3, the proposed GHG mitigation does not come close to mitigating the significant operational GHG impact because the proposed GHG mitigation focuses on very minor sources of GHG emissions, such as mobile sources and water supply. Thus, GHG impacts are significant and unmitigated, requiring all feasible GHG mitigation and an EIR. Further, as explained in Comment 8, the IS/MND does not include a cumulative GHG impact analysis, even though many additional, high energy demand projects are planned in the general area.

The IS/MND relies on the City of Santa Clara's Climate Action Plan (CAP), the City of Santa Clara's General Plan, Bay Area 2017 Clean Air Plan, Plan One Bay Area/California Senate Bill 375, and applicable State climate change strategies and policies to mitigate GHG emissions.[18] However, as demonstrated below, the Project fails to comply with any of these plans. Further, none of these plans specifically addresses data centers, where the majority of the GHG emissions derive from electricity use. In fact, the mitigation measures in these plans do little to nothing to reduce GHG emissions from data centers. The IS/MND has failed to supplement its analysis with measures that would substantially reduce GHG emissions from the Project.

2.3. The Project Does Not Comply with a Qualified GHG Reduction Strategy

GHG impacts from all other Project emission sources except the stationary source diesel generators would be less than significant if the Project were consistent with the City's CAP, and applicable regulatory programs and policies adopted by California agencies. As demonstrated below, GHG impacts from other Project components remain significant after compliance with applicable regulatory programs and policies. Thus, GHG impacts are significant and unmitigated, requiring all feasible mitigation and the preparation of an EIR.

Further, the IS/MND lacks Project design details, essential to estimating GHG emissions, determining consistency with various climate action plans and policies, and assuring that the various mitigation measures arising from these plans and policies are enforceable. The IS/MND fails to disclose how the various mitigation measures, which are expressed in very general terms, will be enforced.

As explained below, the Project as described in the IS/MND is not consistent with any of the plans relied on to mitigate GHG impacts. These plans do not mitigate GHG emissions to insignificance. Further, the IS/MND does not provide substantial evidence to justify a less than significant impact because the mitigation measures reduce a very tiny fraction of the increase in GHG emissions. Mitigated emissions remain significant, requiring all feasible mitigation. Each plan relied on in the IS/MND is discussed below.

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[18] IS/MND, pdf 71-126.

The CAP also requires all new developments to implement a TDM program to reduce "drive-alone trips," including transit subsidy passes, employer rideshare assistance, transit and rideshare assistance, transit and bicycle subsidies, emergency ride home services, telecommute/flex commute options, and car and bike-sharing solutions. The IS/MND lists electric car charging stations, secure bicycle parking facilities, dedicated parking spaces for low-emission vehicles, preferred carpool and vanpool parking, and facilitation of ride-sharing services as examples of measures that could be implemented in the Project,[25] and indicates an annual report outlining performance would be submitted to the Planning Division.[26]

The IS/MND estimates the TDM program would reduce the number of trips by about 25%, with 10% coming from TDM measures,[27] but fails to explain how this reduction would be accomplished or to support this estimate.[28] Further, the IS/MND does not include a traffic study to support any estimate of trip reductions. This measure also does very little to reduce the Project's GHG emissions, as GHG emissions from mobile sources are only 0.043% of the total disclosed GHG emissions and this measure would reduce only a tiny fraction of the 65 MT/yr of GHG emissions from mobile sources calculated in the CalEEMod model run.[29]

The Applicant has not committed to funding and managing the TDM program. There is no requirement to convert the various activities into GHG reductions. Who would coordinate, promote, and provide the various features of the TDM program? How many secure bicycle parking and dedicated parking spaces for low-emission vehicles would be provided? How would ride-sharing services be implemented? This measure should be modified to require funding by the Applicant through a Community Facilities District, County Service Area, or other nonrevocable funding mechanism.[30]

The TDM program is not enforceable and thus is not valid CEQA mitigation. The CARB Southern California Consolidation Project EIR requires an aggressive TDM program designed to encourage the use of alternative transportation options to driving alone in a conventional vehicle.[31] The program requires CARB to undertake or fund feasible GHG mitigation, including direct investment opportunities such as funding building retrofit programs that invest in: cool roofs, solar panels, solar water heaters, smart meters, energy-efficient lighting, energy-efficient appliances, energy-efficient windows, insulation, water conservation measures, and other similar retrofit measures associated with green buildings within the geographic area of the

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[25] IS/MND, pdf 72.

[26] IS/MND, pdf 35.

[27] IS/MND, pdf 72.

[28] IS/MND, pdf 72, 111.

[29] IS/MND, Appendix A, pdf 26: (100)(64.87/151,826) = 0.0000047%.

[30] CAPCOA, CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008, Table 16, p. B-12; available at www.capcoa.org/download/CAPCOA+White+Paper.

[31] CARB, March 2017, p. 5.7-46/47.

In contrast, the IS/MND does not set out any method to estimate resulting GHG reductions or to ensure that GHG emission reductions are enforceable, with no requirement to measure or report to the CEQA lead agency. At a minimum, the IS/MND must include a detailed analysis of the effectiveness and likely implementation for each component of the TDM.

2.3.1.2. Electric Vehicle Parking

The CAP recommends that 5% of all new parking be designated for electric vehicle charging.[35] The Project will initially include 75 parking spaces,[36] which may be expanded to 661 spaces in the event the land use changes to something other than a data center in the future.[37] In fact, prior to Project approval, the Applicant must submit a plan to the City demonstrating that the site could accommodate 661 parking spaces to meet the City Code.[38] The IS/MND states that proposed measures include implementing electric vehicle parking and dedicating parking spaces for low-emission vehicles, but fails to disclose the number of spaces.[39] Thus, this measure is not required or enforceable and is not consistent with the CAP, which requires a minimum of 4 EV charging spaces and a recommended level of 5% of all parking spaces.[40] Further, as noted in Comment 2.3.1.1, this measure does very little to reduce the Project's GHG emissions, as GHG emissions from mobile source are only 0.043% of the total GHG emissions. Thus, this measure would do very little to reduce the 65 MT CO_2e/yr of GHG emissions from mobile sources.

2.3.1.3. Urban Cooling

The CAP requires new parking lots to be surfaced with low-albedo materials to reduce heat gain.[41] The IS/MND indicates only that the parking lot would be "paved."[42] The IS/MND does not contain building plans and other Project details that are essential to determine compliance with various plans and policies to demonstrate consistency. Thus, this measure is not enforceable and is not consistent with the CAP, which requires that parking lots be surfaced with low-albedo materials. Further, this measure does very little to reduce the Project's area

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[35] Santa Clara CAP, pdf 72, 77.

[36] IS/MND, pdf 12, 112.

[37] IS/MND, pdf 112.

[38] IS/MND, pdf 112.

[39] IS/MND, pdf 35, 70.

[40] IS/MND, pdf 110.

[41] Santa Clara CAP, pdf 73-74, 113.

[42] IS/MND, pdf 11.

The Project's energy provider, SVP, allows residents and businesses to "choose renewable energy for 100 percent of their energy usage."[49] The IS/MND contains no requirement to maximize the use of renewable energy, let alone 100%. The Project's emissions from electricity use could be significantly reduced by purchasing all of its electricity from Santa Clara Green Power, which is available through Silicon Valley Power, the identified power provider.[50] Alternatively, the GHG emissions from electricity demand also could be further reduced by requiring the installation of on-site solar panels to the maximum extent feasible and acquiring additional land in the vicinity to install the needed PV panels. The Applicant could also enter into a long-term (20-year minimum) purchase agreement for renewable energy in which the provider is contractually bound to retire the Renewable Energy Credits (RECs) associated with the renewable energy on CARB's behalf.[51] Thus, the IS/MND is inconsistent with General Plan Section 5.10.3.

2.3.2.3. Section 5.10.4: Water Goals and Policies

General Plan Section 5.10.4-P6 states: "Maximize the use of recycled water for construction, maintenance, irrigation and other appropriate applications." The IS/MND indicates that recycled water would only be used for landscape irrigation.[52] No recycled water is proposed for construction. Thus, the IS/MND is not consistent with this General Plan policy.

2.3.2.4. Section 5.11.2: Global Climate Change

This section relies on prior sections, discussed above. Thus, the IS/MND's GHG mitigation measures are not consistent with the General Plan's global climate change goals.

2.3.3. Bay Area Clean Air Plan

As documented below, the IS/MND GHG mitigation program is not consistent with the Bay Area Clean Air Plan.

2.3.3.1. Decarbonize Electricity Production (EN1)

This measure states: "Engage with PG&E, municipal electric utilities and CCEs to maximize the amount of renewable energy contribution to the production of electricity within the Bay Area as well as electricity imported into the region. Work with local governments to implement local renewable energy programs..."[53] As discussed in Comment 2.3.2.2, the IS/MND does not comply with this measure.

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[49] General Plan, pdf 87.

[50] *See* 3/8/17 BAAQMD letter, p. 2 and IS/MND, pdf 68.

[51] *See, e.g.*, CARB, March 2017, Table 1-1, p. 1-2.

[52] IS/MND, pdf 12, 70, 71, 74.

[53] Bay Area Clean Air Plan, Attachment A, pdf 144, Table 5-3: Energy Control Measures.

producing electricity to supply the data center. The emissions from electricity use could be significantly reduced by purchasing all electricity from Santa Clara Green Power, which is available through Silicon Valley Power, the identified power provider or other options identified in Comment 2.3.2.2[61]

The GHG emissions from electricity demand also could be further reduced by requiring the installation of on-site solar panels to the maximum extent feasible and acquiring additional land in the vicinity to install any additional PV panels required to offset 100% of the demand. Alternatively, the Applicant could enter into a long-term (20-year minimum) purchase agreement for renewable energy in which the provider is contractually bound to retire the RECs associated with the renewable energy on CARB's behalf.[62]

In addition, other building envelope and facility operation measures are feasible and should also be required. These include:[63,64,65,66]

- Replace the diesel-powered generators with backup power from on-site solar coupled with battery backup. The Project currently includes batteries, but the IS/MND is silent on their capacity or use.
- Require bus stops, express lanes, and bus stop shelters for existing/planned transit service that supports the Project.
- Use traffic calming measures, including all internal sidewalks a minimum 5 feet wide, all sidewalks with vertical curbs, roadways routed to avoid "skewed intersections."
- Use the following traffic-calming features at internal and adjacent intersections: marked crosswalks, count-down signal times, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts, or mini-circles.
- Participate in funding off-site traffic improvements to reduce idling by increasing traffic flow through synchronized traffic signals.[67]
- Use the following traffic-calming features on internal and adjacent streets: planter strips with trees, chicanes/chokers (variations in road width to discourage high-speed travel).
- Provide preferential parking for park-and-ride to incentivize carpooling, vanpooling, commuter bus, and electric vehicles.

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[61] *See* 3/8/17 BAAQMD letter, p. 2 and IS/MND, pdf 68.

[62] *See, e.g.*, CARB, March 2017, Table 1-1, p. 1-2.

[63] CAPCOA 2008, Appendix B, Table 16, pp. B-1 to B-31.

[64] SLAFC, December 2017.

[65] MJPA, June 2017, Table 4.6-5, p. 4.6-43.

[66] SLAFC, December 2017, Table ES-1.

[67] MJPA, June 2017, Table 4.6-5, p. 4.6-43, Policy 6.1.

and maintained during Project construction and operation. The BAAQMD's CEQA significant thresholds in lb/day and ton/yr do not assure that these standards are meet. These air quality criteria are summarized in Table 1.

Table 1:
CAAQS and NAAQS Applicable to the Project

Table C.1
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b,c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]
Ozone	1-hour	0.09 ppm (180 µg/m³)	N (Serious)	–[h]	Same as Primary Standard	–[h]
	8-hour	0.070 ppm (137 µg/m³)	–	0.075 ppm (147 µg/m³)		N
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m³)	A	35 ppm (40 mg/m³)	–	U/A
	8-hour	9 ppm (10 mg/m³)		9 ppm (10 mg/m³)		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	–	0.053 ppm (100 µg/m³)	Same as Primary Standard	U/A
	1-hour	0.18 ppm (339 µg/m³)	A	–		–
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	–	0.030 ppm (80 µg/m³)	–	A
	24-hour	0.04 ppm (105 µg/m³)	A	0.14 ppm (365 µg/m³)	–	
	3-hour	–	–	–	0.5 ppm (1300 µg/m³)	
	1-hour	0.25 ppm (655 µg/m³)	A	–	–	–
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m³	N	–[i]	Same as Primary Standard	U
	24-hour	50 µg/m³		150 µg/m³		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m³	N	15 µg/m³	Same as Primary Standard	N
	24-hour	–	–	35 µg/m³		
Lead	30-day Average	1.5 µg/m³	A	–	–	–
	Calendar Quarter	–	–	1.5 µg/m³	Same as Primary Standard	–

The NAAQS, other than ozone, PM, and those based on annual average or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM10 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The PM2.5 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The CAAQS for ozone, CO, SO2 (1- and 24-hour), NO2, and PM are not to be exceeded ever. All other CAAQS are not to be equaled or exceed.[73]

The significance thresholds relied on in the IS/MND, based on maximum annual and average daily emissions, do not allow determination of compliance with NAAQS and CAAQS, which are based on different averaging times. Compliance with these standards can only be determined by estimating emission rates consistent with each standard and using air dispersion modeling—for example, AERMOD—to convert the emissions into ambient concentrations.

[73] BAAQMD May 2017, Table C.1, pp. C-14.

Ozone also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas, and can cause significant damage during the growing season.[75] None of these potential impacts from increases in ozone precursors was considered in the IS/MND.

The primary sources of Project VOCs and NOx are exhaust from construction equipment and direct, induced increases in traffic from the Project, and the generation of electricity to support the data center. The increases in NOx and VOC from Project construction and operation will increase ambient ozone concentrations, aggravating existing exceedances of ozone standards and perhaps result in additional exceedances, a potentially significant and unidentified impact.

The IS/MND made no attempt to determine if the Project's VOC and NOx emissions coupled with those from other planned projects in the area (Comment 8) could affect the classification of the Bay Area Air Basin with respect to ozone, or impact the health of sensitive receptors in the vicinity of the Project or elsewhere.

These increases in ozone precursors should have automatically triggered an analysis of their impact on ambient ozone concentrations and the Basin's attainment status. Both the State and Federal ozone standards are set to protect public health. Exceedances translate directly into adverse health impacts on the affected population. Further, these unmitigated increases could interfere with the BAAQMD's ability to comply with its State Implementation Plans, designed to bring it into compliance with ozone standards. These are serious impacts with serious consequences that should result in denial of the Project if they are not mitigated.

4. CALEEMOD IS INAPPROPRIATE FOR CALCULATING THE PROJECT'S CONSTRUCTION AND OPERATIONAL EMISSIONS

The IS/MND relies on the CalEEMod program to calculate construction and operational emissions. CalEEMod is a database program distributed by the California Air Pollution Control Officers' Association (CAPCOA) for use in preparing many emission inventory types. CalEEMod, however, is not reliable for calculating fugitive dust and other emissions from the Project's construction activities and emissions from generating electricity to support data center.

First, CalEEMod is in many ways a "black box," where the actual emission calculations and coding are not available to the user or reviewer. As used in the IS/MND, CalEEMod does not display individual calculations from construction fugitive dust activities, but rather groups the output by site location, activity, and year without disclosing any emission calculations. Thus, the reported construction and operational emissions are unsupported.

Second, CalEEMod does not include the correct emission calculation methodologies for many of the most significant construction activities. For example, CalEEMod lacks the ability to calculate fugitive dust emissions from wind erosion. Thus, the construction emissions reported in the IS/MND are incomplete and underestimated.

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[75] *Ibid.*

First, construction is expected to last for 336 days,[80] not 365 days. Thus, average daily emissions are underestimated as annual emissions should have been converted to daily by dividing by 336 days. Regardless, "average" daily emissions calculated from annual emissions are not the correct metric to assess daily emissions. The maximum daily emissions must be used to address NAAQS and CAAQS compliance.

Second, given the construction duration, construction will definitely occur in the summer. In fact, most of the construction will occur in the summer when weather conditions are more favorable. A major source of reactive organic gas (ROG) emissions during construction is evaporative emissions from construction equipment. These evaporative emissions are much higher in the summer. Thus, the IS/MND has underestimated daily ROG emissions during construction. The choice of only an annual run would also underestimate operational ROG emissions from mobile sources.

Third, ROG emissions from the diesel storage tanks, which were not included in the operational emissions, would be much higher in the summer than on an average annual basis.

Fourth, running the model only for the annual condition will underestimate daily emissions because on a daily basis, multiple pieces of construction equipment would be operating simultaneously and/or construction phases will overlap[81]. This effect would be averaged out by converting annual emissions into daily emissions by dividing by the number of days in a year, as in the IS/MND.

5.2. Applicant-Provided Inputs Disagree With Modelled Inputs

The CalEEMod output includes a section called: "User Entered Comments & Non-Default Data."[82] We requested that the City provide these Applicant inputs.[83] The produced documents disclose discrepancies between the information produced in response to our PRA and the actual CalEEMod inputs, which underestimate construction emissions. The Applicant inputs produced in our PRA that differ from the inputs that were modeled are summarized in Table 2.

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[80] IS/MND, Appendix A, pdf 9.

[81] IS/MND, Appendix A, pdf 27, 3.0 Construction Detail shows that construction phases overlap significantly.

[82] IS/MND, Appendix A, pdf 23, Section 1.3.

[83] Email from Sheila M. Sannadan to Steve Le and Robin Kettner re 2305 Mission College Blvd Data Center Project - MND (Mar. 28, 2018).

vendors, and 20.0 miles for hauling,[89] without providing any support whatsoever or imposing mitigation that would limit trip lengths to the assumed distances. The assumed distances are very small, particularly for workers who typically travel great distances to construction sites. Thus, emissions of all pollutants from worker, vendor, and off-site hauling are underestimated.

5.4. PM10 And PM2.5 Emissions Are Underestimated and Significant

5.4.1. Fugitive Dust Emissions from Off-Road Truck Travel Within the Site Are Omitted

The CalEEMod model does not include fugitive dust from off-road vehicle travel,[90] which must be separately calculated. This includes fugitive dust from on-site haul trucks. Haul truck activities will generate fugitive PM2.5 and PM10 emissions when traveling on unpaved roads and other unpaved areas within the Project site during site preparation and grading. The 15-acre construction site[91] will include unpaved roads, but the IS/MND fails to identify them, provide a supported estimate of their length, or calculate emissions from them.

CalEEMod uses the AP-42 emission factor for unpaved public roads when calculating construction fugitive dust emissions.[92] As specified in the AP-42 emission factor for unpaved roads, there are two emission calculation equations: one for industrial roads and another for public roads. The unpaved public road emission factor is limited to vehicles weighing between 1.5 and 3.0 tons.[93] The haul trucks assumed to service the Project weigh approximately 32 tons, on average, as detailed below. The industrial unpaved emission factor in AP-42, which is designed for vehicles weighing from 2 to 290 tons, is the appropriate equation to use in calculating haul truck trips on unpaved roads.

The industrial unpaved road emission factor is the most appropriate equation for the weight and use of the Project's haul trucks. The IS/MND assumes (without providing any calculations) that the emissions generated from this activity are mitigated by limiting the truck travel speed to 15 miles per hour.[94]

I calculated particulate matter emissions from on-site haul truck travel using EPA's air pollution emission factor equation for industrial unpaved roads.[95] This equation is as follows:

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[89] Appendix A, pdf 28.

[90] CalEEMod User's Guide, p. 2 ("Fugitive dust [emissions] from … off-road vehicle travel, are not quantified in CalEEMod…").

[91] IS/MND, Appendix A, pdf 8. Note that pdf 3 states the area as 15.7 acres.

[92] CAPCOA, CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod, October 2017, p. 30); available at http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf

[93] EPA, AP-42, Section 13.2.2 – Unpaved Roads, November 2006, Table 13.2.2-3.

[94] IS/MND, Appendix A, pdf 10.

[95] *Id.*, p. 13.2.2-4.

and PM2.5 emissions. The CalEEMod emission calculation file identifies the construction haul trucks as being HHDT class.[100] For my emission rate analysis, I calculated a mean truck weight of 34.6 tons, as follows:

Unloaded truck weight: 16.5 tons (33,000 lbs)[101]
Haul truck load: 18 cubic yards[102]
Material density: 1.7 tons/cubic yard[103]
Haul truck material weight: 18 yd^3 * 1.7 tons/yd^3 = 30.6 tons
Loaded truck weight: = 16.5 tons + 30.6 tons = 47.1 tons
Average unloaded/loaded haul truck weight: (16.5 tons + 47.1 tons)/2 = 31.8 tons

For comparison, the USEPA, in developing AP-42 Section 13.2.1, identifies an average vehicle weight of 35 tons for heavy-duty diesel trucks.[104] Heavier trucks result in higher fugitive dust emission because emissions increase as the weight of the trucks increase.

Rainfall correction (P)

Short-term PM2.5 and PM10 emission rates should not be calculated using a rainfall correction, as there are many consecutive days in Santa Clara when there is no rainfall. Accordingly, my unpaved road fugitive dust emission rate calculations did not apply a rainfall correction to 24-hour PM2.5 and PM10 emission rates.

Calculation of PM10 and PM2.5 emissions

Based on the above assumptions, the particulate matter emission factors for PM10 and PM2.5 are:

$E_{PM10} = [1.5 \text{ lb/VMT } (8.5/12)^{0.9} * (31.8 \text{ tons}/3)^{0.45}] * [(365-0)/365]$

$E_{PM10} =$ **3.18 lb/VMT**

$E_{PM2.5} = [0.15 \text{ lb/VMT } (8.5/12)^{0.9} * (31.8 \text{ tons}/3)^{0.45}] * [(365-0)/365]$

$E_{PM2.5} =$ **0.32 lb/VMT**

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[100] IS/MND, Appendix A, pdf 28 ("hauling vehicle class").

[101] Vehicle Weight Classes & Categories; available at https://www.afdc.energy.gov/data/10380.

[102] https://www.google.com/search?q=haul+truck+load+cubic+yards&oq=haul+truck+load+cubic+yards&aqs=chrome..69i57.6002j0j7&sourceid=chrome&ie=UTF-8.

[103] SImetric, Density of Materials (sand with gravel, wet); available at https://www.simetric.co.uk/si_materials.htm.

[104] USEPA, Emission Factor Documentation for AP-42, Section 13.2.1, January 2011, p. 4-37; http://www3.epa.gov/ttn/chief/ap42/ch13/bgdocs/b13s0201.pdf.

The IS/MND does not provide separate emission estimates for windblown dust from the areas that would be graded or otherwise disturbed and thus has underestimated fugitive PM10 and PM2.5 emissions.

Frequent hot, dry high-wind events in the Bay Area, of up to 40–50 mph, typically occur in spring and fall and are known as Diablo winds. These are similar to the Santa Ana winds in Southern California. They can cause substantial emissions of fugitive dust particulate matter, particularly from disturbed surfaces. Further, winds blow at night. Thus, unless the construction contractor is required to water throughout the night to maintain soil moisture, wind erosion would occur in the period when the water from the last watering event in the evening has evaporated and before the first watering event in the morning. This is of particular concern during the hot summer months, when average high temperatures can exceed 100 F. The IS/MND's mitigation measures contain no requirement to water throughout the night.

As high winds can reach 30 to 50 mph, even up to hurricane speeds,[112] they can raise significant amounts of dust, even when conventional tracking and other such controls are used to control dust, often prompting alerts from air pollution control districts. The IS/MND did not include any wind data, not even a wind rose, which is commonly found in CEQA documents. If high winds occurred during grading, cut and fill, or soil movement, or from bare graded soil surfaces during non-working hours, even if periodically wetted, significant amounts of fugitive dust would be released. These emissions could result in public health impacts due to violations of state and federal ambient air quality standards for PM10 and PM2.5. PM10 and PM2.5 emissions from these events were not included in the IS/MND, and no air dispersion modeling was conducted to evaluate their impact on local ambient air quality.

Wind erosion emissions are typically calculated using methods in AP-42,[113] which require detailed information on site topography, wind profiles, and dispersion modeling. The IS/MND does not include any calculations of wind erosion emissions or their resulting ambient air quality impacts. Further, none of the information required to estimate wind erosion emissions is included or cited in the IS/MND. Thus, the IS/MND fails as an information document under CEQA.

In the absence of this information, AP-42 includes a generic construction emission factor of 1.2 tons of total suspended material per acre per month of construction activity.[114] Assuming 2.5 acres are disturbed on the maximum day[115] and that 90% of the total suspended material is PM10, PM10 emissions from wind erosion alone would be 180 lb/day.[116] Similarly,

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[112] Daphne Thompson, The Diablo Winds of California; available at https://blog.wdtinc.com/the-devil-winds-of-california.

[113] U.S. EPA, AP-42, Section 13.2.5, Industrial Wind Erosion; available at https://www3.epa.gov/ttnchie1/ap42/ch13/final/c13s0205.pdf.

[114] AP-42, Section 13.2.3.3: Heavy Construction Operations, p. 13.2.3-1.

[115] IS/MND, Appendix A, pdf 27: 50 acres of grading/20 days = 2.5 acres/day.

[116] Wind erosion PM10 emissions: [(1.2 ton/acre/month)(2,000 lb/ton)(2.5 acres)(1 month)/(30 day/month)][0.9] = **180 lb/day.**

Wind erosion PM10 emissions plus unpaved road fugitive PM10 emissions estimated in Comments 5.3.1 and 5.3.2, plus unmitigated PM10 reported in the IS/MND, yield total fugitive PM10 emissions of 524 to 648 lb/day. Similarly, wind erosion PM2.5 emissions plus unpaved road fugitive PM2.5 emissions estimated in Comment 5.3.1, plus unmitigated PM2.5 reported in the IS/MND, yield total fugitive PM2.5 emissions of 79 to 94 lb/day.

The IS/MND did not establish a CEQA significance threshold for fugitive dust PM10 and PM2.5 emissions from construction, but rather only a threshold for exhaust PM10 and PM2.5 emissions.[122] Instead, the IS/MND assumes that PM10 and PM2.5 construction emissions are not significant if basic construction mitigation measures are required.[123] This conclusion is based on the BAAQMD's CEQA Guidelines. The BAAQMD CEQA guidelines only establish a CEQA significance threshold for construction exhaust emissions, set at 82 lb/day for PM10 and 54 lb/day for PM2.5.[124]

The BAAQMD CEQA guidelines fail to establish a CEQA significance threshold for fugitive dust PM10 and PM2.5 emissions from construction. Instead, the BAAQMD CEQA Guidelines and the IS/MND tacitly assume, with no support, that all construction PM10 and PM2.5 fugitive dust construction emissions are not significant if certain basic construction mitigation measures are required.[125] This is incorrect, because construction PM10 and PM2.5 emissions can and routinely do cause violations of NAAQS and CAAQS, or contribute to existing violations, when these measures are used, thus resulting in a significant ambient air quality impact. Therefore, I reviewed CEQA guidelines of other air districts to establish a significance threshold for total construction PM10 and PM2.5 emissions.

The Monterey Bay Unified Air Pollution Control District (MBUAPCD) has established a PM10 significance threshold for construction emissions of 82 lb/day.[126] The South Coast Air Quality Management District (SCAQMD) has established a PM10 significance threshold for construction emissions of 150 lb/day and for PM2.5 emissions of 55 lb/day.[127] The Sacramento Metropolitan Air Quality Management District (SMAQMD) has established a significance threshold for PM10 of 80 lb/day and 14.6 ton/yr and for PM2.5 of 80 lb/day and 14.6 ton/yr, if all feasible BACT/BMPs[128] are applied, and zero otherwise.[129] Zero is appropriate here as all

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[122] IS/MND, Appendix A, pdf 7, Table 1.

[123] IS/MND, Appendix A, pdf 9.

[124] BAAQMD, California Environmental Quality Act Air Quality Guidelines, May 2017, Table 2-1 and 2-4; available at http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.

[125] BAAQMD May 2017, Section 8.1.2, Tables 8-2 and 8-3.

[126] Monterey Bay Unified Air Pollution Control District, Guidelines for Implementing the California Environmental Quality Act, Revised February 2016, p. 4.

[127] SCAQMD, SCAQMD Air Quality Significance Thresholds; available at http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.

[128] BMP = Best Management Practice.

to insignificance, as calculated in Comment 5. In fact, they would not. Therefore, all feasible mitigation is required.

Additional feasible construction mitigation measures are included in CEQA guidelines of various air quality management districts and have been required in recent CEQA documents,[133,134,135,136,137] or are recommended by the U.S. EPA.[138] Some additional feasible mitigation measures for these sources that should be required for this Project are as follows:

- The number of pieces of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practicable number is operating at any one time.
- Signs shall be posted in designated areas and job sites to remind drivers and operators of the speed limit.
- Low rolling resistance (LRR) tires shall be used on long haul class 8 tractor-trailers.[139]
- When soil will be disturbed by heavy equipment or vehicles, wet the soil before disturbing it and continuously wet it while digging to keep dust levels down.
- Water all grading areas at least four times daily as water evaporates quickly in a hot climate such as that at the Project site, requiring more frequent watering than two times per day.
- Use a watering method that does not raise dust.

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[133] SWCA Environmental Consultants, Draft Initial Study and Mitigated Negative Declaration for the California American Water Slant Test Well Project, Prepared for City of Marina, May 2014, available at https://www.scribd.com/document/227412385/Draft-Initial-Study-and-Mitigated-Negative-Declaration.

[134] MBUAPCD 2008, Table 8-2 to 8-4, and 8-7.

[135] Chevron Refinery Modernization Project EIR, Volume 1, March 2014, Chapter 4.8, Greenhouse Gases; and Chapter 9, Mitigation Measure Monitoring and Reporting Program; available at https://s3.amazonaws.com/chevron/Volume+1_DEIR_r1.pdf.

[136] San Luis Obispo County Air Pollution Control District, CEQA Air Quality Handbook, April 2012, http://www.slocleanair.org/images/cms/upload/files/CEQA_Handbook_2012_v1.pdf.

[137] Bay Delta Conservation Plan RDEIR/SDEIS, 2015; http://baydeltaconservationplan.com/RDEIRS/Ap_A_Rev_DEIR-S/App_22E_Gen_Conform_Determin.pdf.

[138] Verified Technologies List; http://baydeltaconservationplan.com/RDEIRS/Ap_A_Rev_DEIR-S/App_22E_Gen_Conform_Determin.pdf.

[139] EPA, Verified Technologies for SmartWay and Clean Diesel, Learn About Low Rolling Resistance (LRR) New and Retread Tire Technologies; available at https://www.epa.gov/verified-diesel-tech/learn-about-low-rolling-resistance-lrr-new-and-retread-tire-technologies; EPA, Verified Technologies for SmartWay and Clean Diesel, SmartWay Verified List for Low Rolling Resistance (LRR) New and Retread Tire Technologies; available at https://www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire.

hr/day in total.[143] This limit only applies to generator testing, not generator operation during an emergency. The IS/MND does not include any emissions from operation during an emergency, which can reasonably be expected to occur, as otherwise, there would not be 120 backup generators.

Assuming the same 100-hour limit during emergency operations, which would be required to keep NOx emissions below the significance threshold, only 25 generators could operate for 4 hours, 50 generators for 2 hours, or 100 generators for 1 hour on any given day.[144] This means that during an emergency, such as an extended power outage, if all generators were required, the facility could only operate for about 50 minutes before exceeding the BAAQMD significance threshold for NOx. Power outages could last much longer than 50 minutes, particularly during emergency conditions, such as during an earthquake, storm, or fire, which would interrupt power supplies. Under these conditions, it can be reasonably expected that all generators could operate more than 100 hr/day, as the services they support could be essential to addressing the emergency conditions. In fact, it is contrary to the Project design to limit emergency operation of these generators because they must be available when needed to address emergency conditions, which could easily exceed a combined 100 hr/day. Thus, average daily generator emissions can be reasonably expected to be much higher than disclosed in IS/MND Table 4.3-4. The NOx emissions, for example, could exceed the significance threshold of 54 lb/day under emergency operation. The battery system[145] could supply some of this emergency power. However, the IS/MND is silent on the battery system design and its function in the Project.

In sum, mitigation measure MM AIR-2 does not address generator operation during emergency conditions, but rather only operation during maintenance and testing. Thus, daily NOx emissions from routine emergency operation of the diesel generators are significant and unmitigated. These emissions could be reduced below the significance threshold by requiring selective catalytic reduction (SCR) on each generator and limiting operation of the diesel generators to 100 hours during emergency operation.

7. NOISE IMPACTS DURING EMERGENCY OPERATION ARE SIGNIFICANT

The noise analysis concluded that the Project will comply with exterior noise limits in the City of Santa Clara Municipal Code SCCC 9.10.040 and General Plan only if no more than nine powerblocks and eleven PCS modules are tested simultaneously during daytime hours (7AM to 10 PM)[146] for no more than 4 hours in a 24-hr period.[147] The noise analysis also

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[143] IS/MND, pdf 40, MM AIR-2.

[144] For example, 25 generators x 4 hr/generator = 100-hr run time; 50 generators x 2 hr/generator = 100-hr run time; 100 generators x 1 hr/generator = 100-hr run time.

[145] IS/MND, pdf 11, 25, 94, 100.

[146] IS/MND, Appendix G, pdf 11.

[147] IS/MND, Appendix G, pdf 10.

My research indicates that 20 additional projects are planned in the City of Santa Clara between 2018 and 2030.[153] These additional projects will affect ambient air quality, public health risk, the availability of utilities, and other impact areas. For example, one of these is the McLaren Data Center, which is similar to the Project. As to the availability of power for this project, Silicon Valley Power wrote to the applicant Vantage:[154]

> Silicon Valley Power is immediately able to provide 27 MW capacity to the project site upon the completion of an onsite substation by Vantage. To provide an additional 73 MW of power, per Vantage's request, is conditional upon the restructuring of our existing electrical loop referred to as the Southern Loop. SVP is actively pursuing increased capacity in this area due to the growing power need of existing businesses as well as future planned projects, such as Vantage's. The planning for breaking the loop in two has already begun and project completion is expected to be in the year 2020.

9. BATTERY IMPACTS WERE NOT EVALUATED

The Project includes backup battery equipment located in a separate equipment yard in the northern portion of the Project site near Agnew Road.[155] However, the IS/MND fails to disclose any information about these batteries, explain how the backup battery equipment would be used, or to estimate any impacts from the batteries. Batteries can result in significant impacts, depending on the type of battery (e.g., lithium-ion batteries) and the specific electrolyte used in the battery.

It is well known, for example, that lithium-ion battery fires are some of the most difficult fires to suppress. Lithium-ion batteries have high power-to-density ratios that allow them to store large amounts of energy. When a lithium-ion battery catches fire, this stored energy coupled with the materials in the battery make it difficult to suppress or extinguish.[156]

In fact, there is a fair argument that hazardous material impacts would be significant during battery transport, use, and disposal due to the proximity of major roadways and residential housing. Conventional sprinkler systems have failed in similar applications because water is a poor fire retardant for the chemicals present in lithium-ion batteries.

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[153] City of Santa Clara, City of Santa Clara Urban Water Management Plan; available at www.santaclaraca.gov/uwmp.

[154] Letter from Kevin Keating, SVP, to Justin Thomas, Vantage Data Centers, Re: 725 and 651 Mathew, Santa Clara, CA, November 3, 2016; available at http://santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/167/3650?npage=2 (McLaren Data Center Project MND, Appendix H - Silicon Valley Power Will Serve Letter).

[155] IS/MND, pdf 11, 25, 94.

[156] Jeremy Snow, Suppressing Lithium Ion Battery Fires; available at http://venturaaerospace.com/news/suppressing-lithium-ion-battery-fires/.

EXHIBIT 1

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Guide to Specialists on Toxic Substances, World Environment Center, New York, NY, p. 80, 1980.
National Research Council Committee on Irrigation-Induced Water Quality Problems (Selenium), Subcommittee on Quality Control/Quality Assurance (1985-1990).
National Research Council Committee on Surface Mining and Reclamation, Subcommittee on Oil Shale (1978-80)

REPRESENTATIVE EXPERIENCE

Performed environmental and engineering investigations, as outlined below, for a wide range of industrial and commercial facilities including: petroleum refineries and upgrades thereto; reformulated fuels projects; refinery upgrades to process heavy sour crudes, including tar sands and light sweet crudes from the Eagle Ford and Bakken Formations; petroleum, gasoline and ethanol distribution terminals; coal, coke, and ore/mineral export terminals; LNG export, import, and storage terminals; crude-by-rail projects; shale oil plants; crude oil/condensate marine and rail terminals; coal gasification and liquefaction plants; oil and gas production, including conventional, thermally enhanced, hydraulic fracking, and acid stimulation techniques; underground storage tanks; pipelines; compressor stations; gasoline stations; landfills; railyards; hazardous waste treatment facilities; nuclear, hydroelectric, geothermal, wood, biomass, waste, tire-derived fuel, gas, oil, coke and coal-fired power plants; transmission lines; airports; hydrogen plants; petroleum coke calcining plants; coke plants; activated carbon manufacturing facilities; asphalt plants; cement plants; incinerators; flares; manufacturing facilities (e.g., semiconductors, electronic assembly, aerospace components, printed circuit boards, amusement park rides); lanthanide processing plants; ammonia plants; nitric acid plants; urea plants; food processing plants; wineries; almond hulling facilities; composting facilities; grain processing facilities; grain elevators; ethanol production facilities; soy bean oil extraction plants; biodiesel plants; paint formulation plants; wastewater treatment plants; marine terminals and ports; gas processing plants; steel mills; iron nugget production facilities; pig iron plant, based on blast furnace technology; direct reduced iron plant; acid regeneration facilities; railcar refinishing facility; battery manufacturing plants; pesticide manufacturing and repackaging facilities; pulp and paper mills; olefin plants; methanol plants;

preparation of comments on draft minor source permit. Wrote two affidavits on key issues in case. Presented direct and rebuttal testimony 10/27 - 10/28/10 on permit enforceability and failure to properly calculate potential to emit, including underestimate of flaring emissions and omission of VOC and CO emissions from wastewater treatment, cooling tower, tank roof landings, and malfunctions. *Sierra Club, Ohio Valley Environmental Coalition, Coal River Mountain Watch, West Virginia Highlands Conservancy v. John Benedict, Director, Division of Air Quality, West Virginia Department of Environmental Protection and TransGas Development System, LLC*, Appeal No. 10-01-AQB. Virginia Air Quality Board remanded the permit on March 28, 2011 ordering reconsideration of potential to emit calculations, including: (1) support for assumed flare efficiency; (2) inclusion of startup, shutdown and malfunction emissions; and (3) inclusion of wastewater treatment emissions in potential to emit calculations.

- For plaintiffs, expert on BACT emission limits for gas-fired combined cycle power plant. Prepared declaration in support of CBE's Opposition to the United States' Motion for Entry of Proposed Amended Consent Decree. Assisted in settlement discussions. *U.S. EPA, Plaintiff, Communities for a Better Environment, Intervenor Plaintiff, v. Pacific Gas & Electric Company, et al.*, U.S. District Court, Northern District of California, San Francisco Division, Case No. C-09-4503 SI.
- Technical expert in confidential settlement discussions with large coal-fired utility on BACT control technology and emission limits for NOx, SO2, PM, PM2.5, and CO for new natural gas fired combined cycle and simple cycle turbines with oil backup. (July 2010). Case settled.
- For plaintiffs, expert witness in remedy phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1998-99) at Gallagher Units 1 and 3. Reviewed produced documents, prepared expert and rebuttal reports on historic and current-day BACT for SO2, control costs, and excess emissions of SO2. Deposed 11/18/09. *United States et al. v. Cinergy, et al.*, In U.S. District Court for the Southern District of Indiana, Indianapolis Division, Civil Action No. IP99-1693 C-M/S. Settled 12/22/09.
- For plaintiffs, expert witness on MACT, BACT for NOx, and enforceability in an administrative appeal of draft state air permit issued for four 300-MW pet-coke-fired CFBs. Reviewed produced documents and prepared prefiled testimony. Deposed 10/8/09 and 11/9/09. Testified 11/10/09. *Application of Las Brisas Energy Center, LLC for State Air Quality Permit*; before the State Office of Administrative Hearings, Texas. Permit remanded 3/29/10 as LBEC failed to meet burden of proof on a number of issues including MACT. Texas Court of Appeals dismissed an appeal to reinstate the permit. The Texas Commission on Environmental Quality and Las Brisas Energy Center, LLC sought to

netting analysis for NOx, SO_2 and CO, and prepared expert and rebuttal reports. *United States v. Cemex California Cement,* In U.S. District Court for the Central District of California, Eastern Division, Case No. ED CV 07-00223-GW (JCRx). Settled 1/15/09.

- For intervenors Clean Wisconsin and Citizens Utility Board, prepared data requests, reviewed discovery and expert report. Prepared prefiled direct, rebuttal and surrebuttal testimony on cost to extend life of existing Oak Creek Units 5-8 and cost to address future regulatory requirements to determine whether to control or shutdown one or more of the units. Oral testimony 2/5/08. Application for a Certificate of Authority to Install Wet Flue Gas Desulfurization and Selective Catalytic Reduction Facilities and Associated Equipment for Control of Sulfur Dioxide and Nitrogen Oxide Emissions at Oak Creek Power Plant Units 5, 6, 7 and 8, WPSC Docket No. 6630-CE-299.
- For plaintiffs, expert witness on alternatives analysis and BACT for NOx, SO2, total PM10, and sulfuric acid mist in appeal of PSD permit issued to 1200 MW coal fired power plant burning Powder River Basin and/or Central Appalachian coal (Longleaf). Assisted in drafting technical comments on NOx on draft permit. Prepared expert disclosure. Presented 8+ days of direct and rebuttal expert testimony. Attended all 21 days of evidentiary hearing from 9/5/07 – 10/30/07 assisting in all aspects of hearing. *Friends of the Chatahooche and Sierra Club v. Dr. Carol Couch, Director, Environmental Protection Division of Natural Resources Department, Respondent, and Longleaf Energy Associates, Intervener.* ALJ Final Decision 1/11/08 denying petition. ALJ Order vacated & remanded for further proceedings, Fulton County Superior Court, 6/30/08. Court of Appeals of GA remanded the case with directions that the ALJ's final decision be vacated to consider the evidence under the correct standard of review, July 9, 2009. The ALJ issued an opinion April 2, 2010 in favor of the applicant. Final permit issued April 2010.
- For plaintiffs, expert witness on diesel exhaust in inverse condemnation case in which Port expanded maritime operations into residential neighborhoods, subjecting plaintiffs to noise, light, and diesel fumes. Measured real-time diesel particulate concentrations from marine vessels and tug boats on plaintiffs' property. Reviewed documents, depositions, DVDs, and photographs provided by counsel. Deposed. Testified October 24, 2006. *Ann Chargin, Richard Hackett, Carolyn Hackett, et al. v. Stockton Port District*, Superior Court of California, County of San Joaquin, Stockton Branch, No. CV021015. Judge ruled for plaintiffs.
- For plaintiffs, expert witness on NOx emissions and BACT in case alleging failure to obtain necessary permits and install controls on gas-fired combined-cycle turbines. Prepared and reviewed (applicant analyses) of NOx emissions, BACT analyses (water injection, SCR, ultra low NOx burners), and cost-effectiveness analyses based on site visit, plant operating records, stack tests, CEMS data, and turbine and catalyst vendor design information. Participated in negotiations to scope out consent order. *United States v.*

health under Section 7002(a)(1)(B) of the Resource Conservation and Recovery Act ("RCRA"). *Citizens Against Pollution v. Ohio Power Company*, In the U.S. District Court for the Southern District of Ohio, Eastern Division, Civil Action No. 2-04-cv-371. Case settled 12-8-06.

- For petitioners, expert witness in contested case hearing on BACT, enforceability, and emission estimates for an air permit issued to a 500-MW supercritical Power River Basin coal-fired boiler (Weston Unit 4). Assisted counsel prepare comments on draft air permit and respond to and draft discovery. Reviewed produced file, deposed (7/05), and prepared expert report on BACT and enforceability. Evidentiary hearings September 2005. *In the Matter of an Air Pollution Control Construction Permit Issued to Wisconsin Public Service Corporation for the Construction and Operation of a 500 MW Pulverized Coal-fired Power Plant Known as Weston Unit 4 in Marathon County, Wisconsin*, Case No. IH-04-21. The Final Order, issued 2/10/06, lowered the NOx BACT limit from 0.07 lb/MMBtu to 0.06 lb/MMBtu based on a 30-day average, added a BACT SO2 control efficiency, and required a 0.0005% high efficiency drift eliminator as BACT for the cooling tower. The modified permit, including these provisions, was issued 3/28/07. Additional appeals in progress.
- For plaintiffs, adviser on technical issues related to Citizen Suit against U.S. EPA regarding failure to update New Source Performance Standards for petroleum refineries, 40 CFR 60, Subparts J, VV, and GGG. *Our Children's Earth Foundation and Sierra Club v. U.S. EPA et al.* Case settled July 2005. CD No. C 05-00094 CW, U.S. District Court, Northern District of California – Oakland Division. Proposed revisions to standards of performance for petroleum refineries published 72 FR 27178 (5/14/07).
- For interveners, reviewed proposed Consent Decree settling Clean Air Act violations due to historic modifications of boilers and associated equipment at two coal-fired power plants. In response to stay order, reviewed the record, selected one representative activity at each of seven generating units, and analyzed to identify CAA violations. Identified NSPS and NSR violations for NOx, SO_2, PM/PM10, and sulfuric acid mist. Summarized results in an expert report. *United States of America, and Michael A. Cox, Attorney General of the State of Michigan, ex rel. Michigan Department of Environmental Quality, Plaintiffs, and Clean Wisconsin, Sierra Club, and Citizens' Utility Board, Intervenors, v. Wisconsin Electric Power Company, Defendant*, U.S. District Court for the Eastern District of Wisconsin, Civil Action No. 2:03-CV-00371-CNC. Order issued 10-1-07 denying petition.
- For a coalition of Nevada labor organizations (ACE), reviewed preliminary determination to issue a Class I Air Quality Operating Permit to Construct and supporting files for a 250-MW pulverized coal-fired boiler (Newmont). Prepared about 100 pages of technical analyses and comments on BACT, MACT, emission calculations, and enforceability. Assisted counsel draft petition and reply brief appealing PSD permit to U.S. EPA Environmental Appeals Board (EAB). Order denying review issued 12/21/05. *In re*

- For environmental organizations, reviewed draft PSD permit for a 600-MW coal-fired power plant in West Virginia (Longview). Prepared comments on permit enforceability; coal washing; BACT for SO_2 and PM10; Hg MACT; and MACT for HCl, HF, non-Hg metallic HAPs, and enforceability. Assist plaintiffs draft petition appealing air permit. Retained as expert to develop testimony on MACT, BACT, offsets, enforceability. Participate in settlement discussions. Case settled July 2004.
- For petitioners, reviewed record produced in discovery and prepared affidavit on emissions of carbon monoxide and volatile organic compounds during startup of GE 7FA combustion turbines to successfully establish plaintiff standing. *Sierra Club et al. v. Georgia Power Company* (Northern District of Georgia).
- For building trades, reviewed air quality permitting action for 1500-MW coal-fired power plant before the Kentucky Department for Environmental Protection (Thoroughbred).
- For petitioners, expert witness in administrative appeal of the PSD/Title V permit issued to a 1500-MW coal-fired power plant. Reviewed over 60,000 pages of produced documents, prepared discovery index, identified and assembled plaintiff exhibits. Deposed. Assisted counsel in drafting discovery requests, with over 30 depositions, witness cross examination, and brief drafting. Presented over 20 days of direct testimony, rebuttal and sur-rebuttal, with cross examination on BACT for NOx, SO_2, and PM/PM10; MACT for Hg and non-Hg metallic HAPs; emission estimates for purposes of Class I and II air modeling; risk assessment; and enforceability of permit limits. Evidentiary hearings from November 2003 to June 2004. *Sierra Club et al. v. Natural Resources & Environmental Protection Cabinet, Division of Air Quality and Thoroughbred Generating Company et al.* Hearing Officer Decision issued August 9, 2005 finding in favor of plaintiffs on counts as to risk, BACT (IGCC/CFB, NOx, SO_2, Hg, Be), single source, enforceability, and errors and omissions. Assist counsel draft exceptions. Cabinet Secretary issued Order April 11, 2006 denying Hearing Offer's report, except as to NOx BACT, Hg, 99% SO2 control and certain errors and omissions.
- For citizens group in Massachusetts, reviewed, commented on, and participated in permitting of pollution control retrofits of coal-fired power plant (Salem Harbor).
- Assisted citizens group and labor union challenge issuance of conditional use permit for a 317,000 ft^2 discount store in Honolulu without any environmental review. In support of a motion for preliminary injunction, prepared 7-page declaration addressing public health impacts of diesel exhaust from vehicles serving the Project. In preparation for trial, prepared 20-page preliminary expert report summarizing results of diesel exhaust and noise measurements at two big box retail stores in Honolulu, estimated diesel PM10 concentrations for Project using ISCST, prepared a cancer health risk assessment based on these analyses, and evaluated noise impacts.

- Assisted oil company on the California Central Coast in defending property damage claims arising out of a historic oil spill. Reviewed site investigation reports, pump tests, leachability studies, and health risk assessments, participated in design of additional site characterization studies to assess health impacts, and advised counsel on merits of case. Prepare health risk assessment.
- Assisted unions in appeal of Initial Study/Negative Declaration ("IS/ND") for an MTBE phaseout project at a Bay Area refinery. Reviewed IS/ND and supporting agency permitting files and prepared technical comments on air quality, groundwater, and public health impacts. Reviewed responses to comments and final IS/ND and ATC permits and assisted counsel to draft petitions and briefs appealing decision to Air District Hearing Board. Presented sworn direct and rebuttal testimony with cross examination on groundwater impacts of ethanol spills on hydrocarbon contamination at refinery. Hearing Board ruled 5 to 0 in favor of appellants, remanding ATC to district to prepare an EIR.
- Assisted Florida cities in challenging the use of diesel and proposed BACT determinations in prevention of significant deterioration (PSD) permits issued to two 510-MW simple cycle peaking electric generating facilities and one 1,080-MW simple cycle/combined cycle facility. Reviewed permit applications, draft permits, and FDEP engineering evaluations, assisted counsel in drafting petitions and responding to discovery. Participated in settlement discussions. Cases settled or applications withdrawn.
- Assisted large California city in federal lawsuit alleging peaker power plant was violating its federal permit. Reviewed permit file and applicant's engineering and cost feasibility study to reduce emissions through retrofit controls. Advised counsel on feasible and cost-effective NOx, SOx, and PM10 controls for several 1960s diesel-fired Pratt and Whitney peaker turbines. Case settled.
- Assisted coalition of Georgia environmental groups in evaluating BACT determinations and permit conditions in PSD permits issued to several large natural gas-fired simple cycle and combined-cycle power plants. Prepared technical comments on draft PSD permits on BACT, enforceability of limits, and toxic emissions. Reviewed responses to comments, advised counsel on merits of cases, participated in settlement discussions, presented oral and written testimony in adjudicatory hearings, and provided technical assistance as required. Cases settled or won at trial.
- Assisted construction unions in review of air quality permitting actions before the Indiana Department of Environmental Management ("IDEM") for several natural gas-fired simple cycle peaker and combined cycle power plants.
- Assisted coalition of towns and environmental groups in challenging air permits issued to 523 MW dual fuel (natural gas and distillate) combined-cycle power plant in Connecticut. Prepared technical comments on draft permits and 60 pages of written testimony addressing

Inspected and sampled plaintiff's property. Advised counsel on merits of case. Case settled.

- Assisted business owner facing eminent domain eviction. Prepared technical comments on a negative declaration for soil contamination and public health risks from air emissions from a proposed redevelopment project in San Francisco in support of a CEQA lawsuit. Case settled.
- Assisted neighborhood association representing residents living downwind of a Berkeley asphalt plant in separate nuisance and CEQA lawsuits. Prepared technical comments on air quality, odor, and noise impacts, presented testimony at commission and council meetings, participated in community workshops, and participated in settlement discussions. Cases settled. Asphalt plant was upgraded to include air emission and noise controls, including vapor collection system at truck loading station, enclosures for noisy equipment, and improved housekeeping.
- Assisted a Fortune 500 residential home builder in claims alleging health effects from faulty installation of gas appliances. Conducted indoor air quality study, advised counsel on merits of case, and participated in discussions with plaintiffs. Case settled.
- Assisted property owners in Silicon Valley in lawsuit to recover remediation costs from insurer for large TCE plume originating from a manufacturing facility. Conducted investigations to demonstrate sudden and accidental release of TCE, including groundwater modeling, development of method to date spill, preparation of chemical inventory, investigation of historical waste disposal practices and standards, and on-site sewer and storm drainage inspections and sampling. Prepared declaration in opposition to motion for summary judgment. Case settled.
- Assisted residents in east Oakland downwind of a former battery plant in class action lawsuit alleging property contamination from lead emissions. Conducted historical research and dry deposition modeling that substantiated claim. Participated in mediation at JAMS. Case settled.
- Assisted property owners in West Oakland who purchased a former gas station that had leaking underground storage tanks and groundwater contamination. Reviewed agency files and advised counsel on merits of case. Prepared declaration in opposition to summary judgment. Prepared cost estimate to remediate site. Participated in settlement discussions. Case settled.
- Consultant to counsel representing plaintiffs in two Clean Water Act lawsuits involving selenium discharges into San Francisco Bay from refineries. Reviewed files and advised counsel on merits of case. Prepared interrogatory and discovery questions, assisted in deposing opposing experts, and reviewed and interpreted treatability and other technical studies. Judge ruled in favor of plaintiffs.

deposition questions and reviewed deposition transcripts on air quality, soil contamination, odors, and health impacts. Case settled.

- Assisted residents downwind of a Contra Costa refinery who were affected by an accidental release of naphtha. Characterized spilled naphtha, estimated emissions, and modeled ambient concentrations of hydrocarbons and sulfur compounds. Deposed. Presented testimony in binding arbitration at JAMS. Judge found in favor of plaintiffs.
- Assisted residents downwind of Contra Costa County refinery in class action lawsuit alleging property damage, nuisance, and health effects from several large accidents as well as routine operations. Reviewed files and prepared analyses of environmental impacts. Prepared declarations, deposed, and presented testimony before jury in one trial and judge in second. Case settled.
- Assisted business owner claiming damages from dust, noise, and vibration during a sewer construction project in San Francisco. Reviewed agency files and PM10 monitoring data and advised counsel on merits of case. Case settled.
- Assisted residents downwind of Contra Costa County refinery in class action lawsuit alleging property damage, nuisance, and health effects. Prepared declaration in opposition to summary judgment, deposed, and presented expert testimony on accidental releases, odor, and nuisance before jury. Case thrown out by judge, but reversed on appeal and not retried.
- Presented testimony in small claims court on behalf of residents claiming health effects from hydrogen sulfide from flaring emissions triggered by a power outage at a Contra Costa County refinery. Analyzed meteorological and air quality data and evaluated potential health risks of exposure to low concentrations of hydrogen sulfide. Judge awarded damages to plaintiffs.
- Assisted construction unions in challenging PSD permit for an Indiana steel mill. Prepared technical comments on draft PSD permit, drafted 70-page appeal of agency permit action to the Environmental Appeals Board challenging permit based on faulty BACT analysis for electric arc furnace and reheat furnace and faulty permit conditions, among others, and drafted briefs responding to four parties. EPA Region V and the EPA General Counsel intervened as amici, supporting petitioners. EAB ruled in favor of petitioners, remanding permit to IDEM on three key issues, including BACT for the reheat furnace and lead emissions from the EAF. Drafted motion to reconsider three issues. Prepared 69 pages of technical comments on revised draft PSD permit. Drafted second EAB appeal addressing lead emissions from the EAF and BACT for reheat furnace based on European experience with SCR/SNCR. Case settled. Permit was substantially improved. See *In re: Steel Dynamics, Inc.*, PSD Appeal Nos. 99-4 & 99-5 (EAB June 22, 2000).

energy conservation programs, solar, low-emission vehicles, alternative fuels, exhaust treatments, and transportation management associations.

SITE INVESTIGATION/REMEDIATION/CLOSURE

- Technical manager and principal engineer for characterization, remediation, and closure of waste management units at former Colorado oil shale plant. Constituents of concern included BTEX, As, 1,1,1-TCA, and TPH. Completed groundwater monitoring programs, site assessments, work plans, and closure plans for seven process water holding ponds, a refinery sewer system, and processed shale disposal area. Managed design and construction of groundwater treatment system and removal actions and obtained clean closure.
- Principal engineer for characterization, remediation, and closure of process water ponds at a former lanthanide processing plant in Colorado. Designed and implemented groundwater monitoring program and site assessments and prepared closure plan.
- Advised the city of Sacramento on redevelopment of two former railyards. Reviewed work plans, site investigations, risk assessment, RAPS, RI/FSs, and CEQA documents. Participated in the development of mitigation strategies to protect construction and utility workers and the public during remediation, redevelopment, and use of the site, including buffer zones, subslab venting, rail berm containment structure, and an environmental oversight plan.
- Provided technical support for the investigation of a former sanitary landfill that was redeveloped as single family homes. Reviewed and/or prepared portions of numerous documents, including health risk assessments, preliminary endangerment assessments, site investigation reports, work plans, and RI/FSs. Historical research to identify historic waste disposal practices to prepare a preliminary endangerment assessment. Acquired, reviewed, and analyzed the files of 18 federal, state, and local agencies, three sets of construction field notes, analyzed 21 aerial photographs and interviewed 14 individuals associated with operation of former landfill. Assisted counsel in defending lawsuit brought by residents alleging health impacts and diminution of property value due to residual contamination. Prepared summary reports.
- Technical oversight of characterization and remediation of a nitrate plume at an explosives manufacturing facility in Lincoln, CA. Provided interface between owners and consultants. Reviewed site assessments, work plans, closure plans, and RI/FSs.
- Consultant to owner of large western molybdenum mine proposed for NPL listing. Participated in negotiations to scope out consent order and develop scope of work. Participated in studies to determine premining groundwater background to evaluate

- In May 2017, prepared comments on tank VOC and HAP emissions from Tesoro Integration Project, based on real time monitoring at the Tesoro and other refineries in the SCAQMD.
- In April 2017, prepared comments on Negative Declaration for Delicato Winery in San Joaquin County, California.
- In March 2017, reviewed Negative Declaration for Ellmore geothermal facility in Imperial County, California and prepared summary of issues.
- In March 2017, prepared response to Phillips 66 Company's Appeal of the San Luis Obispo County Planning Commission's Decision Denying the Rail Spur Extension Project Proposed for the Santa Maria Refinery.
- In February 2017, prepared comments on Kalama draft Title V permit for 10,000 MT/day methanol production and marine export facility in Kalama, Washington.
- In January 2017, researched and wrote 51 pages of comments on proposed Title V and PSD permits for the St. James Methanol Plant, St. James Louisiana, on BACT and enforceability of permit conditions.
- In December 2016, prepared comments on draft Title V Permit for Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana, responding to EPA Order addressing enforceability issues.
- In November 2016, prepared comments on Initial Study/Mitigated Negative Declaration for the AES Battery Energy Storage Facility, Long Beach, CA.
- In November 2016, prepared comments on Campo Verde Battery Energy Storage System Draft Environmental Impact Report.
- In October 2016, prepared comments on Title V Permit for NuStar Terminal Operations Partnership L.P, Stockton, CA.
- In October 2016, prepared expert report, Technical Assessment of Achieving the 40 CFR Part 423 Zero Discharge Standard for Bottom Ash Transport Water at the Belle River Power Plant, East China, Michigan. Reported resulted in a 2 year reduction in compliance date for elimination of bottom ash transport water. 1/30/17 DEQ Letter.
- In September 2016, prepared comments on Proposed Title V Permit and Environmental Assessment Statement, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana.
- In September 2016, prepared response to "Further Rebuttal in Support of Appeal of Planning Commission Resolution No. 16-1, Denying Use Permit Application 12PLN-00063 and Declining to Certify Final Environmental Impact Report for the Valero Benicia Crude-by-Rail Project.

- In June 2015, prepared comments on DEIR for the CalAm Monterey Peninsula Water Supply Project.
- In April 2015, prepared comments on proposed Title V Operating Permit Revision and Prevention of Significant Deterioration Permit for Arizona Public Service's Ocotillo Power Plant Modernization Project (5 GE LMS100 105-MW simple cycle turbines operated as peakers), in Tempe, Arizona; Final permit appealed to EAB.
- In March 2015, prepared "Comments on Proposed Title V Air Permit, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana". Client filed petition objecting to the permit. EPA granted majority of issues. In the Matter of Yuhuang Chemical Inc. Methanol Plant, St. James Parish, Louisiana, Permit No. 2560-00295-V0, Issued by the Louisiana Department of Environmental Quality, Petition No. VI-2015-03, Order Responding to the Petitioners' Request for Objection to the Issuance of a Title V Operating Permit, September 1, 2016.
- In February 2015, prepared compilation of BACT cost effectiveness values in support of comments on draft PSD Permit for Bonanza Power Project.
- In January 2015, prepared cost effectiveness analysis for SCR for a 500-MW coal fire power plant, to address unpermitted upgrades in 2000.
- In January 2015, prepared comments on Revised Final Environmental Impact Report for the Phillips 66 Propane Recovery Project. *Communities for a Better Environment et al. v. Contra Costa County et al. Contra Costa County (Superior Court, Contra Costa County, Case No. MSN15-0301, December 1, 2016).*
- In December 2014, prepared "Report on Bakersfield Crude Terminal Permits to Operate." In response, the U.S. EPA cited the Terminal for 10 violations of the Clean Air Act. The Fifth Appellate District Court upheld the finding in this report in CBE et al v. San Joaquin Valley Unified Air Pollution Control District and Bakersfield Crude Terminal LLC et al, Super. Ct. No. 284013, June 23, 2017.
- In December 2014, prepared comments on Revised Draft Environmental Impact Report for the Phillips 66 Propane Recovery Project.
- In November 2014, prepared comments on Revised Draft Environmental Impact Report for Phillips 66 Rail Spur Extension Project and Crude Unloading Project, Santa Maria, CA to allow the import of tar sands crudes.
- In November 2014, prepared comments on Draft Environmental Impact Report for Phillips 66 Ultra Low Sulfur Diesel Project, responding to the California Supreme Court Decision, *Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310.*

- In January 2014, prepared cost estimates to capture, transport, and use CO2 in enhanced oil recovery, from the Freeport LNG project based on both Selexol and Amine systems.
- In January 2014, prepared technical report on Draft Environmental Impact Report for Phillips 66 Rail Spur Extension Project, Santa Maria, CA. Comments addressed project description (piecemealing, crude slate), risk of upset analyses, mitigation measures, alternative analyses and cumulative impacts.
- In November 2013, prepared technical report on the Phillips 66 Propane Recovery Project, Rodeo, CA. Comments addressed project description (piecemealing, crude slate) and air quality impacts.
- In September 2013, prepared technical report on the Draft Authority to Construct Permit for the Casa Diablo IV Geothermal Development Project Environmental Impact Report and Declaration in Support of Appeal and Petition for Stay, U.S. Department of the Interior, Board of Land Appeals, Appeal of Decision Record for the Casa Diablo IV Geothermal Development Project.
- In September 2013, prepared technical report on Effluent Limitation Guidelines for Best Available Technology Economically Available (BAT) for Bottom Ash Transport Waters from Coal-Fired Power Plants in the Steam Electric Power Generating Point Source Category.
- In July 2013, prepared technical report on Initial Study/Mitigated Negative Declaration for the Valero Crude by Rail Project, Benicia, California, Use Permit Application 12PLN-00063.
- In July 2013, prepared technical report on fugitive particulate matter emissions from coal train staging at the proposed Coyote Island Terminal, Oregon, for draft Permit No. 25-0015-ST-01.
- In July 2013, prepared technical comments on air quality impacts of the Finger Lakes LPG Storage Facility as reported in various Environmental Impact Statements.
- In July 2013, prepared technical comments on proposed Greenhouse Gas PSD Permit for the Celanese Clear Lake Plant, including cost analysis of CO2 capture, transport, and sequestration.
- In June/July 2013, prepared technical comments on proposed Draft PSD Preconstruction Permit for Greenhouse Gas Emission for the ExxonMobil Chemical Company Baytown Olefins Plant, including cost analysis of CO2 capture, transport, and sequestration.
- In June 2013, prepared technical report on a Mitigated Negative Declaration for a new rail terminal at the Valero Benicia Refinery to import increased amounts of "North American" crudes. Comments addressed air quality impacts of refining increased amounts of tar sands crudes.

Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 76 FR 24976 (May 3, 2011).

- Prepared cost analyses and comments on NOx BART determinations and emission reductions for proposed Federal Implementation Plan for Four Corners Power Plant, 75 FR 64221 (October 19, 2010).
- Prepared cost analyses and comments on NOx BART determinations for Colstrip Units 1- 4 for Montana State Implementation Plan and Regional Haze Federal Implementation Plan, 77 FR 23988 (April 20, 2010).
- For EPA Region 8, prepared report: Revised BART Cost Effectiveness Analysis for Tail-End Selective Catalytic Reduction at the Basin Electric Power Cooperative Leland Olds Station Unit 2 Final Report, March 2011, in support of 76 FR 58570 (Sept. 21, 2011).
- For EPA Region 6, prepared report: Revised BART Cost-Effectiveness Analysis for Selective Catalytic Reduction at the Public Service Company of New Mexico San Juan Generating Station, November 2010, in support of 76 FR 52388 (Aug. 22, 2011).
- For EPA Region 6, prepared report: Revised BART Cost-Effectiveness Analysis for Flue Gas Desulfurization at Coal-Fired Electric Generating Units in Oklahoma: Sooner Units 1 & 2, Muskogee Units 4 & 5, Northeastern Units 3 &4, October 2010, in support of 76 FR 16168 (March 26, 2011). My work was upheld in: *State of Oklahoma v. EPA*, App. Case 12-9526 (10th Cri. July 19, 2013).
- Identified errors in N_2O emission factors in the Mandatory Greenhouse Gas Reporting Rule, 40 CFR 98, and prepared technical analysis to support Petition for Rulemaking to Correct Emissions Factors in the Mandatory Greenhouse Gas Reporting Rule, filed with EPA on 10/28/10.
- Assisted interested parties develop input for and prepare comments on the Information Collection Request for Petroleum Refinery Sector NSPS and NESHAP Residual Risk and Technology Review, 75 FR 60107 (9/29/10).
- Technical reviewer of EPA's "Emission Estimation Protocol for Petroleum Refineries," posted for public comments on CHIEF on 12/23/09, prepared in response to the City of Houston's petition under the Data Quality Act (March 2010).
- Prepared comments on SCR cost effectiveness for EPA's Advanced Notice of Proposed Rulemaking, Assessment of Anticipated Visibility Improvements at Surrounding Class I Areas and Cost Effectiveness of Best Available Retrofit Technology for Four Corners Power Plant and Navajo Generating Station, 74 FR 44313 (August 28, 2009).
- Prepared comments on Proposed Rule for Standards of Performance for Coal Preparation and Processing Plants, 74 FR 25304 (May 27, 2009).

technical materials, preparation of technical comments on staff proposals, research on availability and costs of methods to control PRV releases, and negotiations with staff.

- Participated in amending BAAQMD Regulation 8, Rule 18, Valves and Connectors, including participation in public workshops, review of staff reports, proposed rules and other supporting technical material, preparation of technical comments on staff proposals, research on availability and cost of low-leak technology, and negotiations with staff.
- Participated in amending BAAQMD Regulation 8, Rule 25, Pumps and Compressors, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak and seal-less technology, and negotiations with staff.
- Participated in amending BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of controlling tank emissions, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 18, Valves and Connectors at Petroleum Refinery Complexes, including participation in public workshops, review of staff reports, proposed rules and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak technology, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 22, Valves and Flanges at Chemical Plants, etc, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability and costs of low-leak technology, and presentation of testimony before the Board.
- Participated in amending BAAQMD Regulation 8, Rule 25, Pump and Compressor Seals, including participation in public workshops, review of staff reports, proposed rules, and other supporting technical material, preparation of technical comments on staff proposals, research on availability of low-leak technology, and presentation of testimony before the Board.
- Participated in the development of the BAAQMD Regulation 2, Rule 5, Toxics, including participation in public workshops, review of staff proposals, and preparation of technical comments.
- Participated in the development of SCAQMD Rule 1402, Control of Toxic Air Contaminants from Existing Sources, and proposed amendments to Rule 1401, New Source

prepared by agency consultants and worked with agencies and their consultants to evaluate health risks.

WATER QUALITY/RESOURCES

- Directed and participated in research on environmental impacts of energy development in the Colorado River Basin, including contamination of surface and subsurface waters and modeling of flow and chemical transport through fractured aquifers.
- Played a major role in Northern California water resource planning studies since the early 1970s. Prepared portions of the Basin Plans for the Sacramento, San Joaquin, and Delta basins including sections on water supply, water quality, beneficial uses, waste load allocation, and agricultural drainage. Developed water quality models for the Sacramento and San Joaquin Rivers.
- Conducted hundreds of studies over the past 40 years on Delta water supplies and the impacts of exports from the Delta on water quality and biological resources of the Central Valley, Sacramento-San Joaquin Delta, and San Francisco Bay. Typical examples include:
    1. Evaluate historical trends in salinity, temperature, and flow in San Francisco Bay and upstream rivers to determine impacts of water exports on the estuary;
    2. Evaluate the role of exports and natural factors on the food web by exploring the relationship between salinity and primary productivity in San Francisco Bay, upstream rivers, and ocean;
    3. Evaluate the effects of exports, other in-Delta, and upstream factors on the abundance of salmon and striped bass;
    4. Review and critique agency fishery models that link water exports with the abundance of striped bass and salmon;
    5. Develop a model based on GLMs to estimate the relative impact of exports, water facility operating variables, tidal phase, salinity, temperature, and other variables on the survival of salmon smolts as they migrate through the Delta;
    6. Reconstruct the natural hydrology of the Central Valley using water balances, vegetation mapping, reservoir operation models to simulate flood basins, precipitation records, tree ring research, and historical research;
    7. Evaluate the relationship between biological indicators of estuary health and down-estuary position of a salinity surrogate (X2);
    8. Use real-time fisheries monitoring data to quantify impact of exports on fish migration;

cracking of copper alloys in the air cooling sections of condensers, tube sheet leaks, oxygen in-leakage through condensers, volatilization of silica in boilers and carry over and deposition on turbine blades, and iron corrosion on boiler tube walls. Mechanical/engineering failures investigated included: steam impingement attack on the steam side of condenser tubes, tube-to-tube-sheet joint leakage, flow-induced vibration, structural design problems, and mechanical failures due to stresses induced by shutdown, startup and cycling duty, among others. Worked with electric utility plant owners/operators, condenser and boiler vendors, and architect/engineers to collect data to document the occurrence of and causes for these problems, prepared reports summarizing the investigations, and presented the results and participated on a committee of industry experts tasked with identifying solutions to prevent condenser failures.

- Evaluated the cost effectiveness and technical feasibility of using dry cooling and parallel dry-wet cooling to reduce water demands of several large natural-gas fired power plants in California and Arizona.
- Designed and prepared cost estimates for several dry cooling systems (e.g., fin fan heat exchangers) used in chemical plants and refineries.
- Designed, evaluated, and costed several zero liquid discharge systems for power plants.
- Evaluated the impact of agricultural and mining practices on surface water quality of Central Valley steams. Represented municipal water agencies on several federal and state advisory committees tasked with gathering and assessing relevant technical information, developing work plans, and providing oversight of technical work to investigate toxicity issues in the watershed.

AIR QUALITY/PUBLIC HEALTH

- Prepared or reviewed the air quality and public health sections of hundreds of EIRs and EISs on a wide range of industrial, commercial and residential projects.
- Prepared or reviewed hundreds of NSR and PSD permits for a wide range of industrial facilities.
- Designed, implemented, and directed a 2-year-long community air quality monitoring program to assure that residents downwind of a petroleum-contaminated site were not impacted during remediation of petroleum-contaminated soils. The program included real-time monitoring of particulates, diesel exhaust, and BTEX and time integrated monitoring for over 100 chemicals.
- Designed, implemented, and directed a 5-year long source, industrial hygiene, and ambient monitoring program to characterize air emissions, employee exposure, and downwind environmental impacts of a first-generation shale oil plant. The program included stack monitoring of heaters, boilers, incinerators, sulfur recovery units, rock crushers, API

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McIlvaine Hot Topic Hour, Carbon Management Strategies and Technologies, 6/24/10
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Attachment 2

CURE is a coalition labor organizations whose members construct, operate, and maintain powerplants and other industrial facilities throughout California. CURE advocates for sustainable development of California's energy and natural resources. Environmental degradation consumes limited natural resources and jeopardizes future jobs by making it more difficult and expensive for industry to expand, including in Santa Clara County. Because CURE's participating organizations and their members live, recreate, work, and raise families in the City of Santa Clara and Santa Clara County, CURE's participating organizations and their members stand to be directly affected by the Project's adverse environmental and health impacts.

Our firm previously submitted comments on behalf of CURE on the Initial Study and MND prepared for the Project. Our comments were prepared with the assistance of technical expert Dr. Phyllis Fox, Ph.D, CEQ, PE, DEE. As detailed therein, we identified potentially significant and unmitigated impacts due to operational noise, nitrogen oxide (NOx) emissions from the Project's backup diesel generators, and greenhouse gas (GHG) emissions resulting in part from the Project's substantial energy demand. Dr. Fox's comments further demonstrated that fugitive dust emissions generated during the Project's construction phase may also cause significant air quality impacts. Based on these potentially significant and unmitigated impacts, as well as other deficiencies in the Initial Study, our comments concluded that the MND in its current form and substance violates CEQA and that an Environmental Impact Report is required for the Project. Our previous comments on the Initial Study and MND are incorporated in this letter by reference.

We write to you today not to repeat the points made in our MND comment letter relating to CEQA compliance, but to comment that the Project fails to comply with the Santa Clara City Code. As a result, the Committee cannot make the required findings of consistency.

Santa Clara City Code Section 18.76.020, subsection (c), provides that the Committee must find that the Project is based on the following standards of architectural design, among others:

operations. For this reason, further environmental review and mitigation is necessary before the Committee can conclude that generator operations would not unreasonably interfere with the use and enjoyment of neighboring properties, or adversely impact public welfare.

Furthermore, simultaneous operation of the Project's backup generators may cause significant air quality impacts due to NOx emissions. The City's air quality assessment demonstrates that NOx emissions from simultaneous operation of the 120 backup diesel generators may exceed the Bay Area Air Quality Management District threshold of significance in the case of a power outage. However, Mitigation Measure MM AIR-2 only mitigates impacts resulting from generator operations during routine testing and maintenance. NOx emissions are a precursor to ozone, and ground-level ozone is known to contribute to a number of adverse public health impacts, including: causing difficulty breathing; aggravating lung diseases such as asthma, emphysema, and chronic bronchitis; and making the lungs more susceptible to infection, among others harmful effects.

Finally, as our comments on the Initial Study and MND further explain, GHG emissions resulting from the Project's operations may exceed the BAAQMD's numeric threshold of significance for land use projects, particularly when the Project's substantial electricity demand is accounted for. The Project's overall GHG emissions are not quantified in the Initial Study, but the City concludes that the Project's impacts would be less than significant because the Project is consistent with the Climate Action Plan ("CAP"), the General Plan, and other state and regional GHG reduction programs. However, few of the applicable measures discussed in the Initial Study will meaningfully reduce GHG emissions resulting from operation of the data center. Climate change is an impact that not only adversely affects those in the immediate vicinity of the Project, but all Californians in the form of increased drought, wildfires, and rising sea levels. Thus, approval of the Project in its current form may also adversely affect public welfare in this regard.

For each of the reasons above, we urge the Committee not to adopt the MND or approve the Project at this time. The City's analysis in the Initial Study and MND does not support a finding that the Project will not unreasonably interfere with the use and enjoyment of neighboring developments, or that approval will not materially affect adversely the welfare of persons residing or working in the neighborhood of the Project. We request that the Committee deny architectural