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August 31, 2020

Via Electronic Mail Only

Jason Cashman
Environmental and Regulatory Affairs
Manager
Port of Stockton
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Re: Supplemental Comments on the Draft Environmental Impact Report for Lehigh Southwest Stockton Terminal Project, State Clearinghouse No. 2019100510

Dear Mr. Cashman:

This firm represents the Delta-Sierra Group of the Sierra Club (DSG) with regard to the Lehigh Southwest Stockton Terminal Project (Project). The purpose of this letter is to supplement DSG's July 6, 2020 comments and reinforce key issues raised previously by DSG, the California Air Resources Board (CARB), the San Joaquin Valley Air Pollution Control District (SJVAPCD), and the Attorney General of California. Having reviewed the Port's draft environmental impact report (DEIR) and relevant comment letters, we have concluded that the DEIR fails to comply with even the most basic requirements of the California Environmental Quality Act (CEQA), Public Resources Code § 21000 et seq., and the CEQA Guidelines, 14 Cal. Code Regs. § 15000 et seq. DSG remains deeply concerned about the far-ranging environmental impacts that would result from the proposed Project. For the reasons set forth in DSG's prior comments and reinforced below, DSG respectfully requests that the Port decline to certify any final EIR unless the Port conducts a full, thorough, and transparent environmental analysis in compliance with CEQA.

I. The DEIR Fails to Adequately Analyze the Project's Air Quality Impacts and Health Risks to the Surrounding Community.

While the DEIR suffers a multitude of flaws (*see generally* DSG Comments on the DEIR, July 6, 2020, attached hereto as Exhibit A), DSG is particularly concerned by the DEIR's flagrant disregard for air quality and the health of neighboring communities. The Project is located in an economically disadvantaged community predominately composed of Black, Indigenous, and people of color (BIPOC). As noted by the Attorney General, CARB, and others, this community is particularly vulnerable to pollution and pollution-based health risks. (Attorney General Comments on the DEIR, July 21, 2020, at 3 ["the Project's census tract ranks **worse than 100 percent of the rest of the state** for pollution burden and **worse than 98 percent of the state** for population vulnerability" (emphasis added)]; CARB Comments on the DEIR, July 3, 2020, at 2 [noting the Stockton community's "high cumulative exposure burden, the presence of a significant number of sensitive receptors (children, elderly, and individuals with preexisting conditions), and the socioeconomic challenges experiences by its residents"].) Yet notwithstanding this vulnerability, the DEIR fails to adequately analyze or mitigate the Project's air quality impacts on the surrounding community.

A. The Port Should Complete a Project-Specific HRA to Be Included in the Project's EIR.

Most egregiously, the Port has not prepared a project-specific Health Risk Assessment (HRA) for inclusion in the DEIR. An HRA is a vital analytical tool that empowers the public and decisionmakers to fully understand the scope and magnitude of a project's health risks by directly connecting pollutant emissions to related health effects. (*See Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 521 ("*Friant Ranch*") [a valid EIR must make "a reasonable effort to discuss relevant specifics regarding the connection between . . . the general health effects associated with a particular pollutant and the estimated amount of that pollutant the project will likely produce"]; CARB comments on the DEIR at 2 [identifying an HRA as its recommended tool to meet the requirements of *Friant Ranch*].) Despite repeated pressure from CARB, SJVAPCD, and others, however, the Port has consistently resisted calls to include an HRA in its environmental analysis, or conduct any similar analysis of the Project's health effects. (*See* DSG Comments on the DEIR at 2; DEIR at 98.)

Instead, the Port has partially relied on an old HRA prepared for the Contanda Renewable Diesel Bulk Liquid Terminal Development Project (DEIR at 99-100) and has suggested that the Port would complete an HRA for the Lehigh Project separate from the EIR. Neither approach satisfies the Port's obligations under CEQA. First, as noted by

CARB, HRAs are project-specific; by definition the HRA prepared for the Contanda project cannot disclose the full health risks associated with the Lehigh Project. (*See* CARB Comments on the DEIR at 2 [recommending a project-specific HRA]; SJVAPCD Comments on the DEIR, July 6, 2020, at 3 [recommending same].) Furthermore, even if the HRA for the Contanda project could be informative here, that HRA is based on faulty modeling that does not even convey accurate health risks of the project it was completed for. Expert comments on the Contanda project, obtained by DSG through a Public Records Act request, attached hereto as Exhibits B and C, and incorporated herein by reference, demonstrate that the Contanda HRA and DEIR relied on invalid assumptions (Exh. C at 31 [the Port assumed without justification that offsite emissions would not be closer to sensitive receptors than onsite emissions]), improperly adjusted the location of modeled sources to produce more favorable emissions results (*id.* at 32 [the Port's models shifted emissions sources away from homes when, in reality, those sources were "very close to homes"]), and failed to analyze acute health impacts despite the existence of clear significance thresholds (*id.* at 35). As a result of these errors, the Contanda HRA understated both the "significant cancer risk to [area] residents" and the "highly significant and unmitigated" acute health impacts "for workers, residents, and school children." (*Id.* at 39.)

To rely here on that same HRA—which in the best of cases would have limited applicability to the Lehigh Project—is absurd; neither the Port nor the public can understand the Project's health risks based on the Port's passing reference to the faulty Contanda HRA. In order to produce an informative environmental document and comply with CEQA, the Port should prepare a new HRA for the Lehigh Project. (*See Friant Ranch*, 6 Cal.5th at 516 [an EIR must include enough detail 'to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the project'"]; 14 Cal. Code Regs. § 15002(a)(1) [one of the "basic purposes" of CEQA to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities"].)

Second, if the Port is working on an HRA for the Lehigh Project, as Port staff have suggested (DSG Comments on the DEIR at 7, n.6), that HRA must be included in the EIR. CEQA requires an EIR's conclusions to be informed by facts and reasoned analysis. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 736.) Relying in part on the outdated, irrelevant, and fatally defective Contanda HRA, the DEIR concludes that the Lehigh Project "would result in a less-than-significant cancer risk, chronic health hazard, and acute health hazard at the maximally affected individual receptors." (DEIR at 100.) If the Port seeks to supplement this analysis with a project-specific HRA (as it should), it must incorporate that HRA into the EIR and recirculate the

EIR to make that HRA available to the public for review. (*See Western Placer Citizens for an Agric. & Rural Env't v County of Placer* (2006) 144 CA4th 890, 899 [new information that arises before certification of a final EIR is analyzed under the standards for recirculation]; 14 Cal. Code Regs. § 15088.5 [recirculation is required if new information shows (1) a significant new environmental impact, (2) a substantial increase in the severity of an impact, (3) a feasible alternative or mitigation measure would significantly reduce impacts, or (4) the draft EIR was so conclusory that meaningful public review and comment were precluded]; *see also Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 95 ["EIR should have been revised and recirculated for purposes of informing the public and governmental agencies" of new information submitted in an expert report].)

B. The DEIR's Failure to Fully Analyze and Mitigate Air Quality Issues Compounds the Risk of Unknown Health Impacts.

DSG, CARB, and other commenters have repeatedly alerted the Port to severe defects in the DEIR's analysis of air quality impacts. (*See*, *e.g.*, DSG Comments on the DEIR at 7-11; CARB Comments on the DEIR at 4-5; SJVAPCD Comments on the DEIR at 4-8; Attorney General Comments on the DEIR at 7-10.) For example, the DEIR analyzed criteria air pollutant impacts using outdated data, even though more recent data are readily available. (DSG Comments on the DEIR at 9 [the DEIR stated 2015 was the most recent year for which data were available, but data from 2019 are publicly available on CARB's website].) Additionally, the DEIR selected mitigation measures that are undefined and unenforceable while rejecting out of hand a series of measures recommended by CARB. (Attorney General Comments on the DEIR at 8 [noting MM-AQ-5 is "undefined and unenforceable" because "the DEIR does not provide any measurable criteria for determining what infrastructure will be provided to support zero emission equipment, when replacement equipment would be purchased that meets the mitigation measure criteria, and how the cleanest available equipment would be identified"]; *id.* at 9 [discussing CARB's proposed mitigation measures]; *see also* 14 Cal. Code Regs. 15126.4(a)(1)(B) [mitigation measures must include specific performance standards and identify actions that can feasibly achieve those performance standards].) The mitigation measures the Port did include will not reduce impacts to a level of insignificance.

These defects violate CEQA. A lead agency must adopt all feasible mitigation measures to reduce a project's significant impacts. (Pub. Res. Code § 21002; 14 Cal. Code Regs. § 15126.4(a)(1); *accord* Attorney General Comments on the DEIR at 7.) Here, the DEIR fails to adequately explain why it does not adopt feasible mitigation measures proposed by CARB despite the fact that the DEIR's selected mitigation

measures do not reduce impacts to less-than-significant levels. (Attorney General Comments on the DEIR at 9 ["The DEIR implements only two of CARB's recommended mitigation measures, and the two it includes are substantially weakened."]; CARB Comments on the DEIR at 4 ["the DEIR concludes that the Project's cumulative impact would remain significant after mitigation"]; DEIR at 221-23.) Moreover, CARB has recently adopted its Advanced Clean Trucks (ACT) Regulation "to accelerate a large-scale transition of zero-emission medium-and heavy-duty vehicles." (Advanced Clean Trucks Fact Sheet, California Air Resources Board, available at link in footnote.)[1] By 2035, zero-emission truck sales must be "55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales." (*Id.*) This new rule makes it patently clear that requiring electric vehicles is a feasible mitigation measure for this Project. For this reason, as well, the Port must revise and recirculate the DEIR.

But more important, the DEIR's failure to adequately analyze and mitigate the Project's air quality impacts increases the risk of acute and chronic health impacts to the surrounding community. And because the Port has not included a project-specific HRA in the DEIR, neither the Port nor the public fully understand the scope and magnitude of that risk. The DEIR is thus insufficient as an informational document. (*See Friant Ranch*, 6 Cal.5th 502, 511 ["The basic purpose of an EIR is to 'provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list the ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." [quoting Pub. Res. Code § 21061]].)

II. The DEIR Fails to Adequately Analyze or Mitigate Significant Greenhouse Gas Emissions.

Analysis of greenhouse gas (GHG) emissions is particularly important with regard to global climate change because we have already exceeded the capacity of the Earth's atmosphere to absorb additional GHG emissions without risking catastrophic and irreversible consequences. Therefore, even seemingly small additions of GHG emissions into the atmosphere must be considered cumulatively considerable. (*See Communities for Better Environment v. Cal. Resources Agency* (2002) 103 Cal.App.4th 98, 120 ["the greater the existing environmental problems are, the lower the threshold for treating a project's contribution to cumulative impacts as significant"], disapproved on other grounds in *Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086.) Although the DEIR recognizes that the Project's GHG emissions will be significant, the

[1] https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-trucks-fact-sheet

DEIR fails to fully analyze those impacts and fails to incorporate defined, enforceable, and effective mitigation measures.

First, threshold GHG-2 provides that the Project will have a significant GHG impact if it "would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases." (DEIR at 146.) Yet the DEIR fails to analyze key state policies, including Executive Order B-30-15 (interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32), Executive Order B-55-18 (statewide policy for the state to achieve carbon neutrality as soon as possible, and no later than 2045), the California Building Energy Efficiency Standards (24 Cal. Code Regs., part 6), and the California Green Building Standards Code (24 Cal. Code Regs., part 11). These latter two omissions are particularly egregious in light of the Port's proposed mitigation, which relies on building energy efficiency measures to reduce GHG impacts. (*See* DEIR at 151 [MM-GHG-3 requires Lehigh to "[r]eplace less-efficient bulbs with energy-efficient light bulbs, where applicable" and to "[e]valuate the applicability of solar on the terminal"].)

Second, the mitigation measures identified in the DEIR are inadequate, insufficient, and improper. The DEIR relies heavily on its air quality mitigation measures to alleviate significant GHG impacts. (*See id.*) However, as discussed above and further detailed in earlier comments, these measures are largely undefined, unenforceable, and fail to incorporate feasible mitigation measures proposed by CARB. (*Supra*, Part I.B.) Rather than correct these errors, the DEIR's supplemental GHG measures improperly defer mitigation in violation of CEQA. For example, MM-GHG-3 directs Lehigh to "develop a plan for reducing overall energy use at its terminal," but provides no concrete performance criteria to ensure that that plan will actually reduce GHG emissions to a less-than-significant level. (DEIR at 151.) Additionally, MM-GHG-3 inexplicably gives Lehigh a two-year grace period to replace lights with energy-efficient alternatives. This unexplained delay and deferral of mitigation is incompatible with CEQA and deprives the Port and the public of the opportunity to timely consider the full impacts of the Project. (*See* 14 Cal. Code Regs. § 15126.4(a)(1)(B); *Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467, 264 Cal.Rptr.3d 309, 349-50 ["Where an EIR improperly defers mitigation, the approving agency abuses its discretion by failing to proceed in the manner required by law."]; *King & Gardner Farms LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 860; *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281; *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 89-101 [finding improper deferral of mitigation where EIR "proposes a generalized goal of no net increase in GHG emissions and then sets out a handful of cursorily described mitigation measures for future consideration"].)

Third, even if the DEIR's identified mitigation measures were sufficient under CEQA—and they are not—the DEIR does not clearly analyze or quantify the GHG emissions reductions that allegedly result from those mitigation measures. The DEIR states that because "[i]mplementation of MM-GHG-1 through MM-GHG-3 and MM-AQ-1, MM-AQ-3, and MM-AQ-4 would reduce GHG emissions consistent with the [City of Stockton's] 2040 General Plan policies," "[i]mpacts would be less than significant." (DEIR at 151.) However, neither the DEIR nor its attached GHG analysis clearly demonstrate a reduction in GHG emissions. (*See* DEIR at 146-151 [providing only unmitigated emissions]; DEIR at Appendix E, § 2.0 ("Emissions Summary") [identifying no reduction in GHG emissions between unmitigated and mitigated construction impacts or between unmitigated and mitigated operational impacts].) Without supporting facts or analysis, the DEIR cannot demonstrate that the Project's GHG impacts will be mitigated to a less-than-significant level. (*See, e.g., Kings County Farm Bureau*, 221 Cal.App.3d at 736 [an EIR's conclusions must be informed by facts and reasoned analysis].)

Fourth, the DEIR fails to incorporate key mitigation strategies recommended by CARB's 2017 Climate Change Scoping Plan. Specifically, the DEIR fails to look beyond project design features to other local, regional, state, national, and international measures. Measures such as direct investments in GHG reductions within a project's region are critical to meeting the state's emissions reduction goals and should be analyzed accordingly. (*See, e.g.*, California's 2017 Climate Change Scoping Plan ("2017 Scoping Plan"), California Air Resources Board, Nov. 2017, at 102 [recommending that local agencies prioritize mitigation measures based on direct investment].) Such investments "should be supported by quantification methodologies that show the [GHG emissions] reductions are real, verifiable, quantifiable, permanent, and enforceable." (*Id.*)

Fifth, the DEIR does not engage with CARB's recommended threshold of significance for GHG emissions. Since 2017, CARB has instructed lead agencies to use a net-zero threshold of significance for new development. (*Id.* at 101 ["Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development."]; *see also id.* at 101-02 [noting "it is feasible to design projects that achieve zero net additional GHG emissions" and citing the Newhall Ranch Resource Management and Development Plan as an example].) Yet the DEIR does not even acknowledge this threshold, let alone explain why it has chosen a threshold that allows more GHG emissions to go unmitigated. (*See* DEIR at 147-51.) For this and the above reasons, the Port must revise and recirculate the DEIR.

III. Although DSG Highlighted the Need for Public Engagement as Early as November 2019, the Port Still Has Not Engaged in an Adequate Public Process for the Lehigh Project.

Finally, DSG reiterates its and others' comments concerning the absence of meaningful public outreach throughout the CEQA process. (*See, e.g.*, DSG Comments on the Lehigh NOP/IS, November 22, 2019, attached hereto as Exhibit D [noting the NOP/IS could only be located on the State Clearinghouse website and requesting that the Port hold a community workshop before preparing the DEIR]; DSG Comments on the DEIR at 6.) As detailed in DSG's comments on the NOP/IS and repeated in DSG's initial comments on the DEIR, DSG and eleven other organizations requested the Port host a workshop and engage the local community before preparing a DEIR for the Project. (DSG Comments on the NOP/IS at 1; DSG Comments on the DEIR at 6.) Independent from DSG's request, CARB also indicated that the Port "should engage with CARB, SJVAPCD, and community residents to address community concerns and mitigate air quality and GHG impacts." (CARB Comments on the DEIR at 2.) Yet to date, the Port has not engaged meaningfully with any of the relevant parties. (DSG Comments on the DEIR at 6; CARB Comments on the DEIR at 2.) In fact, despite the extensive public interest in this Project, the Port refuses to provide more than 72 hours' notice of when it will consider approving the Project. This short time-frame blocks the public out of the final decisionmaking process, and makes it nearly impossible to gauge when final public comments are due. This is especially problematic in light of the Port's policy purporting to require comments five days in advance of public hearings; by the time the public is aware of an impending hearing, the deadline to submit comments would have passed.

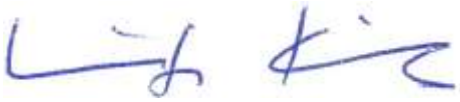
This notice problem could be alleviated if the Port complied with the noticing requirements for ordinances regulating traffic, vehicle operation, or vessel operation. (*See* Harbors & Nav. Code § 6309.) Harbors and Navigation Code section 6309.2 requires the Port to notice such ordinances at least 20 days before the meeting at which they will be adopted. (Harbors & Nav. Code § 6309.2.) Notice is given by publishing the full text of the proposed ordinance "on three separate occasions in a newspaper of general circulation published within the district, or if [there is] none, in any newspaper of general circulation published in the county in which the district, or a part thereof, is located, together with a notice of the date on which the board will meet for the purpose of adopting the ordinance." (*Id.*) This procedure gives the community more time to review and comment on ordinances that, like the Project, affect vehicle or vessel operations and associated air quality issues. Moving forward, the Port must take seriously its obligations to engage with the community and should improve its public outreach and notification methodologies. (DSG Comments on the DEIR at 6; CARB Comments on the DEIR at 2.)

IV. Conclusion

In light of the numerous flaws in the DEIR and the Port's broader CEQA process, the Port cannot certify a final EIR for the Lehigh Project at this time. The Port should revise and recirculate its DEIR in conformity with CEQA and the comments received thus far. The public and relevant agencies deserve an opportunity to review and comment on a thorough and transparent EIR that contains the Port's complete analysis and discloses the full breadth and magnitude of the Project's environmental impacts. DSG appreciates the Port's attention to this matter and looks forward to reviewing a revised CEQA document.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



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Exhibits: (A) DSG Comments on the Lehigh DEIR, July 6, 2020
(B) Adams Broadwell Joseph & Cardozo, Preliminary Comments on the Draft Environmental Impact Report for Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008), March 13, 2019 (original exhibits omitted)
(C) Phyllis Fox, PhD, PE, Comments on the Draft Environmental Impact Report for the Contanda Renewable Diesel Bulk Liquid Terminal Development Project, March 13, 2019 (originally Exhibit A to the March 13, 2019 Adams Broadwell comments)
(D) DSG Comments on the Lehigh NOP/IS, November 22, 2019

cc: Mary Elizabeth, M.S., R.E.H.S, Delta-Sierra Group of the Sierra Club
Eric Parfrey, Delta-Sierra Group of the Sierra Club
Bill Jennings, California Sportfishing Protection Alliance
Barbara Barrigan-Parrilla, Restore the Delta

Rev. Will McGarvey, Interfaith Climate Action Network of the Interfaith Council of Contra Costa County
Nancy Reiser, Crockett Rodeo United to Defend the Environment
Jay Gunkelman, Air Watch Bay Area
Constance Beutel, EdD, Air Watch Bay Area
Shoshana Wechsler, Sunflower Alliance
Liore Milgrom-Gartner, CA Interfaith Power & Light
Mary Zeiser, Protect the Bay Coalition
Kathy Kerridge, JD, The Good Neighbor Steering Committee of Benicia
Boggs Tract Community Center Advisory Board
Port of Stockton Commissioners
San Joaquin Valley Air Pollution Control District
Central Valley Water Quality Control Board
City of Stockton City Council Members
San Joaquin County Board of Supervisors
Donald Blount, The Record

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EXHIBIT A

SIERRA CLUB
DELTA-SIERRA GROUP
MOTHER LODE CHAPTER

California Interfaith Power & Light

Crockett-Rodeo United Defend the Environment (C.R.U.D.E.)

RESTORE THE DELTA
Fishable, Swimmable, Drinkable, Farmable

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE
CSPA
Since 1983

SUNFLOWER ALLIANCE

Air Watch Bay Area

Environmental Justice Partners
Faith and non-faith communities
Interfaith Climate Action Network Contra Costa County
Industry elected Representatives Refineries

Jason Cashman
Port of Stockton Environmental and Regulatory Affairs Manager
2201 West Washington Street
Stockton, California 95203

July 6, 2020

Via email to jcashman@stocktonport.com

Re: May 2020 Lehigh Southwest Stockton Terminal Project State Clearinghouse Number: 2019100510 Draft Environmental Impact Report (DEIR) located at 205 Port Road 1, Berth 2.

The Delta-Sierra Group of the Sierra Club (DSG) has reviewed the May 2020 Lehigh Southwest Stockton Terminal Project DEIR and has the following comments for your consideration as the Final Environmental Impact Report (FEIR) is prepared or as a Recirculated DEIR with new information and analysis is prepared.

The Delta-Sierra Group demands that the Port of Stockton as Lead Agency complies with the California Environmental Quality Act (CEQA) requirements via posting on the Port Web site the entire Final EIR and related documents, including the Mitigation Monitoring and Reporting Program and CEQA Findings. The Port must post the FEIR with all DEIR comment letters and responses to the letters from State and other agencies at least 10 days before adoption of the Final EIR and project approval will be considered by the Port of Stockton Commission (required by Public Resources Code Sec. 21092.5(a)).

As noted below in our detailed comments, we believe the DEIR analyses and proposed mitigation measures are deficient and inadequate in a number of areas, most notably response to state agencies guidance, public outreach, air quality, transportation, greenhouse gas emissions, cumulative impacts, water quality, hazards/hazardous materials, noise, and tribal cultural and historical resources. Our review indicates that additional environmental analyses and mitigation are necessary to comply with local, regional, and state regulatory guidance related to the facility's construction and proposed operational activities.

DEIR Fails to Include a Health Risk Assessment

We are extremely concerned that, once again, the Port has dismissed comments and recommendations received from key State agencies in responses to the Notice of Preparation/Initial Study for the DEIR (NOP). If the Port continues such unlawful behavior, the Sierra Club will be forced to take legal action to stop this and other major projects until an environmental analysis and meaningful mitigation measures in accordance with CEQA have been prepared and approved.

Perhaps the most glaring and indefensible deficiency of the DEIR is the Port's refusal to prepare and include a Health Risk Assessment (HRA) to identify potential impacts to the low income community within close proximity to the Port, and to mitigate those impacts caused by project generated air pollutants such as diesel particulate matter, and others. The California Air Resources Board (CARB) in its letter in response to the NOP noted that:

> CARB staff is concerned about the air pollution and health risk impacts that may result from the Project. If the throughput maximum occurs on a regular basis, the Project would result in more than doubling of the number of bulk marine vessels, heavy-duty trucks, and trains visiting the Project site over existing conditions. This net increase in activity could negatively impact local air quality by the health-harming emissions, including particulate matter, toxic air contaminants, and diesel emissions generated during the construction and operation of the Project. These emissions also contribute to regional air pollution by emitting precursors that lead to the formation of secondary air pollutants, like ozone, and contribute to an increase in greenhouse gas (GHG) emissions.
>
> There are residences, schools, and senior centers for the community located near the Project, [in addition to several places of worship]. The communities near the Project are surrounded by existing emission sources, which include warehouses, other industrial uses, vehicular traffic along Interstate 5 (1-5), the Ort J. Lofthus/Crosstown Freeway *[to Navy Drive bypass, and marine traffic on the Stockton Deep Water Channel*].
>
> Due to the Project's proximity to residences, school and senior centers already disproportionately burdened by multiple sources of pollution, CARB staff is concerned with the potential cumulative health impacts associated with the buildout of the Project, [*as is the DSG*]. [*clarification and emphasis added*]

The CARB letter goes on to say that "The Health Risk Assessment (HRA) prepared in support of the Project should be based on the latest Office of Environmental Health Hazard Assessment (OEHHA) guidance (2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments).[1] The HRA should evaluate and present the existing baseline (current conditions), future baseline (full build-out year, without the Project), and future year with the Project. The health risks modeled under both the existing and the future baselines should reflect all applicable federal, State, and local rules and regulations. By evaluating health risks using both baselines, the public and city planners will have a complete understanding of the potential health impacts that would result from the Project. CARB staff is more than willing to share any inventory, air quality, or regulatory data that may assist during the HRA process."

In dismissing the CARB guidance, the Port's argument that an HRA is not required to comply with CEQA is specious and reflects a disregard for the adjacent community. Although the Contanda Renewable HRA has not been reviewed (as will be discussed later) several more projects have been approved which increases the nearby disadvantaged community exposure to air pollutants. The DEIR casually explains away the need to spend the money to prepare an HRA by stating:

> Operation of the proposed project would result in incremental DPM [diesel particulate matter] emissions from trucks, OGVs [ocean going vessel], rail, and other diesel-fueled equipment of less than 0.2 ton per year. Even overlapping construction and operational emissions would result in less than 0.5 ton per year. These emissions would be substantially less than other recent Port projects for which cancer risk was quantified to be below SJVAPCD's threshold of 20 in 1 million. For example, the HRA completed for the

[1] https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

> Contanda Renewable Diesel Bulk Liquid Terminal Development Project (2019; Port 2019a) showed an increased particulate matter risk of 6.7 in 1 million at 1 ton of PM per year, well under the threshold of 10 in 1 million. While the receptors are not identical, the Contanda Renewable Diesel Bulk Liquid Terminal Development Project had similar vessel truck and rail routes within the Port (areas most affecting local receptors) and is located in close proximity to the Lehigh terminal with similar air dispersion patterns.

DEIR Fails to Include Specific Mitigation Measures Recommended by CARB and SJVAPCD

To add insult to injury, the DEIR also refuses to incorporate many of the specific mitigation measures related to construction and operational impacts that the agency requested be included as part of the project. In its letter in response to the NOP, CARB argued that:

> To reduce the exposure of emissions in disadvantaged communities already disproportionally impacted by air pollution, the final design of industrial uses proposed under the Project should include all existing and emerging zero-emission technologies to minimize exposure to all neighboring communities, as well as the GHGs that contribute to climate change. CARB encourages the Port to implement the measures listed in Attachment A of this comment letter. During the Project's development, the Port should engage with CARB, SJVAPCD, and community residents to address community concerns and mitigate air quality and GHG impacts.

These measures CARB proposes are standard measures that are normally accepted by lead agencies and made conditions of approval for Port projects throughout the State.

<u>The CARB recommended construction measures include the following:</u>

1. Eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g., electrical hookups) to support zero and near-zero equipment and tools.
2. Implement, and plan accordingly for, the necessary infrastructure to support the zero and near-zero emission technology vehicles and equipment that will be operating onsite. Necessary infrastructure may include the physical (e.g., needed footprint), energy, and fueling infrastructure for construction equipment, onsite vehicles and equipment, and medium-heavy and heavy-heavy duty trucks.
3. In construction contracts, include language that requires all off-road diesel-powered equipment used during construction to be equipped with Tier 4 or cleaner engines, except for specialized construction equipment in which Tier 4 engines are not available. In place of Tier 4 engines, off-road equipment can incorporate retrofits such that emission reductions achieved equal or exceed that of a Tier 4 engine.
4. In construction contracts, include language that requires all off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used during project construction be battery powered.
5. In construction contracts, include language that requires all heavy-duty trucks entering the construction site, during the grading and building construction phases be model year 2014 or later. All heavy-duty haul trucks should also meet CARB's lowest optional low-NOx standard starting in the year 2022.
6. In construction contracts, include language that requires all construction equipment and fleets to be in compliance with all current air quality regulations.

<u>The CARB recommended operation measures to apply to the project include the following:</u>

1. Include contractual language in tenant lease agreements that requires all cargo handling equipment be zero-emission and the terminal has sufficient infrastructure to such equipment.
2. Include contractual language in tenant lease agreements requiring all terminals be shore power capable.

3. Include contractual language in tenant lease agreements requiring all cargo and bulk container marine vessels accessing the terminal be shore power capable.
4. Include contractual language in tenant lease agreements that requires future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
5. Include contractual language in tenant lease agreements that requires all heavy-duty trucks entering or on the project site to be model year 2014 or later, expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2030.
6. Include contractual language in tenant lease agreements that requires the tenant be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation,4 Periodic Smoke Inspection Program (PSIP),5 and the Statewide Truck and Bus Regulation.

The Port has refused to adopt the majority of these mitigation measures, directly contradicting the guidance of CARB. The DEIR recommends only five mitigation measures to reduce air quality impacts, and none of the verbatim measures recommended by CARB are included. The DEIR fails to address each one of the twelve measures proposed by CARB and offers no justification for rejecting the measures. The two CARB measures that are addressed in the DEIR reasons are summarily dismissed on economic issues, with no quantification of why the measure could be considered economically infeasible.

For example, the DEIR includes the following dismissal of the CARB measures to require that all cargo handling equipment be zero-emission, requiring all terminals be shore power capable, and requiring all cargo and bulk container marine vessels accessing the terminal be shore power capable (operation measures 1, 2, and 3, above):

> [T]here are several issues, including cost and equipment availability, which would need to be addressed prior to expanding this rule to the Port and operations such as Lehigh's. For example, most vessel calls related to the proposed project are one-time visits, meaning they would call at the Port only one time per year; therefore, the cost to retrofit a ship to accept shore power would be cost-prohibitive (page 97).

For the CARB measures requiring all heavy-duty trucks entering or on the project site to be model year 2014 or later, [to] expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2030, the DEIR similarly dismisses the recommendation with this brief reply:

> Use of cleaner trucks, defined as model year 2017 or newer, implemented through contracts with material suppliers, would result in reduced transit emissions. However, it is unknown at this time how many such trucks would visit the terminal. While not a significant source of emissions, transitioning to clean yard equipment would reduce on-terminal emissions. While heavy-duty electric trucks are under development, they are not readily available throughout the state at commercial levels, and it is unknown if they would be by 2030 (page 96).

The DEIR mitigation measure MM-AQ-4 on the issue is weak and does not comply with the CARB recommendations that would place specific requirements in Port lease agreements. MM-AQ-4 is toothless: "Where possible, Lehigh will encourage the use of clean trucks (defined as model year 2017 or newer) to transport cementitious material. Lehigh will also educate customers about the SJVAPCD Truck Replacement Program via direct mailings. In addition, Lehigh will require all trucks be in compliance with ARB air quality regulations for on-road trucks, including ARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program (PSIP), and the Statewide Truck and Bus Regulation. Lehigh Hanson will post a copy of the SJVAPCD Truck Replacement Program information" [emphasis added].

Rejection of potential mitigation measures that would reduce environmental impacts without sufficient legal justification is contrary to CEQA requirements.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) proposed several mitigation measures and requirements that the Port's DEIR has summarily rejected or ignored: including characterization of the effectiveness of each mitigation measure incorporated into the project and a Health Risk Screening/Assessment. The SJVAPCD recommends the project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multiyear construction toxic air contaminants emissions such as those that can be attributed to diesel exhaust emitted from both mobile and stationary sources.

The DEIR fails to include a project specific Health Risk Assessment, yet makes an unsupported conclusion that "the majority of the $PM_{2.5}$, of which DPM would be a component, would be generated from ships at berth, which would be located 1,300 feet from the nearest receptor. Overall incremental PM levels are lower than similar projects that did not produce health risks. The proposed project would result in a less-than-significant cancer risk, chronic health hazard, and acute health hazard at the maximally affected individual receptors. Therefore, the proposed project's health risk impacts would be less than significant," and no mitigation is required" (page 108). We strongly disagree with this conclusion.

The DEIR has illegally rejected specific mitigation measure proposed by the State and other agencies which is in violation of CEQA case law. CEQA states that "while local agencies have much discretion in determining the significance of impacts under CEQA, where, as in this case, state guidance is an expression or synthesis of scientific data and scientific judgment, agencies may not ignore it."

CEQA requires that mitigation measures relied upon to mitigate impacts must be "fully enforceable" through permit conditions, agreements, or other legally binding instruments (Public Resources Code Sec. 21081.6(b) and CEQA Guidelines Sec. 15126.4(a)(2)). Similarly, the mitigation must provide assurance that it will be implemented, and not merely adopted and then disregarded. *Anderson First Coalition v. City of Anderson* (2005) 130 Cal. App. 4th 1173,1186-87; *Fed'n of Hillside & Canyon Assn's v. City of Los Angeles* (2000) 83 Cal. App. 4th 1252, 1261. The five Air Quality mitigation measures recommended by the DEIR are not "fully enforceable." The DEIR measures are insufficient without substantial evidence that further mitigation, such as the measures proposed by CARB and SJVAPCD, are infeasible.

An EIR is inadequate if it fails to suggest feasible mitigation measures, or if its suggested mitigation measures are so undefined that it is impossible to evaluate their effectiveness. *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 79. Of course, the Port may not use the inadequacy of its impacts review to avoid mitigation in the Air Quality section: "The agency should not be allowed to hide behind its own failure to collect data." *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 36.

DEIR Fails to Include a Traffic Impact Study

Similarly, the Port has rejected Caltrans direction to complete a comprehensive Traffic Impact Study. In its letter to the NOP dated November 6, 2019, Caltrans stated unambiguously that:

> A Traffic Impact Study (TIS) will be required to determine this proposed project's near-term and long-term impacts to State facilities - both existing and proposed - and to propose appropriate mitigation measures and funding responsibility. The Traffic Impact Study should be done in

accordance with the Caltrans "Guide for the Preparation of Traffic Impact Studies", December 2002 edition. The TIS must include Trip Generation Figures showing how vehicle trips from this project will impact State facilities. This study and accompanying electronic files must be submitted to Caltrans for review prior to project approval.

Public Outreach

The Delta-Sierra Group (DSG) submitted comments on the NOP and requested that a workshop be held to hear the concerns of the community before the DEIR is prepared and briefing notices provided so that the community can be informed and knowledgeable when reviewing the DEIR.[2] The following organizations additionally requested the Port of Stockton's plan for notifying and engaging the community: Environmental Justice 58 of Café Coop, Environmental Justice Coalition for Water, Sunflower Alliance, Central California Environmental Justice Network, Central Valley Air Quality Coalition, California Interfaith Power and Light, Central California Asthma Collaborative, Environmental Justice Program, Catholic Charities of the Stockton Diocese, Valley Improvement Projects, and Coalition for Clean Air in response to the NOP.[3] No outreach was performed.

Why did the Port not the engage the local community during the project's development, as the California Air Resources Board Office of Community Air Protection, and the other non-governmental organizations requested, to address community concerns and mitigate air quality and GHG impacts?

Best practices for public outreach have been proposed by a group of European Ports because these Ports have determined that good public outreach and engagement leads to greater opportunities for successful acceptance of policies and measures. The communication process is twofold: informing the public about what is going on from the very beginning of the planning process and to give the public the chance to participate before final decisions are made.[4]

Public outreach and notification of comment periods involving environmental projects continues to require improvement. The DSG became aware of this project via email from a Port of Stockton representative on May 22, 2020 and after communicating with a Port of Stockton representative the DEIR was then posted on the Port of Stockton CEQA webpage ; however, the document and webpage do not include the comment period which can be found on the CEQAnet website.

The Port of Stockton as the lead public agency has the principal responsibility for approving the project and has stated that the project could have a significant effect on the environment. Outreach to the nearby affected residents and school facilities was not performed and is necessary for disclosure to nearby sensitive receptors such as Boggs Tract neighborhood residents 500 feet to the south as shown below in Figure 1. The Boggs Tract Community Center Advisory Board located in the neighborhood can be notified by contacting via email to the following individuals Rick Aguilera at raguilera@sjgov.org, Erté Boyette at eboyette@sjgov.org, and Frank Rodriguez at frodriguez@sjgov.org.

The DSG continues to welcome dialogue regarding increased public outreach and involvement and disagrees with the Port of Stockton's characterization of their Public participation practices: "The Port's public participation process ensures that interested persons are informed about discretionary decisions and have the opportunity to provide input".

[2] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/20191122_Lehigh_Terminal_Port_of_Stkn_final.pdf

[3] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/Comment%20letter%20to%20Port%20of%20Stkn%2011.12.19%20updatedCommunity.pdf

[4] https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=NoMEports_GPG_PANMM1.pdf

Most recently the Port of Stockton approved the NuStar Final EIR and statements of over-riding consideration without circulating these documents to members of the public or making them available on the Port of Stockton CEQA webpage and by restricting input to 250 words for Port Commission consideration, thereby severely limiting information availability and the opportunity of the public to provide input.[5]

Several documents referenced have not been made available by public information request (June 18, 2020) in a timely manner nor are these documents available on the Port's website, as of July 5, 2020. Documents not available as of June 29, 2020 include Lehigh Lease Modification Terms and Lehigh 2019 and Stockton Estimated Electrical Consumption 12-20-2019.pdf which were referenced in the DEIR. Documents available on July 7, 2020, after the due date for comments on the DEIR include: Contanda Terminals Mitigated measures were made a condition of the approval of the project, Contanda Terminals mitigation reporting or monitoring plan was adopted for this project, and Contanda Terminals A Statement of Overriding Considerations was adopted for this project and Findings. The Contanda Terminal analyses were relied upon for air quality health risk assessment conclusions referenced within the DEIR but will not be available to the public until after comments are due by the Port of Stockton Commission. No health risk assessment data is available.

The DSG has been informed by Port staff on July 2, 2020 that the Port is working on a health risk assessment that is not part of the DEIR.[6] The Port has a tendency to approve projects before releasing final environmental documents to the public who is directly impacted by Port operations and the operations of their leaseholders and this cannot continue to occur.

Why did the Port release an inadequate DEIR for public comment?

Figure 1 – Lehigh distribution terminal and January 9, 2020 Noise Monitoring Sample Sites: #1, #2, and #3.

Air Quality

The DEIR proposed five mitigation measures for air quality impacts associated with air quality compliance plans. The DEIR reports an increase in one or more non-attainment air quality criteria which are not mitigated resulting in significant negative air quality impacts associated with the proposed project. The DEIR stated that there will be a less than significant impact due to the project's exposure of sensitive receptors to substantial pollutants and

[5] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/4.5.2020%20POS%20250%20Comment%20DSG%20Collective.pdf
[6] Email communication 7.2.2020 between Steve Harvath, DSG and Jeff Wingfield, Port of Stockton

emissions. The project's operations will have significant impact on sensitive receptors to substantial or potentially substantial pollutant concentrations and will adversely affect a substantial number of people. The closest sensitive receptor to the terminal according to the DEIR is a residential area located approximately 500 feet to the south. The facility is a distribution facility and besides potential releases during the loading and unloading process or catastrophic failure of storage facilities air quality impacts associated with ship, rail, and truck transit extend throughout the distribution reach.

Why did the Port not include all of the suggested mitigation measures and health assessment requested by the California Air Resources Board Office of Community Air Protection and San Joaquin Valley Air Pollution Control District to mitigate air quality impacts and assess air pollutant exposure of the sensitive population in the Disadvantaged Community of Boggs Tract?

The following is a description of the proposed mitigation measures for air quality impacts which are inadequate to mitigate the hazardous air quality conditions experienced by the disadvantaged communities of Boggs Tract and Stockton, and contain no firm commitments, nor was implementation quantified.

MM-AQ-1: Construction Truck Idling (Lehigh will require construction contractors to minimize heavy-duty construction idling time to 2 minutes where feasible.).

MM-AQ-2: Use of Tier 4 Engines During Construction (All off-road diesel-powered heavy equipment exceeding 50 horsepower used to construct the proposed Project will be equipped with Tier 4 engines, except for specialized equipment or when Tier 4 engines are not available. In place of Tier 4 engines, off-road diesel-powered heavy equipment will incorporate retrofits such that emission reductions achieved equal or exceed that of a Tier 4 engine.).

MM-AQ-3: Truck Idling Reductions (Lehigh will require trucks to minimize idling time to 2 minutes while on terminal.).

MM-AQ-4: Use of Clean Trucks (Where possible, Lehigh will encourage the use of clean trucks (defined as model year 2017 or newer) to transport cementitious material. Lehigh will also educate customers about the SJVAPCD Truck Replacement Program via direct mailings. In addition, Lehigh will require all trucks be in compliance with ARB air quality regulations for on-road trucks, including ARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program (PSIP), and the Statewide Truck and Bus Regulation. Lehigh Hanson will post a copy of the SJVAPCD Truck Replacement Program information at the project site.).

MM-AQ-5: Use of Clean Yard Equipment (Lehigh will replace cargo handling equipment with the cleanest available equipment anytime new or replacement equipment is purchased. Considerations for clean equipment will include a first preference for zero-emission equipment, a second preference for near-zero equipment, and then for the cleanest available equipment if neither zero nor near-zero equipment are available. If zero emission equipment is available, Lehigh will ensure the proper infrastructure to support such equipment is available. Based on the type of yard equipment used, infrastructure will be limited to charging stations.).

The criteria pollutants of primary concern assessed in the DEIR are O_3, PM_{10}, $PM_{2.5}$, carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). The DEIR included a Table 7 that shows three years (2013-2015) of monitored values for those criteria pollutants, currently monitored by CARB at the Hazelton Street station (1593 East Hazelton Street, Stockton, California). This monitoring station is located approximately 2.5 miles east of the project site which is generally downwind. During this time period, there were exceedances of the state and national 8-hour O_3 standard, the state PM_{10} standard, and the state and national $PM_{2.5}$ 24-hour standard. No violations were recorded of the NO_2 or CO standards.

The DEIR stated that the most recent 3 years was 2013, 2014, and 2015 for which these data are available which is not correct. The DEIR failed to adequately disclose available governmental information that is readily available on the California Air Resources Board website.[7]

Diesel particulate matter (DPM) from combustion engines in ships, rail and trucks is the primary toxic air contamination of concern. The DEIR characterizes diesel particulate matter as having the following health effects: respiratory damage and premature death and may result in increased risk of contracting cancer. The Office of Environmental Health Hazard Assessment (OEHHA) diesel particulate matter fact sheet expands further on these health effects.[8]

Exposure to diesel exhaust also causes inflammation in the lungs and aggravates chronic respiratory symptoms and increases the frequency and/or intensity of asthma attacks. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Elevated particle levels in the air from diesel exhaust have been linked to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those suffering from respiratory problems. Children's lungs and respiratory systems are still developing and so the young are more susceptible, than healthy adults, to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses, as well as learning.[9]

The OEHHA has developed the CalEnviroScreen 3.0 using available CARB emissions data which is shown in Figure 2 below.[10] The highest exposures are shown with the darkest colors and include the Boggs Tract community and the greater Seaport area.

Figure 2 – Gradient of Environmental Exposure to Diesel Particulate Matter based on CARB data.

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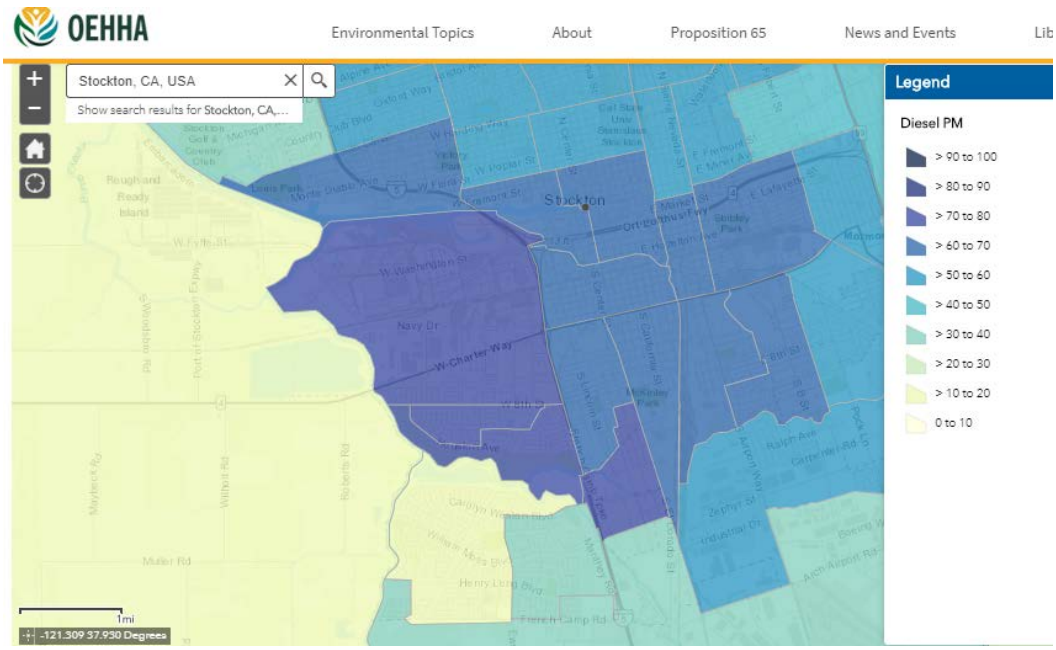
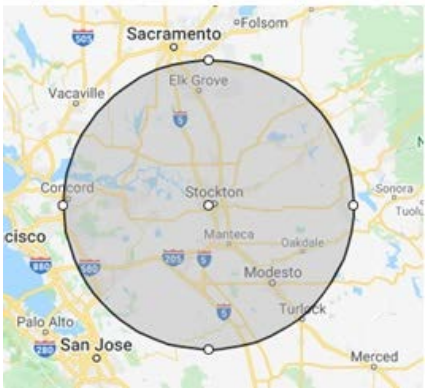


The existing permit to operate (Facility Number N-153), issued by SJVAPCD in 2016, allows for a combined permitted truck and rail shipping capacity of 6,000 tons of cementitious material per day, or 2.19 million tons per

[7] https://www.arb.ca.gov/ accessed on 7.1.2020 where data as recent as 2019 are available for the Hazelton site.
[8] https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf accessed on 7.1.2020
[9] https://healthyschoolscampaign.org/blog/air-pollution-how-it-affects-student-health-and-academic-performance-6583/
[10] https://oehha.ca.gov/calenviroscreen/indicator/diesel-particulate-matter accessed on 7.1.2020

year and the facility is permitted to receive 18,000 tons per day and 2.628 million tons per year via ship or rail. Under permitted limits, the existing terminal can handle any combination of a maximum of approximately 200 trucks per day or 18 rail cars per day. Table 9 Baseline (2018) Throughput Levels and Modal Move may have an error regarding ship trips since daily ship modal moves is greater than the annual moves. The DSG NOP comment letter included a request for a copy of the SJVAPCB permit and port staff air monitoring date which was not provided in the DEIR and must be included in the FEIR or recirculated DEIR.

Figure 3 - 40 mile around Lehigh



Truck trips would be a mixture of local deliveries and regional travel to the Bay Area to the west. The average truck trip is 30 miles in the baseline and would grow to 40 miles as part of the proposed project as deliveries to the Bay Area are expected to increase.

Operational hours of the Lehigh terminal would vary. In some cases, the terminal would operate 24 hours a day, which is consistent with current operations. In general, the terminal would operate Monday through Saturday, with occasional Sunday operations.

Proposed project throughput and transportation mode split numbers are presented in Table 4 from the DEIR. As shown in Table 4, throughput levels in the future would exceed existing SJVAPCD permit to operate (PTO) limits, according to the DEIR.

Table 4
Expected Maximum Proposed Project Throughput Compared to Existing Levels (Annual)

	Baseline (2018)		Year 1		Year 5		Year 15	
	Tons	Annual Activity	Tons	Annual Activity	Tons	Annual Activity	Tons	Annual Activity
Throughput (cement/slag volumes)	883,793	--	1,523,500	--	2,785,000	--	3,345,000	--
Truck Shipping[1]	505,432	18,720	561,750	20,806	950,000	35,185	1,072,500	39,722
Truck Receiving		0	24,300	900	50,000	1,852	75,000	2,778
Rail Cars	61,663	587	200,000	1,905	400,000	3,810	500,000	4,762
Rail Trips		117[2]		190[3]		190[3]		238[3]
Ships Calls	316,698	9	737,450	21	1,385,000	39	1,697,500	48
Barges Calls	0	0	0	0	0	0	200,000	40

Notes:

1. Truck calls are expressed in one-way moves.
2. Assumes an average of five cars per train
3. Assumes an average of 20 cars per train

Lehigh has reportedly submitted an application for an Authority to Construct Permit to the SJVAPCD. The DEIR stated that December 2019 permit application requests authorization for the upgrade of the current ship unloader, the addition of a new rail loading operation, the replacement of existing Storage Bunker 7 with a larger and taller storage dome, and the addition and removal of baghouses and does not include a request to increase the daily or annual throughput limits, according to the DEIR. According to SJVAPCD the "triggers" for public review of permit applications were not achieved in the December 2019 permit application, so the public will not be able to provide input regarding the permit application before it is issued.[11]

[11] Telephone communication between Mary Elizabeth, DSG and Kia Chan, SJVAPCD July 6, 2020.

Why did the Port not include in the DEIR the SJVAPCD permitting information and Port staff air monitoring data requested, as an appendix?

The SJVAPCD reminded the Port of a recent court case which is relevant when characterizing pollutant levels and health impacts: *Sierra Club v. County of Fresno (2018)* calls for a reasonable effort to discuss relevant specifics regarding the connection between potential adverse air quality impacts from the project with the likely nature and magnitude of potential health impacts. If the potential health impacts from the Project cannot be specifically correlated, explain what is known and why, given scientific constraints, potential health impacts cannot be translated.

The exhaust from trucks, rail and ocean-going vessels were characterized for three airsheds, the Bay Area Air Quality Management District, San Joaquin Valley Air Pollution Control District, and Sacramento Metropolitan Air Quality Management District. Significant transportation emissions are projected to occur in San Joaquin Valley and the Bay Area (DEIR Tables 12, 14, and 15), despite the proposed mitigation measures. The San Francisco Bay Chapter of the Sierra Club is within the Bay Area airshed and is significantly affected by proposed Lehigh and perhaps existing Lehigh operations which were not characterized nor were existing Bay Area air quality conditions included in the DEIR. Despite the fact that significant transportation emission is disclosed, potential health impacts were not assessed. **Why not?**

The SJVAPCD further offered the Port the opportunity to pay for offset mitigations through the Voluntary Emission Reduction Agreement (VERA) mitigation measure. A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the SJVAPCD serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. The Port's response that the VERA may allow for a lapse between funding and emissions savings and/or emissions not being offset at all and that VERA's cannot ensure timely and effective CEQA mitigation of on-site emissions does not include any evidence of infeasibility. The SJVAPCD's VERA program continues to grow, and successfully off-set air pollutants as described in the most recent Indirect Source Program 2019 Annual Review.[12] The Port assert that no additional mitigation is available is unfounded.

Transportation

The Lehigh facility that operates at the Port is currently served by truck, rail, and ocean-going vessels via the Deep-Water Ship Channel. Several of the roads that serve the facility go through the adjacent neighborhood which is in San Joaquin County's jurisdictional area. The Port of Stockton was notified during a June 2020 that San Joaquin County intended to approve a contract with AECOM to develop a community vision for multimodal connectivity improvements within Boggs Tract, including alternative modes of transportation such as bicycles. The contract was approved June 16, 2020. The Boggs Tract Sustainable Community Plan will be the vision for sustainable transportation improvements by combining existing and future community assets and needs related to accessible health, nutrition, education and human services, housing assistance, and employment opportunities for this Disadvantaged Community. While bike and pedestrian facilities may now be extremely limited within the Boggs Tract neighborhood through which Lehigh trucks travel along with public Port roads, this will not remain so.

Why did the Port not use State guidance when assessing transportation impacts as the City of Stockton does during this interim time, especially considering the transportation will directly have an impact on nearby neighborhoods, state and local roads within areas identified as disadvantaged?

[12] https://www.valleyair.org/ISR/Documents/2019-Annual-Report.pdf

The 2040 City of Stockton General Plan includes policies for updating traffic analysis; however, in the meantime City of Stockton CEQA projects are utilizing guidance Section 15064.3 which incorporates SB763 into CEQA analysis.[13] Balancing congestion management needs and mitigation of the environmental impacts of traffic and statewide greenhouse gas (GHG) emission reduction goals is the purpose of SB74 enacted in 2013. Vehicle miles traveled (VMT) is the preferred method for evaluating transportation impacts, rather than the commonly used level of service (LOS). The VMT metric measures the total miles traveled by vehicles because of a given project by multiplying the number of vehicle trips by the length of vehicle trips, the amount and distance of travel attributable to the project. Unlike LOS, VMT accounts for the total environmental impact of transportation associated with a project, including use of non-vehicle travel modes. This analysis is similar to the analysis performed when the Port analyzed air quality impacts using emission factors applied to miles traveled.

Statewide guidance is available for use until Stockton specific guidance is available. Methodologies to determine and assess VMT is outlined in Section 15064.3. The City of Stockton has performed CEQA analysis of transportation impacts using the criteria set form in Section 15064.3(b) including:

> The City's Stockton General Plan Action TR-4.3A states that the City shall establish a threshold of 15% below baseline VMT per capita to determine a significant transportation impact under CEQA. The 15% threshold in General Plan Action TR-4.3A is similar to thresholds for residential and office land use types recommended by the Office of Planning and Research in its Technical Advisory on Evaluating Transportation Impacts in CEQA.[14]

The City of Stockton CEQA uses a traffic study – similar to what Caltrans has requested – to determine the significance of VMT impacts associated with a project. The City does not recommend using solely the old transportation analysis just because new analyses are not specifically developed for Stockton. The City continues to incorporate all forms of traffic review, but the revised traffic standards will prioritize measurements consistent with state law changes and other internal policies.[15]

The Port's review of Google Maps midweek traffic flow during the AM and PM peak hours and the conclusion in the DEIR that that neither I-5 or SR-4 freeway -to- freeway ramp connections experience slow or forced traffic flow conditions in the Port area is grossly inadequate. The DEIR traffic analysis must consider Lehigh's proposed expansion of operations, in addition to existing and future impacts related to projects the Port has approved and cannot blithely assume that trucks will solely be using I-5 or SR-4.

The traffic study should include travel times for City of Stockton Fire Department response times to the neighborhood with increased traffic and maneuverability limitations of haul trucks. Not only is the Port served by the City of Stockton Fire Department but so too is the Boggs Tract community. The VMT CEQA analysis directly has impacts on the environmental justice treatment of disadvantaged communities.

This is one more example of how the Port has shown disregard of the environmental conditions that nearby vulnerable populations experience directly as an effect of the Port's actions. The Port's use of outdated criteria is unacceptable. A traffic study considering the project and cumulative effects of Port operations and those of their tenants must be performed and the traffic study be made available to the public and affected agencies.

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[13] https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf
[14] https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf
[15] Email communication 7.6.2020 between Mary Elizabeth, DSG and Matt Diaz, City of Stockton

Greenhouse Gas Emissions

The DEIR refers to the San Joaquin Council of Governments (SJCOG) 2014 Sustainable Communities Strategy that would reduce on-road GHG emissions by 24.4% by 2020 (compared to the 2005 baseline) and by 23.7% by 2035 (compared to the 2005 baseline). The SJCOG regularly updates this report and the most recent report is dated 2018.[16] The total daily VMT per capita is 21.98 for the Plan in 2042, compared to 24.61 in the baseline condition (2015). This means that the Plan reduces daily per capita VMT by nearly 11% or 2.63 miles. Current applicable SB 375 targets for each planning agency in the San Joaquin Valley are a 5 percent per capita reduction in GHG emissions by the year 2020, and a 10 percent per capita reduction in GHG emissions by the year 2035.[17]

Why did the Port base their analysis on a report that has been updated more than 18 months ago, particularly since the Port Commission was involved with approving it's update via Port Commission representation on SJCOG? Why did the Port not use the most current 2018 Sustainable Communities Strategy Report?

As shown in Table 18 of the DEIR, the proposed project would result in a net increase of 15,950 metric tons of GHG emission per year over baseline conditions by analysis year 15. Emissions would exceed the industrial threshold of 10,000 metric tons per year and therefore are considered significant.

The same five air quality mitigation measures and unknown implementation success were proposed and none other. The SJVAPCD requires all projects to reduce their GHG emissions, whether through project design elements or mitigation. Projects achieving performance-based standards that have been demonstrated to be best performance standards (BPS) would be considered to have a less-than-significant cumulative impact on global climate change. Clearly, additional mitigation measures are needed. Several standard mitigation measures were recently adopted by the City of Stockton after a Final EIR was approved by the City of Stockton Planning Commission. These standard mitigation measures are applicable for the distribution aspects of the project and should be analyzed for implementation during construction and operation of the Lehigh project. These mitigation measures will assist the Port to comply with regulatory directives and City of Stockton 2040 General Plan Climate Action policies: Policy TR-3.2: Require new development and transportation projects to reduce travel demand and GHG emissions, support electric vehicle charging, and accommodate multipassenger autonomous vehicle travel as much as feasible.[18]

While local agencies have much discretion in determining the significance of impacts under CEQA, state guidance is an expression or synthesis of scientific data and scientific judgment, that agencies may not ignore. State and Regional guidance is available to assess air quality and greenhouse gas emissions that the Port ignored.

Cumulative Impacts

The DEIR concluded that the Project's air pollutant emissions and cancer risks would not contribute to a significant cumulative impact. Although the Port did evaluate the Project's air quality impacts, it did not consider the Project's cumulative effects in conjunction with other industrial projects planned or already in operation at the Port, nor did the DEIR include a health risk assessment of cumulative impacts on the nearby sensitive receptors (500 feet) which is the disadvantaged community of Boggs Tract. There are numerous existing and planned projects within the Port that will be in operation at the same time as the Project and which require San Joaquin

[16] https://www.sjcog.org/278/Adopted-2018-RTPSCS

[17] https://www.sjcog.org/DocumentCenter/View/4155/Final-RTPSCS-2018--Appendix-Y-Sustainable-Communities-Strategy-Technical-Methodology-MemorandumFinal

[18] June 23, 2020 Memo from William Crew, Community Development Director to the Stockton City County regarding Agenda Item 15.1-Revised Resolution

Valley Air Pollution Control District permits to construct and/or operate. These cumulative projects include the Port of Stockton West Complex Redevelopment, Eco-Energy Liquid Bulk Receiving Terminal Development Project, NuStar Ethanol Infrastructure Upgrades Project, and NuStar Domestic Renewable Diesel Project, NuStar MOTEMS, Contanda Renewable Diesel Bulk Liquid Terminal Development, SATCO Marine Terminal (in operation not in progress), CVAG Bulk Whole Cottonseed Transloading Facility terminal (in operation with pending permitting), and the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement (planning underway). Emissions from these projects combined with the proposed project would according to the DEIR emit O_3, PM_{10}, and $PM_{2.5}$, along with O_3 precursors such as NO_X, and contribute to non-attainment levels and subsequent adverse air quality effects.

The National and State Air Quality Standards are health-based standards and air quality in the San Joaquin Valley routinely violates the state and federal standards. Ambient air quality in the valley puts sensitive receptors at risk. These standards are risk based thusly as exceedances due to additional sources increases, the risks to sensitive populations increases. Construction and operation of the proposed project that exceeds health standards contributes to the exposure of the sensitive population to substantial pollutant concentrations; therefore, an HRA should have been completed and included in the DEIR. Many of the cumulative projects listed for the Port all occur in the same general area as the proposed project. These cumulative projects along with the proposed project will generate new rail, truck, and/or vessel calls or on-terminal equipment emissions that may affect the same sensitive receptors. impacts are considered cumulatively significant. The DEIR did not acknowledge impacts associated with an eastern alignment of the proposed Delta tunnel.

CEQA requires lead agencies to consider whether the incremental effects of a proposed project are cumulatively significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. The Port should commence as soon as possible to commission an air emissions inventory and modeling of cumulative impacts on the AB617 area which are directly affected with the prevailing westerly winds.[19]

Why did the Port not include a discussion of the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project planning and cumulative impacts? The Port is the non-Federal sponsor of a distant portion of the waterway span for which the Port has no jurisdictional control.

The DSG submitted comments on the San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Navigation Improvement Project Final Integrated General Reevaluation Report and Environmental Impact Statement for the San Francisco to Stockton Navigation Improvement Project (Final IGRR/EIS). We found that the (Final IGRR/EIS) analysis ignored cumulative growth inducing effects of deepening the channel on further dredging upriver or the overall trend of larger vessels as illustrated in changes in the distribution of vessel size. In the year 2000, the three smallest classes (20k, 25k, and 35k deadweight tons) comprised 53% of the vessel fleet; in 2015 those three classes comprised just 18% of the fleet. If larger vessels can be accommodated, then larger vessels will call on affected ports. Recent improvements at the Port of Stockton and projects in planning are specifically designed to accommodate larger vessels (NuStar and Lehigh).[20] Additionally, the Sierra Club submitted comments on the Draft IGRR/EIS [21] and on the Final IGRR/EIS [22].

[19] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/Cottonseed_POS_DSG_06.15.2020_submitted.pdf
[20] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/DSG_SF_to_Stockton_04.11.2020_Collective.pdf
[21] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/Comments_of_Environmental_Groups_on_the_DEIS_for_the_San_Francisco_Bay.pdf
[22] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u14441/FINAL%20Dredge%20FEIS%20Comments.pdf

Why did the Port not include the following information requested in DSG NOP Comments in the DEIR: Describe the size of the larger and wider vessels that Lehigh charters, how the existing channel depths will be redesigned to handle these larger vessels, and how the project's necessity for deeper channel depths will affect the benefit/cost ratio for the deepening of the navigation channels to Stockton?

Water Quality

Unless there is a spill, groundwater is not expected to be impacted by the construction and operation of the facility. However, as the facility is mostly paved except for a portion of the eastern lease land where trees could be planted, the greatest hazard to water quality is due to surface water runoff either through applied water or due to rainfall events. There are eight storm drain inlets within the existing and proposed lease areas. Storm drains are equipped with Revel Environmental Manufacturing filter inserts and some are surrounded with wattle filters. All facility drains discharge through a common pipe into the San Joaquin River. The Lehigh facility also receives run-on from areas to the south of the site. Run-on enters the facility's storm drain system, co-mingles with the facility's stormwater, and discharges at the San Joaquin River stormwater discharge outfall. The discharge outfall occurs adjacent to the Stockton Deep Water Ship Channel. According to the CVRWQCB and DEIR (referenced Lehigh 2015 report which is not readily available to the public), the Deep Water Ship Channel is listed as impaired for the following Total Maximum Daily Load (TMDL)/Section 303(d) list constituents: chlorpyrifos; dichlorodiphenyltrichloroethane (DDT); diazinon; dioxin; furan compounds; Group A pesticides; invasive species, polychlorinated biphenyls (PCB's), temperature, mercury; organic enrichment/low dissolved oxygen; and unknown toxicity. Efforts being made by the Port and reported on the Green Marine score card should be improved regarding control of ballast water should be improved to not contribute to an existing invasive species problem in the Delta.[23]

The Lehigh facility drainage system is part of the Port's Municipal Separate Storm Sewer System (MS4) and is regulated accordingly. Any modifications to the drainage system are required to occur under Port oversight and in compliance with MS4 permit terms.[24] Cementitious material is caustic and can degrade water quality if released. According to the DEIR, the proposed project's construction or operations may result in water quality impacts to an already impaired water body, which would constitute a potentially significant impact.

The Port of Stockton's East Complex is divided into two separate drainage zones. The area north of "A" Street, for the most part, drains directly to the Stockton Deep Water Channel through a series of storm water collection basins, drains, piping, and outfalls. Outfalls D2, D4, D10, and D11 are shown on the Figure 4 below.[25]

Figure 4 – Stormwater Outfall location for Lehigh's North of A Street Zone

[23] https://www.portofstockton.com/green-marine/

[24] https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/san_joaquin/r5-2011-0005_npdes.pdf

[25] https://www.sjgov.org/uploadedfiles/sjc/departments/supportserv/open_bids/bids/exhibit%20d%20to%20addendum%201_port%20development%20standards%20plan.pdf

The Port completed the Port of Stockton Storm Water Development Standards Plan (DSP) and approval was received from the CVRWQCB on November 17, 2005 becoming the Port and its tenants on February 17, 2006. In response to the United Stated Environmental Protection Agency audit findings[26], the DSP was revised, and the changes became effective on June 1, 2009. The Port of Stockton DSP is a public accessible document and may be obtained by contacting the Port of Stockton Environmental Department at (209) 946-0246, but is not available by downloading it at http://www.stocktonport.com as indicated in the DSP.

Why does not the Port of Stockton, as a public agency, make available important environmental documents related to the area that the Port of Stockton has stewardship responsibility, including the DSP? Why not make available a summary of all environmental documents that affect soil, water and air quality and made readily accessible to the public? Why was not **a copy of the Port's stormwater management plan and permit included in the DEIR as requested by the DSG NOP Comments?**

The DSG requested on November 22, 2019 the stormwater plan for the proposed facility (briefly described in DEIR) and a copy of the Port's stormwater management plan and permit. None of these requests for information was provided in the DEIR. Several other Lehigh specific reports were referenced which were not made available to the public during DEIR review: Facility-wide Site Management Program, Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Implementation Plan for the Stockton Cement Terminal Facility, WDID No. 5S39I020191, Emergency Action Plan OSHA Operations, California Environmental Reporting System Consolidated Emergency Response/Contingency Plan, Lehigh facility California Environmental Reporting System and Hazardous Materials and Wastes Inventory Matrix Report submittals.

The following mitigation measure were proposed to mitigate stormwater related impacts:

MM-BIO-2: Obtain and Implement NPDES Construction Stormwater General Permit (A NPDES Construction Stormwater General Permit will be obtained for the proposed project, which will require the development of a construction Stormwater Pollution Prevention Plan.)

MM-BIO-5: Compliance with Permitting Requirements for In-Water Work (For in-water work, Lehigh would comply with permitting requirements from USACE, RWQCB, and CDFW to avoid water quality and other natural habitat impacts. Requirements will likely include implementing erosion controls, designating appropriate staging and fueling areas, requiring equipment inspections and maintenance, and additional standard construction BMPs.)

MM-GEO-1: Maintain, Update, and Implement Emergency Response Plans (Lehigh will continue to implement and update as needed its existing Consolidated Emergency Response/Contingency Plan and Emergency Action Plan.)

MM-HAZ-1: Maintain, Update, and Implement Facility-wide Site Management Program (To address potential impacts to persons and the environment from management of cementitious materials and common industrial materials, Lehigh will implement and update as needed the Facility-wide Site Management Program. Updates would address changes in hazards from increased throughput, such as proper management of increased quantities of cementitious materials. The existing and revised Facility-wide Site Management Program would mandate BMPs, including but not limited to regular sweeping and vacuuming, equipping storm drains with filters, and restricting vehicle movement to designated areas.)

MM-HAZ-2: Minimize Human and Environmental Exposure to Potentially Hazardous Materials During Construction (Lehigh will complete an asbestos and lead paint investigation prior to construction activities. In the event that asbestos or lead paint are encountered, Lehigh will manage and dispose of such materials per OSHA regulations. Creosote piles will also be properly managed during removal, likely through mandates established during the project permitting process (see MM-BIO-

[26] https://www3.epa.gov/region9/water/npdes/pdf/ms4/ca/Port-of-Stockton.pdf
https://www3.epa.gov/region9/water/npdes/pdf/ms4/ca/StocktonPort_AOC.pdf

5); this may include measures such as pulling piles as efficiently as possible and storing removed piles outside of the waterbody. Lehigh shall also ensure compliance with OSHA regulations to address potential hazards associated with the site's designation as a military evaluation site, including through measures such as appropriate training of workers and developing contingencies for responding to hazardous material conditions that may be encountered on site.))

The DEIR did not include a characterization of stormwater originating from the facility, characterization of co-mingled stormwater, or the conditions of the receiving water. These data are needed as a baseline to evaluate water quality impacts related to the implementation of these mitigation measures and must be included in a Final EIR.

Why are not all Port of Stockton annual inspection reports for all facilities, including the project site, and NPDES annual reports made available on the Port of Stockton website under the environmental page[27]?

Hazards/Hazardous Materials

The two types of cementitious materials included in the DEIR that are currently handled are portland cement and ground granulated blast furnace slag cement (waste from the steel industry) both of which are considered hazardous materials according to safety data sheets.[28] Additionally, in the future Lehigh will be distributing cementitious material containing fly ash (waste from coal combustion) which is similarly toxic. Sierra Club opposes mixing hazardous materials into cement. Based on these safety data sheets, if a fire were to occur and cementitious materials released, City of Stockton fire fighters would need to wear respirators.

Why was not a description of the relative proportions of cement and ground granulated blast furnace slag that are handled currently and what are the proposed proportions of these cementitious materials, including cement with fly ash, as requested by the DSG in NOP Comments?

Why were not the identities and amounts of commodities stockpiled on site at the Port disclosed as requested by the DSG in NOP Comments as these may be a source of fugitive dust upwind?

Why has not Port developed an emergency response plan for the adjacent disadvantaged community and held periodic educational safety meeting so residents can be informed in the event of an emergency and respond appropriately?

While the Port is not within any fire hazard severity zone the Port operates a bio-incinerator power plant which under the CPUC is required to perform a wildfire analysis related to operation and transmission which should be presented and discussed in the FEIR or recirculated DEIR.

The amount of traffic within the Port and adjacent areas is significant. The DSG November 22, 2019 NOP comment letter included a request for a discussion regarding spills as well as anticipated truck and rail accidents based on actual port data, California Highway Patrol data, and/or other regional transportation data sources. No traffic or safety study was included in the DEIR and should be included in the FEIR. We performed a two year query, 2017-2019, using the UC Berkeley Transportation Injury Mapping System as shown in Figure 5 below.[29] Accidents on the I-5 Navy drive ramp are troubling, supporting the request for a traffic study which can also be used to improve Boggs Tract Sustainability Plan development.

[27] https://www.portofstockton.com/storm-drain-vs-sewer-drain/

[28] https://www.lehighhanson.com/docs/default-source/safety-data-sheets/sds-portland-cement.pdf?sfvrsn=9af4a05f_2 and https://www.lehighhanson.com/docs/default-source/safety-data-sheets/sds-slag-cement.pdf?sfvrsn=c2c71cbf_2

[29] https://tims.berkeley.edu/tools/query/summary.php

Figure 5 – Traffic Accidents with Red the Highest Density on Interstate Roadways

Why were not any health hazards associated with the transport, storage, and distribution of these waste materials disclosed as requested by the DSG in NOP comments?

Noise

The DEIR stated that there would be a significant and unavoidable noise impact and proposed no mitigation measure for the following CEQA analysis : NV-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The CEQA Public Resource Code Division 13 Environmental Quality states § 21001. The Legislature further finds and declares that it is the policy of the state to: (a) Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state. (b) Take all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise. The DEIR finding of significant without a mitigation proposed fails to provide substantial evidence that no feasible mitigation measures are available to mitigate noise impacts to the Boggs Tract community.

The City of Stockton's Municipal Code Chapter 8.20 [30] and 2040 Envision Stockton General Plan [31] include findings, definitions, remedies, policies and actions. The General Plan Policy SAF-2.5 Protect the community from health hazards and annoyance associated with excessive noise levels includes two action items:

- Action SAF-2.5A Prohibit new commercial, industrial, or other noise generating land uses adjacent to existing sensitive noise receptors such as residential uses, schools, health care facilities, libraries, and churches if noise levels are expected to exceed 70 dBA Community Noise Equivalent (CNEL) (decibels on A-weighted scale CNEL) when measured at the property line of the noise sensitive land use.
- Action SAF-2.5B Require projects that would locate noise sensitive land uses where the projected ambient noise level is greater than the "normally acceptable" conduct an acoustical analysis that shall: not incrementally increase noise levels by more than 3 dBA.

[30] http://qcode.us/codes/stockton/view.php?topic=8-8_20&showAll=1&frames=on
[31] http://www.stocktongov.com/files/Adopted_Plan.pdf

- Action SAF-2.5C Require noise produced by commercial uses to not exceed 75 dB Ldn/CNEL at the nearest property line.
- Action SAF-2.5D Grant exceptions to the noise standards for commercial and industrial uses only if a recorded noise easement is conveyed by the affected property owners.

Why was noise measurement only collected on one day instead of over multiple days and seasons within the study period to adequately characterize local conditions?

The acoustical analysis did not include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. Background noise measurements were taken on January 9, 2020 as shown on the previous Figure 1:

- Location 1: Residential Area located on West Main Street. This area was selected because it is the closest residential area to the terminal. This area is 500 feet south of the terminal gate, and 1,300 feet south of Berth 2. (Minimum 56.3 dB to Maximum 65.4 dB)
- Location 2: Residential Area located on South Los Angeles (South of Washington Street). This area was selected because it is located south of Washington Street. (Minimum 49 dB to Maximum 72.4 dB)
- Location 3: Residential Area Facing Washington Street (between Del Norte Street and South Los Angeles Avenue). This area was selected because it is located along Washington Street, which is a major truck route supporting Port trucks. (Minimum 53.5 dB to Maximum 87.7 dB)

The time of day that measurements were collected, and atmospheric conditions were not disclosed. According to National Oceanic Atmospheric Administration National Climate Data and CARB, the conditions on January 9, 2020 were foggy (relative humidity 90%) with slight precipitation, average temperature 49ºF (40ºF-52ºF) with average SE winds around 4 mph.[32] Weather affects the noise you hear depending on air absorption of sound waves based on temperature and relative humidity.[33] Modeling traffic noise has several sources of error that should be considered when presenting noise modeling result: refraction of the propagating sound due to atmospheric effects. Differences in wind speed and temperature with height, wind direction, and turbulence in the air can all influence the propagation of the wave direction and sound levels, as well as diffraction due to screening. Wind direction attenuation and amplification was evaluated, and it was found that upwind conditions such as was present on January 9, 2020 is associated with attenuation. Immediately south Port Road 2 at some time in the last few years was a large structure with many old car frames which would also have an attenuating effect which may explain why Location #1 which is closest to the existing operations at Lehigh had the lowest sound levels. Additional noise study is necessary not just during the construction period but the City of Stockton General Plan policies call for estimate existing and projected (20-year) noise levels in terms of Ldn/CNEL and compare the levels to the adopted noise policies and actions in this General Plan. Full buildout and operational noise effects were not estimated and must be included in the FEIR or recirculated DEIR to comply with local planning policies.

Why were mitigation measures not proposed to decrease the adverse noise impacts that will be experienced by the disadvantaged community of Boggs Tract?

No mitigation was proposed despite there being significant impact for the only part of the project that was analyzed, construction noise. No operational effects for the increased traffic was estimated using roadway models. The increased traffic is shown to be related to truck, ship and rail traffic as shown in Table 4 from the

[32] January 9, 2020 data from NOAA https://www.ncdc.noaa.gov/ and CARB https://www.arb.ca.gov/aqmis2/metselect.php
[33] How Weather Affects the Noise You Hear from Highways (2018) http://nap.edu/25226

DEIR. Traffic noises contribute significantly to the noise originating from Port operations including tenant distribution operations.

Numerous noise management measures have been outlined specifically for Ports by the Noise Management in European Ports Partners.[34] This European Port report seeking best practice status provide a guide that the Port of Stockton can use to assess noise and to get feedback from the affected neighbors. The report states that "the public must be informed in time and given the opportunity to take part in the elaboration and reviewing of the action plans. The authorities have to take into consideration the results of the participation, and they have to inform the public in respect to the decisions taken. In all phases of information and participation "reasonable periods of time" have to be regarded. Also, the results of the participation have to be put on record afterwards."

Tribal Cultural and Historical Resources

According to the City of Stockton when Europeans arrived, they found the Yatchicumne, a group of Northern Valley Yokuts people, living in the Stockton area. The Yokuts built their villages on low mounds to keep their homes above floods. A Yokuts village called Pasasimas was located on a mound between Edison and Harrison Streets on what is now the Stockton Channel in downtown Stockton.[35] The DEIR acknowledge that while the project area is in the traditional territory of the Yokuts tribe the area may also have been used or settled by Plains Miwok and Wintun peoples. Two Native American tribes have requested to be contacted regarding projects at the Port: the Buena Vista Rancheria of Miwok Indians and the Wilton Rancheria according to the DEIR.

The DEIR states that while the potential is low, native sediments may contain previously unrecorded archaeological sites or human remains could be tribal cultural resources. Therefore, because the proposed project includes disturbance of soil through direct removal, if archaeological materials or remains are present in previously undisturbed native sediments, they could potentially be disturbed during construction. If archaeological materials or human remains are encountered during construction, impacts could be considered potentially significant. The mitigation measure, MM-CHR-2: Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered, is wholly inadequate because no next steps are provided.

The following are standard mitigation measures that should be included in the Final EIR or a Recirculated DEIR:

- Prior to construction, construction personnel shall receive brief "tailgate" training by a qualified archaeologist in the identification of buried cultural resources, including human remains, and protocol for notification should such resources be discovered during construction work. A tribal representative shall be invited to this training to provide information on potential tribal cultural resources with a stipend.
- If any subsurface historical or archaeological, resources, including human burials and associated funerary objects, are encountered during construction, all construction activities within a 50-foot radius of the encounter shall be immediately halted until a qualified archaeologist can examine these materials, initially evaluate their significance and, if potentially significant, recommend measures on the disposition of the resource. The Port shall be immediately notified in the event of a discovery, and if burial resources or tribal cultural resources are discovered, the Port shall notify the appropriate Native American representatives. The Port shall be responsible for retaining qualified professionals and tribal representation and implementing recommended mitigation measures. Documentation of mitigation efforts in written reports for Tribal review.

[34] https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=NoMEports_GPG_PANMM1.pdf
[35] http://www.stocktongov.com/discover/history/hist.html

- If tribal cultural resources other than human remains and associated funerary objects are encountered, the Port shall be immediately notified of the find, and the Port shall notify the tribal representative. The contracted qualified archaeologist and tribal representative shall examine the materials and determine their "uniqueness" or significance as tribal cultural resources and shall recommend mitigation measures needed to reduce potential cultural resource effects to a level that is less than significant in a written report to the Port, with a copy to the tribal representative. The Port will be responsible for implementing the report recommendations. Avoidance is the preferred means of disposition of tribal cultural resources.
- If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the Port, which shall in turn notify the Yokuts tribal representative. The Port shall notify other federal and State agencies as required. The Port will be responsible for compliance with the requirements of California Health and Safety Code Section 7050.5 and with any direction provided by the County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant will work with the archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.

The project also involves the destruction and removal of part of a historical wooden railroad trestle. According to DEIR The citizens of Stockton approved a $3,000,000 bond in 1924 to cover their share of the cost. The State of California put up $419,000, and the federal government committed $2,230,000 in 1927 to pay for the Port. The primary cost came from creating a Deep Water Channel leading from San Francisco to Stockton. The Great Depression also brought about many federal New Deal projects for the Sacramento District.[36] Dredging began in 1930 and was overseen by the U.S. Army Corps of Engineers, Sacramento District. In order to accommodate the large ships, the channel was planned to extend 50 miles. The river was widened to 300 feet and a variety of dredges, including clamshell, chain bucket ladder, dragline, and hydraulic dredges got to work straightening out the river route and deepening the channel to 26 feet to accommodate the larger ships. Numerous Delta islands, including Tinsley, Fen, Headreach, and Tule, were cut through to allow passage of the channel. Historical records indicate that many different groups of immigrants were involved with reclamation projects in the Delta.

The installation of an on-Berth railroad to accommodate movement of goods from the Port to market and was installed along with the construction of the original eastern port complex in 1932 and represents one of the first examples of on-Berth rail services in California. The Belt Line Railroad connected three transcontinental lines, and was completed by then Stockton mayor, Con Franke, who drove the last spike in 1932.

The Port's historical analysis performed by PAR Environmental found that that the Belt Line Railroad trestle meets Criteria A and C and recommend that it is eligible for inclusion in the National Register of Historic Places (NRHP) both as an individual property and as a contributing element of a Port of Stockton Historic District, should one be defined at a future date.

The mitigation measures proposed in the DEIR are vague and inadequate given the City's historical investment in Port infrastructure. The proposed mitigation measure is as follows:

> MM-CHR-1: Implement Section 106-Directed Mitigation (Recordation, Research, and Interpretation). As a NRHP- and CRHR-eligible resource, demolition of the rail trestle will require consultation with USACE, the SHPO, and Native American tribes. Section 106-directed measures will be determined by USACE in coordination with consulting parties. Measures could include recordation of the structure to

[36] https://www.spk.usace.army.mil/About/History/

standards used by the Historic American Engineering Record, additional historical research, and/or interpretation for the public. This interpretation could include adding information on the structure to the Port's website, which will include a history portal site, and/or developing informational brochures or signage on site or in the Port administrative building.

MM-CHR-2: Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered. In the event that any artifact, or an unusual amount of bone, shell, or nonnative stone, is encountered during construction, work would be immediately stopped and relocated to another area. The contractor would stop construction within 10 meters (30 feet) of the exposure of these finds until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and 14 CCR 15064.5[f]). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology, such as obsidian or fused shale; a historic trash pit containing bottles and/or ceramics; or structural remains. Native American tribes and the Office of Historic Preservation would be notified of the find. Native American tribes consulted on the proposed project to date include the Wilton Rancheria and the Buena Vista Tribe of Miwuk Indians. If the resources are found to be significant, they would be avoided or if avoidance is not possible, mitigated. Mitigation would be developed in coordination with SHPO and Native American tribes, and could include data recovery and interpretation of results for the public. This interpretation could include adding information on the resources to the Port's website, which will include a history portal site, developing informational brochures or signage on site or in the Port administrative building, and/or providing material to the tribes.

Trestle mitigations for criterion A and criterion C that were proposed by the Port's consultant are more detailed than the mitigation measure proposed in the DEIR and should replace MM-CHR-1. The mitigations for criterion A and criterion C follow:

For Criterion A:

The Port of Stockton is in the process of upgrading and revising their website. Currently the website has a short history of the construction and use of the Port in the 1930s. The website provides a vehicle for presenting the history and importance of the trestle within the context of the Belt Line Railroad and the Port of Stockton. There are several episodes that would be considered important to inform the public on the importance of the trestle and railroad. First, a history of the railroad in the 1930s, including its design (and uniqueness of the on-berth system at the time); need for a trestle to bridge the gap between land and the berths; construction (including engineering, funding); and opening is important. Second, the history should include the importance of the Belt Line Railroad during World War II and the role it played in the decision-making process of the United States Navy in establishing a base at Rough and Ready Island. The role of the Port after the War, growth into the fourth largest Port in California, and the second largest inland Port in the west should also be examined. A copy of the history should be provided to the San Joaquin County Historical Society for inclusion in their research files

Criterion C:

In order to capture the engineering design of the trestle in relationship to the Belt Line Railroad and the Port of Stockton, documentation following the Historic American Engineering Record standards is recommended. This HAER-like documentation includes photography and engineering plans, as well as detailed physical descriptions, plans, and profiles. The photography should include both detailed views of the trestle construction, as well as overviews of the setting, and the relationship with the Belt Line Railroad, Port of Stockton, and berths. The documentation should be filed at the San Joaquin County

Historical Society, Central California Information Center, State Office of Historic Preservation, and posted on the Port of Stockton web page.

The second mitigation measure, MM-CHR-2: Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered, should be included in the separate Tribal Cultural Resources Section of either the Final EIR or a recirculated DEIR. The tribal mitigation measures which we proposed should serve as the framework for the mitigation measures alluded to should something be uncovered during construction.

Energy

A new electrical room will be constructed to manage the electricity from Pacific Gas and Electric.
The proposed project includes an expansion of existing operations. The DEIR states that the new ship unloader and cementitious material distribution system would be more efficient and would result in a decreased energy demand as compared to existing operations. The conclusion that, the proposed project would not result in any wasteful, inefficient, or unnecessary consumption of energy resources is not supported with evidence. The DEIR references a Lehigh report: Stockton Estimated Electrical Consumption 12-30-2019.pdf, but this like the new lease terms was not available from the Port of Stockton. Insufficient electrical infrastructure will impede state goals on renewable energy or energy efficiency.

Thank you for considering our comments on the May 2020 Lehigh Southwest Stockton Terminal Project State DEIR. We look forward to obtaining and reviewing the additional information requested. The DSG welcomes opportunities to discuss the Port of Stockton's public outreach efforts related to this project and to the Port of Stockton's public information dissemination.

Sincerely,

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Stockton Diocese, Catholic Charities Environmental Justice, jpruitt@ccstockton.org, vtovar@ccstockton.org
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City of Stockton Council Members, city.clerk@stocktonca.gov
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The Record Editor, dblount@recordnet.com

Attachment: Port of Stockton CEQA webpage 7.5.2020

CEQA Documents

The Port of Stockton is committed to environmental stewardship and enhancement of the Delta and surrounding communities. The Port is currently unveiling and implementing a program that identifies opportunities the Port could engage to enhance the Delta. The Delta provides drinking water for two-thirds of the state of California and acts as a habitat for more than 70 fish species and abundant wildlife. The Delta provides a key resting or wintering spot along the Pacific Flyway for migrating bird species. The Port understands the importance of maintaining this delicate environment and providing a habitat for wildlife within an ever-growing population.

The Port of Stockton is committed to improving the region's quality of life by balancing environmental enhancement with the economic benefits of Port activity. This commitment is reflected in the Port's Delta Environmental Enhancement Program which aims to enhance air quality, water quality, and wildlife habitats in the Delta and surrounding communities.

Documents:

Lehigh DEIR – PDF

CVAG_Whole_Cottonseed_ISMND_05122020 PDF

Cyber security technology consolidation-enhancement remediation NOE 2015-9-22 PDF – RTF

Sanguinetti property NOE 2015-9-22 PDF – RTF

San Joaquin International Gateway Project NOE 3-17-14 PDF – RTF

Calamco NOE 12-18-13 PDF – RTF

Forward Command Post NOE 8-20-13 PDF – RTF

Dock 14-15 2013 NOE 6-26-13 PDF – RTF

Dock 4-11 2013 NOE 6-17-13 PDF – RTF

Endicott:

Endicott NOD 2-4-14

Endicott IS-MND 11-18-2013 – RTF

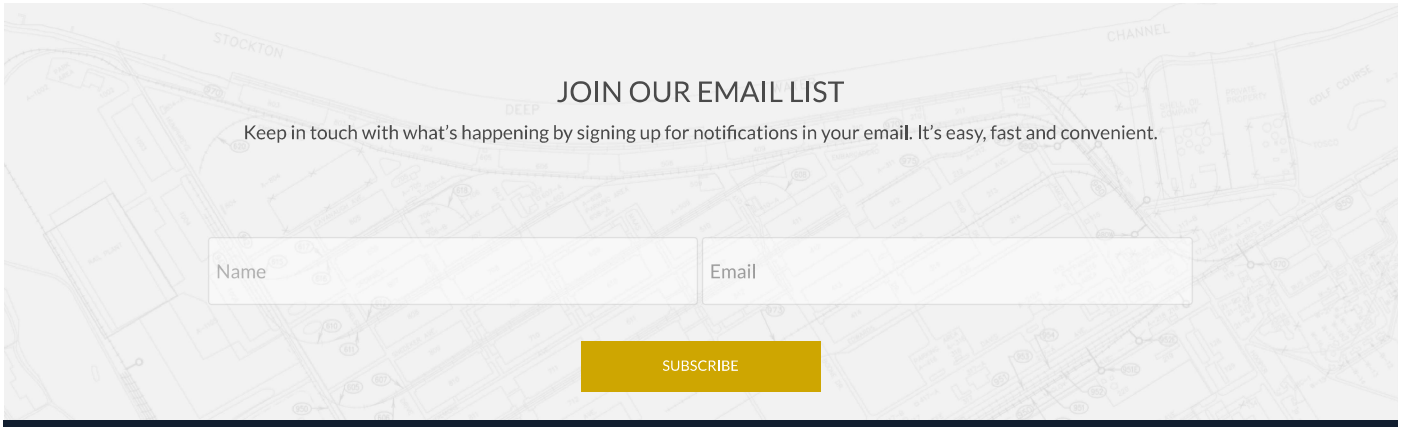

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EXHIBIT B

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March 13, 2019

Via Email and Overnight Delivery

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Via Email Only

Richard Aschieris, Port Director (raschieris@stocktonport.com)

Re: Preliminary Comments on the Draft Environmental Impact Report for Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008)

Dear Mr. Cashman, Mr. Aschieris:

On behalf of Safe Fuel and Energy Resources California, Steven M Dickinson, David Gracian, and Tim Knoeb (collectively, "SAFER CA"), we submit these preliminary comments regarding the Draft Environmental Impact Report ("DEIR") for the Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008) ("Project"), proposed by Contanda Terminals, LLC ("Contanda" or "Applicant"). Contanda proposes to develop a new bulk liquid terminal at the Port of Stockton ("Port") to receive, store, and transfer renewable diesel. The Project includes the construction of sixteen aboveground storage tanks ("ASTs") of varying capacity at a vacant parcel at the Port, along with construction of secondary containment, truck racks, and pumps and piping to transfer liquids between the new ASTs, berth, rail cars, and trucks.[1] Following construction, Contanda would receive renewable diesel by rail and vessels and

[1] DEIR, p. 9.

transfer it to ASTs for storage, then transfer the product from ASTs to trucks for deliveries to the local market.[2] The Project is proposed to operate for 20 years, and may operate longer of the Applicant's lease is further extended.[3]

AB-1

This letter contains the preliminary comments of SAFER CA and its technical consultant based on an initial review of the DEIR and a limited set of DEIR reference documents. As discussed below, the Port failed to provide SAFER CA with timely access to the DEIR reference documents, as required by the California Environmental Quality Act[4] ("CEQA"). The Port also refused SAFER CA's March 8, 2019 request to extend the public comment period to allow additional time to review DEIR reference documents that were provided just days before, including some documents as little as one day before, the end of the DEIR public comment period. The Port also withheld critical air pollution emissions data from disclosure, in violation of CEQA, the California Public Records Act, and the California Clean Air Act.[5] Due to the limited time provided for public comment and SAFER CA's limited access to documents underlying the DEIR's analysis, we have not had adequate time to fully review and comment on the DEIR. We reserve the right to supplement these comments at a later date, and at any and all later proceedings related to this Project.[6]

We have conducted our initial review of the DEIR and its technical appendices with the assistance of our technical consultant, air quality and hazardous resources expert Phyllis Fox, PhD, PE.[7] The attached expert comments require separate responses under CEQA.

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[2] DEIR, p. 9.
[3] DEIR, p. 9 (as part of the proposed project, Contanda would enter into a 15-year lease with five 5-year extension options with the Port).
[4] Pub. Resources Code ("PRC") §§ 21000 et seq.; 14 Cal. Code Regs. ("CCR") §§ 15000 et seq.; PRC § 21092(b)(1); 14 CCR § 15087(c)(5).
[5] PRC § 21092(b)(1); 14 CCR § 15087(c)(5); Gov. Code §6254.7(a), (e) ("Nothwithstanding any other provision of law, all air pollution emission data, including those emission data which constitute trade secrets as defined in subdivision (d), are public records."); and Health and Safety Code §44346(h).
[6] Gov. Code § 65009(b); PRC § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* ("*Bakersfield*") (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.
[7] Dr. Fox's technical comments and curriculum vitae are attached hereto as Exhibit A.

AB-2 Based upon our initial review of the DEIR and reference documents, we conclude that the DEIR is substantially deficient and fails to fulfill its mandate under CEQA as an informational document in numerous ways. As explained more fully below, the DEIR fails to disclose the extent of the Project's potentially significant impacts on air quality and public health; fails to support its findings with substantial evidence; and fails to properly mitigate the Project's potentially significant air quality and public health impacts. The Port cannot approve the Project until the errors in the DEIR are remedied and a revised DEIR is circulated for public review and comment.

I. STATEMENT OF INTEREST

SAFER CA advocates for safe processes at California refineries and fuel transport and distribution facilities to protect the health, safety, standard of life and economic interests of its members. For this reason, SAFER CA has a strong interest in enforcing environmental laws, such as CEQA, which require the disclosure of potential environmental impacts of, and ensure safe operations and processes for, California's fuel production and transport projects. Failure to adequately address the environmental impacts of renewable or traditional fuel and other refinery product transport and refining processes poses a substantial threat to the environment, worker health, surrounding communities and the local economy.

Refineries and fuel transport and distribution facilities are uniquely dangerous and capable of generating significant fires and the emission of hazardous and toxic substances that adversely impact air quality, water quality, biological resources, and public health and safety. Absent adequate disclosure and mitigation of hazardous materials and processes, refinery and fuel terminal workers and surrounding communities may be subject to chronic health problems and the risk of bodily injury and death. Additionally, rail transport of fuel and other refinery products has been involved in major explosions, causing vast economic damage, significant emissions of air contaminants and carcinogens and, in some cases, severe injuries and fatalities.

SAFER CA supports the sustainable development of alternative fuel resources in California. However, poorly planned refinery and fuel distribution facility projects can adversely impact the economic wellbeing of people who perform construction and maintenance work in refineries, port terminals, fuel distribution

facilities, and the surrounding communities. Plant and terminal shutdowns caused by accidental toxic releases and infrastructure breakdowns have caused prolonged work stoppages. Such nuisance conditions and catastrophic events impact local communities and the natural environment, and can jeopardize future jobs by making it more difficult and more expensive for businesses to locate and people to live in the area. The participants in SAFER CA are also concerned about projects that carry serious environmental risks and public service infrastructure demands without providing countervailing employment and economic benefits to local workers and communities.

The members represented by the participants in SAFER CA live, work, recreate and raise their families in San Joaquin County, including the city of Stockton. Accordingly, these people would be directly affected by the Project's adverse environmental impacts. The members of SAFER CA's participating unions may also work on the Project itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants, and other health and safety hazards, that exist onsite.

These comments are also submitted on behalf of Stockton, California residents Steven M Dickinson, David Gracian, and Tim Knoeb, who live and works in the vicinity of the Project.

AB-3

II. LEGAL STANDARD

CEQA requires public agencies to analyze the potential environmental impacts of their proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances).[8] The EIR is a critical informational document, the very heart of CEQA.[9] "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[10]

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a

[8] See, e.g., PRC § 21100.
[9] *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.
[10] *Comtys. for a Better Env' v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 ("*CBE v. CRA*").

AB-3 cont.

project.[11] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[12] The EIR 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."[13] As the CEQA Guidelines explain, "[t]he EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected."[14]

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures.[15] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced."[16] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[17]

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported study is entitled to no judicial deference*."[18] As the courts have explained, "a

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[11] PRC § 21061; 14 CCR §§ 15002(a)(1); 15003(b)-(e); *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 517 ("the basic purpose of an EIR is to provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.").
[12] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.
[13] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[14] 14 CCR § 15003(b).
[15] 14 CCR§ 15002(a)(2) and (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564.
[16] 14 CCR §15002(a)(2).
[17] PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B).
[18] *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), *quoting, Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391 409, fn. 12.

AB-3 cont.

prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process."[19]

III. LACK OF TIMELY ACCESS TO DEIR REFERENCE DOCUMENTS AND POTENTIAL NEED TO SUBMIT FURTHER COMMENTS

AB-4

The Port violated CEQA and improperly truncated the DEIR public comment period by failing to make all documents referenced or relied on in the DEIR available for public review during the public comment period.[20] As a result, SAFER CA was unable to complete its review and analysis of the DEIR and its supporting evidence during the current public comment period. Our request for a further extension was denied. We therefore provide these initial comments on the DEIR and reserve our right to submit supplemental comments on the DEIR at a future date.

CEQA requires that "all documents referenced in the draft environmental impact report" be available for review and "readily accessible" during the entire comment period.[21] The courts have held that the failure to provide even a few pages of a an EIR for a portion of the CEQA public review period invalidates the entire CEQA process, and that such a failure must be remedied by permitting additional public comment.[22]

On February 6, 2019, we submitted a letter to the Port, pursuant to CEQA Section 21092(b)(1), requesting "***immediate access to any and all documents referenced or relied upon***" in the DEIR (emphasis added).[23] On February 8, 2019, the Port provided a partial response which included a handful of electronic

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[19] *Berkeley Jets*, 91 Cal.App.4th at 1355; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.
[20] *See* PRC § 21092(b)(1); 14 CCR § 15087(c)(5).
[21] PRC §§ 21092(b)(1) (emphasis added); 14 Cal. Code Regs. ("CCR") § 15072(g)(4).
[22] *Ultramar v. South Coast Air Quality Man. Dist*. (1993) 17 Cal.App.4th 689, 699.
[23] Letter from Adams, Broadwell, Joseph & Cardozo ("ABJC") re Request for Immediate Access to Documents Referenced in the Draft Environmental Impact Report and Public Records – Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008) (February 6, 2019).

AB-4 cont.

reference documents and files. However, the Port's response omitted dozens of documents and files that are referenced in the DEIR, including the air pollution emissions modeling files used in the DEIR's air quality analysis, and the entire set of reference documents identified in DEIR Chapter 7, "*References*," that were not accompanied by weblinks.

On February 22, 2019, we submitted a second letter to the Port requesting access to the outstanding DEIR reference documents. Our letter included a list of over 54 missing documents that had not been provided in response to our original request, and requested a 45-day extension of the DEIR public review and comment period once the outstanding reference documents were produced, as required by CEQA.[24] On February 26, 2019, the Port provided a further response which included electronic attachments, a few emails, a weblink to an FTP site containing additional DEIR reference documents, and extended the DEIR public comment period from February 27, 2019 to March 13, 2019 (14-day extension).[25] However, the Port's second document production remained incomplete. The short 14-day extension failed to provide SAFER CA with the requisite 45-day public comment period required by CEQA, or even a meaningful amount of time to review and comment on the DEIR prior to the comment deadline.

On March 6, 2019, just one week before the close of the comment period, the Port provided a third set of DEIR reference documents in response to our February 22, 2019 letter. The Port's third response included a few of the missing files that the Port had failed to include in its February 26, 2019 production, but still remained incomplete. In particular, the Port's response continued to omit the electronic air pollution emissions modeling files that SAFER CA had requested on February 6, 2019, a month earlier.

On March 8, 2019, we sent a third letter to the Port requesting immediate access to the outstanding DEIR reference documents that had not been provided.

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[24] See *Ultramar,* 17 Cal.App.4th at 699; Letter from ABJC re Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report and Public Records – Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008) (February 22, 2019).

[25] February 26, 2019 emails from Jason Cashman and Melissa Whitener re Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report and Public Records – Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008).

AB-4 cont.

Our letter requested, for a third time, the Port's electronic air pollution emissions modeling files that were used to calculate the Project's construction and operational emissions in the DEIR. On March 12, 2019, one day before the close of the public comment period, Port planner Mr. Cashman sent an email providing two additional missing documents, and, for the first time, asserting that the air pollution emissions modeling files were subject to trade secret privileges, and would not be provided. Mr. Cashman's March 12, 2019 email also advised SAFER CA that the Port refused to further extend the public comment period, despite its delayed and piecemealed production of DEIR reference documents that left SAFER CA with less than one day to consider the full set of reference materials received from the Port.

CEQA affords the public a right of access to the reference documents and supporting evidence that the lead agency is relying on to support the conclusions and findings in an EIR.[26] It is also well settled that an EIR may not rely on hidden studies or documents that are not provided to the public.[27] Access to the Project's DEIR reference materials is essential to SAFER CA and other members of the public's review and evaluation of the DEIR. Despite our month-long efforts to obtain "immediate access" to all materials referenced in the DEIR, the Port only granted us access to a portion of these materials, and in an untimely manner. The Port's responses were provided in a piecemealed fashion, in which responsive documents trickled in over a period of 34 days, at the end of which the Port denied SAFER CA's right to access some of the DEIR's most critical supporting materials for its air quality analysis. The Port's actions flout CEQA's disclosure requirements, and have resulted in a violation of SAFER CA's due process rights.[28]

[26] PRC § 21092(b)(1); 14 CCR § 15087(c)(5).
[27] *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 ("Whatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.").
[28] *Id.*; Gov. Code § 6253(a) (requires public records to be "open to inspection at all times during the office hours of the state or local agency" and provides that "every person has a right to inspect any public record.").

A. Emissions Modeling Files Used to Support the DEIR's Air Quality Analysis are Not "Confidential Business Information" or Trade Secrets.

AB-5

The Port's refusal to provide access to the DEIR's air pollution emissions modeling files is also a violation of the Public Records Act and California Clean Air Act. The Port's March 12, 2019 email to the undersigned asserted that the electronic emissions modeling files that are referenced in DEIR's Air Quality section and Appendix E, Air Quality and Greenhouse Gas Report, "constitute confidential business information and trade secrets, as defined in Civil Code section 3426.1, subd. (d), and are therefore not subject to disclosure under the CPRA [California Public Records Act]."[29] The Port's email also stated that emissions modeling files "are not in the actual or constructive possession of the Port."[30] As discussed below, the Port's first assertion is legally incorrect. And if the Port's second assertion is true, then it constitutes an admission that the Port lacks substantial evidence to support the DEIR's conclusions regarding the Project's air quality and related public health impact impacts.

The requested emissions data is not exempt from disclosure under the California Public Records Act or any other state law.[31] The Public Records Act states that "all information, analyses, plans, or specifications that disclose the nature, extent, ***quantity or degree of air contaminants*** or other pollution which any article, machine, equipment or other contrivance will produce, which any . . . air pollution management district [. . .] requires any applicant to provide before the applicant [. . .] operates, sells, rents or uses the article, machine, equipment, or other contrivance, ***are public records***."[32] The Public Records Act further states, "Nothwithstanding any other provision of law, all ***air pollution emission data***, including those emission data which constitute trade secrets as defined in

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[29] See **Exhibit B,** March 12, 2019 email from J. Cashman to C. Caro re Contanda Third Request for DEIR reference documents and extension.
[30] *Id.*
[31] See Gov. Code § 6254 (enumerated PRA exemptions – emissions data not listed); *Marken v. Santa Monica-Malibu Unified School Dist.* (2012) 202 Cal. App. 4th 1250 (statutory exemptions from mandatory disclosure under PRA must be narrowly construed where they limit the public's right to access); *Center Citizens for Ceres v. Super. Ct.*, 2013 Cal. App. LEXIS 532 (Cal. Ct. App. 5th, July 8, 2013) (agency cannot claim work-product or atty-client privileges for any communications with an applicant made before project approval).
[32] Gov. Code §6254.7(a).

subdivision (d), ***are public records***."[33] The Health and Safety Code further states that "all information collected pursuant to this chapter . . . shall be considered 'air pollution emission data,' for the purposes of this section."[34]

AB-6

Here, the Project would occur in the northern portion of the San Joaquin Valley Air Basin ("SJVAB"), within the jurisdiction of the San Joaquin Valley Air Pollution Control District ("SJVAPCD").[35] In addition to permitting and rule compliance, air quality management at the local level is also accomplished through SJVAPCD imposition of mitigation measures on project EIRs. Specific to project construction emissions, CEQA requires mitigation of air quality impacts that exceed certain significance thresholds set by the local air district. The DEIR explains that SJVAPCD's CEQA significance thresholds are applicable to the Project, along with SJVAPCD Rules 4624 and 4632.[36] The DEIR's emissions data is thus being used to assert that the Project complies with SJVAPCD emissions limits, SJVAPCD's CEQA thresholds, and SJVAPCD rules related to localized emissions sources.[37] The emissions data sought by SAFER CA clearly would "disclose the nature, extent, quantity or degree of air contaminants or other pollution which [the facility] will produce" within the meaning of the California Public Records Act and California Clean Air Act.[38] Therefore, it is clear under state law that the requested emissions records are not subject to trade secret protection, and are subject to disclosure under the Public Records Act pursuant to Gov. Code sections 6254.7(a) and (e), regardless of whether the files do, or do not, constitute "trade secrets."

AB-7

SAFER CA again requests that the Port comply with CEQA, the Public Records Act, and the California Clean Air Act and produce the DEIR emissions modeling files requested by SAFER CA for public review. SAFER CA reserves the right to file supplemental DEIR comments upon receipt of those files.

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[33] Gov. Code §6254.7(e).
[34] Health and Safety Code § 44346(h).
[35] DEIR, p. 21.
[36] DEIR, p. 30.
[37] DEIR, pp. 23-26,
[38] Gov. Code §6254.7(a).

IV. THE DEIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, AND MITIGATE POTENTIALLY SIGNIFICANT AIR QUALITY AND PUBLIC HEALTH IMPACTS

AB-8

An EIR must fully disclose all potentially significant impacts of a Project, and implement all feasible mitigation to reduce those impacts to less than significant levels. The lead agency's significance determination with regard to each impact must be supported by accurate scientific and factual data.[39] An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and concrete substantial evidence justifying the finding.[40]

These standards apply to an EIR's analysis of air quality and public health impacts of a Project. The California Supreme Court recently affirmed CEQA's mandate to protect public health and safety by holding that an EIR fails as an informational document when it fails to disclose the public health impacts from air pollutants that would be generated by a development project.[41] In *Sierra Club*, the Supreme Court held that the EIR for the Friant Ranch Project - a 942-acre master-planned, mixed-use development with 2,500 senior residential units, 250,000 square feet of commercial space, and open space on former agricultural land in north central Fresno County - was deficient as a matter of law in its informational discussion of air quality impacts as they connect to adverse human health effects.[42] As the Court explained, "a sufficient discussion of significant impacts requires not merely a determination of whether an impact is significant, but some effort to explain the nature and magnitude of the impact."[43] The Court concluded that the County's EIR was inadequate for failing to disclose the nature and extent of public health impacts caused by the Project's air pollution. As the Court explained, the EIR failed to comply with CEQA because, "after reading the EIR[], the public would have no idea of the health consequences that result when more pollutants are added to a nonattainment basin."[44]

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[39] 14 CCR § 15064(b).
[40] *Kings Cty. Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.
[41] *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502.
[42] *Sierra Club*, 6 Cal.5th at 516.
[43] 6 Cal.5th at 523, citing *Cleveland National Forest*, 3 Cal.5th at 514–515.
[44] 6 Cal.5th at 523-524. CEQA's statutory scheme and legislative intent also include an express mandate that agencies consider and analyze human health impacts, acknowledges that human beings are an integral part of the "environment", and mandates that public agencies determine whether a the "***environmental effects of a project will cause substantial <u>adverse effects on</u>***

AB-8 cont.

In *Berkeley Jets*, the Court of Appeal held that an EIR must analyze the impacts from human exposure to toxic substances.[45] In *Berkeley Jets*, the Port of Oakland approved a development plan for the Oakland International Airport. The EIR admitted that the Project would result in an increase in the release of toxic air contaminants ("TACs"), and adopted mitigation measures to reduce TAC emissions, but failed to quantify the severity of the Project's impacts on human health.[46] The Court held that mitigation alone was insufficient, and that the Port had a duty to analyze the health risks associated with exposure to TACs.[47] As the CEQA Guidelines explain, "[t]he EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected."[48]

AB-9

The failure to provide information required by CEQA is a failure to proceed in the manner required by CEQA.[49] Challenges to an agency's failure to proceed in the manner required by CEQA, such as the failure to address a subject required to be covered in an EIR or to disclose information about a project's environmental effects or alternatives, are subject to a less deferential standard than challenges to an agency's factual conclusions.[50] In reviewing challenges to an agency's approval of an EIR based on a lack of substantial evidence, the court will 'determine de novo whether the agency has employed the correct procedures, scrupulously enforcing all legislatively mandated CEQA requirements.'[51]

Even when the substantial evidence standard is applicable to agency decisions to certify an EIR and approve a project, reviewing courts will not 'uncritically rely on every study or analysis presented by a project proponent in

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human beings, either directly or indirectly," PRC § 21083(b)(3), (d) (emphasis added), and to "take immediate steps to identify any critical thresholds for the ***health and safety of the people*** of the state and take all coordinated actions necessary to prevent such thresholds being reached." See PRC §21000 et seq. (emphasis added).

[45] 91 Cal.App.4th 1344, 1369.

[46] *Id*. at 1364.

[47] *Id.*

[48] 14 CCR § 15003(b).

[49] *Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236.

[50] *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.

[51] *Id., Madera Oversight Coal., Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102.

support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.'"[52]

A. The DEIR's Emissions Calculations are Unsupported.

AB-10

The DEIR's air quality and health risk assessment analyses depend on criteria pollutant and hazardous air pollutant ("HAP") emissions from a variety of sources, including truck transit, onsite truck idling, line haul locomotives, switcher locomotives, oceangoing vessels ("OGVs") at berth, OGVs in transit, tugboats in transit, and tugboats at berth.[53] As explained above, and in Dr. Fox's comments, the DEIR's conclusions regarding emissions generated by these emissions sources are wholly unsupported because the DEIR fails to include (and the Port either fails to possess or refuses to disclose) the underlying modeling files and calculations used to prepare the DEIR's air quality analysis.

As Dr. Fox explains, Project emissions must be estimated from activity data (e.g., number of trips), engine model (e.g., Tier 1, 2), and emission factors (e.g., grams per gallon of fuel). These emission estimates involve complex Excel spreadsheet calculations, which are required to be provided to the public upon request so that reviewers can evaluate the accuracy of the estimates.[54] The Port failed to provide these calculations to SAFER CA or other members of the public.

AB-11

Dr. Fox's review of the DEIR's air quality and health risk modeling discloses that the DEIR incorporates numerous emissions assumptions that do not apply to the Project or that require additional mitigation measures and enforceable conditions to assure implementation. These errors and omissions, discussed below and in Dr. Fox's comments, disclose significant air quality and health impacts that were not identified in the DEIR, and which require recirculation. As a result, the DEIR's air quality analysis and conclusions remain unsupported by any substantial evidence.

AB-12

B. The Project's Emissions Are Underestimated.

The DEIR substantially underestimated the Project's emissions by omitting numerous emissions onsite emissions sources and offsite emissions sources that

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[52] *Berkeley Jets*, 91 Cal.App.4th at 1355.
[53] See DEIR, p. 32; Appendix B: Emission Calculation Tables; Appendix E: Air Quality and Greenhouse Gas Report.
[54] Fox Comments, p. 4.

AB-12 cont.

occur outside of the SJVAPCD. As Dr. Fox explains, these omissions result in significant underestimations of air quality, greenhouse gases, and health impacts beyond those disclosed in the DEIR.[55] The Port's failure to include all emission sources in the DEIR's air quality and health risk assessment requires that a revised DEIR be prepared and recirculated for public review

1. <u>The DEIR Omits Onsite Emissions Sources.</u>

AB-13

The DEIR omits potentially significant emissions from the transport of the Project's renewable diesel fuel, including emissions from both rail car unloading and truck loading.

The Project includes 3,600 rail car visits per year.[56] Dr. Fox explains that the DEIR omitted ROG emissions from unloading of railcars, including from fugitive components (PRVs, pressure relief vents, manways, bottom and top fittings), connecting and disconnecting railcars to the loading rack, and sumps that collect spills and predictable drips during railcar unloading.[57] The DEIR states that the imported renewable diesel received at the Project site would be loaded into trucks and transported to markets in Northern California.[58] Dr. Fox further explains that the DEIR omitted ROG emissions that are commonly released during truck loading, including from drips, hose disconnects, and sumps that collect fuel spills. As a result of these omissions, Dr. Fox concludes that the DEIR substantially underestimated emissions associated with the Project's inbound rail car shipments of renewable diesel and subsequent outbound truck trips.

2. <u>The DEIR Omits Offsite Project Emissions Occurring Outside the SJVAPCD</u>.

AB-14

The DEIR explains that the Project would receive shipments of renewable diesel via inbound trains from Union Pacific and BNSF Railway, and from vessels

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[55] Fox Comments, pp. 4-9. Due to inadequate review time and lack of supporting documents, we were unable to provide estimates for the missing emission sources. SAFER CA reserves the right to submit supplemental comments and perform independent emissions estimates to further analyze the Project's emissions.
[56] DEIR, Table 4, pdf 35.
[57] Fox Comments, p. 4.
[58] DEIR, p. 12.

AB-14 cont.

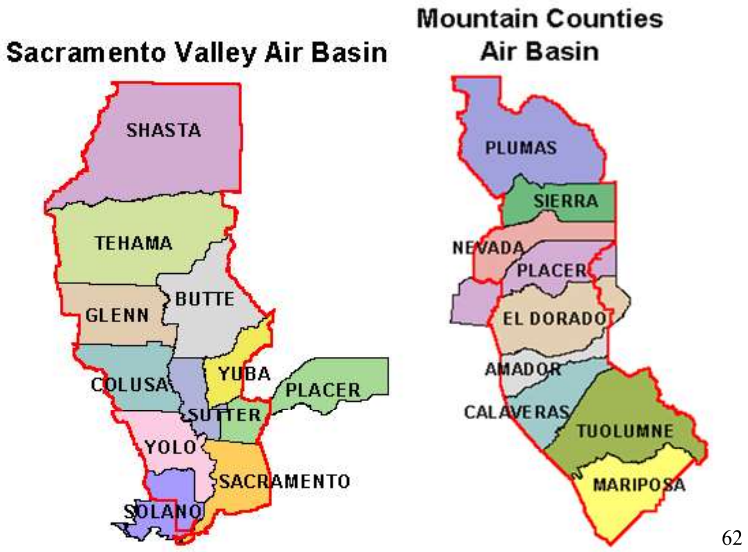
berthed at the Port's Wharf 8. The trains would originate from various production facilities located throughout the United States, would be offloaded at the Contanda Port Road A site, and then transferred to the Project site via a new pipeline.[59] The imported renewable diesel would then be loaded onto trucks and transported to customers in various locations in Northern California.[60]

The DEIR estimated emissions that occur within the boundary of the SJVAPCD, where the Project site is located, but failed to estimate any rail, truck, or vessel emissions that will occur outside the SJVAPCD during the Project's fuel transit operations. Dr. Fox identifies six key emissions factors that will occur outside of the SJVAPCD's jurisdiction, but which were completely excluded from the DEIR's analysis, including: (1) emissions from trucks in transit, (2) emissions from oceangoing vessels, (3) emissions from trains in transit, (4) locomotive emissions, (5) rail car evaporative emissions, (6) ambient air quality impacts.[61] As a result, the DEIR's air quality analysis is significantly flawed and incomplete.

As Dr. Fox explains, the majority of the Project's emissions will be from truck, rail, and ship transport, all of which will pass through up to 20 other air basins, each under the jurisdiction of a different air district, as illustrated below:

[59] DEIR, p. 32, pdf 51 and Appendix E, Sec. 3.1.3.3, pdf 51.
[60] *Id.*; DEIR, p. 12.
[61] Fox Comments, pp. 5-9.

Air Basins Affected by the Project



62

AB-14 cont

Because the DEIR only evaluated emissions from the Project site to the SJVAPCD boundary, or 15 miles for OGVs and 88 miles, one way, for trucks,[63] Dr. Fox concludes that the DEIR fails entirely to disclose or mitigate the emissions resulting from the Project that will occur outside the San Joaquin Air Basin. The DEIR also fails to identify key facts contributing to the nature and extent of emissions, including the source(s) and destination(s) of the product, the route(s) that the trains would take to the Terminal, the destination of the renewable diesel, or the miles traveled in any location other than the hosting air district.[64] These are serious omissions.[65]

Emissions resulting from the Project that occur anywhere in California must be similarly quantified and evaluated, including emissions generated by the transport of materials used during Project construction and operation, and by the outgoing transport of renewable diesel fuel from the Project site outside the hosting air district. The DEIR must be revised and recirculated to disclose Project emissions from all sources within the State.

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[62] Fox Comments, p. 8.
[63] DEIR, Table 4, pdf 243.
[64] Fox Comments, p. 5.
[65] *Id.*

C. The DEIR Fails to Require All Feasible Mitigation Measures to Reduce Air Quality Impacts to the Greatest Extent Feasible.

AB-15

The DEIR concluded that Project operation within the SJVAPCD would result in significant air quality impacts, including: (1) conflicting with and/or obstructing implementation of air quality control plans (AQ-1);[66] (2) annual operational emissions of NOx exceeding 19 ton/yr (AQ-2);[67] and (3) a cumulatively considerable net increase in NOx.[68] To mitigate these significant impacts, the DEIR proposes only two mitigation measures—truck idling reductions (MM-AQ-1) and the use of clean trucks (MM-AQ-2)—concluding that emissions would remain significant after mitigation because NOx emissions largely originate from locomotives and trucks that are not within Contanda's power to mitigate.[69] No mitigation is proposed for the significant cumulative NOx impacts. The DEIR concludes that these impacts remain significant after this mitigation. Therefore the DEIR must implement additional mitigation to reduce the Project's air quality impacts to less than significant levels.[70]

Dr. Fox explains that there is additional, feasible mitigation available to reduce the Project's air quality impacts to less than significant levels. Dr. Fox explains that the Project's significant NOx emissions could be fully mitigated using Voluntary Emission Reduction Agreements ("VERAs").[71] The SJVAPCD uses VERAs to address mitigation requirements under CEQA. Under a VERA, the developer (in this case Contanda) would be required to fully mitigate project emission impacts by providing funds to the SJVAPCD. The funds are then used by SJVAPCD to administer emission reduction projects on behalf of the developer. These agreements are incorporated into the SJVAPCD's CEQA Guidelines.[72]

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[66] DEIR, pp. 32-33, pdf 51-52.
[67] DEIR, Table 13, pdf 53-54.
[68] DEIR, p. 37, pdf 56.
[69] DEIR, p. 33-37, pdf 52-56.
[70] PRC §§ 21002.1(a), 21100(b)(3).
[71] Fox Comments, p. 13.
[72] See SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts, March 19, 2015, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwjrvLG3hIDhAhWFMH0KHV8nBFcQFjAAegQIChAC&url=http%3A%2F%2Fwww.valleyair.org%2Ftransportation%2FGAMAQI_3-19-15.pdf&usg=AOvVaw3oG7uHuccUqo4EC-ZrXiK_.

AB-15 cont.

In this case, because the Project will cause excess NOx emissions in numerous air districts, Dr. Fox explains that implementation of a VERA by SJVAPCD would likely require Contanda to make a one-time payment for its ROG and NOx emissions in excess of significance thresholds to each affected air district.[73] The SJVUAPCD has found that the cost for NOx reductions is $8,123 per ton.[74] Thus, Dr. Fox concludes that the cost of a feasible VERA could be easily calculated based on the Project's (accurately calculated) projected NOx emissions.[75]

The Port should require use a VERA as binding mitigation to reduce the Project's significant and unavoidable air quality impacts.

D. The Project is Likely to Cause Significant Health Risks from Human Exposure to Toxic Air Contaminants Released During Project Construction and Operation that the DEIR Fails to Disclose and Mitigate.

AB-16

The DEIR includes a health risk assessment ("HRA") that was used to estimate potential cancer and chronic non-cancer health impacts from exposure to toxic air contaminants ("TACs") during Project construction and operation.[76] Dr. Fox reviewed the HRA, and concludes that it failed to follow accepted regulatory protocol for estimating health risks, and relies on inaccurate and underreported Project emissions to calculate the Project's related TAC emissions. As a result, the HRA fails to accurately disclose or mitigate potentially significant health impacts at critical sensitive receptors. The DEIR's conclusion that health risks are less than significant is therefore inaccurate and unsupported.

First, the DEIR asserts that the HRA was conducted in accordance with SJVAPCD HRA guidance (SJVAPCD 2018) and the Office of Environmental Health

[73] Fox Comments, p. 13.
[74] SJVAPCD 2017, Table 3, pdf 11.
[75] Fox Comments, p. 13.
[76] DEIR, Appendix E, Air Quality and Greenhouse Gas Report, Section 3. Health Risk Assessment, pdf 244-296.

AB-16 Hazard Assessment ("OEHHA") Guidance,[77] using US EPA's AERMOD dispersion model and CARB's Hotspots Analysis Reporting Program ("HARP"), and the Risk Assessment Standalone Tool ("RAST").[78] Dr. Fox reviewed the DEIR's HRA, and concludes that it did not follow OEHHA guidance and did not properly use HARP or RAST. For example, as Dr. Fox explains, the Port produced selected modeling files[79] which stated that AERMOD was run using a grid with over 1,000 receptors. However, Dr. Fox's review of the risk calculations reported in the DEIR's modeling files and the DEIR do not match this statement. Instead, the DEIR discloses that the health risk calculations were performed for just a single reference point. As Dr. Fox explains, this error resulted in the HRA's omission of many of the locations and sensitive receptors that are likely to be impacted by the Project's TAC emissions.[80]

AB-17 Second, as discussed above, the Project's overall air emissions were underestimated. This resulted in a corresponding underestimation of TAC emissions. Dr. Fox identified additional inaccuracies in the HRA's emissions factors, including unsupported assumptions that included restricted hours of Project operation to avoid periods when ambient concentrations of TACs are the highest, and unsubstantiated modifications to emissions source locations that were inconsistent with information included in the DEIR.[81] Dr. Fox opines that these unexplained changes in the HRA's emissions factors may have been made to avoid disclosing health impacts in residential areas.[82] These, and other factual assumptions made in the HRA, are not supported by any substantial evidence in the DEIR. The HRA's conclusion that the Project's health risk is less than significant is therefore similarly unsupported.

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[77] Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, February 2015; available at https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[78] DEIR, Appendix E, pdf 244.
[79] The modeling files produced by the Port included only a limited subset of the air pollution emissions modeling data requested by SAFER CA.
[80] Fox Comments, p. 16.
[81] Fox Comments, pp. 13-17.
[82] *Id.* at p. 16.

1. **Updated Health Risk Analysis Discloses Significant Residential Cancer Risk.**

AB-18

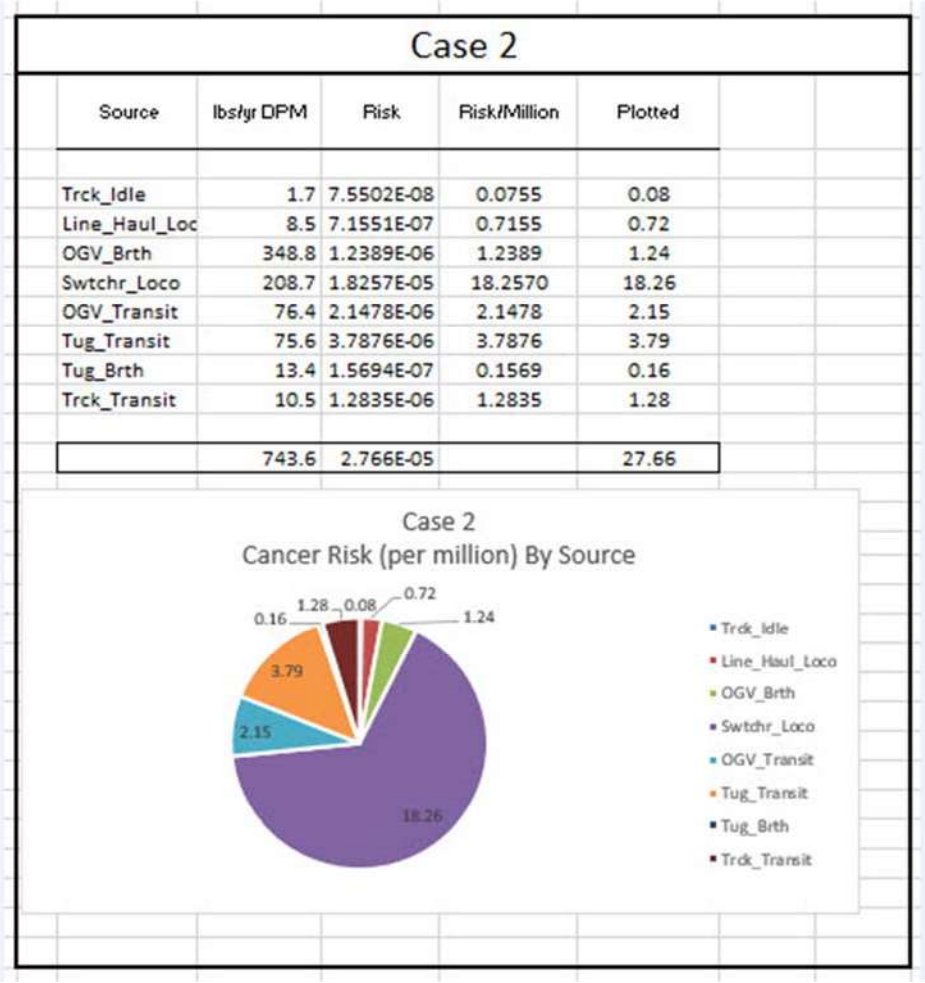
Dr. Fox prepared a revised health risk analysis using recommended agency protocols, corrected emissions factors, and updated modeling assumptions using the Project description contained in the DEIR. Dr. Fox's revised analysis assumes switcher DPM emissions of 208.7 lb/yr (instead of 54.7 lb/yr, modeled in the DEIR) that occur around the clock, and switcher and truck routes adjacent to residential areas, but otherwise retained the DEIR's assumptions.[83]

When modeled correctly, Dr. Fox concludes that the Project's TAC emissions are likely to result in significant health risks from increased residential cancer risk that are not disclosed or mitigated in the DEIR, as follows:

[83] Fox Comments, p. 33.

Revised Health Risk Assessment

AB-18 cont



Case 2

Source	lbs/yr DPM	Risk	Risk/Million	Plotted
Trck_Idle	1.7	7.5502E-08	0.0755	0.08
Line_Haul_Loc	8.5	7.1551E-07	0.7155	0.72
OGV_Brth	348.8	1.2389E-06	1.2389	1.24
Swtchr_Loco	208.7	1.8257E-05	18.2570	18.26
OGV_Transit	76.4	2.1478E-06	2.1478	2.15
Tug_Transit	75.6	3.7876E-06	3.7876	3.79
Tug_Brth	13.4	1.5694E-07	0.1569	0.16
Trck_Transit	10.5	1.2835E-06	1.2835	1.28
	743.6	2.766E-05		27.66

Dr. Fox's health risk analysis demonstrates that the 30-year cancer risk at the nearest home (receptor #269) is 27.7 per million, compared to the DEIR's cancer significance threshold of 20 per million.[84] Thus, residential cancer risks are significant.

[84] Fox Comments, p. 34; DEIR, p. 37 (ground-level concentrations of carcinogenic TACs that would increase the probability of contracting cancer for the maximally exposed individual by 20 in one million or more is significant impact).

2. <u>Acute Health Risks Are Significant.</u>

AB-19

The HRA asserts that the proposed Project would not result in significant "acute health hazards," relying on DEIR, Appendix E, Table 15, for this conclusion. However, a review of Table 15 demonstrates that it does not report the results of an acute health impact analysis at all.[85] The DEIR elsewhere claims that the Port could not analyze acute health hazards because an acute Hazard Index, which evaluates the probability of TACs to cause adverse health effects due to short-term exposure, was not quantified for the Project because the chief pollutant of concern is DPM, for which OEHHA has not established an acute reference exposure level ("REL").[86]

Dr. Fox explains that the absence of an OEHHA acute risk exposure level does not excuse the Applicant from evaluating acute health risks. Dr. Fox explains that the significance of acute exposures *is* generally assessed using the Hazard Index approach. A Hazard Index is calculated as sum of the ratio of the calculated 1-hour concentrations for each HAP, divided by their respective reference exposure level, in this case 10 g/m3.[87] The SJVAPCD significance threshold for acute exposures is a hazard index of 1 for the maximally exposed individual.[88]

Using this approach, Dr. Fox conducted an acute risk assessment for Project construction, using the DEIR's DPM emission rate (366 lb/yr) and assuming construction between 8 AM and 4 PM.[89] Dr. Fox's analysis found that significant acute health impacts (HI=/>1; DPM concentration =/> 10 μg/m^3) occur within 35 meters to the south and 80 meters to the west of the Project site boundary, in locations where workers would be found, including at the adjacent Contanda Terminal.[90] Dr. Fox conducted a similar acute risk assessment for Project operation using the Project's highest 25 1-hour DPM concentrations, which range from 232 to 344 μg/m^3. Dr. Fox found that all concentrations exceeded the acute REL of 10 μg/m$_3$ and a hazard index of 1 in both cases by a significant amount.[91] Thus, Dr,

[85] DEIR, Appendix E, Table 15; Fox Comments, p. 36.
[86] DEIR, Appendix E, pdf 245.
[87] Fox Comments, p. 36.
[88] *Id.*
[89] Dr. Fox Comments, p. 37.
[90] *Id.*
[91] Fox Comments, p. 37.

Fox concludes that the Project's acute health impacts to construction workers, Project users and residents, and adjacent receptors in the vicinity of the Project remain significant and unmitigated.[92]

The DEIR must be revised and recirculated to accurately disclose and mitigate these significant health risks.

V. CONCLUSION

AB-20

For all of the reasons discussed above, the DEIR for the Project remains wholly inadequate under CEQA. It must be thoroughly revised to provide analysis of, and mitigation for, all of the Project's significant impacts. These revisions will necessarily require that the DEIR be recirculated for public review. Until the DEIR has been revised and recirculated, as described herein, the Port may not lawfully approve the Project.

Thank you for your consideration of these comments. Please include them in the record of proceedings for the Project.

Sincerely,

Christina M. Caro

CMC:acp

Attachments

[92] *Id.* at pp. 37-38.

EXHIBIT C

Comments

on the

Draft Environmental Impact Report

for the

Contanda Renewable Diesel Bulk Liquid Terminal Development Project

Stockton, California

March 13, 2019

Phyllis Fox, PhD, PE

and

Environmental Permitting Specialists

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1. INTRODUCTION

AB-21

Contanda Terminals LLC (Contanda or the Applicant) proposes to develop a new bulk liquid terminal at the Port of Stockton, located within the San Joaquin Valley Air Pollution Control District (SJVAPCD or District). This terminal will receive, store, and transfer renewable diesel. Renewable diesel would be imported by rail and ship, transferred to aboveground storage tanks (ASTs), and transferred from the ASTs to trucks for deliveries to the local Northern California market. The Project also includes construction of secondary containment, truck racks, and pumps and piping to transfer the fuel between the new ASTs, vessels, rail cars, and trucks.

We reviewed the Draft Environmental Impact Report (DEIR) for this Project prepared by the Port of Stockton (Port),[1] the CEQA lead agency. The public review period granted by the Port is not adequate to review a document as technically complex as this DEIR. The Contanda DEIR consists of 471 pages of inadequately supported technical analysis plus many thousands of pages of supporting documents. The allotted review period, January 14, 2019 to March 13, 2019, contains 59 days, of which 14 are weekend days. Assuming a reviewer worked every workday of the review period, she/he would have to read 10 pages of dense technical material plus supporting references every single day to finish just the DEIR, leaving little time to critically evaluate and reverse engineer the many unsupported calculations in the appendices and then write comments. Few people could devote entire days to doing nothing but reading and analyzing this DEIR and even fewer are speed readers with the training to figure out how emissions were calculated without inputs, live electronic spreadsheets, supporting references, and equations to review.

The air quality, greenhouse gas, and health risk assessment analyses in the appendices supporting the conclusions in the DEIR attempt to address highly technical issues yet are poorly supported. Moreover, the Port refused to disclose the key emissions modeling data on which the DEIR relies for its air impact analyses and significance conclusions. The DEIR appendices also contain many inconsistencies, requiring the reviewer to sort through hundreds of pages of complex calculations and pdf versions of model inputs and outputs, using reverse engineering to deduce the DEIR's key impact assumptions which should have been clearly laid out for readers to understand. This is beyond the ability of average members of the public and even technical experts, especially without supporting electronic files and cited sources that were withheld by the Port and are not otherwise publicly available during the allotted 59 days.

We filed three document requests pursuant to the California Environmental Quality Act (CEQA) and California Public Record Act (PRA) for "immediate access to any and all documents referenced or relied upon" in the DEIR. We specifically requested the Port's electronic files relied upon in the DEIR to support the health risk, air quality, and GHG sections, in order to facilitate our review of these sections. However, the Port's responses repeatedly

[1] Anchor QEA, Contanda Renewable Diesel Bulk Liquid Terminal Development Project Draft Environmental Impact Report, State Clearinghouse Number: 2018102008, Prepared for the Port of Stockton, January 2019. No weblink.

AB-21 cont

omitted most of the key information, not otherwise publicly available, required to verify calculations in these sections. The Port specifically declined to provide electronic files,[2] a routine matter in hundreds of similar cases that we have worked on, thus further complicating the review of this DEIR.

Based on the available material and limited review time, in our opinion the DEIR is substantially deficient and does not fulfill its mandate as an informational document under CEQA to inform the public of potential impacts. It has omitted sources of emissions and underestimated others, thus underestimating air quality and public health impacts. It has further failed to require adequate mitigation for significant impacts that it did identify. Our analysis indicates that:

- Significant operational NOx emissions are not adequately mitigated.
- Air quality and public health impacts in adjacent air districts were not evaluated and are significant.
- Construction emissions are not adequately supported, are significantly underestimated, and are potentially significant.
- Operational cancer health risks are significant and unmitigated.
- Operational acute health impacts were not evaluated in the DEIR. They are highly significant at numerous work places, residences in the Seaport Neighborhood, and at the Washington Elementary School. These significant health impacts are unmitigated.
- Construction acute health risks were not evaluated in the DEIR and are significant at nearby commercial properties.
- Cumulative cancer and acute health impacts of Project construction and operation were not evaluated, are highly significant and unmitigated.
- The DEIR concluded that cumulative operational NOx emissions are significant but failed to require any mitigation.

In sum, in our opinion the DEIR is substantially deficient. My analysis below indicates that the Project will result in significant air quality and health impacts that have not been identified and/or mitigated. We recommend that the Port recirculate a revised DEIR that addresses the issues discussed below.

These comments were prepared by Dr. Fox, with modelling assistance from Environmental Permitting Specialists.[3] Dr. Fox's resume is included in Exhibit 1A to these Comments. The modeling analyses were prepared by Ray Kapahi at Environmental Permitting Specialists. Mr. Kapahi's resume is included in Exhibit 1B to these comments.

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[2] March 12, 2019, Email from J. Cashman, Port of Stockton, to C. Caro, Adams Broadwell, Joseph & Cardozo, re *Third Request for Access to Documents Referenced in the Draft Environmental Impact Report for Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008) and Second Request to Extend the Public Review and Comment Period.*

[3] epsconsulting.org.

AB-21 cont.

Dr. Fox has over 40 years of experience in the field of environmental engineering, including air emissions and air pollution control; greenhouse gas (GHG) emission inventory and control; water quality and water supply investigations; hazardous waste investigations; risk of upset modeling; environmental permitting; nuisance investigations (odor, noise); environmental impact reports (EIRs), including CEQA/NEPA documentation; risk assessments; and litigation support. She has MS and PhD degrees in environmental engineering from the University of California at Berkeley and is a licensed professional engineer in California.

She has prepared comments, responses to comments and sections of CEQA and NEPA documents on air quality, greenhouse gas emissions, water supply, water quality, hazardous waste, public health, risk assessment, worker health and safety, odor, risk of upset, noise, land use, traffic, and other areas for well over 500 CEQA and NEPA documents. This work includes EIRs, EISs, Initial Studies (ISs), Negative Declarations (NDs), and Mitigated Negative Declarations (MNDs). My work has been specifically cited in two published CEQA opinions: *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (2001) 111 Cal. Rptr. 2d 598, and *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal. 4th 310; and has supported the record in many other CEQA and NEPA cases.

AB-22

2. THE DEIR FAILED TO SUPPORT EMISSION CALCULATIONS

The air quality and health risk assessment (HRA) analyses depend directly on criteria pollutant and hazardous air pollutant (HAP) emissions from truck transit, onsite truck idling, line haul locomotives, switcher locomotives, oceangoing vessels (OGVs) at berth, OGVs in transit, tugboats in transit, and tugboats at berth. The emission calculations in Appendix B: Emission Calculation Tables,[4] of Appendix E: Air Quality and Greenhouse Gas Report, are wholly unsupported.

Emissions are estimated from activity data (e.g., number of trips), engine model (e.g., Tier 1, 2), and emission factors (e.g., grams per gallon of fuel). The emission estimates involve complex Excel spreadsheet calculations. It is standard practice to supply the unlocked Excel spreadsheets and citations for all assumptions used in the calculations (e.g., emission factors, trip length, engine type) so that reviewers can evaluate the accuracy of the estimates. This DEIR failed to support the emission calculations that the air quality and health risk assessment relied upon. Further, in cases where we were able to reverse engineer the DEIR's calculations, we discovered many assumptions that do not apply to this Project or that require mitigation measures and enforceable conditions to assure implementation.

We filed three CEQA/PRA requests seeking this documentation.[5] In each case, the responsive information was not supplied. Ultimately, the Port refused to supply support for

[4] DEIR, Appendix B of Appendix E, pdf 255.

[5] See February 6, 2019, Letter from Adams, Broadwell, Joseph & Cardozo ("ABJC") re *Request for Immediate Access to Documents Referenced in the Draft Environmental Impact Report and Public Records – Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008)*; February 22, 2019, Letter from ABJC re *Request to Extend the Public Review and Comment Period for the Draft*

AB-22 cont.

the DEIR's emission calculations and health risk assessment. Thus, we calculated some of the emissions from scratch, using the few scanty hints provided in the DEIR, reverse engineered the DEIR's HRA, and prepared a new HRA from scratch, correcting the numerous errors, omissions, and deceptions we discovered in the emission calculations and HRA included in the DEIR. As discussed below, the errors and omissions that we discovered disclose significant air quality and health impacts that were not identified in the DEIR.

AB-23

3. THE DEIR OMITTED MANY EMISSION SOURCES

In this comment, we focus on the major sources of emissions that were entirely omitted from the DEIR. These omissions result in significant underestimates of air quality, greenhouse gases, and health impacts beyond those discussed elsewhere in these comments. Due to inadequate review time and lack of supporting documents, we were unable to provide estimates for the missing emission sources. The Port's failure to include all emission sources in the DEIR's air quality and health risk assessment requires that a revised DEIR be prepared and recirculated for public review.

3.1. The DEIR Omits Onsite Emission Sources

AB-24

3.1.1. Rail Car Unloading

The Project includes 3,600 rail car visits per year.[6] The DEIR omitted ROG emissions from unloading of railcars, including from fugitive components (PRVs, pressure relief vents, manways, bottom and top fittings), connecting and disconnecting railcars to the loading rack, and sumps that collect spills and predictable drips during railcar unloading.

The unloading rack is individually connected to each railcar, typically with drybreak connectors. When the loading rack is attached and disconnected from the rail cars, some of the product within the connector spills to the ground and evaporates, releasing ROG. The ROG emission drips from hooking up each railcar with the loading rack and disconnecting it can be calculated from the number of railcars per day, the average volume of spilled oil per disconnect (typically 3.2 mL), and the density of product, all of which are known.[7] The DEIR failed to estimate these emissions.

Environmental Impact Report and Public Records – Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008); March 8, 2019, *Third Request for Access to Documents Referenced in the Draft Environmental Impact Report for Contanda Renewable Diesel Bulk Liquid Terminal Development Project (SCH No. 2018102008) and Second Request to Extend the Public Review and Comment Period*.

[6] DEIR, Table 4, pdf 35.

[7] See, *e.g.*, typical calculation in: San Joaquin Valley Air Pollution Control District, Authority to Construct Application Review for the Bakersfield Crude Terminal, LLC, p. 4, July 25, 2012 (Exhibit 2).

AB-25

3.1.2. Truck Loading

The imported renewable diesel would be loaded into trucks and transported to markets in Northern California. The Project includes 17,456 truck visits per year.[8] ROG emissions are released during loading, including from drips, hose disconnects, and sumps that collect spills.

AB-26

3.2. The DEIR Omits Emissions Outside of the SJVAPCD

The DEIR only estimated emissions that occur within the boundary of the SJVAPCD, where the Project site is located.[9] However, CEQA applies to the entire state. Other EIRs that involve train and truck transport through multiple air districts analyze the impacts in each district.[10] Emissions resulting from the Project that occur anywhere in California must be similarly quantified and evaluated, including emissions generated by the transport of materials used during Project construction and operation, and the outgoing transport of renewable diesel fuel from the Project site, not just within the hosting air district.

The Project would receive shipments of renewable diesel via inbound trains from UP and BNSF and from vessels berthed at Wharf 8. The trains would originate from various production facilities located throughout the United States, offloaded at the Contanda Port Road A site, and transferred to the Project site via a new pipeline.[11] The imported renewable diesel would be loaded onto trucks and transported to customers in Northern California.

The DEIR does not identify the source(s) and destination(s) of the product, the route(s) that the trains would take to the Terminal, the destination of the renewable diesel, or the miles traveled in any location other than the hosting air district. These are serious omissions.

The majority of the emissions are from truck, rail, and ship transport, all of which will pass through other air districts. The DEIR only evaluated emissions from the Project site to the SJVAPCD boundary, or 15 miles for OGVs and 88 miles, one way, for trucks.[12] The 88-mile estimate is the average of the distance north (30 mi), south (266 mi), east (26 miles), and west (30 miles) along major freeways.[13] Similarly, for line-haul fuel usage emissions, the major source of rail emissions, the DEIR only evaluated the average of the northern (126 mi) and southern (13

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[8] DEIR, Table 4, pdf 35.

[9] See, *e.g.*, DEIR, Table B-22, pdf 286 ("Distance within San Joaquin Valley (northern route)").

[10] See, *e.g.*, Marine Research Specialists, Phillips 66 Company Rail Spur Extension and Crude Unloading Project Final Environmental Impact Report and Vertical Coastal Access Project Assessment, Prepared for San Luis Obispo County, December 2015, Exhibit 3; and City of Benicia, Valero Benicia Crude by Rail Project, Revised Draft Environmental Impact Report, SCH # 2013052074, Use Permit Application 12PLN-00063, August 2015; available at https://www.ci.benicia.ca.us/vertical/sites/%7BF991A639-AAED-4E1A-9735-86EA195E2C8D%7D/uploads/RDEIR-NoAppendics.pdf.

[11] DEIR, p. 32, pdf 51 and Appendix E, Sec. 3.1.3.3, pdf 51.

[12] DEIR, Table 4, pdf 243.

[13] DEIR, Appendix A, pdf 277.

mi) routes, or 69.5 miles,[14] within the SJVAPCD, thus significantly underestimating statewide rail emissions.

This is not a reasonable approach to estimating worst-case impacts, either within the SJVAPCD or elsewhere in California. Trucks and trains would emit significant amounts of pollution along their entire route, not just within the SJVAPCD. CEQA is a statewide statute. CEQA documents must evaluate impacts in all affected areas, including along transport routes.

The DEIR notes that "Both UP and BNSF lines serve the Port. In Northern California, the Martinez subdivision, Feather River Canyon, and Donner Pass routes serve the ports of Oakland and Stockton, and are owned and dispatched by UP but serve BNSF through trackage right agreement."[15] The Contanda facility would receive tanker car shipments via inbound manifest trains from UP and BNSF.

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3.2.1. Emissions from Trucks in Transit

The renewable diesel would be transported to unidentified locations in Northern California. The DEIR indicates that 17,456 truck trips per year[16] would be required to transport the imported diesel to local markets. These tanker trucks would emit combustion emissions from their engines within the Bay Area Air Quality Management District (BAAQMD), including NOx, ROG, PM10, PM2.5, CO, and SOx and ROG emissions from various fittings and drips during transit and unloading. The DEIR does not include any of these emissions. The emissions from these sources within the BAAQMD must be quantified, summed with other Project sources within the BAAQMD, and compared with BAAQMD CEQA significance thresholds.

AB-28

3.2.2. Emissions from Oceangoing Vessels

The Project includes 12 OGV calls per year.[17] These OGVs and supporting tug boats would operate within the BAAQMD. The emissions from these sources within the BAAQMD must be quantified, summed with other Project sources within the BAAQMD, and compared with BAAQMD CEQA significance thresholds.

AB-29

3.2.3. Emissions from Trains in Transit

The Project will import renewable diesel by rail using the Union Pacific Railroad (UPRR) and the BNSF Railway (BNSF).[18] These carriers use routes that pass through many other air

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[14] DEIR, Appendix A, pdf 286.

[15] DEIR, p. 109, pdf 128. See also p. 111, pdf 130.

[16] DEIR, Table 3, pdf 242 and Table 4, pdf 35.

[17] DEIR, Table 3, pdf 242 and Table 4, pdf 35.

[18] DEIR, pdf 47.

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districts. See Figure 1.[19] The emissions from trains within all affected air districts must be quantified and compared with each district's CEQA significance thresholds.

Figure 1: Union Pacific and BNSF Railroad Lines

3.2.4. Locomotive Emissions

Locomotives emit significant amounts of criteria pollutants and DPM. The DEIR only estimated emissions within the SJVAPCD. The length of rail lines in the SJVAPCD comprises a very tiny fraction of the total distance the trains would travel through other air districts to

[19] From https://www.up.com/cs/groups/public/@stddocs/@customers/documents/up_pdf_nativedocs/pdf_up_i5_region_map.pdf.

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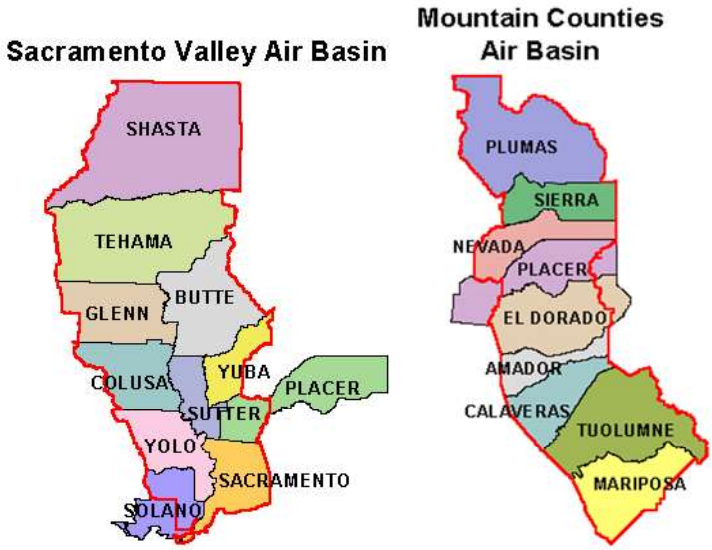
transport Project-related materials and renewable diesel fuel to the Project site. Some of the air districts that would be affected are shown in Figure 2.[20]

Figure 2: Air Districts Affected by the Project



Routes that pass through these other air districts would have much higher emissions than the short segments within the SJVAPCD considered in the Project DEIR. For example, routes that pass over the Sierra Nevada (the Modoc Line route over Donner Pass in eastern Placer County past the City of Truckee to Reno and via the Feather River Corridor via Winnemucca to Reno) are subject to the highest emissions in California due to the locomotives operating at maximum load while navigating the switch-backs up and down the steep slopes of the Sierra Nevada. These emissions could result in significant air quality impacts in these other air districts, as well as significant public health impacts to communities along the rail lines.

The DEIR should be revised to estimate criteria pollutant and DPM emissions in all air districts through which the Project trains travel and compare them to significance thresholds of each affected air district. Further, the DEIR should be revised to include a health risk analysis for communities along any of these potential routes. When preparing such a health risk analysis, care must be taken to use emission factors appropriate to mountainous areas rather than the generic annual average factors used in the DEIR.[21]

AB-30

3.2.5. Rail Car Evaporative Emissions

In addition to emissions from locomotive engines, the rail cars transporting renewable diesel will emit ROG. The DEIR argues that renewable diesel has a very low vapor pressure

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[20] From https://www.arb.ca.gov/ei/maps/basins/abmcmap.htm and https://www.arb.ca.gov/ei/maps/basins/absvmap.htm. Maps not to scale.

[21] CARB, 2016 Line Haul Locomotive Model & Update, October 2017; available at www.arb.ca.gov/msei/ordiesel/locolinehaul2017ei.docx.

AB-30 cont

and therefore did not include any ROG emissions from any source at the Project site (e.g., storage tanks, loading and unloading). However, during periods of high temperature, ROG would be emitted from onsite storage tanks, fugitive components, and tanker cars during transport to the site as well as during railcar unloading and tanker truck loading at the site.

In summer, it can be over 100 degrees Fahrenheit in areas that the trains would pass through (Figure 1), including the Port itself and the entire Central Valley. This leads to fugitive losses from the rail cars through pressure relief valves while in transit or parked at the Port. The DEIR makes no mention of fugitive emissions from railcars or tanks. Fugitive HAP emissions from these sources should be estimated and included in the air quality and health risk assessments for the Project.

Further, when trains travel in mountainous terrain, which occurs along the routes Project trains will use, the contents of the railcars are sloshed about, outgassing ROG and creating pressure surges which can push headspace gases out of tiny openings in connectors, valves, vents, and PRVs. These high-pressure surges created by sloshing are often great enough to exceed the pressure relief vent disc burst pressure, leaving the vent open for the remainder of the trip. This is a well-known problem in rail transportation that has been studied but not eliminated.[22] Further, as the transported fuel warms up, it expands, and the internal pressure of the tank car increases. Pressure relief valves are used to periodically relieve this pressure to ensure the internal pressure does not increase to dangerous levels, damaging the car shell. Both of these events result in direct releases of ROG to the environment. These emissions were not included in the DEIR.

Industry literature identifies many more sources of railcar fugitive leaks, including the fill hole cover, manway cover, stuffing box for bottom outlet valve, bottom outlet, loading/unloading valves, air inlet valve, vacuum release valve, liquid line flange, gauging devices, sample lines, thermometer wells, heater coils, washout nozzle/plate, leaks in liquid lines, and leaks at welds. Pressure relief devices—e.g., rupture discs or safety vents—may also be present.[23] These remain open for the duration of the trip if triggered by pressure surges. In contrast, a pressure relief valve or PRV is spring-loaded and recloses after excessive pressure in the tank. Each of these components may release ROG into the atmosphere even if the

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[22] M. R. Saat, C. P. L. Barkan, and T. T. Treichel, Statistical Approach to Estimating Surge Pressure Reduction Devices' Performance, Railway Supply Institute Report R-974, November 2005; available at https://www.aar.org/wp-content/uploads/2018/02/AAR-RA-05-01-SPRD-Peformance-Saa-2005-NAR.pdf.

[23] See, *e.g.*, Charles J. Wright, Assessing Tank Car Damage, Union Pacific Railroad, Participant's Manual: Tank Car Safety Course, July 2007; available at http://www.chagrinsehazmat.com/PDF%20Documents/RestrictedFiles/PDF%20Files/Tank_Car_Damage_Assessment.pdf; Association of American Railroads, Field Guide to Tank Cars, 2017; available at https://www.ethanolresponse.com/wp-content/uploads/2017/02/2017-Field-Guide-for-Tank-Cars.pdf ; Tank Car Loading and Unloading, May 8, 2014; available at https://www.youtube.com/watch?v=1PzNbQlvgDw; TransQuip USA, General Service Car Fittings 101; available at www.fra.dot.gov/Elib/Document/3441.

components or associated gaskets are properly sealed. They release substantially more if not properly sealed.

AB-31

3.2.6. Ambient Air Quality Impacts

Locomotive emissions released during transport from the California border to the Project site do not stay put where they are emitted due to winds and other atmospheric phenomena. Pollutants generated in one air basin do not necessarily stay in that basin but rather are transported under certain weather conditions from one air basin to another (referred to as "interbasin transport"). Thus, pollutants generated in one basin can contribute to air pollution in adjacent basins. Interbasin transport among three adjacent air basins that would be impacted by the Project is known to impact ozone and particulate matter concentrations, as illustrated in Figure 3 below. [24]

Figure 3: Interbasin Transport of Pollutants

The CARB and others have conducted numerous technical assessments of transport relationships between air basins in California.[25] These studies demonstrate that the Mountain Counties Air Basin violates ozone standards due to transport of pollutants from the Sacramento Valley Air Basin, the San Joaquin Valley Air Basin and the San Francisco Bay Area Air Basin.

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[24] CARB, Ozone Transport: 2001 Review, April 2001 (hereafter "CARB 2001 Ozone Transport Review"); http://www.arb.ca.gov/aqd/transport/summary/transportsummary.doc.

[25] See, *e.g.*, CARB 2001 Ozone Transport Review, *op. cit.*; and BAAQMD, Characterization of Inter-Basin PM and Ozone Transport for the Bay Area, March 2010; http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Research%20and%20Modeling/PM%20and%20ozone%20transport%20cluster%20analysis%20report.ashx.

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Air quality in the broader Sacramento area is impacted by transport from the San Francisco Bay Area and, infrequently, from the San Joaquin Valley. On some days when the state standards for ozone are violated, the Sacramento area is impacted by transport of pollutants from the Bay Area. This occurs when there is a slight to moderate Delta breeze in the morning, which can carry commute-hour emissions into the Sacramento area to mix with local emissions and react with the summer sun to produce ozone.

Because the air basins through which Project trains would pass are interconnected by weather patterns, resulting in interbasin pollutant transport, the impact of the Project also should be evaluated cumulatively for the entire impacted area, rather than just in the SJVAPCD as analyzed in the DEIR. CEQA is a statewide statute, not a basin-by-basin statute, requiring that regional impacts be evaluated.

Most of the affected area currently violates California's 8-hour ozone ambient air quality standard, as shown in Figure 4.[26] (Nonattainment areas are crosshatched.)

Figure 4: 2013 Area Designations for State Ambient Air Quality Standards for Ozone

Most of the population in the affected air basins currently live in areas that also violate the federal 8-hour ozone ambient air quality standard. Figure 5.[27]

[26] From http://www.arb.ca.gov/desig/adm/2013/state_o3.pdf.

[27] From http://www.arb.ca.gov/desig/adm/2013/fed_o3.pdf.

AB-31 cont

Figure 5: 2013 Area Designations for Federal 8-hour Ambient Air Quality Standard for Ozone

Both ROG and NOx from locomotives and railcars transporting renewable diesel are converted into ozone in the atmosphere. Thus, the increase in Project emissions from locomotives and onsite sources will increase ozone concentrations, aggravating existing exceedances of ozone standards set to protect public health. These are serious impacts with serious consequences that should result in denial of the Project if they are not analyzed and mitigated.

AB-32

4. AIR QUALITY IMPACT MITIGATION IS INADEQUATE

The DEIR concluded that Project operation within the SJVAPCD would result in significant air quality impacts, including: (1) conflicting with and/or obstructing implementation of air quality control plans (AQ-1);[28] (2) annual operational emissions of NOx exceeding 19 ton/yr (AQ-2);[29] and (3) a cumulatively considerable net increase in NOx.[30] To mitigate these significant impacts, the DEIR proposes only two mitigation measures—truck idling reductions (MM-AQ-1) and the use of clean trucks (MM-AQ-2)—concluding that emissions would remain significant after mitigation because NOx emissions largely originate

[28] DEIR, pp. 32-33, pdf 51-52.

[29] DEIR, Table 13, pdf 53-54.

[30] DEIR, p. 37, pdf 56.

AB-32 cont

from locomotives and trucks that are not within Contanda's power to mitigate.[31] No mitigation at all is proposed for the significant cumulative NOx impacts.

First, idling restrictions are required by state law and thus are not valid mitigation. Second, there is additional feasible mitigation that must be required under CEQA because the impacts remain significant. These include Voluntary Emission Reduction Agreements (VERAs) and offsets.

AB-33

4.1. Voluntary Emission Reduction Agreements

The significant increase in NOx emissions could be fully mitigated using voluntary emission reduction agreements, or VERAs. Various agencies already use them as CEQA mitigation, as discussed below. A *Voluntary Emission Reduction Agreement* would require Contanda to make a one-time payment for its ROG and NOx emissions in excess of significance thresholds to each affected air district.

Kern County has used Development Mitigation Contracts (DMCs) to mitigate CEQA impacts since 2008. They are mandated by enforceable mitigation measures under CEQA and thus are called DMCs.[32]

The SJVAPCD uses VERAs to implement its Rule 9510 and to address mitigation requirements under CEQA. Under a VERA, the developer (in this case Contanda) fully mitigates project emission impacts by providing funds to the SJVAPCD, which are then used by the District to administer emission reduction projects on behalf of the developer. These agreements are incorporated into the SJVAPCD's CEQA Guidelines, which explain:

> Design elements, mitigation measures, and compliance with District rules and regulations may not be sufficient to reduce project-related impacts on air quality to a less than significant level. In such situations, project proponents may enter into a Voluntary Emission Reduction Agreement (VERA) with the District to reduce the project related impact on air quality to a less than significant level. A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of air emissions increases through a process that funds and implements emission reduction projects. A VERA can be implemented to address impacts from both construction and operational phases of a project.
>
> To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds to the District. The District's role is to administer the implementation of the VERA consisting of identifying emissions reductions projects, funding those projects and verifying that emission

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[31] DEIR, p. 33-37, pdf 52-56.

[32] Kern County, Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance—2015, 2015, p. 4.3-49, 4.3-102/103; http://pcd.kerndsa.com/planning/environmental-documents/421-oil-gas-deir.

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reductions have been successfully achieved. The VERA implementation process also provides opportunity for the project proponent to identify specific emission reduction projects to be administered by the District. The funds are disbursed by the District in the form of grants. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

The District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. The initial agreement is generally based on the projected maximum emissions increases as calculated by a District approved air quality impact assessment, and contains the corresponding maximum fiscal obligation. However, the District has designed flexibility into the VERA such that the final mitigation can be based on actual emissions related to the project as determined by actual equipment used, hours of operation, etc. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project specific emissions have been mitigated to less than significant.

To ensure all feasible mitigation measures are incorporated into the project to reduce project air quality impact to less than significant, the District recommends the project proponent (and/or Lead Agency) engage in discussion with the District to have the VERA adopted by the District prior to the finalization of the environmental document. This process will allow the environmental document to appropriately characterize the project emissions and demonstrate that the project impact on air quality will be mitigated to less than significant under CEQA as a result of the implementation of the adopted VERA. The District has been developing and implementing VERA contracts with project proponents to mitigate project specific emissions since 2005. It is the District's experience that implementation of a VERA is a feasible mitigation measure, which effectively achieves the emission reductions required by a Lead Agency, including mitigation of project-related impacts on air quality by supplying real and contemporaneous emissions reductions. Therefore, Lead Agencies should require the project proponent to negotiate a VERA with the District prior to the Lead Agency's final approval of the CEQA document. This allows the Lead Agency to disclose to the public the certainty that the VERA is assuring full mitigation of air quality impacts as specified in the environmental review document or equivalent documentation certified by the Lead Agency.[33]

[33] SJVAPCD, Guidance for Assessing and Mitigating Air Quality Impact, March 19, 2015, pp. 116-117; http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

AB-33 cont

From 2005 through June 30, 2017, the SJVAPCD has entered into over 32 VERAs.[34] VERAs have been identified as mitigation measures within other environmental documents that underwent public review under CEQA.[35] Types of projects that have been funded include electrification of stationary internal combustion engines (such as agricultural irrigation pumps, present throughout the subject air districts), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacing old farm tractors. The SJVAPCD has repeatedly concluded that a VERA "is a feasible mitigation measure under CEQA, effectively achieving emission reductions necessary to reduce impacts to a less than significant level."[36]

This approach, for example, was recently proposed by Kern County to mitigate impacts from oil and gas drilling and was vigorously upheld in the response to comments, concluding that it is "an enforceable mitigation measure that will effectively 'zero out' new project emissions of NOx, PM10, and ROGs by generating equivalent emissions reduction through equipment replacements and other measures funded by the mitigation fees."[37] Other air districts also use this approach, including Placer County APCD and Sacramento Metropolitan AQMD.[38]

This approach has been found legally sufficient by court rulings in the following cases: *California Building Industry Assn. v. San Joaquin Valley APCD*, Fresno County Case No. 06 CECG 02100 DS13; *National Association of Home Builders v. San Joaquin Valley Unified Air Pollution Control District*; Federal District Court, Eastern District of California, Case No. 1:07-CV-00820-LJO-DLB; and *Center for Biological Diversity et al v Kern Count*y, Fifth Appellate District, Case No. F061908.

The Port should require the use of a VERA as binding mitigation to reduce the Project's significant and unavoidable air quality impacts. Under such an agreement, Contanda would pay an air emission mitigation fee pursuant to an agreement between the Port of Stockton and the SJVAPCD to fully offset new emission increases. The SJVAPCD would then use the fees to reduce emissions within the district. The SJVUAPCD has found that the cost for NOx reductions is $8,123 per ton.[39]

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[34] SJVAPCD, 2017 Annual Report, Indirect Source Review Program, Reporting Period: July 1, 2016 to June 30, 2017, pp. 5, 9; https://valleyair.org/ISR/Documents/2017-ISR-Annual-Report.pdf.

[35] SJVAPCD, Summary of Comments and Responses to Proposed Revisions to the GAMAQI-2012, May 31, 2012, p. 3; https://www.valleyair.org/transportation/GAMAQIDRAFT-2012/GAMAQIResponsetoComments5-10-12%20.pdf.

[36] SJVAPCD 2017, pp. 5, 9.

[37] Kern County Oil & Gas FEIR, Responses to Comments, September 2015, pp. 7-184/185; http://psbweb.co.kern.ca.us/UtilityPages/Planning/EIRS/oil_gas/RTC/Oil_Gas_FEIR_Vol3_Chapter_7.2.1.pdf.

[38] RDEIR, p. 2-38.

[39] SJVAPCD 2017, Table 3, pdf 11.

AB-33 cont

The voluntary mitigation program would have to be designed to assure that impacts are reduced at the place and time that they actually occur—i.e., continuously in areas in the vicinity of the rail lines. For example, emissions from rail lines that pass through large areas of national forest and irrigated farm lands could be mitigated under VERAs by replacing diesel-fuel equipment used by the Forest Service or by electrifying irrigation pumps. Emissions from rail lines that pass through residential areas could be mitigated by installing solar panels on homes and commercial buildings in the vicinity of the rail tracks, or by replacing fireplaces and wood burning stoves with more efficient heating methods.

AB-34

5. HEALTH RISKS ARE SIGNIFICANT

The DEIR includes a health risk assessment (HRA) to estimate potential cancer and chronic noncancer health impacts from exposure to toxic air contaminants (TACs) during Project construction and operation.[40] The HRA asserts it was conducted in accordance with SJVAPCD HRA guidance (SJVAPCD 2018) and Office of Environmental Health Hazard Assessment (OEHHA) Guidance,[41] using US EPA's AERMOD dispersion model and CARB's Hotspots Analysis Reporting Program (HARP), and the Risk Assessment Standalone Tool (RAST).[42] However, as discussed below, this guidance was not followed. Further, emissions were underestimated, thus underestimating risks; hours of operation were restricted to avoid periods when ambient concentrations are the highest, and source locations were modified to avoid residential areas. These and other assumptions buried in the modeling files minimize health risks but are not required as enforceable conditions. Finally, acute health impacts and worker health risks were not estimated and are highly significant at many sensitive receptors, including school children and residents.

AB-35

5.1. General Modeling Issues

Our review of the modeling files produced in response to PRAs indicates that the HRA did not follow OEHHA guidance and did not properly use HARP or RAST. Further, the risk assessment methodology used deviated substantially from standard procedures and in every case, the deviations underestimated health impacts. The DEIR appears to have made a deliberate attempt to hide the very significant health risks that would occur at nearby sensitive receptors, including workers, school children at Washington Elementary, and residents within the Seaport Neighborhood, which covers areas along I-5.[43]

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[40] DEIR, Appendix E, Air Quality and Greenhouse Gas Report, Section 3. Health Risk Assessment, pdf 244-296.

[41] Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, February 2015; available at https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[42] DEIR, Appendix E, pdf 244.

[43] Seaport District Neighborhood in Stockton, California; available at: http://www.city-data.com/neighborhood/Seaport-District-Stockton-CA.html.

AB-35 cont

First, OEHHA Guidelines the DEIR asserts were followed require that the dispersion model be run using a modeling grid of sufficient extent and density so as to capture the point of maximum risk. The OEHHA risk assessment guidance, for example, explains:[44]

> **4.7.1 *Receptor Points***
>
> The modeling analysis should contain a network of receptor points with sufficient detail (in number and density) to permit the estimation of the maximum concentrations. Locations that must be identified include:
>
> - The maximum estimated off-site impact or point of maximum impact (PMI),
> - The maximum exposed individual at an existing residential receptor (MEIR),
> - The maximum exposed individual at an existing occupational worker receptor (MEIW).

Second, the California Air Pollution Control Officers Association's (CAPCOA's) HRA guidance discusses the various types of receptor grids that can be used[45] and notes that "[t]he receptor grid must be designed to include the Point of Maximum Impact (PMI)."[46] This guidance was prepared specifically to assist lead agencies in complying with the requirements of CEQA.[47]

There is no evidence in the record that the HRA followed either guidance. The Port produced modeling files indicate that AERMOD was run using a grid with over 1,000 receptors. However, the risk calculations reported in the produced files and the DEIR are for a single point, preventing any meaningful review of the location of the PMI as reported in the DEIR. Thus, the DEIR has failed to disclose all of the information required by reviewers to assess its conclusions, especially members of the public without the ability to interpret the modeling files.

Third, it is standard practice in CEQA documents to summarize health risks on isopleth maps (an isopleth is a line connecting points of a given value) showing the spatial distribution of risk. The HRA failed to display the results of its analysis on a map or identify the physical location of the sensitive receptor(s). The absence of an isopleth map deprives the public and potentially affected parties of determining if they are at risk and makes it impossible to determine if the risk values reported in the DEIR are for the PMI, which is the metric used to judge significance.

Fourth, the underlying air dispersion model, AERMOD, is typically run with HAP emissions of 1 gram/sec for each source and the annual HAPs are specified in the emissions inventory of the HARP model in grams/sec (g/sec). This makes it transparent as to how the modeling and risks were calculated. The AERMOD files produced in response to our PRA did not show input emission rates in grams/sec but rather in grams/square meter/sec and then

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[44] OEHHA February 2015, Section 4.7.1.

[45] CAPCOA, Health Risk Assessments for Proposed Land Use Projects, July 2009, Sections 6.1 and 6.2; available at http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

[46] CAPCOA, p. 70.

[47] *Id.*, p. 1.

AB-35 cont

magically reported the risk results in the HARP model output with no support for the intervening steps. Thus, the risk results are not supported in the record.

Fifth, construction emissions were modeled as a single polygon line area source. The assumed area could not be determined from the AERMOD output files produced in response to our PRAs.[48] As a result, it was not possible to determine if peak emissions from point sources were diluted over a large area. Our results suggest they were.

Finally, we note that the cancer risks from both the construction and operational phases are identical in the HRA.[49] It is hard to imagine, given the short duration of the construction phase and lower DPM emissions (366 lb/yr for construction versus 616.4 lb/yr for operational emissions), that both cancer risks would be identical and the location of the maximum risk at the same location.

Due to these and other issues discussed below, we prepared an HRA from scratch for the Project, following the standard procedures asserted to have been followed in the DEIR (but which were not) and the emission rates calculated in Appendix B of Appendix E of the DEIR, corrected where we found errors, as documented below. When the cited guidance is followed and errors and omissions are corrected, construction and operational cancer risks and acute health impacts from DPM emissions are highly significant and unmitigated.

AB-36

5.2. Construction Health Risk Assessment

The DEIR concluded that health impacts from construction were not significant because the estimated cancer risk is less than the SJVAPCD significance threshold of 20 in one million.[50] However, the construction health risk assessment in the produced electronic files is inconsistent with information reported in the DEIR. The DEIR's construction health risk assessment is incomplete and riddled with errors. Further, the selected cancer significance threshold (20 in one million) is inconsistent with OEHHA guidance (<10 in one million), which the DEIR asserts it relied on.

First, the DEIR's discussion of construction health risks is internally inconsistent. It reports that the maximum construction and operational cancer health risks are equal. This is simply implausible, given the significant differences in exposure duration (1 yr versus 30 yrs), emission rates, and the geometry/layout of the sites. The files produced in response to our PRAs indicate that operational emissions were modeled as a combination of eight point and line sources, while construction emissions were modeled as a single ground-level area source. Thus, on its face, there is a significant error in reporting the results of the health risk assessments. The errors we discovered after reviewing the DEIR's hard copy input files and correcting the many errors in its analysis, are discussed below. No electronic files were produced, only hard copies of the input.

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[48] DEIR, pdf 327.

[49] DEIR, Appendix E, Table 8, pdf 248.

[50] DEIR, Appendix E, p. 7, pdf 247.

AB-36 cont

The DEIR reports the construction cancer risk at the nearest residential receptor of 6.972 E-6[51] in summary Table 8 of Appendix E, which is less than the assumed significance threshold of 20 in one million.[52] However, elsewhere the DEIR reports that construction risks were estimated using a DPM emission rate of 0.183 ton/yr (366 lb/yr),[53] which the DEIR asserts yielded a maximum annual DPM concentration at the nearest residential receptor of 0.03922 $\mu g/m^3$.[54]

These two sets of numbers are inconsistent. The OEHHA cancer potency value for DPM is 3.0 E-4 $(\mu g/m^3)^{-1}$.[55] Converting the maximum annual DPM concentration of 0.03922 $\mu g/m^3$ to cancer risk yields a construction cancer risk of 12 in one million[56] at the nearest residence, or nearly double the value reported (6.972 in one million) in summary Table 8.[57] Thus, the resulting construction cancer risk based on the asserted modeling inputs and outputs in the DEIR is at least 12 in one million. The actual cancer risk to onsite workers, offsite workers, and residents is much higher, when numerous other errors and omissions are corrected, as discussed below.

The OEHHA's risk assessment guidelines for short-term construction exposures,[58] which the DEIR asserts it relied on, recommends the use of a lower cancer significance threshold than the 20 in 1 million used in the DEIR for short-term exposures, such as during construction. The OEHHA guidelines specifically conclude that a dose delivered over a short time period, such as during construction, may have a different potency than the same dose delivered over a lifetime and recommends:[59]

> each District. There is valid scientific concern that the rate of exposure may influence the risk – in other words, a higher exposure to a carcinogen over a short period of time may be a greater risk than the same total exposure spread over a much longer time period. In addition, it is inappropriate from a public health perspective to allow a lifetime acceptable risk to accrue in a short period of time (e.g., a very high exposure to a carcinogen over a short period of time resulting in a 1×10^{-5} cancer risk). Thus, consideration should be given for very short term projects to using a lower cancer risk trigger for permitting decisions.

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[51] This is equivalent to 6.972 cancer cases per million exposed, alternatively expressed as "6.972 cases in one million."

[52] DEIR, Appendix E, Table 8, pdf 248.

[53] DEIR, Appendix E, pdf 245.

[54] DEIR, Appendix E, p. 5, pdf 245.

[55] OEHHA, Appendix A: Hot Spots Unit Risk and Cancer Potency Values, p. A-3; available at https://oehha.ca.gov/media/downloads/crnr/appendixa.pdf.

[56] The OEHHA cancer potency value for DPM is 3.0 E-4 $\mu g/m^3$. Thus, construction cancer risk = (0.03922 $\mu g/m^3$)(3.0E-4/$\mu g/m^3$) = 1.177E-5 or 12 excess cancers in one million.

[57] DEIR, Appendix E, Table 8, pdf 248.

[58] OEHHA, February 2015, p. 8-18, pdf 199.

[59] *Ibid*.

AB-36 cont

This guidance recommends using a cancer significance threshold for short-term exposure, such as during construction, of less than 10 in one million. The calculations above, using the applicant's modeled maximum DPM concentration at the nearest residential receptor, exceeds 10 in one million. Thus, based on the Applicant's analysis and OEHHA guidance, which the DEIR alleges it followed, DPM emissions from Project construction would result in significant cancer risks to nearby residential receptors. This is a significant impact that was not disclosed in the DEIR and which must be mitigated.

AB-37

Second, the construction HRA failed to evaluate health impacts to on-site construction workers, who are the mostly highly exposed individuals, or nearby offsite workers.[60] The DEIR only reports the maximum construction cancer risk at the maximum offsite residential receptor, a residence at the northwest corner of S. Ventura Avenue and W. Washington Street. This is the same receptor as for Project operation.[61] However, the maximum worker cancer risk would occur on site, or at closer industrial facilities where workers are found. As discussed in Comment 5.8, acute impacts at industrial facilities in the surrounding area, such as Contanda's adjacent terminal at Port Road A, are significant. Therefore, accurate representation of individual construction emission sources is required.

OEHHA risk assessment guidance that the DEIR alleges it relied on specifically requires an offsite worker scenario.[62] The DEIR fails to calculate construction cancer risk at these closer receptors, which would have even higher cancer risk than the maximum offsite residential receptor, which is significant. Thus, cancer risks to onsite workers, offsite workers, and local residents are significant and must be mitigated.

AB-38

Third, while we did not reverse engineer and correct the DEIR's construction HRA due to inadequate review time and incomplete production of supporting modeling files, the same errors, omissions, and unsupported "adjustments" to source locations that we found in the operational HRA (Comment 5.3) are present in the construction worker cancer risk analysis, which the DEIR variously estimated to be below 10 in one million. The revised HRA that we prepared for operational health risks provides compelling data to suggest worker health impacts during construction would also be significant and should be presented in a revised and recirculated DEIR.

AB-39

Fourth, the DEIR does not include a cumulative construction (or operational) HRA. The DEIR indicates that 19 projects would occur close by, which are in progress or just completed.[63] The construction of all of these projects would emit DPM that would affect many of the same

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[60] Section 8.2.4, p. 8-6, pdf 188.

[61] DEIR, Appendix E , pdf 245.

[62] OEHHA, February 2015, Section 4.7.1 (See, *e.g.*, "The modeling analysis should contain a network of receptor points with sufficient detail [] to permit the estimation of the maximum concentration. **Locations that must be identified include: [] The maximum exposed individual at an existing occupational worker receptor (MEIW).**" Emphasis added.)

[63] DEIR, Table 21, pdf 137-138.

sensitive receptors as the Project's construction. The DEIR fails to present DPM emissions for these projects for construction or operation. It also fails to prepare a cumulative construction or operational HRA. Thus, the DEIR fails as an informational document under CEQA.

AB-40

Fifth, the construction HRA did not include worker receptors. The highest health impacts will occur at other businesses located adjacent to the proposed Project site.

AB-41

Sixth, because the DEIR's analysis shows that construction cancer risks exceed OEHHA's recommended significance threshold of 10 in one million, the DEIR must include construction mitigation. None is recommended. The following summarizes frequently recommended measures to control emissions of DPM from construction that were not identified in the DEIR and that have been required in other CEQA documents and recommended by various air pollution control districts (e.g., BAAQMD[64]) and other public agencies. The following is a partial list:

- Maintain all construction equipment in proper tune according to manufacturer's specifications and use an ASE-certified mechanic to check the equipment and determine it to be running in proper condition before it is operated (CalAm IS/MND[65]; Chevron FEIR[66]).
- Diesel-powered equipment shall be replaced by gasoline-powered equipment whenever feasible (CalAm IS/MND, Chevron FEIR).
- The engine size of construction equipment shall be the minimum practical size (CalAm IS/MND).
- Catalytic converters shall be installed on gasoline-powered equipment (CalAm IS/MND).
- Signs shall be posted in designated queuing areas and job sites to remind drivers and operators of the idling limit (CalAm IS/MND, Chevron FEIR).
- Diesel equipment idling shall not be permitted within 1,000 feet of sensitive receptors (CalAm IS/MND).
- Engine size of construction equipment shall be the minimum practical size (CalAm IS/MND).
- Construction worker trips shall be minimized by providing options for carpooling and for lunch on site (CalAm IS/MND, Chevron FEIR).

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[64] BAAQMD, CEQA Guidelines, Updated May 2017, Tables 8-2 and 8-2.

[65] 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 (CalAm IS/MND).

[66] Chevron Refinery Modernization Project EIR, March 2014, Chapter 4.8, Greenhouse Gases; available at https://s3.amazonaws.com/chevron/Volume+1_DEIR_r1.pdf and Chapter 5, Mitigation Measure Monitoring and Reporting Program; available at https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf.

AB-41 cont

- Use alternative diesel fuels, such as renewable diesel, Aquazole fuel, Clean Fuels Technology (water emulsified diesel fuel), or O2 diesel ethanol-diesel fuel (O2 Diesel) in existing engines (Monterey County General Plan EIR). [67]
- Modify engines with ARB verified retrofits.
- Repower engines with Tier 4 final diesel technology.[68]
- Convert part of the construction truck fleet to natural gas.[69]
- Use new or rebuilt equipment.
- Use diesel-electric and hybrid construction equipment.[70]
- Use low rolling resistance tires on long-haul class 8 tractor-trailers.[71]
- Use idle reduction technology, defined as a device that is installed on the vehicle that automatically reduces main engine idling and/or is designed to provide services (e.g., heat, air conditioning, and/or electricity) to the vehicle or equipment that would otherwise require the operation of the main drive engine while the vehicle or equipment is temporarily parked or is stationary.[72]

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[67] Monterey County General Plan EIR, Section 6.4.3.3, p. 6-14 ("The EIRs prepared for the desalination plants are expected to require that construction equipment use alternative fuels or other means to reduce their emissions of ozone precursors. Although, depending upon the intensity of construction, there is the potential for a significant impact on air quality from ozone precursors."); available at http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_06_Other_CEQA.pdf. See also Union of Concerned Scientists, Digging Up Trouble: The Health Risks of Construction Pollution in California, November 2009, pp. 23-24; available at: https://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/digging-up-trouble.pdf.

[68] Union of Concerned Scientists, November 2009, p. 23.

[69] This is a mitigation measure used by PG&E to offset NOx emissions from its Otay Mesa Generating Project. See: GreenBiz, Natural Gas Trucks to Offset Power Plant Emissions, September 12, 2000; available at http://www.greenbiz.com/news/2000/09/12/natural-gas-trucks-offset-power-plant-emissions.

[70] Tom Jackson, How 3 Diesel-Electric and Hybrid Construction Machines are Waging War on Wasted Energy, Equipment World, June 1, 2014; available at http://www.equipmentworld.com/diesel-electric-and-other-hybrid-construction-equipment-are-waging-war-on-wasted-energy/; Kenneth J. Korane, Hybrid Drives for Construction Equipment, Machine Design, July 7, 2009; available at http://machinedesign.com/sustainable-engineering/hybrid-drives-construction-equipment; Caterpillar's D7E Electric Drive Redefines Dozer Productivity; available at http://www.constructionequipment.com/caterpillars-d7e-electric-drive-redefines-dozer-productivity.

[71] 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.

[72] EPA Names Idle Reduction Systems Eligible for Federal Tax Exemptions, March 2009, available at http://www.greenfleetmagazine.com/channel/green-operations/article/story/2009/03/epa-names-idle-reduction-systems-eligible-for-federal-excise-tax-exemptions-grn.aspx. See also: Idle Reduction, Wikipedia; available at https://en.wikipedia.org/wiki/Idle_reduction and Diesel Emissions Reduction

AB-41 cont

- Implement EPA's National Clean Diesel Program.[73,74,75]
- Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of PM (BAAQMD).
- Require that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.[76]
- Solicit bids that include these measures.

AB-42

5.3. Operational Health Risk Assessment

The DEIR does not adequately support the operational HRA. The cancer risk ultimately depends on the magnitude, timing, and location of emission sources and meteorological conditions. These assumptions cannot be verified without unlocked spreadsheets that support emission calculations and native format modeling files. These were not included in the DEIR or its appendices, and the Port refused to produce them in response to our record requests.

Our initial review of the operational HRA identified some disturbing inconsistencies that led us to attempt to obtain this missing information to reproduce the DEIR's health risk cancer risk calculations. For example, the DEIR asserts that operational health risks were estimated using a DPM emission rate of 616.4 lb/yr,[77] resulting in a maximum 5-year DPM

Program (DERA): Technologies, Fleets and Project Information, Working Draft Version 1.0; available at https://nepis.epa.gov/Exe/ZyNET.exe/P100CVIS.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000003%5CP100CVIS.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL.

[73] Northeast Diesel Collaborative, Best Practices for Clean Diesel Construction: Successful Implementation of Equipment Specifications to Minimize Diesel Pollution, August 2012; available at https://www.northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf.

[74] U.S. EPA, Cleaner Diesels: Low-Cost Ways to Reduce Emissions from Construction Equipment, March 2007; available at https://nepis.epa.gov/Exe/ZyNET.exe/P1009QEO.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2006+Thru+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C06thru10%5CTxt%5C00000024%5CP1009QEO.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL.

[75] NEDC Model Contract Specification, April 2008; available at https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

[76] BAAQMD, CEQA Guidelines, Updated May 2017, Table 8-3, Measure 13.

[77] DEIR, Appendix E, Table 7, pdf 246.

AB-42 cont

concentration at the nearest residential receptor of 0.0102 μg/m^3.[78] Assuming the asserted concentration of 0.0102 μg/m^3 and using the standard OEHHA cancer potency value for DPM of 3.0 E-4 (μg/m^3)$^{-1}$,[79] yields an operational cancer risk of 3 in one million[80] at the nearest residence, or less than half the value reported in HRA summary Table 8.[81] This and other puzzling inconsistencies between reported risks and emissions in the text of the HRA suggested problems buried somewhere in the HRA calculations.

Thus, we attempted to obtain native electronic versions of the supporting emission calculation and modeling files used to verify the DEIR's reported cancer risk.[82] However, the Port declined to produce electronic versions of supporting modeling and emission files, instead asserting that the modeling files were "privileged." The modeling and emission files were only produced incompletely, mostly in hard copy format, late in the review period, and after commenters had submitted multiple record requests for the files. This required that we duplicate the HRA's results by trial and error. This makes it difficult to reproduce and verify the Applicant's modeling results. This work revealed that many of the HRA inputs were selected to minimize health risks rather than capture local conditions.

Our review of the produced modeling files and supporting emission calculations in Appendix B to Appendix E[83] and our independent analyses indicate there are numerous errors, omissions, and unsupported and undisclosed adjustments of source locations in the DEIR's operational HRA, buried in the modeling files that we obtained via PRAs. These hidden assumptions are not disclosed in the DEIR. All of these "errors, omissions, and unsupported adjustments" underestimate health risks, which, when corrected, indicate that the Project will result in significant residential cancer risks, may result in significant worker cancer risks, as well as highly significant acute health impacts to school children, workers, and residents.

In sum, what we discovered is that the HRA is based on (1) emissions that are lower than reported in supporting emission calculations; (2) restricted hours of operation that would not occur in practice; and (3) relocation of emissions sources (e.g., roads, rail lines, switching locations) to the south and west, away from residential areas.

Most of these "risk favorable" assumptions are not disclosed in the DEIR. While the applicant can select any route and operating hours it chooses, no restrictions are required as conditions of Project operation (e.g., restrictions on truck and train routes, restrictions on hours

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[78] DEIR, Appendix E, pdf 246.

[79] OEHHA, Appendix A: Hot Spots Unit Risk and Cancer Potency Values, p. A-3; available at https://oehha.ca.gov/media/downloads/crnr/appendixa.pdf.

[80] The OEHHA cancer potency value for DPM is 3.0 E-4 μg/m^3. Thus, operational cancer risk = (0.0102 μg/m^3)(3.0E-4/μg/m^3) = 3.06E-6 or 3 excess cancers in one million.

[81] DEIR, Appendix E, Table 8, pdf 248.

[82] See footnote 2, supra.

[83] DEIR, Appendix E: Air Quality and Greenhouse Gas Report, Appendix B: Emission Calculation Tables, pdf 255.

AB-42 cont

when ships and trains arrive and depart, restrictions on emissions based on engine tier, etc.). The HRA's modelling consistently assumes routes and operating hours that minimize impacts. When these assumptions that are buried in modeling files that were not part of the public record are adjusted to reflect the most likely (shortest) routes and operating hours (around the clock), cancer health risk at the maximally exposed individual (MEI) increases from 6.97 in one million reported in the DEIR[84] to 28 in one million, which is highly significant and must be mitigated.

AB-43

5.4. Diesel Particulate Matter Emissions

Diesel Particulate Matter (DPM) is the only HAP included in the HRA. The DEIR reports DPM emissions in three places: (1) in HRA Table 7;[85] (2) in supporting emission calculations in Appendix B of Appendix E; and (3) in the AERMOD input files. Table 1 summarizes these three sources of DPM emissions. This comparison reveals many inconsistences.

Table 1: Operational Diesel Particulate Matter (DPM) Emissions (lb/yr)

Source	HRA Table 7[1]	HRA[2] Modeled	Supporting Calculations
Truck Transit	8.2	8.2	13.1[3]
Truck Idling On-Site	1.7	1.7	1.6[4]
Line Haul Locomotives	3.3	7.9	8.5[5]
Switcher Locomotives	161.3	54.7	208.7[6]
OGVs at Berth	315.2	314.9	239.4[7]
OGVs in Transit	37.7	37.7	76.4[8]
Tugboats in Transit	75.6	75.6	75.6[9]
Tugboats at Berth	13.4	13.4	13.4[10]
TOTAL	616.4	514.1	634.1

[1] DEIR, Appx. B, Table 7, pdf 246.

[2] Calculated from DEIR, Appendix D2, AERMOD Output for Operation. Line source emissions calculated as sum [(emission rate in g/sec-m^2)(length)(width) for line sources].

[3] Truck Transit: DEIR, Appx. B of Appx. E, Table 7, note a, pdf 246: Truck transit modeled to about 1 mile east of project site. Thus, based on Table B-15, pdf 277: transit on-site (2.62 lb/yr) + transit off-site (2 mi/88 mi)(461.35 lb/yr) = **13.1 lb/yr**.

[4] Truck Idling On-Site: DEIR, Appx. B of Appx. E, Table B-15, pdf 277, 2020 on-site truck idling PM2.5 = **1.57 lb/yr**; PM10 = 1.71 lb/yr. Apparently, the DEIR modeled PM10.

[5] Line Haul Locomotives: DEIR, Appx. B of Appx. A, Table 7, pdf 246, note b: Line haul locomotives were modeled to about 1 mile southeast of the project site. Two routes are described: (1) within SJV north to border of SJV and south to Fresno switch location, Tables B-22 & B-24, pdf 286 & 288, average trip length: 161.42 lb/yr/69.5 mi = 2.32 lb/yr-mi one way. (2) within SJV south from Fresno switch location to SJV border, Tables B-23 & B-25, pdf 287 & 289: 305.11 lb/yr/157 mi = 1.94 lb/yr-mi one-way. Assuming the average of these two: [(2.32 lb/yr + 1.94 lb/yr)/2]*4 (2 round trips, in and out) =**8.52 lb/yr.**

[84] DEIR, Table 15, pdf 57; Table 8, pdf 248.

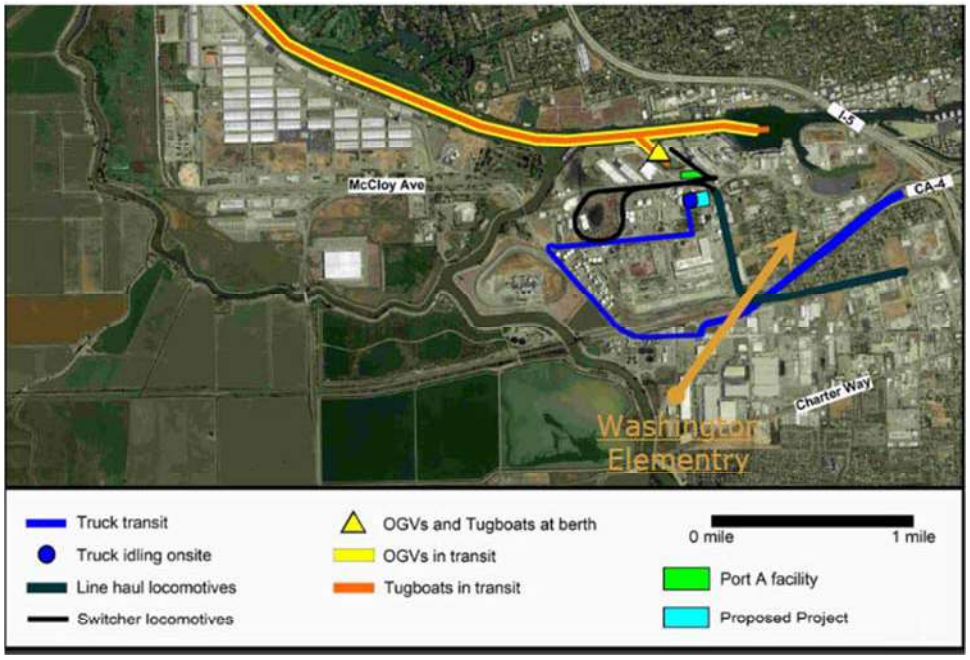
[85] DEIR, Appendix E: Air Quality and Greenhouse Gas Report, Section 3: Health Risk Assessment, Table 7, pdf 246.

[6] Switcher Locomotives: Switcher PM2.5 = **208.68 lb/yr**, DEIR, Appx. B of Appx. E, pdf 285. DPM is not reported but assumed to be equal to PM2.5.
[7] OGVs at Berth: DEIR, Appx. B of Appx. E, pdf 261. Assumes no DPM from boiler. The HRA apparently modeled PM10, rather than DPM, thus overestimating risks.
[8] OGVs in Transit: DEIR, App. B of Appx. E, Table 7, notes c & d: OGV boiler emissions were conservatively treated as DPM and OGV transit was modeled to about 4 miles NW of the project site. DEIR, Appx. B of Appx. E, Tables B-2, B-3, B-9, pdf 262-263, 270: Port Harbor to Berth (Maneuvering) + SJR at Stockton to SJVAPCD Boundary = 25.19 + (4 mi/13 mi)(42.32) = 38.2 lb/yr. The DEIR reports one-way trips, so total round trip = 2 x 38.2 = **76.4 lb/yr**.
[9] Tug Boats in Transit: DEIR, Appx. B of Appx. E, pdf 273, maneuvering.
[10] Tug Boats at Berth: DEIR, Appx. B of Appx. E, pdf 272, harbor craft at berth.

AB-43 cont.

This emission summary indicates that 77% of the DPM emissions come from two sources—the switcher locomotives and OGVs at berth. Figure 6 indicates that these two emission sources are the closest to sensitive receptors (workers, residents, and Washington Elementary School) and thus are the major contributors to health risk. Curiously, the DEIR's HRA modeled train and truck routes that maximize the distance from these sensitive receptors, rather than the shortest routes that would be used in practice. Thus, it is critically important that these emissions be accurately estimated and modeled. They were not.

Figure 6: Location of Emission Sources



5.5. Case 1: Cancer Risk at the Maximum Exposed Individual (MEI) Based on DEIR

The DEIR asserts that residential cancer risks due to Project operation are not significant, based on the DPM emissions in HRA Table 7.[86] However, as discussed in Comment 5.4, the

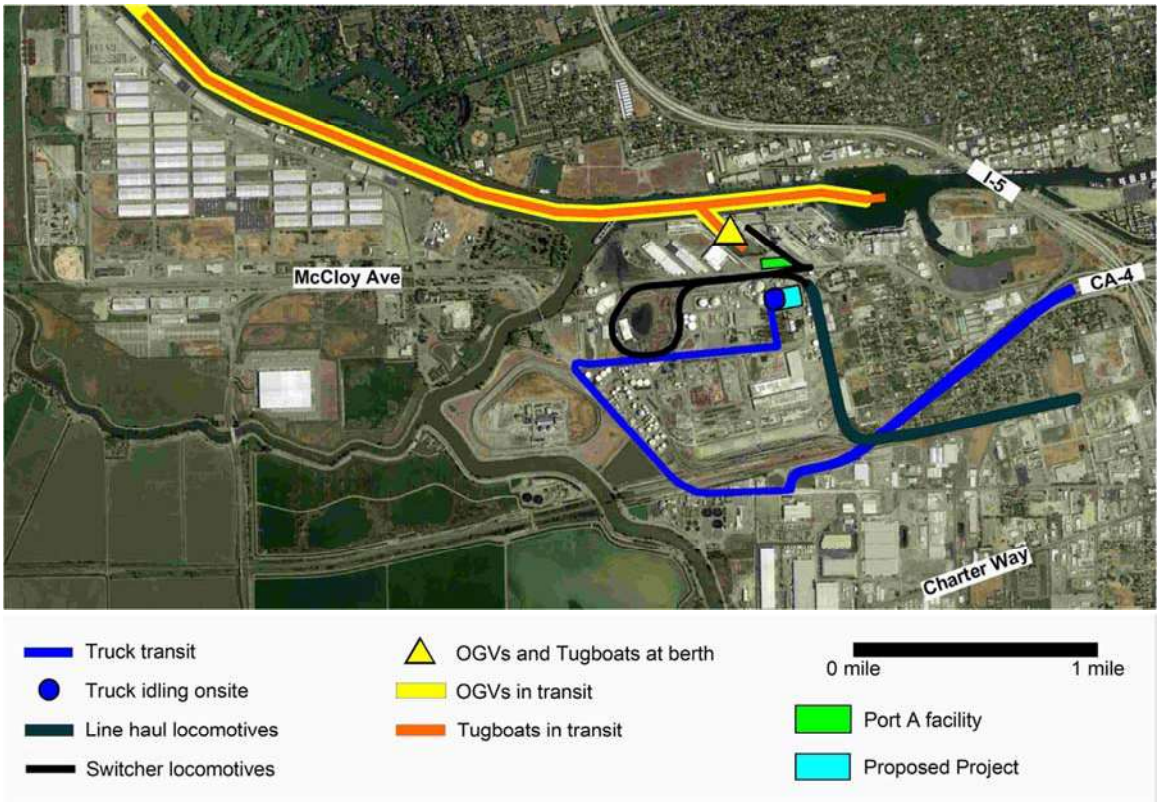
[86] DEIR, Appendix E, Table 7, pdf 246.

AB-43 cont.

DPM emissions that were modeled in the HRA (Table 1) are not consistent with the emissions reported in the HRA nor with the emissions in the supporting emission calculations in Appendix B to Appendix E. The modeled switcher emissions are underestimated by factors of three to four.

Further, we were only able to reproduce the HRA's results by trial and error relocation of line sources, truck routes, and rail lines. Our review indicates that the DEIR's HRA analysis shifted line sources and switcher emissions to the south and west, away from residential areas. Figures 6. The results of our attempt to reproduce the HRA's results, using the modeling files that were produced, are shown in Figure 7[87] and referred to in these comments as Case 1.

Figure 7: Case 1—Location of Truck and Rail Routes Modeled in the DEIR's HRA



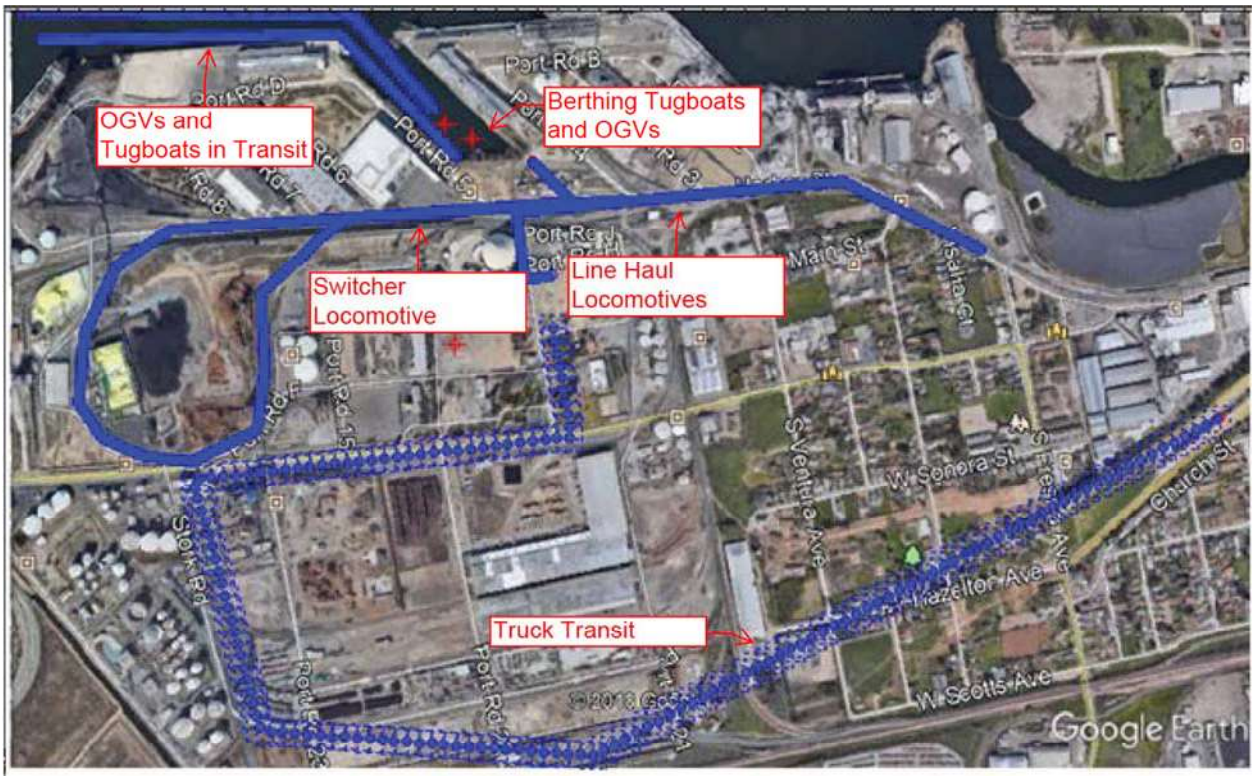
However, our review of Google maps and other information indicates that there are rail lines and truck routes that are shorter and closer to residential areas and would more likely be used in practice. These are shown in Figure 8. Most of the switcher emissions will occur closer to the Project site than shown in Figure 6 because that is where switching operations will take place. Comment 5.6.2.1. Further, trucks are most likely to take the shortest route from I-5 to CA-4, as shown in Figure 8, not the longer route shown in Figure 7. Our review of the HRA modeling files also indicates that the hours of operation of switching and berthing were

[87] DEIR, Appendix A to Appendix E, Figure 3: Representation of Operational Sources in AERMOD, pdf 253.

AB-43 cont.

restricted to daytime hours when dispersion is highest, and thus ambient DPM concentrations are the lowest.

Figure 8: Case 1—Location of Truck and Rail Routes Representing Shortest Distances Modeled in Revised HRA



We attempted to reproduce the DEIR's HRA results by trial and error location of line sources, yielding an MEI cancer risk of 7.4 in one million (Figure 9), compared to the value reported in the HRA of 7.0 in one million.[88] Our results, called Case 1, are presented in Figures 9 and 10. These figures represent our best estimate of future residential risks, given the scope of the Project.

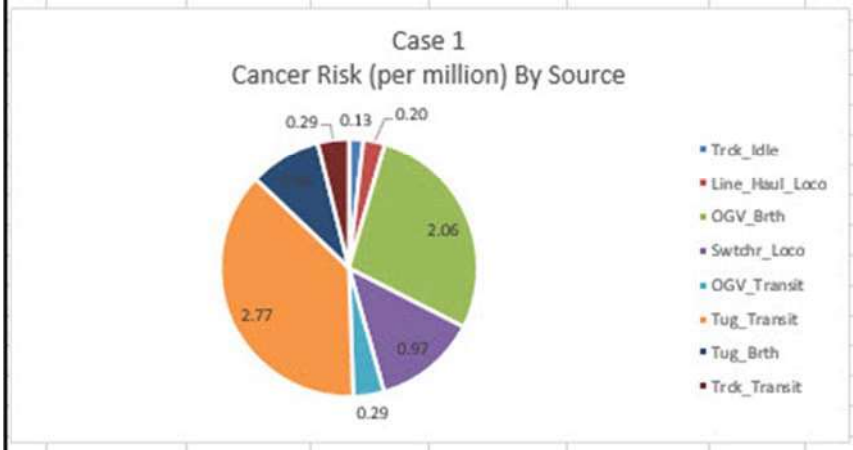
[88] DEIR, Appendix D, Table 8, pdf 248.

AB-43 cont.

Figure 9: Case 1 – Residential Cancer Risk for DEIR Modeling Assumptions

Case 1

Source	lbs/yr DPM	Risk	Risk/Million	Plotted
Trck_Idle	1.7	1.3302E-07	0.1330	0.13
Line_Haul_Loc	7.9	2.0130E-07	0.2013	0.20
OGV_Brth	314.9	2.0609E-06	2.0609	2.06
Swtchr_Loco	54.7	9.6547E-07	0.9655	0.97
OGV_Transit	37.7	2.8519E-07	0.2852	0.29
Tug_Transit	75.6	2.7721E-06	2.7721	2.77
Tug_Brth	13.4	6.6311E-07	0.6631	0.66
Trck_Transit	8.2	2.8827E-07	0.2883	0.29
	514.1	7.369E-06		7.37



AB-43 cont.

Figure 10: Case 1—Cancer Risk Isopleth Map

5.6. Case 2: Revised Cancer Risk Based on Corrected Emissions and Modeling Assumptions

Our analysis in Case 1 indicates that the emissions, facility operating hours, and source locations were adjusted inappropriately to minimize health risks. The DPM emissions in Table 1 indicate that the major contributors to cancer risk are the switcher locomotives. Thus, we reviewed the DEIR's emission calculations and modeling assumptions for this source. As discussed below, this review disclosed many unjustified "adjustments" to source locations, operating hours, and emissions, which, when corrected, indicate that cancer risks due to Project operation are highly significant in nearby residential areas.

AB-44

5.6.1. Switcher Locomotive Emissions

Switcher locomotives work within the railyard and are the closest DPM emission source to sensitive receptors. Our analysis indicates that they are the major source of cancer risk. The DEIR's HRA was based on DPM emissions from switcher locomotives of 54.7 lb/yr,[89] compared to 161.3 lb/yr reported in DEIR Table 7, and 208.7 lb/yr reported in the supporting emission calculations in Appendix B to Appendix E. Table 1. Thus, the DEIR's HRA was based on switcher locomotive emissions that are a factor of three to four times lower than reported in the HRA and supporting emission calculations in Appendix B to Appendix E. The DEIR does not contain any explanation for the discrepancy. Reducing the second largest major source of

[89] Calculated from DEIR, Appendix D2, AERMOD Output for Operation. Line source emissions calculated as sum [(emission rate in g/sec-m^2)(length)(width) for line sources].

AB-44 cont.

nearby DPM emissions by nearly a factor of three significantly underestimates health risks.[90] Further, digging into the supporting calculations, we discovered that the switcher emissions are based on assumptions that would not be achieved in practice without enforceable conditions and that significantly underestimate switcher emissions.

Calculations in DEIR Table B-31 indicate that the switcher DPM emissions in HRA Table 7 were based on 57% Tier 0 engines and 43% Tier 4 engines, where the Tier 4 engines have a substantially lower DPM emission rate (0.304 g/gal) than Tier 0 engines (4.864 g/gal). However, the emissions that were modeled, as summarized in Table 1, assume that 50% of the switcher locomotives are Tier 3 and 50% Tier 4,[91] a highly unlikely and unsupported switcher fleet. We could find no evidence that switcher locomotives at the Port of Stockton are a 50:50 mixture of Tier 3 and 4 engines. Unless the Project's switcher engine tier is limited by an enforceable condition in the DEIR that requires 50% Tier 3 and 50% Tier 4 switcher engines for the lifetime of the Project, the HRA should be based on the worst case, which would be 100% Tier 0 engines. Any such requirement must also limit the entire Port switcher fleet such that higher tier engines that would otherwise service the Project are not shifted to another Port client, defeating the purpose of Project mitigation. The corresponding DPM emissions would be 349 lb/yr,[92] resulting in much higher cancer risks than calculated in Case 2, Figure 11.

AB-45

5.6.2. Switcher Locomotive Modeling Errors

In addition to underestimating emissions included in the HRA modeling, various other modeling assumptions were made that underestimate cancer impacts.

5.6.2.1. Switcher Location

The DEIR asserts that it conservatively assumed in the modeling that all switcher locomotive emissions would occur on the Project site,[93] while the switchers would actually operate throughout the Port of Stockton, without providing any support or any figure demonstrating that the emissions that occurred offsite would not be closer to sensitive receptors than those on the Project site, or disclosing the actual fraction of offsite emissions.

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[90] The HRA also modeled higher line haul locomotive DPM emissions (7.89 lb/yr) than reported in Table 7 (3.3 lb/yr). However, this overestimate has negligible impact on cancer risks as line haul locomotive emissions are a tiny fraction of the total DPM emissions reported in DEIR Table 7.

[91] From DEIR, Appendix B of Appendix E, Table B-19, pdf 285: DPM Emission Factor = (4.864 g/gal)(0.51) + (0.304 g/gal)(0.43) = **2.6114 g/gal**; (208.68 lb/yr)(454 g/lb)/2.61 g/gal = **36,299 gal diesel fuel/yr**. Emission factor assumed in HRA: (54.7 lb/yr/36,299 gal/yr) =(0.0015 lb/gal)(454 g/lb) **= 0.68 g/gal.** The average of the Tier 3 and 4 PM10 emission factors for switcher is (1.216 + 0.304)/2 **= 0.76 g/gal.** Thus, the PM10/DPM emission factor that was modeled in the HRA is roughly the average of the Tier 3 and 4 emission factors. In other words, the HRA assumed that about 50% of the switcher locomotives would have Tier 3 engines and 50% would have Tier 4 engines.

[92] DPM emissions assuming 100% Tier 0: (32,557 gal/yr)(4.864 g/gal)/454 g/lb = **348.8 lb/yr.**

[93] DEIR, Appendix B: Emission Calculation Tables of Appendix E: Air Quality and Greenhouse Gas Report, pdf 243.

AB-45 cont.

Our analyses indicate that the location of the switcher emissions was shifted to the south and west, away from homes. See Figure 6. However, train tracks are very close to homes. See Figure 6. If offsite emissions are closer to sensitive receptors, and Figures ES-1 and 1 in the DEIR[94] suggest they are, cancer risks at the nearest residential receptor would be much higher than reported in the DEIR and in the corrected analyses we report for Case 2 in Figure 11. Our analysis in Case 2 indicates the cancer risks are highly significant in adjacent residential neighborhoods.

AB-46

5.6.2.2. Operating Hours

The HRA assumed that switcher emissions would occur from only from 7:00 AM to 3:00 PM to "reflect their normal operating schedule."[95] The HRA also assumed line haul locomotives would operate between 6:00 AM and 4:00 PM. No support is provided for these assumed "normal operating schedules." In fact, the Port and railroads operate around the clock.

The time of day modeled in the HRA is the period when atmospheric dispersion is most favorable, leading to lower ambient concentrations of DPM and thus lower cancer risk than if nighttime hours were modeled. There is nothing in the DEIR (e.g., mitigation measures and enforceable conditions) that restricts switching and line haul operations to these hours. Absent enforceable conditions, there is nothing that would prevent switching and line haul operations from occurring during any day or night hours. Thus, we modeled switcher and line haul emissions as occurring 24 hours per day, 365 days per year.[96]

AB-47

5.6.3. Line Source Modeling Errors

The emissions from line-haul locomotives and trucks were modeled as line sources. Our review of the modeling files revealed that the DEIR adjusted the location of roads and rail tracks to avoid residential areas when shorter routes, closer to residential areas, would be used in practice. For example, the trucks could reach SR 4 through a shorter route along Harbor Street than shown in Figure 3, "Representation of Operational Sources in AERMOD." Similarly, there are train tracks along Harbor Street and West of South Ventura Avenue. The DEIR assumed that DPM emissions would not occur along roads and tracks that are adjacent to residential areas but fails to include enforceable conditions to prohibit the use of these nearby routes.

AB-48

5.7. Revised Cancer HRA, Correcting Noted Modeling Errors

We reran the HRA, correcting the errors discussed above. Our revised analysis assumes switcher DPM emissions of 208.7 lb/yr (instead of 54.7 lb/yr, modeled in the DEIR) that occur around the clock, and switcher and truck routes adjacent to residential areas, but otherwise

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[94] DEIR, pdf 4 and 29.

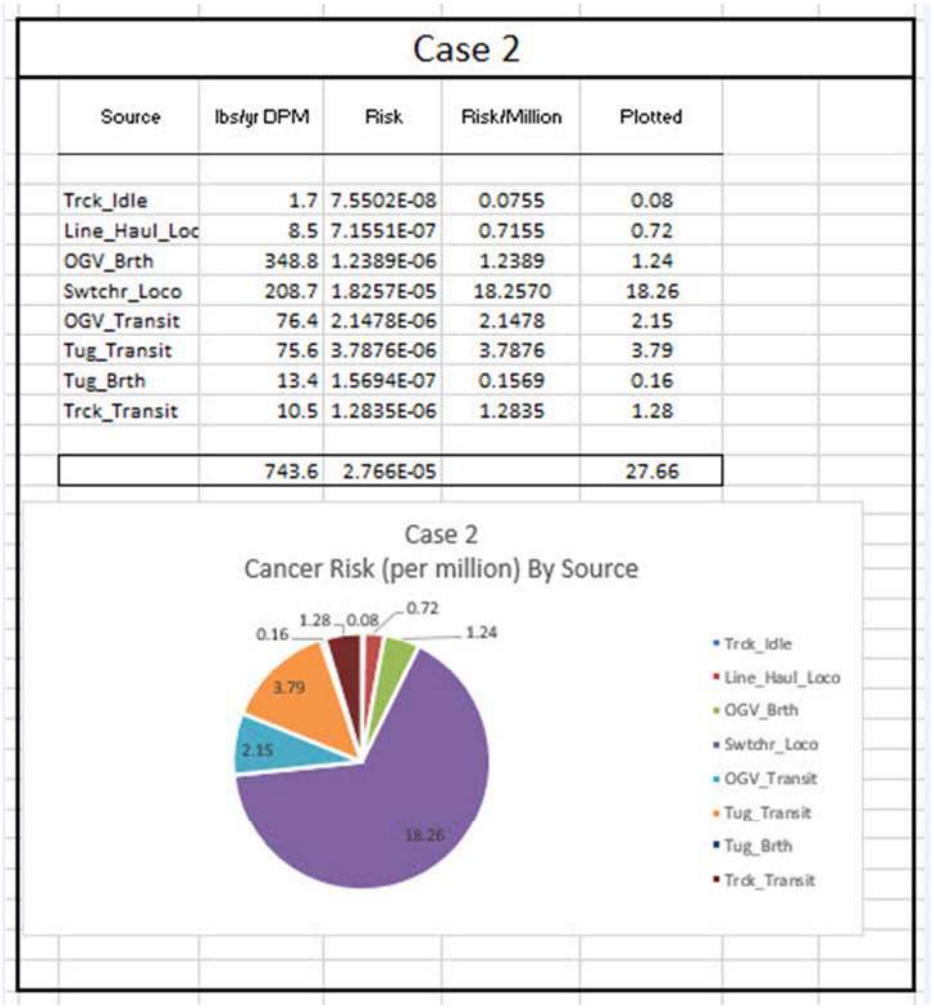
[95] DEIR, pdf 246.

[96] See, *e.g.*, DEIR, Table 3, pdf 242, 360 manifest trains per year.

AB-48 cont.

retaining the DEIR's assumptions. The results of our analysis, Case 2, are shown in Figures 11 and 12.

Figure 11: Case 2—Revised Health Risk Assessment



Case 2

Source	lbs/yr DPM	Risk	Risk/Million	Plotted
Trck_Idle	1.7	7.5502E-08	0.0755	0.08
Line_Haul_Loc	8.5	7.1551E-07	0.7155	0.72
OGV_Brth	348.8	1.2389E-06	1.2389	1.24
Swtchr_Loco	208.7	1.8257E-05	18.2570	18.26
OGV_Transit	76.4	2.1478E-06	2.1478	2.15
Tug_Transit	75.6	3.7876E-06	3.7876	3.79
Tug_Brth	13.4	1.5694E-07	0.1569	0.16
Trck_Transit	10.5	1.2835E-06	1.2835	1.28
	743.6	2.766E-05		27.66

The isopleth map for our Case 2 analysis is shown in Figure 12.

Figure 12: Case 2—Isopleth Map

AB-48 cont

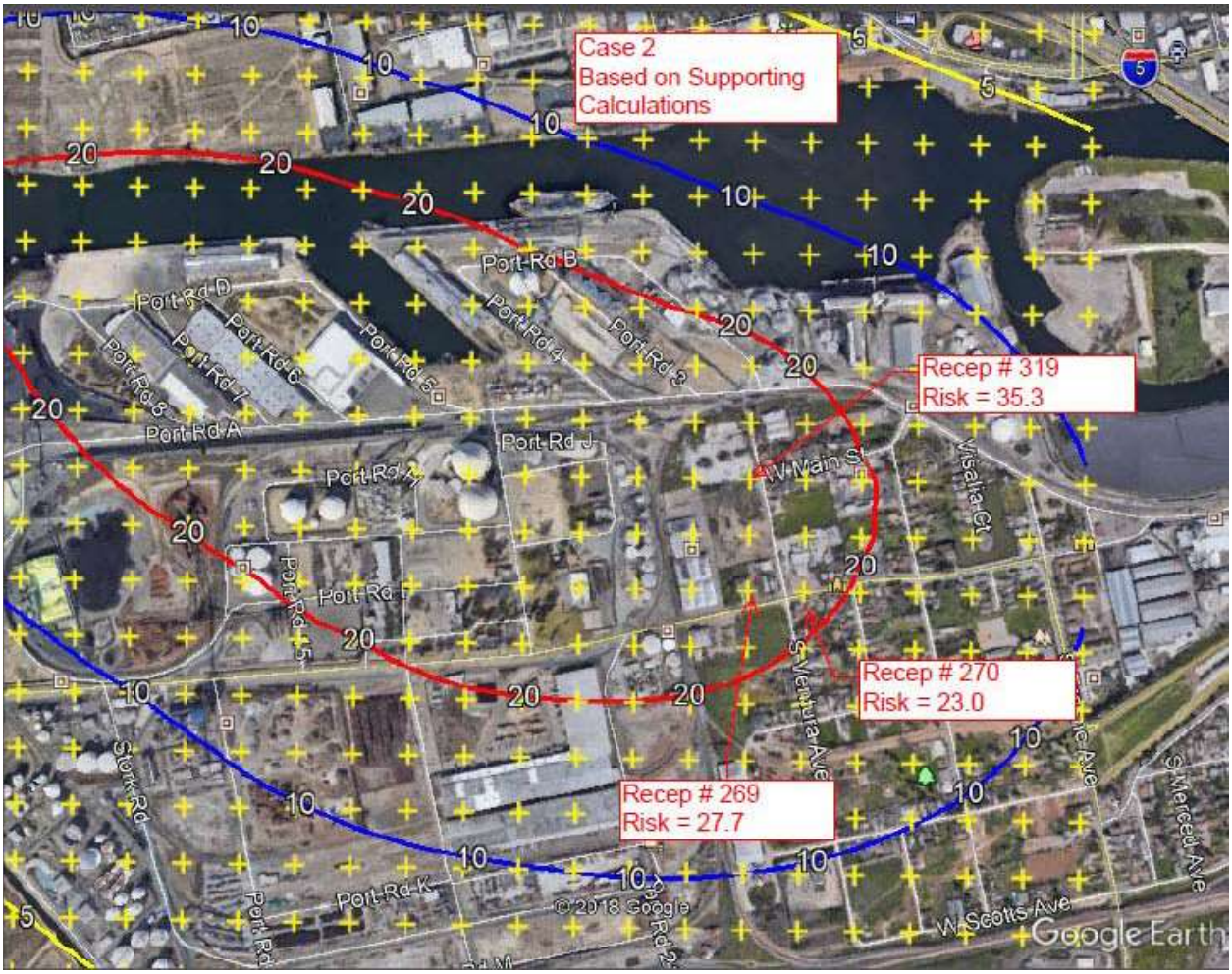


Figure 12 shows that the 30-year cancer risk at the nearest home (receptor #269) is 27.7 per million, compared to the DEIR's cancer significance threshold of 20 per million. Thus, residential cancer risks are significant. Figure 12 also shows that other residences in the general area of the MEI will also exceed the cancer significance threshold. Thus, without enforceable conditions requiring the assumptions modeled in the DEIR's HRA, the DEIR must conclude that residential cancer risks are significant and propose enforceable mitigation.

Further, Figure 12 indicates that there are other locations that have higher risks than at the MEI. However, the information available to us suggests those locations currently do not have residences. Based on our review of Google maps, locations with these higher risks (greater than 27.7 cancers per million) likely have outdoor workers. The DEIR's worker HRA includes all of the errors and omissions discussed above for residential exposures. We did not have time to redo the operational worker HRA. A revised DEIR should be prepared that includes an updated worker HRA.

Thus, the DEIR fails as an informational document under CEQA. A revised DEIR should be prepared and recirculated for review that includes corrected residential and worker HRAs.

AB-49

5.8. Acute Health Impacts

The HRA asserts that the proposed Project would not result in significant "acute health hazards," pointing to Table 15 of Appendix E. However, this table does not report the results of an acute health impacts analysis. Elsewhere, the DEIR asserts: "An acute HI, which evaluates the probability of TACs to cause adverse health effects due to short-term exposure was not quantified for the proposed project because the chief pollutant of concern is DPM, for which OEHHA has not established an acute REL."[97] A hazard index is not a "probability" but rather the ratio of the modeled 1-hour concentration to the REL.

The absence of an OEHHA acute risk exposure level does not excuse the applicant from evaluating acute health risks. In the absence of an OEHHA significance threshold, it is standard practice to conduct a literature search to determine if other authorities have established a threshold. We conducted this analysis and determined that since OEHHA last evaluated health impacts of DPM in 1998,[98] substantial additional research has been conducted on acute health impacts of DPM.[99] Based on this more current research, Canada recently established an acute REL for DPM of 10 μg/m^3 to protect against adverse effects on the respiratory system.[100] There is no regulation or guidance requiring that only OEHHA RELs be used.

The significance of acute exposures is generally assessed using the hazard index (HI) approach. A hazard index is calculated as sum of the ratio of the calculated 1-hour concentrations for each HAP, divided by their respective reference exposure level, in this case 10 μg/m^3. The SJVAPCD significance threshold for acute exposures is a hazard index of 1 for the maximally exposed individual. However, this threshold only applies to non-carcinogens.[101]

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[97] DEIR, Appendix E, pdf 245.

[98] Findings of the Scientific Review Panel on the Report on Diesel Exhaust, 1998; available at https://www.arb.ca.gov/toxics/dieseltac/de-fnds.pdf.

[99] See, *e.g.*, A. A. Mehus and others, Comparison of Acute Health Effects from Exposures to Diesel and Biodiesel Fuel Emissions and references cited therein, *Journal of Occupational and Environmental Medicine*, v. 57, no. 7, pp. 705-712, July 2015; available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4479787/.

[100] Government of Canada, Human Health Risk Assessment for Diesel Exhaust, March 4, 2016; available at http://publications.gc.ca/collections/collection_2016/sc-hc/H129-60-2016-eng.pdf. See Exhibits 4 and 5.

[101] SJVAPCD, Air Quality Thresholds of Significance—Toxic Air Contaminants; available at: http://www.valleyair.org/transportation/0714-GAMAQI-TACs-Thresholds-of-Significance.pdf.

AB-50

5.8.1. Acute Health Impacts of Construction

We conducted an acute risk assessment for Project construction, using the DEIR's DPM emission rate (366 lb/yr) and assuming construction between 8 AM and 4 PM. We used the same source location and parameters as the applicant.[102] The results of this analysis are summarized in Figure 13. Significant acute health impacts (HI=/>1; DPM concentration =/> 10 μg/m^3) occur within 35 meters to the south and 80 meters to the west of the Project site boundary, in locations where workers would be found, including at the adjacent Contanda Terminal. Thus, acute health impacts to workers in the vicinity of the Project are significant and unmitigated.

Figure 13: Acute Health Impacts of Project Construction (μg/m^3)

AB-51

5.8.2. Acute Health Impacts of Project Operation

We conducted an acute risk assessment for Project operation. The highest 25 1-hour DPM concentrations, which range from 366 to 1,737 μg/m^3, are summarized in Table 2 for Case 1 (the DEIR's modeling assumptions). The highest 25 1-hour DPM concentrations, which range from 232 to 344 μg/m^3, are summarized in Table 3 for Case 2 (our revised modeling assumptions). All of these concentrations exceed the acute REL of 10 μg/m$_3$ and a hazard index of 1 in both cases by a significant amount.

[102] DEIR, pdf 369, AERMOD Output Listing.

Table 2: Case 1—1-Hour DPM Concentrations (μg/m³) at the Highest 25 Locations

647100	4201150	1737.3
647200	4201150	686.2
647100	4201250	620.8
647100	4201450	570.8
647100	4201050	559.5
647000	4201150	554.1
647200	4201450	545.2
647400	4201450	539.2
647000	4201450	537.6
647300	4201450	535.7
647200	4201250	532.3
647000	4201350	511.5
647100	4201350	505.2
646900	4201350	500.5
646900	4201450	494.4
647500	4201450	480.7
647200	4201050	468.7
647200	4201350	444.9
647000	4201250	417.3
646800	4201450	416.8
646800	4201350	409.4
647300	4201350	398.6
647000	4201050	396.6
647200	4201550	393.3
647400	4201350	366.2

Table 3: Case 2—1-Hour DPM Concentrations (μg/m³) at the Highest 25 Locations

647400	4201450	344.13
647500	4201450	332.32
647300	4201450	311.15
647000	4201450	300.24
646900	4201450	298.43
647100	4201450	295.41
647200	4201450	288.46
646900	4201350	276.45
647600	4201450	274.19
646800	4201450	268.29
647000	4201350	267.24
647400	4201350	263.84
647500	4201350	260.83
646900	4201650	256.82
647300	4201350	253.91
646800	4201350	250.15
647100	4201350	247.21
647100	4201550	244.58
647600	4201350	242.97
647000	4201550	241.68
647200	4201550	239.09
647200	4201350	238.71
646900	4201550	234.32
646700	4201450	232.60
647300	4201550	232.11

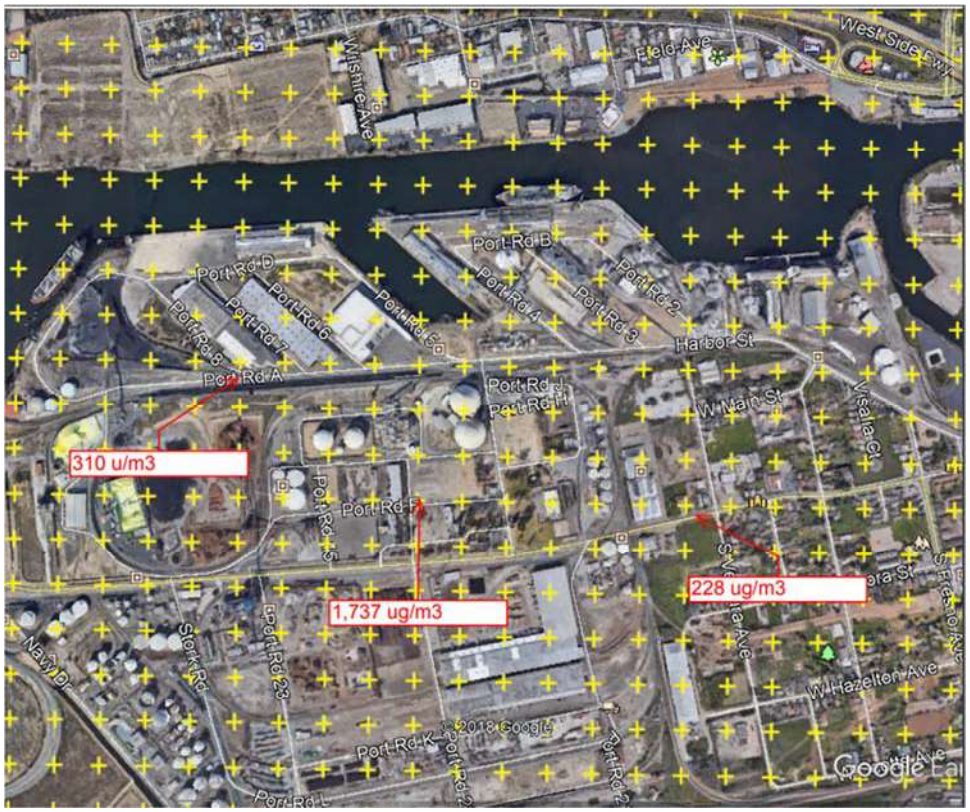
AB-51 cont

The locations where the acute REL is exceeded in both cases include residential neighborhoods, commercial areas, and the Washington Elementary School. The Case 1 1-hour DPM concentration at Washington Elementary is 117 μg/m³. The corresponding acute hazard index is 12. The Case 2 1-hour DPM concentration at Washington Elementary is 134 μg/m³. The corresponding acute hazard index is 13. Both of these acute hazard indices indicate significant health impacts at the location sensitive receptors.

The physical locations of three of the Case 1 acute 1-hour concentrations are shown in Figure 14. This figure shows that acute health impacts would be highly significant at many locations where workers would be present, as well as in residential neighborhoods and at the Washington Elementary School.

In general, it has been shown that sensitive subpopulations, such as the elderly, children and asthmatics, can be at greater risk of adverse respiratory effects due to DPM exposure. Thus, the elevated levels at Washington Elementary School, under all train routing scenarios, are highly significant and must be mitigated.

Figure 14: Case 1 – Locations of Select Acute DPM Concentrations



Regardless, the acute REL at the MEI is 1,737 µg/m^3, which exceeds the acute REL of 10 µg/m^3 by a factor of 174. The corresponding hazard index is 174, which exceeds the REL significance threshold of 1 by a factor of 174. Thus, regardless of which metric is used, acute impacts of Project operation are significant. This is a new impact not disclosed in the DEIR and must be mitigated.

AB-52

5.9. Summary of Key Health Risk Findings

In sum, based on our detailed review of the HRA and supporting modeling files supplied in response to PRAs, we conclude that:

1. The DEIR contains numerous invalid assumptions and errors that understate the actual residential cancer risk.
2. Construction health impacts may be significant if one takes into account short-term (acute) health impacts, which were not evaluated.
3. Use of more realistic emission rates for switcher locomotives and other sources and their potential locations indicate the Project would result in a significant cancer risk to residents.
4. Acute health impacts of Project operation for workers, residents, and school children are highly significant and unmitigated.

5. Cumulative cancer and acute health impacts of Project construction and operation were not evaluated and are highly significant.

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Dr. Fox has over 40 years of experience in the field of environmental engineering, including air pollution control (BACT, BART, MACT, LAER, RACT), greenhouse gas emissions and control, cost effectiveness analyses, water quality and water supply investigations, hydrology, hazardous waste investigations, environmental permitting, nuisance investigations (odor, noise), environmental impact reports, CEQA/NEPA documentation, risk assessments, and litigation support.

EDUCATION

Ph.D. Environmental/Civil Engineering, University of California, Berkeley, 1980.
M.S. Environmental/Civil Engineering, University of California, Berkeley, 1975.
B.S. Physics (with high honors), University of Florida, Gainesville, 1971.

REGISTRATION

Registered Professional Engineer: Arizona (2001-2014: #36701; retired), California (2002-present; CH 6058), Florida (2001-present; #57886), Georgia (2002-2014; #PE027643; retired), Washington (2002-2014; #38692; retired), Wisconsin (2005-2014; #37595-006; retired)
Board Certified Environmental Engineer, American Academy of Environmental Engineers, Certified in Air Pollution Control (DEE #01-20014), 2002-present
Qualified Environmental Professional (QEP), Institute of Professional Environmental Practice (QEP #02-010007), 2001-present

PROFESSIONAL HISTORY

Environmental Management, Principal, 1981-present
Lawrence Berkeley National Laboratory, Principal Investigator, 1977-1981
University of California, Berkeley, Program Manager, 1976-1977
Bechtel, Inc., Engineer, 1971-1976, 1964-1966

PROFESSIONAL AFFILIATIONS

American Chemical Society (1981-2010)
Phi Beta Kappa (1970-present)
Sigma Pi Sigma (1970-present)

Who's Who Environmental Registry, PH Publishing, Fort Collins, CO, 1992.
Who's Who in the World, Marquis Who's Who, Inc., Chicago, IL, 11th Ed., p. 371, 1993-present.
Who's Who of American Women, Marquis Who's Who, Inc., Chicago, IL, 13th Ed., p. 264, 1984-present.
Who's Who in Science and Engineering, Marquis Who's Who, Inc., New Providence, NJ, 5th Ed., p. 414, 1999-present.
Who's Who in America, Marquis Who's Who, Inc., 59th Ed., 2005.
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 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 & liquefaction plants; conventional and thermally enhanced oil production; oil and gas production, including hydraulic fracking and acid stimulation treatments; 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; 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; ethylene crackers; desalination plants; selective catalytic reduction (SCR) systems; selective noncatalytic reduction (SNCR) systems; halogen acid furnaces; contaminated

property redevelopment projects (e.g., Mission Bay, Southern Pacific Railyards, Moscone Center expansion, San Diego Padres Ballpark); residential developments; commercial office parks, campuses, and shopping centers; server farms; transportation plans; and a wide range of mines including sand and gravel, hard rock, limestone, nacholite, coal, molybdenum, gold, zinc, and oil shale.

EXPERT WITNESS/LITIGATION SUPPORT

- For the California Attorney General, assist in determining compliance with probation terms in the matter of People v. Chevron USA.
- For plaintiffs, assist in developing Petitioners' proof brief for National Parks Conservation Association et al v. U.S. EPA, Petition for Review of Final Administrative Action of the U.S. EPA, In the U.S. Court of Appeals for the Third Circuit, Docket No. 14-3147.
- For plaintiffs, expert witness in civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1997-2000) at the Cemex cement plant in Lyons, Colorado. Reviewed produced documents, prepared expert and rebuttal reports on PSD applicability based on NOx emission calculations for a collection of changes considered both individually and collectively. Deposed August 2011. *United States v. Cemex, Inc.*, In U.S. District Court for the District of Colorado (Civil Action No. 09-cv-00019-MSK-MEH). Case settled June 13, 2013.
- For plaintiffs, in civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for historic modifications (1988 – 2000) at James De Young Units 3, 4, and 5. Reviewed produced documents, analyzed CEMS and EIA data, and prepared netting and BACT analyses for NOx, SO2, and PM10 (PSD case). Expert report February 24, 2010 and affidavit February 20, 2010. *Sierra Club v. City of Holland, et al.*, U.S. District Court, Western District of Michigan (Civil Action 1:08-cv-1183). Case settled. Consent Decree 1/19/14.
- For plaintiffs, in civil action alleging failure to obtain MACT permit, expert on potential to emit hydrogen chloride (HCl) from a new coal-fired boiler. Reviewed record, estimated HCl emissions, wrote expert report June 2010 and March 2013 (Cost to Install a Scrubber at the Lamar Repowering Project Pursuant to Case-by-Case MACT), deposed August 2010 and March 2013. *Wildearth Guardian et al. v. Lamar Utilities Board*, Civil Action No. 09-cv-02974, U.S. District Court, District of Colorado. Case settled August 2013.
- For plaintiffs, expert witness on permitting, emission calculations, and wastewater treatment for coal-to-gasoline plant. Reviewed produced documents. Assisted in 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 overturn the Court of Appeals decision but moved to have their appeal dismissed in August 2013.
- For defense, expert witness in unlawful detainer case involving a gasoline station, minimart, and residential property with contamination from leaking underground storage tanks. Reviewed agency files and inspected site. Presented expert testimony on July 6, 2009, on

causes of, nature and extent of subsurface contamination. *A. Singh v. S. Assaedi,* in Contra Costa County Superior Court, CA. Settled August 2009.

- For plaintiffs, expert witness on netting and enforceability for refinery being upgraded to process tar sands crude. Reviewed produced documents. Prepared expert and rebuttal reports addressing use of emission factors for baseline, omitted sources including coker, flares, tank landings and cleaning, and enforceability. Deposed. *In the Matter of Objection to the Issuance of Significant Source Modification Permit No. 089-25484-00453 to BP Products North America Inc., Whiting Business Unit, Save the Dunes Council, Inc., Sierra Club., Inc., Hoosier Environmental Council et al., Petitioners, B. P. Products North American, Respondents/Permittee,* before the Indiana Office of Environmental Adjudication.
- For plaintiffs, expert witness on BACT, MACT, and enforceability in appeal of Title V permit issued to 600 MW coal-fired power plant burning Powder River Basin coal. Prepared technical comments on draft air permit. Reviewed record on appeal, drafted BACT, MACT, and enforceability pre-filed testimony. Drafted MACT and enforceability pre-filed rebuttal testimony. Deposed March 24, 2009. Testified June 10, 2009. *In Re: Southwestern Electric Power Company*, Arkansas Pollution Control and Ecology Commission, Consolidated Docket No. 08-006-P. Recommended Decision issued December 9, 2009 upholding issued permit. Commission adopted Recommended Decision January 22, 2010.
- 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 (1989-1992) at Wabash Units 2, 3 and 5. Reviewed produced documents, prepared expert and rebuttal report on historic and current-day BACT for NOx and SO2, control costs, and excess emissions of NOx, SO2, and mercury. Deposed 10/21/08. *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. Testified 2/3/09. Memorandum Opinion & Order 5-29-09 requiring shutdown of Wabash River Units 2, 3, 5 by September 30, 2009, run at baseline until shutdown, and permanently surrender SO2 emission allowances.
- For plaintiffs, expert witness in liability phase of civil action relating to alleged violations of the Clean Air Act, Prevention of Significant Deterioration, for three historic modifications (1997-2001) at two portland cement plants involving three cement kilns. Reviewed produced documents, analyzed CEMS data covering subject period, prepared 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. Nevada Power.* Case settled June 2007, resulting in installation of dry low NOx burners (5 ppm NOx averaged over 1 hr) on four units and a separate solar array at a local business.
- For plaintiffs, expert witness in appeal of PSD permit issued to 850 MW coal fired boiler burning Powder River Basin coal (Iatan Unit 2) on BACT for particulate matter, sulfuric acid mist and opacity and emission calculations for alleged historic violations of PSD. Assisted in drafting technical comments, petition for review, discovery requests, and responses to discovery requests. Reviewed produced documents. Prepared expert report on BACT for particulate matter. Assisted with expert depositions. Deposed February 7, 8, 27, 28, 2007. *In Re PSD Construction Permit Issued to Great Plains Energy, Kansas City Power & Light – Iatan Generating Station, Sierra Club v. Missouri Department of Natural Resources, Great*

Plains Energy, and Kansas City Power & Light. Case settled March 27, 2007, providing offsets for over 6 million ton/yr of CO2 and lower NOx and SO_2 emission limits.

- 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 of coal-fired boilers and associated equipment. Reviewed produced documents, prepared expert report on cost to retrofit 24 coal-fired power plants with scrubbers designed to remove 99% of the sulfur dioxide from flue gases. Prepared supplemental and expert report on cost estimates and BACT for SO2 for these 24 complaint units. Deposed 1/30/07 and 3/14/07. *United States and State of New York et al. v. American Electric Power*, In U.S. District Court for the Southern District of Ohio, Eastern Division, Consolidated Civil Action Nos. C2-99-1182 and C2-99-1250. Settlement announced 10/9/07.
- For plaintiffs, expert witness on BACT, enforceability, and alternatives analysis in appeal of PSD permit issued for a 270-MW pulverized coal fired boiler burning Powder River Basin coal (City Utilities Springfield Unit 2). Reviewed permitting file and assisted counsel draft petition and prepare and respond to interrogatories and document requests. Reviewed interrogatory responses and produced documents. Assisted with expert depositions. Deposed August 2005. Evidentiary hearings October 2005. *In the Matter of Linda Chipperfield and Sierra Club v. Missouri Department of Natural Resources.* Missouri Supreme Court denied review of adverse lower court rulings August 2007.
- For plaintiffs, expert witness in civil action relating to plume touchdowns at AEP's Gavin coal-fired power plant. Assisted counsel draft interrogatories and document requests. Reviewed responses to interrogatories and produced documents. Prepared expert report "Releases of Sulfuric Acid Mist from the Gavin Power Station." The report evaluates sulfuric acid mist releases to determine if AEP complied with the requirements of CERCLA Section 103(a) and EPCRA Section 304. This report also discusses the formation, chemistry, release characteristics, and abatement of sulfuric acid mist in support of the claim that these releases present an imminent and substantial endangerment to public 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 Newmont Nevada Energy Investment, LLC, TS Power Plant*, PSD Appeal No. 05-04 (EAB 2005).
- For petitioners and plaintiffs, reviewed and prepared comments on air quality and hazardous waste based on negative declaration for refinery ultra low sulfur diesel project located in SCAQMD. Reviewed responses to comments and prepared responses. Prepared declaration and presented oral testimony before SCAQMD Hearing Board on exempt sources (cooling towers) and calculation of potential to emit under NSR. Petition for writ of mandate filed March 2005. Case remanded by Court of Appeals to trial court to direct SCAQMD to re-evaluate the potential environmental significance of NOx emissions resulting from the project in accordance with court's opinion. California Court of Appeals, Second Appellate Division, on December 18, 2007, affirmed in part (as to baseline) and denied in part. *Communities for a Better Environment v. South Coast Air Quality Management District and ConocoPhillips and Carlos Valdez et al v. South Coast Air Quality Management District and ConocoPhillips.* Certified for partial publication 1/16/08. Appellate Court opinion upheld by CA Supreme Court 3/15/10. *(2010) 48 Cal.4th 310*.

- For amici seeking to amend a proposed Consent Decree to settle alleged NSR violations at Chevron refineries, reviewed proposed settlement, related files, subject modifications, and emission calculations. Prepared declaration on emission reductions, identification of NSR and NSPS violations, and BACT/LAER for FCCUs, heaters and boilers, flares, and sulfur recovery plants. *U.S. et al. v. Chevron U.S.A.*, Northern District of California, Case No. C 03-04650. Memorandum and Order Entering Consent Decree issued June 2005. Case No. C 03-4650 CRB.
- For petitioners, prepared declaration on enforceability of periodic monitoring requirements, in response to EPA's revised interpretation of 40 CFR 70.6(c)(1). This revision limited additional monitoring required in Title V permits. 69 FR 3203 (Jan. 22, 2004). *Environmental Integrity Project et al. v. EPA* (U.S. Court of Appeals for the District of Columbia). Court ruled the Act requires all Title V permits to contain monitoring requirements to assure compliance. *Sierra Club v. EPA*, 536 F.3d 673 (D.C. Cir. 2008).
- For interveners in application for authority to construct a 500 MW supercritical coal-fired generating unit before the Wisconsin Public Service Commission, prepared pre-filed written direct and rebuttal testimony with oral cross examination and rebuttal on BACT and MACT (Weston 4). Prepared written comments on BACT, MACT, and enforceability on draft air permit for same facility.
- For property owners in Nevada, evaluated the environmental impacts of a 1,450-MW coal-fired power plant proposed in a rural area adjacent to the Black Rock Desert and Granite Range, including emission calculations, air quality modeling, comments on proposed use permit to collect preconstruction monitoring data, and coordination with agencies and other interested parties. Project cancelled.
- 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 environmental organizations to challenge the DOE Finding of No Significant Impact (FONSI) for the Baja California Power and Sempra Energy Resources Cross-Border Transmissions Lines in the U.S. and four associated power plants located in Mexico (DOE EA-1391). Prepared 20-page declaration in support of motion for summary judgment addressing emissions, including CO_2 and NH_3, offsets, BACT, cumulative air quality impacts, alternative cooling systems, and water use and water quality impacts. Plaintiff's motion for summary judgment granted in part. U.S. District Court, Southern District decision concluded that the Environmental Assessment and FONSI violated NEPA and the APA due to their inadequate analysis of the potential controversy surrounding the project, water impacts, impacts from NH_3 and CO_2, alternatives, and cumulative impacts. *Border Power Plant Working Group v. Department of Energy and Bureau of Land Management*, Case No. 02-CV-513-IEG (POR) (May 2, 2003).
- For Sacramento school, reviewed draft air permit issued for diesel generator located across from playfield. Prepared comments on emission estimates, enforceability, BACT, and health impacts of diesel exhaust. Case settled. BUG trap installed on the diesel generator.
- Assisted unions in appeal of Title V permit issued by BAAQMD to carbon plant that manufactured coke. Reviewed District files, identified historic modifications that should have triggered PSD review, and prepared technical comments on Title V permit. Reviewed

responses to comments and assisted counsel draft appeal to BAAQMD hearing board, opening brief, motion to strike, and rebuttal brief. Case settled.

- Assisted California Central Coast city obtain controls on a proposed new city that would straddle the Ventura-Los Angeles County boundary. Reviewed several environmental impact reports, prepared an air quality analysis, a diesel exhaust health risk assessment, and detailed review comments. Governor intervened and State dedicated the land for conservation purposes April 2004.
- Assisted Central California city to obtain controls on large alluvial sand quarry and asphalt plant proposing a modernization. Prepared comments on Negative Declaration on air quality, public health, noise, and traffic. Evaluated process flow diagrams and engineering reports to determine whether proposed changes increased plant capacity or substantially modified plant operations. Prepared comments on application for categorical exemption from CEQA. Presented testimony to County Board of Supervisors. Developed controls to mitigate impacts. Assisted counsel draft Petition for Writ. Case settled June 2002. Substantial improvements in plant operations were obtained including cap on throughput, dust control measures, asphalt plant loadout enclosure, and restrictions on truck routes.
- Assisted oil companies on the California Central Coast in defending class action citizen's lawsuit alleging health effects due to emissions from gas processing plant and leaking underground storage tanks. Reviewed regulatory and other files and advised counsel on merits of case. Case settled November 2001.
- 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 emission estimates, startup/shutdown issues, BACT/LAER analyses, and toxic air emissions. Presented testimony in adjudicatory administrative hearings before the Connecticut Department of Environmental Protection in June 2001 and December 2001.
- Assisted various coalitions of unions, citizens groups, cities, public agencies, and developers in licensing and permitting of over 110 coal, gas, oil, biomass, and pet coke-fired power plants generating over 75,000 MW of electricity. These included base-load, combined cycle, simple cycle, and peaker power plants in Alaska, Arizona, Arkansas, California, Colorado, Georgia, Florida, Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio, Oklahoma, Oregon, Texas, West Virginia, Wisconsin, and elsewhere. Prepared analyses of and comments on applications for certification, preliminary and final staff assessments, and various air, water, wastewater, and solid waste permits issued by local agencies. Presented written and oral testimony before various administrative bodies on hazards of ammonia use and transportation, health effects of air emissions, contaminated property issues, BACT/LAER issues related to SCR and SCONOx, criteria and toxic pollutant emission estimates, MACT analyses, air quality modeling, water supply and water quality issues, and methods to reduce water use, including dry cooling, parallel dry-wet cooling, hybrid cooling, and zero liquid discharge systems.
- Assisted unions, cities, and neighborhood associations in challenging an EIR issued for the proposed expansion of the Oakland Airport. Reviewed two draft EIRs and prepared a health risk assessment and extensive technical comments on air quality and public health impacts. The California Court of Appeals, First Appellate District, ruled in favor of appellants and

plaintiffs, concluding that the EIR "2) erred in using outdated information in assessing the emission of toxic air contaminants (TACs) from jet aircraft; 3) failed to support its decision not to evaluate the health risks associated with the emission of TACs with meaningful analysis," thus accepting my technical arguments and requiring the Port to prepare a new EIR. See *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (August 30, 2001) 111 Cal.Rptr.2d 598.

- Assisted lessor of former gas station with leaking underground storage tanks and TCE contamination from adjacent property. Lessor held option to purchase, which was forfeited based on misrepresentation by remediation contractor as to nature and extent of contamination. Remediation contractor purchased property. Reviewed regulatory agency files and advised counsel on merits of case. Case not filed.
- Advised counsel on merits of several pending actions, including a Proposition 65 case involving groundwater contamination at an explosives manufacturing firm and two former gas stations with leaking underground storage tanks.
- Assisted defendant foundry in Oakland in a lawsuit brought by neighbors alleging property contamination, nuisance, trespass, smoke, and health effects from foundry operation. 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.
- Assisted oil company in a complaint filed by a resident of a small California beach community alleging that discharges of tank farm rinse water into the sanitary sewer system caused hydrogen sulfide gas to infiltrate residence, sending occupants to hospital. Inspected accident site, interviewed parties to the event, and reviewed extensive agency files related to incident. Used chemical analysis, field simulations, mass balance calculations, sewer hydraulic simulations with SWMM44, atmospheric dispersion modeling with SCREEN3, odor analyses, and risk assessment calculations to demonstrate that the incident was caused by a faulty drain trap and inadequate slope of sewer lateral on resident's property. Prepared a detailed technical report summarizing these studies. Case settled.
- Assisted large West Coast city in suit alleging that leaking underground storage tanks on city property had damaged the waterproofing on downgradient building, causing leaks in an underground parking structure. Reviewed subsurface hydrogeologic investigations and evaluated studies conducted by others documenting leakage from underground diesel and gasoline tanks. Inspected, tested, and evaluated waterproofing on subsurface parking structure. Waterproofing was substandard. Case settled.
- Assisted residents downwind of gravel mine and asphalt plant in Siskiyou County, California, in suit to obtain CEQA review of air permitting action. Prepared two declarations analyzing air quality and public health impacts. Judge ruled in favor of plaintiffs, closing mine and asphalt plant.
- Assisted defendant oil company on the California Central Coast in class action lawsuit alleging property damage and health effects from subsurface petroleum contamination. Reviewed documents, prepared risk calculations, and advised counsel on merits of case. Participated in settlement discussions. Case settled.

- Assisted defendant oil company in class action lawsuit alleging health impacts from remediation of petroleum contaminated site on California Central Coast. Reviewed documents, designed and conducted monitoring program, and participated in settlement discussions. Case settled.
- Consultant to attorneys representing irrigation districts and municipal water districts to evaluate a potential challenge of USFWS actions under CVPIA section 3406(b)(2). Reviewed agency files and collected and analyzed hydrology, water quality, and fishery data. Advised counsel on merits of case. Case not filed.
- Assisted residents downwind of a Carson refinery in class action lawsuit involving soil and groundwater contamination, nuisance, property damage, and health effects from air emissions. Reviewed files and provided advise on contaminated soil and groundwater, toxic emissions, and health risks. Prepared declaration on refinery fugitive emissions. Prepared 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).

- Assisted defendant urea manufacturer in Alaska in negotiations with USEPA to seek relief from penalties for alleged violations of the Clean Air Act. Reviewed and evaluated regulatory files and monitoring data, prepared technical analysis demonstrating that permit limits were not violated, and participated in negotiations with EPA to dismiss action. Fines were substantially reduced and case closed.
- Assisted construction unions in challenging PSD permitting action for an Indiana grain mill. Prepared technical comments on draft PSD permit and assisted counsel draft appeal of agency permit action to the Environmental Appeals Board challenging permit based on faulty BACT analyses for heaters and boilers and faulty permit conditions, among others. Case settled.
- As part of a consent decree settling a CEQA lawsuit, assisted neighbors of a large west coast port in negotiations with port authority to secure mitigation for air quality impacts. Prepared technical comments on mobile source air quality impacts and mitigation and negotiated a $9 million CEQA mitigation package. Represented neighbors on technical advisory committee established by port to implement the air quality mitigation program. Program successfully implemented.
- Assisted construction unions in challenging permitting action for a California hazardous waste incinerator. Prepared technical comments on draft permit, assisted counsel prepare appeal of EPA permit to the Environmental Appeals Board. Participated in settlement discussions on technical issues with applicant and EPA Region 9. Case settled.
- Assisted environmental group in challenging DTSC Negative Declaration on a hazardous waste treatment facility. Prepared technical comments on risk of upset, water, and health risks. Writ of mandamus issued.
- Assisted several neighborhood associations and cities impacted by quarries, asphalt plants, and cement plants in Alameda, Shasta, Sonoma, and Mendocino counties in obtaining mitigations for dust, air quality, public health, traffic, and noise impacts from facility operations and proposed expansions.

- For over 100 industrial facilities, commercial/campus, and redevelopment projects, developed the record in preparation for CEQA and NEPA lawsuits. Prepared technical comments on hazardous materials, solid wastes, public utilities, noise, worker safety, air quality, public health, water resources, water quality, traffic, and risk of upset sections of EIRs, EISs, FONSIs, initial studies, and negative declarations. Assisted counsel in drafting petitions and briefs and prepared declarations.
- For several large commercial development projects and airports, assisted applicant and counsel prepare defensible CEQA documents, respond to comments, and identify and evaluate "all feasible" mitigation to avoid CEQA challenges. This work included developing mitigation programs to reduce traffic-related air quality impacts based on 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 applicability of water quality standards. Served on technical committees to develop alternatives to mitigate impacts and close the facility, including resloping and grading, various thickness and types of covers, and reclamation. This work included developing and evaluating methods to control surface runoff and erosion, mitigate impacts of acid rock drainage on surface and ground waters, and stabilize nine waste rock piles containing 328 million tons of pyrite-rich, mixed volcanic waste rock (andesites, rhyolite, tuff). Evaluated stability of waste rock piles. Represented client in hearings and meetings with state and federal oversight agencies.

REGULATORY (PARTIAL LIST)

- In April 2016, prepared supplemental comments on Valero Benicia Crude by Rail Project, focused on on-site impacts and impacts at the unloading terminal, in response to request for a stay to appeal Planning Commission decision.
- In February 2016, prepared comments on Final Environmental Impact Report, Santa Maria Rail Spur Project.
- In February 2016, prepared comments on Final Environmental Impact Report, Valero Benicia Crude by Rail Project.
- In January 2016, prepared comments on Draft Programmatic Environmental Impact Report for the Southern California Association of Government's (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.
- In November 2015, prepared comments on Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance – 2015(C) (Focused on Oil and Gas Local Permitting), November 2015.
- In October 2015, prepared comments on Revised Draft Environmental Report, Valero Benicia Crude by Rail Project.
- In September 2015, prepared report, "Environmental, Health and Safety Impacts of the Proposed Oakland Bulk and Oversized Terminal, and presented oral testimony on September 21, 2015 before Oakland City Council on behalf of the Sierra Club.

- In September 2015, prepared comments on revisions to two chapters of EPA's Air Pollution Control Cost Manual: Docket ID No. EPA-HQ-OAR-2015-0341.
- 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.
- In March 2015, prepared "Comments on Proposed Title V Air Permit, Yuhuang Chemical Inc. Methanol Plant, St. James, Louisiana".
- 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.
- 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.
- 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 November 2014, prepared comments on Draft Environmental Impact Report for the Tesoro Avon Marine Oil Terminal Lease Consideration.
- In October 2014, prepared: "Report on Hydrogen Cyanide Emissions from Fluid Catalytic Cracking Units", pursuant to the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, 79 FR 36880.
- In October 2014, prepared technical comments on Final Environmental Impact Reports for Alon Bakersfield Crude Flexibility Project to build a rail terminal to allow the import/export of tar sands and Bakken crude oils and to upgrade an existing refinery to allow it to process a wide range of crudes.

- In October 2014, prepared technical comments on the Title V Permit Renewal and three De Minimus Significant Revisions for the Tesoro Logistics Marine Terminal in the SCAQMD.
- In August 2014, for EPA Region 6, prepared technical report on costing methods for upgrades to existing scrubbers at coal-fired power plants.
- In July 2014, prepared technical comments on Draft Final Environmental Impact Reports for Alon Bakersfield Crude Flexibility Project to build a rail terminal to allow the import/export of tar sands and Bakken crude oils and to upgrade an existing refinery to allow it to process a wide range of crudes.
- In June 2014, prepared technical report on Initial Study and Draft Negative Declaration for the Tesoro Logistics Storage Tank Replacement and Modification Project.
- In May 2014, prepared technical comments on Intent to Approve a new refinery and petroleum transloading operation in Utah.
- In March and April 2014, prepared declarations on air permits issued for two crude-by-rail terminals in California, modified to switch from importing ethanol to importing Bakken crude oils by rail and transferring to tanker cars. Permits were issued without undergoing CEQA review. One permit was upheld by the San Francisco Superior Court as statute of limitations had run. The Sacramento Air Quality Management District withdrew the second one due to failure to require BACT and conduct CEQA review.
- In March 2014, prepared technical report on Negative Declaration for a proposed modification of the air permit for a bulk petroleum and storage terminal to the allow the import of tar sands and Bakken crude oil by rail and its export by barge, under the New York State Environmental Quality Review Act (SEQRA).
- In February 2014, prepared technical report on proposed modification of air permit for midwest refinery upgrade/expansion to process tar sands crudes.
- 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 on3333 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.
- In June 2013, prepared technical report on Draft Environmental Impact Report for the California Ethanol and Power Imperial Valley 1 Project.
- In May 2013, prepared comments on draft PSD permit for major expansion of midwest refinery to process 100% tar sands crudes, including a complex netting analysis involving debottlenecking, piecemealing, and BACT analyses.
- In April 2013, prepared technical report on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Keystone XL Pipeline on air quality impacts from refining increased amount of tar sands crudes at Refineries in PADD 3.
- In October 2012, prepared technical report on the Environmental Review for the Coyote Island Terminal Dock at the Port of Morrow on fugitive particulate matter emissions.
- In October 2012-October 2014, review and evaluate Flint Hills West Application for an expansion/modification for increased (Texas, Eagle Ford Shale) crude processing and related modification, including netting and BACT analysis. Assist in settlement discussions.

- In February 2012, prepared comments on BART analysis in PA Regional Haze SIP, 77 FR 3984 (Jan. 26, 2012). On Sept. 29, 2015, a federal appeals court overturned the U.S. EPA's approval of this plan, based in part on my comments, concluding "..we will vacate the 2014 Final Rule to the extent it approved Pennsylvania's source-specific BART analysis and remand to the EPA for further proceedings consistent with this Opinion." Nat'l Parks Conservation Assoc. v. EPA, 3d Cir., No. 14-3147, 9/19/15.
- Prepared cost analyses and comments on New York's proposed BART determinations for NOx, SO2, and PM and EPA's proposed approval of BART determinations for Danskammer Generating Station under New York Regional Haze State Implementation Plan and Federal Implementation Plan, 77 FR 51915 (August 28, 2012).
- Prepared cost analyses and comments on NOx BART determinations for Regional Haze State Implementation Plan for State of Nevada, 77 FR 23191 (April 18, 2012) and 77 FR 25660 (May 1, 2012).
- Prepared analyses of and comments on New Source Performance Standards for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 77 FR 22392 (April 13, 2012).
- Prepared comments on CASPR-BART emission equivalency and NOx and PM BART determinations in EPA proposed approval of State Implementation Plan for Pennsylvania Regional Haze Implementation Plan, 77 FR 3984 (January 26, 2012).
- Prepared comments and statistical analyses on hazardous air pollutants (HAPs) emission controls, monitoring, compliance methods, and the use of surrogates for acid gases, organic HAPs, and metallic HAPs for proposed National Emission Standards for 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).
- Prepared comments on draft PSD permit for major expansion of midwest refinery to process up to 100% tar sands crudes. Participated in development of monitoring and controls to mitigate impacts and in negotiating a Consent Decree to settle claims in 2008.
- Reviewed and assisted interested parties prepare comments on proposed Kentucky air toxic regulations at 401 KAR 64:005, 64:010, 64:020, and 64:030 (June 2007).
- Prepared comments on proposed Standards of Performance for Electric Utility Steam Generating Units and Small Industrial-Commercial-Industrial Steam Generating Units, 70 FR 9706 (February 28, 2005).
- Prepared comments on Louisville Air Pollution Control District proposed Strategic Toxic Air Reduction regulations.
- Prepared comments and analysis of BAAQMD Regulation, Rule 11, Flare Monitoring at Petroleum Refineries.
- Prepared comments on Proposed National Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary

Sources: Electricity Utility Steam Generating Units (MACT standards for coal-fired power plants).

- Prepared Authority to Construct Permit for remediation of a large petroleum-contaminated site on the California Central Coast. Negotiated conditions with agencies and secured permits.
- Prepared Authority to Construct Permit for remediation of a former oil field on the California Central Coast. Participated in negotiations with agencies and secured permits.
- Prepared and/or reviewed hundreds of environmental permits, including NPDES, UIC, Stormwater, Authority to Construct, Prevention of Significant Deterioration, Nonattainment New Source Review, Title V, and RCRA, among others.
- Participated in the development of the CARB document, *Guidance for Power Plant Siting and Best Available Control Technology*, including attending public workshops and filing technical comments.
- Performed data analyses in support of adoption of emergency power restoration standards by the California Public Utilities Commission for "major" power outages, where major is an outage that simultaneously affects 10% of the customer base.
- Drafted portions of the Good Neighbor Ordinance to grant Contra Costa County greater authority over safety of local industry, particularly chemical plants and refineries.
- Participated in drafting BAAQMD Regulation 8, Rule 28, Pressure Relief Devices, including participation in public workshops, review of staff reports, draft rules and other 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 Review of Toxic Air Contaminants, in 1993, including review of staff proposals and preparation of technical comments on same.
- Participated in the development of the Sunnyvale Ordinance to Regulate the Storage, Use and Handling of Toxic Gas, which was designed to provide engineering controls for gases that are not otherwise regulated by the Uniform Fire Code.
- Participated in the drafting of the Statewide Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries, including participation in workshops, review of draft plans, preparation of technical comments on draft plans, and presentation of testimony before the SWRCB.
- Participated in developing Se permit effluent limitations for the five Bay Area refineries, including review of staff proposals, statistical analyses of Se effluent data, review of literature on aquatic toxicity of Se, preparation of technical comments on several staff proposals, and presentation of testimony before the Bay Area RWQCB.
- Represented the California Department of Water Resources in the 1991 Bay-Delta Hearings before the State Water Resources Control Board, presenting sworn expert testimony with cross examination and rebuttal on a striped bass model developed by the California Department of Fish and Game.

- Represented the State Water Contractors in the 1987 Bay-Delta Hearings before the State Water Resources Control Board, presenting sworn expert testimony with cross examination and rebuttal on natural flows, historical salinity trends in San Francisco Bay, Delta outflow, and hydrodynamics of the South Bay.
- Represented interveners in the licensing of over 20 natural-gas-fired power plants and one coal gasification plant at the California Energy Commission and elsewhere. Reviewed and prepared technical comments on applications for certification, preliminary staff assessments, final staff assessments, preliminary determinations of compliance, final determinations of compliance, and prevention of significant deterioration permits in the areas of air quality, water supply, water quality, biology, public health, worker safety, transportation, site contamination, cooling systems, and hazardous materials. Presented written and oral testimony in evidentiary hearings with cross examination and rebuttal. Participated in technical workshops.
- Represented several parties in the proposed merger of San Diego Gas & Electric and Southern California Edison. Prepared independent technical analyses on health risks, air quality, and water quality. Presented written and oral testimony before the Public Utilities Commission administrative law judge with cross examination and rebuttal.
- Represented a PRP in negotiations with local health and other agencies to establish impact of subsurface contamination on overlying residential properties. Reviewed health studies 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;
9. Refine/develop statistical theory of autocorrelation and use to assess strength of relationships between biological and flow variables;
10. Collect, compile, and analyze water quality and toxicity data for surface waters in the Central Valley to assess the role of water quality in fishery declines;
11. Assess mitigation measures, including habitat restoration and changes in water project operation, to minimize fishery impacts;
12. Evaluate the impact of unscreened agricultural water diversions on abundance of larval fish;
13. Prepare and present testimony on the impacts of water resources development on Bay hydrodynamics, salinity, and temperature in water rights hearings;
14. Evaluate the impact of boat wakes on shallow water habitat, including interpretation of historical aerial photographs;
15. Evaluate the hydrodynamic and water quality impacts of converting Delta islands into reservoirs;
16. Use a hydrodynamic model to simulate the distribution of larval fish in a tidally influenced estuary;
17. Identify and evaluate non-export factors that may have contributed to fishery declines, including predation, shifts in oceanic conditions, aquatic toxicity from

pesticides and mining wastes, salinity intrusion from channel dredging, loss of riparian and marsh habitat, sedimentation from upstream land alternations, and changes in dissolved oxygen, flow, and temperature below dams.

- Developed, directed, and participated in a broad-based research program on environmental issues and control technology for energy industries including petroleum, oil shale, coal mining, and coal slurry transport. Research included evaluation of air and water pollution, development of novel, low-cost technology to treat and dispose of wastes, and development and application of geohydrologic models to evaluate subsurface contamination from in-situ retorting. The program consisted of government and industry contracts and employed 45 technical and administrative personnel.
- Coordinated an industry task force established to investigate the occurrence, causes, and solutions for corrosion/erosion and mechanical/engineering failures in the waterside systems (e.g., condensers, steam generation equipment) of power plants. Corrosion/erosion failures caused by water and steam contamination that were investigated included waterside corrosion caused by poor microbiological treatment of cooling water, steam-side corrosion caused by ammonia-oxygen attack of copper alloys, stress-corrosion 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 separator vents, and wastewater pond fugitives for arsenic, cadmium, chlorine, chromium, mercury, 15 organic indicators (e.g., quinoline, pyrrole, benzo(a)pyrene, thiophene, benzene), sulfur gases, hydrogen cyanide, and ammonia. In many cases, new methods had to be developed or existing methods modified to accommodate the complex matrices of shale plant gases.
- Conducted investigations on the impact of diesel exhaust from truck traffic from a wide range of facilities including mines, large retail centers, light industrial uses, and sports facilities. Conducted traffic surveys, continuously monitored diesel exhaust using an aethalometer, and prepared health risk assessments using resulting data.
- Conducted indoor air quality investigations to assess exposure to natural gas leaks, pesticides, molds and fungi, soil gas from subsurface contamination, and outgasing of carpets, drapes, furniture and construction materials. Prepared health risk assessments using collected data.
- Prepared health risk assessments, emission inventories, air quality analyses, and assisted in the permitting of over 70 1 to 2 MW emergency diesel generators.
- Prepare over 100 health risk assessments, endangerment assessments, and other health-based studies for a wide range of industrial facilities.
- Developed methods to monitor trace elements in gas streams, including a continuous real-time monitor based on the Zeeman atomic absorption spectrometer, to continuously measure mercury and other elements.

- Performed nuisance investigations (odor, noise, dust, smoke, indoor air quality, soil contamination) for businesses, industrial facilities, and residences located proximate to and downwind of pollution sources.

PUBLICATIONS AND PRESENTATIONS (Partial List - Representative Publications)

J.P. Fox, P.H. Hutton, D.J. Howes, A.J. Draper, and L. Sears, Reconstructing the Natural Hydrology of the San Francisco Bay-Delta Watershed, Hydrology and Earth System Sciences, Special Issue: Predictions under Change: Water, Earth, and Biota in the Anthropocene, v. 19, pp. 4257-4274, 2015. http://www.hydrol-earth-syst-sci.net/19/4257/2015/hess-19-4257-2015.pdf.

D.J. Howes, P. Fox, and P. Hutton, Evapotranspiration from Natural Vegetation in the Central Valley of California: Monthly Grass Reference Based Vegetation Coefficients and the Dual Crop Coefficient Approach, Accepted for Publication in *Journal of Hydrologic Engineering*, October 13, 2014.

Phyllis Fox and Lindsey Sears, *Natural Vegetation in the Central Valley of California*, June 2014, Prepared for State Water Contractors and San Luis & Delta-Mendota Water Authority, 311 pg.

J.P. Fox, T.P. Rose, and T.L. Sawyer, Isotope Hydrology of a Spring-fed Waterfall in Fractured Volcanic Rock, 2007.

C.E. Lambert, E.D. Winegar, and Phyllis Fox, Ambient and Human Sources of Hydrogen Sulfide: An Explosive Topic, Air & Waste Management Association, June 2000, Salt Lake City, UT.

San Luis Obispo County Air Pollution Control District and San Luis Obispo County Public Health Department, *Community Monitoring Program,* February 8, 1999.

The Bay Institute, *From the Sierra to the Sea. The Ecological History of the San Francisco Bay-Delta Watershed*, 1998.

J. Phyllis Fox, *Well Interference Effects of HDPP's Proposed Wellfield in the Victor Valley Water District*, Prepared for the California Unions for Reliable Energy (CURE), October 12, 1998.

J. Phyllis Fox, *Air Quality Impacts of Using CPVC Pipe in Indoor Residential Potable Water Systems*, Report Prepared for California Pipe Trades Council, California Firefighters Association, and other trade associations, August 29, 1998.

J. Phyllis Fox and others, *Authority to Construct Avila Beach Remediation Project*, Prepared for Unocal Corporation and submitted to San Luis Obispo Air Pollution Control District, June 1998.

J. Phyllis Fox and others, *Authority to Construct Former Guadalupe Oil Field Remediation Project*, Prepared for Unocal Corporation and submitted to San Luis Obispo Air Pollution Control District, May 1998.

J. Phyllis Fox and Robert Sears, *Health Risk Assessment for the Metropolitan Oakland International Airport Proposed Airport Development Program*, Prepared for Plumbers & Steamfitters U.A. Local 342, December 15, 1997.

Levine-Fricke-Recon (Phyllis Fox and others), *Preliminary Endangerment Assessment Work Plan for the Study Area Operable Unit, Former Solano County Sanitary Landfill, Benicia, California*, Prepared for Granite Management Co. for submittal to DTSC, September 26, 1997.

Phyllis Fox and Jeff Miller, "Fathead Minnow Mortality in the Sacramento River," *IEP Newsletter*, v. 9, n. 3, 1996.

Jud Monroe, Phyllis Fox, Karen Levy, Robert Nuzum, Randy Bailey, Rod Fujita, and Charles Hanson, *Habitat Restoration in Aquatic Ecosystems. A Review of the Scientific Literature Related to the Principles of Habitat Restoration*, Part Two, Metropolitan Water District of Southern California (MWD) Report, 1996.

Phyllis Fox and Elaine Archibald, *Aquatic Toxicity and Pesticides in Surface Waters of the Central Valley*, California Urban Water Agencies (CUWA) Report, September 1997.

Phyllis Fox and Alison Britton, *Evaluation of the Relationship Between Biological Indicators and the Position of X2*, CUWA Report, 1994.

Phyllis Fox and Alison Britton, *Predictive Ability of the Striped Bass Model*, WRINT DWR-206, 1992.

J. Phyllis Fox, *An Historical Overview of Environmental Conditions at the North Canyon Area of the Former Solano County Sanitary Landfill*, Report Prepared for Solano County Department of Environmental Management, 1991.

J. Phyllis Fox, *An Historical Overview of Environmental Conditions at the East Canyon Area of the Former Solano County Sanitary Landfill*, Report Prepared for Solano County Department of Environmental Management, 1991.

Phyllis Fox, *Trip 2 Report, Environmental Monitoring Plan, Parachute Creek Shale Oil Program*, Unocal Report, 1991.

J. P. Fox and others, "Long-Term Annual and Seasonal Trends in Surface Salinity of San Francisco Bay," *Journal of Hydrology*, v. 122, p. 93-117, 1991.

J. P. Fox and others, "Reply to Discussion by D.R. Helsel and E.D. Andrews on Trends in Freshwater Inflow to San Francisco Bay from the Sacramento-San Joaquin Delta," *Water Resources Bulletin*, v. 27, no. 2, 1991.

J. P. Fox and others, "Reply to Discussion by Philip B. Williams on Trends in Freshwater Inflow to San Francisco Bay from the Sacramento-San Joaquin Delta," *Water Resources Bulletin*, v. 27, no. 2, 1991.

J. P. Fox and others, "Trends in Freshwater Inflow to San Francisco Bay from the Sacramento-San Joaquin Delta," *Water Resources Bulletin*, v. 26, no. 1, 1990.

J. P. Fox, "Water Development Increases Freshwater Flow to San Francisco Bay," *SCWC Update*, v. 4, no. 2, 1988.

J. P. Fox, *Freshwater Inflow to San Francisco Bay Under Natural Conditions*, State Water Contracts, Exhibit 262, 58 pp., 1987.

J. P. Fox, "The Distribution of Mercury During Simulated In-Situ Oil Shale Retorting," *Environmental Science and Technology*, v. 19, no. 4, pp. 316-322, 1985.

J. P. Fox, "El Mercurio en el Medio Ambiente: Aspectos Referentes al Peru," (Mercury in the Environment: Factors Relevant to Peru) Proceedings of Simposio Los Pesticidas y el Medio Ambiente," ONERN-CONCYTEC, Lima, Peru, April 25-27, 1984. (Also presented at Instituto Tecnologico Pesquero and Instituto del Mar del Peru.)

J. P. Fox, "Mercury, Fish, and the Peruvian Diet," *Boletin de Investigacion*, Instituto Tecnologico Pesquero, Lima, Peru, v. 2, no. 1, pp. 97-116, l984.

J. P. Fox, P. Persoff, A. Newton, and R. N. Heistand, "The Mobility of Organic Compounds in a Codisposal System," *Proceedings of the Seventeenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1984.

P. Persoff and J. P. Fox, "Evaluation of Control Technology for Modified In-Situ Oil Shale Retorts," *Proceedings of the Sixteenth Oil Shale Symposium*, Colorado School of Mines Press, Golden, CO, 1983.

J. P. Fox, *Leaching of Oil Shale Solid Wastes: A Critical Review*, University of Colorado Report, 245 pp., July 1983.

J. P. Fox, *Source Monitoring for Unregulated Pollutants from the White River Oil Shale Project*, VTN Consolidated Report, June 1983.

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(Partial)

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Assessment, Control and Remediation of LNAPL Contaminated Sites, API and USEPA, 9/94
Pesticides in the TIE Process, SETAC, 6/96
Sulfate Minerals: Geochemistry, Crystallography, and Environmental Significance, Mineralogical Society of America/Geochemical Society, 11/00.
Design of Gas Turbine Combined Cycle and Cogeneration Systems, Thermoflow, 12/00
Air-Cooled Steam Condensers and Dry- and Hybrid-Cooling Towers, Power-Gen, 12/01
Combustion Turbine Power Augmentation with Inlet Cooling and Wet Compression, Power-Gen , 12/01
CEQA Update, UC Berkeley Extension, 3/02
The Health Effects of Chemicals, Drugs, and Pollutants, UC Berkeley Extension, 4-5/02
Noise Exposure Assessment: Sampling Strategy and Data Acquisition, AIHA PDC 205, 6/02
Noise Exposure Measurement Instruments and Techniques, AIHA PDC 302, 6/02
Noise Control Engineering, AIHA PDC 432, 6/02
Optimizing Generation and Air Emissions, Power-Gen, 12/02
Utility Industry Issues, Power-Gen, 12/02
Multipollutant Emission Control, Coal-Gen, 8/03
Community Noise, AIHA PDC 104, 5/04
Cutting-Edge Topics in Noise and Hearing Conservation, AIHA 5/04
Selective Catalytic Reduction: From Planning to Operation, Power-Gen, 12/05
Improving the FGD Decision Process, Power-Gen, 12/05
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McIlvaine Hot Topic Hour, SCR Catalyst Choices, 10/12/06
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McIlvaine Hot Topic Hour, WE Energies Hg Control Update, 1/12/07
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McIlvaine Hot Topic Hour, Mercury Control Cost & Performance, 2/15/07
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Coal-to-Liquids – A Timely Revival, 9th Electric Power, 4/30/07
Advances in Multi-Pollutant and CO_2 Control Technologies, 9th Electric Power, 4/30/07
McIlvaine Hot Topic Hour, Measurement & Control of PM2.5, 5/17/07
McIlvaine Hot Topic Hour, Co-firing and Gasifying Biomass, 5/31/07
McIlvaine Hot Topic Hour, Mercury Cost and Performance, 6/14/07
Ethanol 101: Points to Consider When Building an Ethanol Plant, BBI International, 6/26/07
Low Cost Optimization of Flue Gas Desulfurization Equipment, Fluent, Inc., 7/6/07.
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PRB Coal Users Group, PRB 101, 12/4/07
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McIlvaine Hot Topic Hour, Mercury Control, 4/24/08
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McIlvaine Hot Topic Hour, Mercury and Toxics Monitoring, 2/5/09
McIlvaine Hot Topic Hour, Dry Precipitator Efficiency Improvements, 2/12/09
McIlvaine Hot Topic Hour, Coal Selection & Impact on Emissions, 2/26/09
McIlvaine Hot Topic Hour, 98% Limestone Scrubber Efficiency, 7/9/09
McIlvaine Hot Topic Hour, Carbon Management Strategies and Technologies, 6/24/10
McIlvaine Hot Topic Hour, Gas Turbine O&M, 7/22/10
McIlvaine Hot Topic Hour, Industrial Boiler MACT – Impact and Control Options, March 10, 2011
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Mechanics Liens, PDHOnline, 2/24/13.
Understanding Concerns with Dry Sorbent Injection as a Coal Plant Pollution Control, Webinar #874-567-839 by Cleanenergy.Org, March 4, 2013
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EXHIBIT D

Delta-Sierra Group
Mother Lode Chapter
P.O. Box 9258
Stockton CA 95208

November 22, 2019

Jason Cashman
Port of Stockton Environmental and Regulatory Affairs Manager
Port of Stockton
2201 West Washington Street
Stockton, California 95203

Via email to jcashman@stocktonport.com

Re: The October 2019 Lehigh Southwest Stockton Terminal Project Notice of Preparation and Initial Study

The Delta Sierra Group has reviewed the October 2019 Lehigh Southwest Stockton Terminal Project Notice of Preparation and Initial Study and has the following comments for your consideration as the Draft Environmental Impact Report (DEIR) is being prepared.

The adoption of the City of Stockton Envision 2040 General Plan increased outreach efforts at the urging of community organizations. As a city we have recognized that certain members of our community do not have the same level of services and accommodations, Boggs Tract is one of those communities. Boggs Tract is the residential area adjacent to the Port of Stockton. This Notice of Preparation and Initial Study was found on a state clearinghouse website[1] not on the Port's website (see attachment). A workshop should be held to hear the concerns of the community before the DEIR is prepared and briefing notices provided so that the community can be informed and knowledgeable when reviewing the DEIR.

The Lehigh Southwest Stockton Terminal is located at 205 Port Road 1, Berth 2. The proposed project includes an upgraded dock, new ship unloader with greater reach to service longer and wider vessels, as well as a lease modification to increase the leasehold from 6.24 to 8.08 acres with larger storage facilities. The current facility was reportedly converted in 1996 to handle cementitious materials and the abandoned fertilizer handling equipment left on site. Is the location of the fertilizer handling equipment the source of the additional acreage? The figures within the Notice of Preparation and Initial Study are shown below:

[1] https://ceqanet.opr.ca.gov/2019100510/2 - accessed 11.16.19

The location of the additional acreage was not shown on the map. Please provide an updated map showing the location of the additional acreage and the site's current use. The environmental setting stated that there are commodities stockpiled on site at the Port but did not describe the commodities nor the sizes of the stockpiles. Please provide a summary of the volumes and types of materials stored at the Port in stockpiles.

The description of existing dock and unloader facilities stated that the existing dock and ship unloader were originally designed to handle 35,000 tons deadweight (DWT) vessels as was the existing berth capacity and channel depth. The typical dimensions of these vessels were not described. A 1991 tanker stability study[2] described a typical tanker as having dimensions of length 638 feet, berth 89 feet, and depth 46.75 feet. Please describe the size of the larger and wider vessels that Lehigh charters. Also, please describe how the existing channel depths will be redesigned to handle these larger vessels and how the project's necessity for deeper channel depths will affect the benefit/cost ratio for the deepening of the navigation channels to Stockton.

The tonnage of cement, ground granulated blast furnace slag waste from the steel industry, and fly ash from the burning of coal is expected to increase greatly as described in Table 1 from the Initial Study (below). The statement regarding future commodity status was not clear, was the reference to slag or fly ash? Please describe any health hazards associated with the transport, storage, and distribution of these waste materials as well as fully disclose the air quality monitoring performed by Port of Stockton staff. Please also describe the relative proportions of cement, ground granulated blast furnace slag cement with fly ash that are handled currently and what is the proposed proportions of these cementitious materials.

Lehigh's current operations of cementitious material receiving and distributing were described on an annual basis because "activity at a terminal can vary month to month over the course of a year due to normal market forces, throughput activity is generally calculated over the preceding 12 months or a calendar year." The terminal's existing Permit to Operate (Facility Number N-153), issued by San Joaquin Valley Air Pollution Control District (SJVAPCD) was not referenced nor was it located on either Lehigh's website: https://www.lehighhanson.com/home or the SJVAPCD's website: https://www.valleyair.org/Home.htm. Please provide a copy of the permit as it was referenced in the Initial Study. The Initial Study stated that the current permit for the existing terminal operations allow for a truck and rail shipping capacity of 6,000 tons of cementitious materials per day, any combination of a maximum of approximately 200 trucks per day or 18 rail cars per day, and that the facility is permitted to receive 2.628 million tons per year via ship or rail. The existing operation received approximately 20 bulk cargo vessel calls in 2018. The unit "tons" was used when

[2] https://www.nap.edu/read/1621/chapter/13 accessed 11.11.19

describing product, but the term “metric ton” was used when describing the increased storage planned as part of the proposed project. Please use one unit of measure to describe tonnage.

Table 1
Expected Maximum Proposed Project Throughput Compared to Existing Levels (Annual)

	Baseline (2018)		Project Year 10 (Expected Maximum)	
	Mode (annual moves)	Tons of Product	Mode (annual moves)	Tons of Product
Truck[1]	16,730	459,484	42,000	1,100,000
Rail Cars	534	56,057	4,700	500,000
Rail Trips[2]	27	--	300	--
Ships Calls	20	287,907	50	1,700,000
Barges Calls	0	0	40	200,000
Total Tons	--	803,448	--	3,500,000

Notes:
1. Truck calls are expressed in one-way moves.
2. Assumes an average of 20 cars per train
3. Current throughput permitted by the SJVAPCD is 2,628,000 tons per day receiving into and 6,000 tons per day shipping out of the terminal.

The installation of the new dock is expected to require dredging of less than 500 cubic yards which is allowed under the Port’s existing permit. Please provide a copy of the Port’s dredging permit. The depth of excavation to accommodate the dock and bunker construction is stated to include ground disturbances up to 80 feet below the surface along the dock and beneath the proposed dome, as well as 40 feet below the sediment within the dock area. Native sediments may contain intact archaeological resources that are also tribal cultural resources.

No additional stormwater impacts were proposed, yet additional areas will be paved. Please describe the stormwater plan for the proposed facilities and provide a copy of the Port’s stormwater management plan and permit.

The project includes the installation of a new bunker to store cementitious materials replacing existing bunker 7. Below is a comparison of the two structures:

Bunker	Existing Bunker 7	New Bunker
Diameter- feet	130	120
Height - feet	58	132
Capacity – Metric Tons	8,000	40,000

When performing the analysis of potential aesthetic impacts please make sure that all directions are evaluated.

The Initial Study stated that in 2016 the Port has developed and implemented a *Renewable Portfolio Standard Procurement Plan*. “In the plan’s most recent iteration, the Port determined the most efficient and cost-effective approach to meeting these standards is through continued purchase of sufficient state-approved renewable energy products from the active California market.” Yet the Initial Study stated that the terminal is served by Pacific Gas and Electric. Some years ago, the Port of Stockton built a transmission voltage

substation on the Pacific Gas and Electric system in an effort to lower the price of electricity to the Port. The Port of Stockton resells the electricity purchased thru the substation to Port tenants. Please describe more fully the source of energy for the energy that flows through the Port of Stockton and that will supply Lehigh.

The Port of Stockton has the smallest Publicly Owned Utility in the State of California. The Port announced a mobile power source[3]:

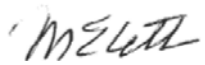
> The port of Stockton will be the first in the state to use a so-called "mobile power station," made by a company called Dannar. The company's website shows the power stations, on wheels, can be used to move heavy items themselves and can also charge other clean-energy vehicles using it battery storage. The high-tech help comes a few years after an old coal power plant at the Port of Stockton also switched to renewable fuel. Now there is another new power supply.

Please describe how the Port will be meeting renewable energy goals with the proposed increased operations as well as the City of Stockton's Climate Action Plan 29% reduction by 2020. Please also provide a copy of the Port's *Renewable Portfolio Standard Procurement Plan 2016 Update*.

Hazards associated with increased truck and rail transport of cementitious materials in addition to air quality concerns such as those associated with the safe movement of bicycles and pedestrian in the Port area should be addressed. Also, hazards associated with spills as well an anticipated truck and rail accidents should be based on actual port data, California Highway Patrol data, and/or other regional transportation data sources.

Thank you for considering our comments on the October 2019 Lehigh Southwest Stockton Terminal Project Notice of Preparation and Initial Study. We look forward to obtaining and reviewing the additional information requested. The Delta Sierra Group welcomes opportunities to discuss the Port of Stockton's public outreach efforts related to this project and to the Port of Stockton's public information dissemination.

Sincerely,



Mary Elizabeth M.S., R.E.H.S.
Delta-Sierra Group Conservation Chair
Sierra Club

Attachment: Port CEQA website 11.11.19

[3] https://www.portofstockton.com/port-of-stockton-rolling-out-power-on-wheels

CEQA DOCUMENTS

The Port of Stockton is committed to environmental stewardship and enhancement of the Delta and surrounding communities. The Port is currently unveiling and implementing a program that identifies opportunities the Port could engage to enhance the Delta. The Delta provides drinking water for two-thirds of the state of California and acts as a habitat for more than 70 fish species and abundant wildlife. The Delta provides a key resting or wintering spot along the Pacific Flyway for migrating bird species. The Port understands the importance of maintaining this delicate environment and providing a habitat for wildlife within an ever-growing population.

The Port of Stockton is committed to improving the region's quality of life by balancing environmental enhancement with the economic benefits of Port activity. This commitment is reflected in the Port's Delta Environmental Enhancement Program which aims to enhance air quality, water quality, and wildlife habitats in the Delta and surrounding communities.

Documents:

Cyber security technology consolidation-enhancement remediation NOE 2015-9-22

Sanguinetti property NOE 2015-9-22

San Joaquin International Gateway Project NOE 3-17-14

Calamco NOE 12-18-13

Forward Command Post NOE 8-20-13

Dock 14-15 2013 NOE 6-26-13

Dock 4-11 2013 NOE 6-17-13

Endicott:

Endicott NOD 2-4-14

Endicott IS-MND Draft 10-15-2013