COMMUNITIES FOR A
BETTER
ENVIRONMENT

March 25, 2014

Sheri Repp-Loadsman, Planning Officer
Saied Naaseh, Associate Planner
City of Carson
701 East Carson St.
Carson, 90745

Re: Center for Biological Diversity and Communities for a Better Environment's Comments on the Draft Environmental Impact Report for the Oxy USA Inc., Dominguez Oil Field Development Project

Dear Ms. Repp-Loadsman, Mr. Naaseh and City of Carson Planning Department,

The Center for Biological Diversity ("Center") and Communities for a Better Environment ("CBE") submit the following comments on the Oxy USA Inc. ("Oxy"), Dominguez Oil Field Development Project ("Project") Draft Environmental Impact Report ("DEIR").

The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center also works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. The Center has more than 675,000 members and online activists, including over 25,000 who live in Los Angeles County. Center members have an interest in ensuring that public and environmental health is protected in this area.

CBE is a California nonprofit environmental health and justice organization with offices in Huntington Park and in Oakland, California. CBE is a membership-based organization with thousands of members throughout the state. This includes hundreds living, working, and breathing in Los Angeles County ("County") and specifically in, and in the areas surrounding the City of Carson ("City") and the proposed Project site. CBE's organizational goals include protecting and enhancing the environment and public health by reducing air, water and soil pollution, and minimizing hazards in California's urban areas, including the area surrounding the Project. CBE also has significant organizational experience in protecting and enhancing the environment and public health in and around refinery and drilling operations.

This Project proposal involves an extensive expansion of drilling activity, operations and production in the Dominguez Oil Field, which increases air and water pollution, and threatens to involve seriously harmful and clearly foreseeable drilling and production practices

that would be executed in order to maximize production, and maintain a completive role in the oil and gas industry. As such, the Project also steers the City, and the region, away from achieving minimum public health protections and safety assurances for its citizens and residents, as well as residents in surrounding communities.

The City's actions taken at its regular Council meetings demonstrate the extent to which the public and its elected representatives are concerned with the activities involved in this Project. The issues of concern that have been expressed by many individuals and organizations in response to the development of this Project, further show that the Project deserves far more careful attention and analysis than what is achieved in this DEIR.

Specifically, in the month of March, 2014, the City Council held two votes in which its members voted to ensure more adequate protections for its constituents than was being assured by the Project applicant, Oxy. At the March 4, 2014 City Council meeting, City Councilmember Robles requested that the City consider a moratorium on fracking, in light of widespread concerns raised by environmental groups and residents of the City, its surrounding cities and communities, including the City of LA. The City Council voted to add the potential moratorium item to its agenda, for the Council Meeting to take place on March 18, 2014.

On March 18, 2014, concerned residents of the city of Carson appeared before the City Council to urge its members to vote in favor of a moratorium on fracking in the City. Public offering oral testimony in favor of the moratorium exceeded 60 in that evening alone, and many residents spoke of their particular concerns with the Project proposed by Oxy. The City Council voted in favor of taking a proactive step towards protecting human health and the environment in light of many unanswered questions relating to this, and other proposed drilling projects, and approved a 45-day moratorium on all proposed drilling projects, while the City conducts a study to ensure that adequate protective measures are in place to protect the residents of Carson from the potentially harmful health impacts, and safety hazards associated with drilling operations including fracking. Notably, the breadth of the moratorium – as encompassing more than only "hydraulic fracturing" or "fracking" and related well stimulation techniques – came in light of Oxy's assurances that it would not be using such techniques, which they stated in a letter submitted to the City on March 10, 2014.

These actions taken by the City show that there is at least some recognition of the potential serious implications of this and other proposed projects for oil and gas extraction in the region. Notwithstanding the narrow and shifting definitions of "Hydraulic Fracutring" and unconventional "well stimulation" activities advanced by the oil industry, proposed and existing well operations pose serious concerns relating to both the environment and public health. The City's actions, and the recent actions taken by the City LA show that local governments are taking steps towards recognizing the need to address public concern over these issues, and to provide the public and stakeholder representatives with an opportunity for input in the decision-making processes relating to this project.

In contrast to the recent actions taken by the City and others, however, the California

Environmental Quality Act ("CEQA," Pub. Resources Code § 21000 et seq.) process for the Project has failed to meet the statute's mandates, and has failed to reflect these environmental and public health realities by failing to provide adequate notice the individuals affected by the Project, and has shortchanged the public by failing to provide an adequate environmental review process. In addition, the DEIR as currently drafted is misleading and contains incomplete information about the extent of the Projects potential environmental impacts.

Among other flaws, the DEIR' analysis is based on an inadequate project description, resulting in the documents failure to identify, analyze and mitigated significant and potentially adverse, direct and cumulative impacts of the Project. The Center, and CBE are therefore, extremely concerned the DEIR fails to meet CEQA's dual purposes of providing decision makers and the public adequate information.

I. THE CEQA PROCESS FOR THE PROJECT HAS TO DATE FAILED TO PROVIDE ADEQUATE PUBLIC PARTICIPATION AS A RESULT OF CRITICAL OMMISSIONS AND ERRORS CONTAINED IN THE DEIR AND NOTICE DOCUMENTS

CEQA is intended "to afford the fullest possible protection to the environment."[1] To meaningfully achieve that end, public participation in environmental decision-making and planning processes is one of CEQA's key objectives.[2] Because the DEIR in current form omits critical aspects of the Projects immediate and reasonably foreseeable future operation components, the potential impacts of the Project cannot be addressed. Thus, CEQA's goals of informed decision-making and public participation are thwarted. Additionally, the pace at which the City has moved through the CEQA review process has further diminished the opportunity for informed public participation in the planning process for the Project. For these reasons, and the additional reasons explained herein, the City should reject the DEIR as drafted.

A. The Project Description is Misleading and Inadequate

"[O]nly through an accurate view of the project may the public, interested parties and public agencies balance the proposed project's benefits against its environmental cost, consider appropriate mitigation measures, assess the advantages of terminating the proposal and properly weigh other alternatives … ."[3] Thus, a misleading project description is critically detrimental to CEQA's goal of achieving maximum environmental protection as it inhibits the public and decision makers' access to meaningful information.

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[1] *Fat v. Couty of Sacramento* (2002) 97 Cal.App.4th 1270, 1276, quoting *Laurel Heights Improvement Ass'n. v. Regents of University of California* (1988) 47 Cal.3d 376, 390.

[2] CEQA Guidelines § 15151 ("An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences ...").

[3] *San Joaquin Raptor Rescue Center*, 149 Cal.App.4th at 655 (quoting *City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1454).

In reviewing the adequacy of a project descriptions contained in EIR documents, the Courts of Appeal have held that a "finite project description is indispensible to an informative, legally adequate EIR", and "a curtailed, enigmatic or unstable project description draws a red herring across the path of public input."[4]

The critical inquiry of the courts in determining whether a project description is adequate, therefore, hinges on whether the requirements of CEQA, including its requirements to involve the public and agencies in decision-making and approval processes are meaningfully met.[5] In accordance with this line of inquiry, and upholding of the core principals and purpose of CEQA, applicants and reviewing agencies are prohibited from piecemealing, improperly segmenting, and subdividing single projects into smaller projects, wherein the overall, significant environmental effects are obscured and the responsibility of considering the full range of impacts as a whole is avoided.[6]

Here, Oxy has failed to provide a legally adequate project description, precluding the City, as the lead agency, from meeting CEQA's core requirements in three principal ways. First, because the DEIR fails to sufficiently describe all current and reasonably foreseeable project components, it fails to identify, much less analyze, the full range of potential impacts on the environment and human health and safety. These potential impacts include, but are not limited to increases in emissions of criteria pollutants; green house gasses (GHGs) and toxic air contaminants (TACs), as well as soil and groundwater contaminants; and potentially significant impacts to human safety. Second, the DEIR fails to include any analysis of critical project components including activities that have preceded the project as integral first steps to the Project proposal. As a result, the DEIR's impacts analysis is based on an inaccurate baseline.

Finally, because the deficiencies of the DEIR largely stem from the Project Description, such deficiencies have been present since the initial Notice of the environmental planning process for the project; meaning, that the deficiencies have also permeated both the Notice of Preparation (NOP) and the Notice of Completion (NOC), further thwarting the opportunity for full public participation in the approval process for the Project.

i. The DEIR Fails To Provide Information On The Enhanced Recovery Techniques Oxy Could Foreseeably Use At The Project Site, Including Hydraulic Fracturing and Acidization.

Here, the DEIR fails to provide an adequate project description because it does not describe the full range of enhanced recovery techniques the project operator may use to

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[4] *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 199; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 655 (quoting *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 198).

[5] *See*, Public Resources Code § 21061.

[6] *Orinda Ass'n v. Board of Supervisors* (1986) 182 Cal.App.3d 1145, at 1171 (citing *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal.App.3d 188, 195-196).

produce oil and gas at the Project site, or sufficiently disclose the details of those activities. For instance, while the DEIR states that the Project will employ salt water injection to produce oil and gas,[7] it does not disclose the saltwater additives the company may use. As explained *infra* these chemicals may pose a serious threat to public health, and moreover, without a description of the chemicals Oxy may use as saltwater additives, it is impossible for the City to analyze and disclose the Project's potential impacts adequately. For other enhanced recovery techniques, the DEIR does not provide any information whatsoever. These techniques include acidization; thermal recovery techniques, such as cyclic steam injection and steam flooding; frac packing; enzyme enhanced recovery; and gas lifting. It also includes fracking, even though Oxy states that it will not use the technique, because as described above, it is reasonably foreseeable that fracking could be used at the Project site either as part of the proposed Project or as part of a reasonably foreseeable future expansion of the Project. Accordingly, the DEIR falls far short of providing decision makers and the public with a "finite project description" as is required by law.[8]

Neither Oxy's statement that it will not frack as part of the project, nor the DEIR's indication that the conditions of approval would bar fracking excuses the DIER's failure to include fracking in the project description. CEQA defines the future expansion of a project as part of the initial project if the expansion is a reasonably foreseeable consequence of the initial project.[9] This not only requires the agency to consider the impacts of this future expansion, but also requires that the project description reflect the project's reasonably foreseeable consequences.[10] Here, fracking is undoubtedly a reasonably foreseeable consequence of the approval the City is contemplating. Oil and gas companies often frack California wells.[11] Thus, if Oxy moves forward with the project, it is reasonably foreseeable that it will decide that fracking is necessary or will be helpful to produce the wells. If another company steps in, there is a significant chance that company will reach the same conclusion. CEQA requires the City to include fracking in the project description and consider the impacts of those fracking activities even if another approval may be required for fracking to occur because the future expansion of a project can be a reasonably foreseeable consequence of the initial approval even if the expansion is uncertain and dependent upon additional approvals.[12]

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[7] *See, e.g.*, DEIR at 1-4.

[8] *County of Inyo v. City of Los Angeles*, *supra*, 71 Cal. App. 3d at 185; *San Joaquin Raptor/Wildlife Rescue Ctr. v. Cnty. of Stanislaus* (1994) 27 Cal. App. 4th 713, 729-30 ("even where the FEIR [is] deemed to be adequate in all other respects, the selection and use of a truncated project concept violate[s] CEQA and mandates the conclusion that the County did not proceed in a manner required by law.").

[9] *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 396.

[10] *Id.* at 394 n.6.

[11] *See, e.g.*, California Department of Oil, Gas, and Geothermal Resources, Well Treatment Notices for 2014, available at http://www.conservation.ca.gov/dog/Pages/IWST_disclaimer.aspx (to access the records, agree to the Department's Data Disclaimer).

[12] *See, e.g., Joy Road Area Forest & Watershed Assn. v. California Dept. of Forestry & Fire Protection* (2006) 142 Cal.App.4th 656, 679-80; *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180, 194-95; *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 402-03, 414-15.

It also includes fracking, even though Oxy states that it will not use the technique, because as described above, it is reasonably foreseeable that fracking could be used at the Project site either as part of the proposed Project or as part of a reasonably foreseeable future expansion of the Project. Accordingly, the DEIR falls far short of providing decision makers and the public with a "finite project description" as is required by law.[13]

ii. The DEIR Fails To Include Integral Project Components Including "Pre"- Project Testing.

CEQA's requirements cannot be avoided by improperly segmenting components of a single project into separate projects, wherein the overall environmental impacts are obscured.[14] Where individual projects have effectively comprised distinct, yet integrally related single project phases, the Court of Appeal has held that all projects constituting such phases must included and analyzed for their impacts in the EIR document for the larger single project.[15]

The DEIR improperly omits any information relating to the two existing production test wells for the Project, beyond simply using their current operations in its baseline assumptions, from which to determine the significance of the potential impacts of the Project. The two production test wells are, however, integral project components and as such, should be analyzed for their impacts, in the DEIR.

While it is true that a proposal, which is related to, but has independent utility of, and is not necessary for another project to proceed, need not be included as part of the project description and may be reviewed in its own EIR as a separate project, that is not the case with two Projects that are integrally related to one another.[16] The two production test wells, drilled and operated for the purpose of assessing the viability of the current Project do not have independent utility without the overarching Project currently proposed. Yet, the DEIR omits any information relating to production levels of the two wells, and more importantly, it fails to properly analyze the emissions and other impacts of the production activities associated with the two wells, as they relate to the Project. Moreover, the DEIR does not state whether there was any permitting or environmental review process executed for those two wells, rendering a duplicative analysis in this document unnecessary. Because the Project relies heavily on the operation of the two test wells, details relating to the specific activities conducted in those two wells should be included as part of the Project Description and throughout the analyses contained in the DEIR.[17]

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[13] *County of Inyo v. City of Los Angeles*, *supra*, 71 Cal. App. 3d at 185; *San Joaquin Raptor/Wildlife Rescue Ctr. v. Cnty. of Stanislaus* (1994) 27 Cal. App. 4th 713, 729-30 ("even where the FEIR [is] deemed to be adequate in all other respects, the selection and use of a truncated project concept violate[s] CEQA and mandates the conclusion that the County did not proceed in a manner required by law.").

[14] *See*, *Orinda Ass'n v. Board of Supervisors*, *supra*, 182 Cal.App.3d, at 1171.

[15] *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal.App.3d 188, 195.

[16] *See*, *Communities for a Better Env't v. City of Richmond* (2010) 184 Cal.App.4th 70, 108.

[17] *See*, *City of Santee v. Cnty. of San Diego* (1989) 214 Cal. App. 3d 1438 (consideration of a Projects impats and their significance should be made in the context of any and all components of the Project).

The City should require re-drafting of the DEIR in light of this, among the additional flaws in both the Project description itself, and throughout the DEIR's analyses.[18]

iii. The Notice Documents and Time Provided for Public Input are Insufficient to meet CEQA's Purpose of Ensuring Public Participation

The CEQA guidelines provide that "In determining whether an effect will be adverse or beneficial, the Lead Agency shall consider the views held by members of the public in all areas affected, as expressed in the whole record before the lead agency."[19] As explained above, and further throughout the remainder of this comment, the misleading, inaccurate or otherwise inadequate information contained in the project description has tainted the notice given to community and agency stakeholders since the start of the environmental review process. Both the NOC and the NOP failed to provide the public with any information relating to the potentially grave public health and safety impacts that may result from the Project. Both notices further omitted statements relating to the potential severity of environmental impacts or the increase in risks of extreme hazards presented by the Project. The extent to which the public could chose to participate in the environmental review process from the outset was, therefore, hindered by the absence of information necessary to make informed decisions relating to public participation. In light of these facts, despite Oxy's submission of its project application, and the NOP for the project being released in 2012, the City is improperly rushing through the DEIR review process for the Project.

The release of the DEIR marks the public's first opportunity to thoroughly review and respond to omissions in Oxy's project description, as well as the insufficiency of other information relating to the Project, including information regarding the Project's true potential environmental and health impacts. The DEIR was released to the public on January 27, 2014. The initial deadline for comments on the DEIR was March 10, 2014. On February 24, 2014 the Center and CBE requested that the City extend the comment period for at least an additional 30 days due to the large scale, scope and complexity of this project, and in light of the highly technical nature of some the DEIR's stated information, as well as its omissions. The City initially rejected the Center and CBE's request, although its Council later voted to extend the comment period by fifteen days, to March 25, 2014. While The Center and CBE appreciate the City's willingness to provide an extension of time, given the highly technical nature of many of the issues involved in this project, and in light of the DEIR's extensive shortcomings, the length of the extension granted by the City Council is wholly inadequate to allow sufficient public participation and detailed analysis.

The City itself has recognized that there are key issues relating to the environmental review process, and the eventual operation of the Project that warrant a more cautious analysis, and would benefit from public input. These issues include, for example, the fact that Oxy USA Inc., has announced plans to separate its California operations, creating a new, stand-alone

[18] *City of Santee v. Cnty. of San Diego* ,supra, at 1447 (holding that an EIR is fatally flawed due to its inaccurate project description).

[19] CEQA Guidelines § 15064(c).

corporate entity that would be charged with operations of all Oxy's California drilling, including the proposed Project. On March 18, 2014 the City further recognized the need to evaluate more thoroughly the potential impacts from proposed drilling operations, by voting to approve an immediate 45-day moratorium on all "DRILLING, REDRILLING OR DEEPENING OF ANY NEW OF EXISTING WELLS WITHIN THE JURISDICTION OF THE CITY[.]"[20] The issues of concern to both the City and public, therefore, also include issues relating to the physical drilling operations that are encompassed by the Project. Notwithstanding Oxy's "guarantee" that "fracking" and other "well stimulation methods" as otherwise defined under state law will not be used in the 202 wells implicated by the project, there remains a valid concern that the operation of the project may cause devastating environmental and human health impacts.

The environmental review process for the Project should reflect the fact that there are many questions left unanswered with regard to the ownership and operation of the Project itself, as well as the ongoing active evolution in legal definitions relating to drilling operations throughout the state. The Public and agency stakeholders should be provided a meaningful opportunity to participate in the review and decision-making process with adequate information relating to new, unconventional drilling techniques that are being used in the South Coast region, and with more information relating to the true entity that will be responsible for the Project's operations. [21] Because such information remains unclear at this juncture, the City should provide more time for comments relating to the Project, in order to comply with CEQA's informed decisionmaking and other requirements.[22]

II. The DEIR Fails To Disclose and Analyze The Full Range Of The Project's Significant Impacts

Due in part to this improper piecemealing and obscured baseline, but also due to a failure to correctly account for and calculate all emissions from the proposed project, the DEIR fails to analyze and disclose all of the project's significant environmental impacts. CEQA requires project proponents to address all of a proposed project's anticipated environmental impacts.[23] "An EIR shall identify and focus on the significant environmental effects of the proposed project," including providing an analysis of both short-term and long-term significant environmental impacts.[24] One reason the EIR must accurately analyze the significant environmental impacts is because an agency should not approve a project if there are feasible mitigation measures or project alternatives available to reduce or avoid the significant environmental impacts contained in the project's EIR.[25]

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[20] City of Carson Report to the Mayor, Prepared by City Attorney William W. Wynder, March 18, 2014.
[21] *See*, CEQA Guidelines §15151, *supra*, (the information provided in an EIR shall contain sufficient information to make informed decisions relating to environmental consequences).
[22] *See, Id*.
[23] Public Resources Code § 21100(b)(1); *See also, County of Inyo v. City of Los Angeles* (1977) 71 Cal.App. 3d 185, 199.
[24] CEQA Guidelines § 15126.2(a).
[25] Public Resource Code §§ 21002, 21002.1(a).

A. The DEIR Uses An Improper Baseline

The DEIR incorrectly concludes that "the emissions from operation of the proposed Project will be less than the baseline emissions and are not expected to exceed any significance thresholds."[26] While it is true that the CEQA Guidelines provide that the appropriate baseline for an EIR be the existing environmental conditions at the time in which the NOP is published, this particular project has failed to include integral project components in its environmental analyses, rendering the May 2012 baseline setting inaccurate. As explained, *infra*, in Section I, the project description omits the construction and operation of the two "existing" production test wells, as a critical part of the proposed Project, rendering the DEIR's conclusions relating to Project impacts and their significance incorrect in two respects. First, because the DEIR analysis assumes an improper baseline, the conclusion that emissions from the project will fall below the "baseline" is likewise, inaccurate; and second, the significance analyses throughout the DEIR is skewed for the same reason.

Rather than taking the environmental conditions as they existed in May of 2012, the DEIR should have taken the environmental conditions as they existed prior to the production and testing activities, which remain ongoing, in the two existing production test wells that are part of this Project. CEQA Guidelines § 15126 provides that "*all* phases of a project shall be considered when evaluating its impact on the environment."[27] Taken in tandem with the standing principal that adequate project descriptions include all phases of a given proposed project, this standard implies that pre-project testing that is integral to the Project itself should be included in the environmental setting, to evaluate the proper baseline from which the significance of environmental impacts should be measured.[28]

Here, the existing production test wells have been in operation since 2011.[29] The DEIR states that drilling of the two production wells began in November, 2010.[30] Production from the two wells subsequently began in May of the following year, and has remained ongoing ever since.[31] Yet, the DEIR omits any information relating to the level of production yielded from the two wells, and further omits any information relating to any environmental review or permitting process, necessary or conducted for the two wells. Although readers of any EIR should not be forced to rely on outside research and resources to find important components of a thorough environmental analysis, the DEIR as drafted, forces its readers to look outside the document for pertinent information relating to key Project components, including the two

[26] *See* DEIR at 1-19.
[27] (Emphasis added).
[28] *See*, *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal.App.3d 188, 195-196 (applying CEQA Guidelines to hold that the projects, which are, in effect, necessary precedents to another project shall be considered together with the subsequent project by the lead agency), *see also*, *Communities for a Better Environment v. Richmond* (2010) 184 Cal.App.4th 70, 108 (holding that project components that are integral to the project itself must be included in an EIR's adequate project description).
[29] DEIR at 3-26.
[30] *Id*.
[31] *Id*.

production-test wells.[32] Based on inquiries conducted by the Center, and CBE, however, it remains unclear what the permitting status and production levels are for these wells. For example, while DOGGR has retained some information identifying to two production test wells, neither the City nor DOGGR appear to have any information relating to the actual production levels corresponding to the wells.

Knowledge of regional setting and local environmental conditions is critical to the assessment of environmental impacts.[33] Thus, the DEIR should include an accurate description of the physical environmental conditions in the vicinity of the project, as they exist at the time the environmental analysis is commenced.[34] The environmental analysis for this project should have commenced at the time in which the two, existing, production test wells were proposed. Until the environmental setting is amended to include such information, the setting described, and baseline applied throughout the DEIR is incorrect. As a result, the levels if significance stated in the DEIR are wholly inaccurate. For this reason, and the additional reasons expressed throughout the remainder of this comment and its supporting technical report, the City should reject the DEIR as legally inadequate document.

B. The DEIR Fails to Identify Or Properly Analyze the Project's Impacts to Air Quality

An accurate estimation of air emissions impacts from the Project is critical not just because a DEIR must disclose and mitigate all significant environmental impacts, but also because, as the DEIR notes, the area is out of attainment for the federal ozone and PM2.5 standards as well as the state PM10 standards. A DEIR must "discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan or State Implementation Plan."[35] Furthermore, "the Lead Agency shall determine that a proposed project is of statewide, regional, or areawide significance if the project. . . interfere[s] with the attainment or maintenance of state or national air quality standards."[36] By underestimating the emissions of VOCs (ozone precursors), diesel, hydrocarbons, and other criteria pollutants, the DEIR obscures the true impacts on air quality and on the South Coast Air Basin's progress toward attainment of the federal and state Clean Air Act standards, and fails to comply with CEQA.

i. The DEIR Underestimates the Project's Criteria Pollutant Emissions.

Criteria pollutants emitted from oil and gas extraction operations have serious adverse effects on people's health. For instance, one of the major categories of pollutants released

[32] *San Joaquin Raptor Rescue Ctr. v. County of Merced* (2007) 149 Cal.App.4th 645, 649; *see also, California Oak Found. v.City of Santa Clarita* (2005) 133 Cal.App.4th 1219, 1239
[33] CEQA Guidelines § 15125(a),(c).
[34] CEQA Guidelines § 15125 (a).
[35] CEQA Guidelines § 15125(d).
[36] CEQA Guildelines §15206(b).

from these operations is VOCs. By themselves, VOCs can cause headaches, nausea, weakness, and other short-term symptoms, and long-term exposure can cause cancer and death. VOCs also react with sunlight to create ground-level ozone, or smog, which is a criteria pollutant. The South Coast Air Basin violates the federal Clean Air Act standards for ozone. Ozone causes and exacerbates respiratory illnesses, such as asthma and bronchitis, and has been linked to premature mortality.[37] These reactions are exacerbated when the person breathing is a sensitive receptor, such as a child, an elderly person, or someone who is already ill.

The DEIR argues that the operational impacts of the proposed project will be less than the baseline.[38] The DEIR, however, severely underestimates the criteria pollutants that will be emitted by the project for several reasons. First, by improperly piecemealing the project and obscuring the baseline, the DEIR omits criteria pollutants emitted from the two test wells, flare, and associated equipment that must be included as part of the project. Second, the DEIR severely underestimates the criteria pollutants that will be emitted by the flares, trucks, and leaks from the proposed project's operations. Not only does CEQA require an accurate analysis of air impacts, but underestimating the emissions of criteria pollutants can have serious consequences on nearby sensitive receptors—such as children, the elderly, and the sick who live in the residential development to the northwest and in California State University-Dominguez Hills student housing to the west—and on the region's progress toward attainment of the state and federal Clean Air Act standards.

a. The DEIR Improperly Omits Criteria Pollutants from the Test Wells and Related Processes and Equipment

The DEIR states that the facility currently includes "two production test wells, production testing equipment, a process flare, an emergency flare, electrical generators, and several temporary storage tanks."[39] The DEIR also notes that the "two test wells were drilled more than two miles (i.e., over 10,560 feet) deep using diesel-powered generators and a drill rig," and that the "current oil and gas testing operations occur 24 hours a day, seven days a week with two 12-hour shifts."[40] As noted above, these processes are integral to the project and therefore must be included as part of the project. As a result, the 97.1 lbs/day VOCs, 602.3 lbs/day of NOx, 11.8 lbs/day of SOx, 145 lbs/day of CO, 16.8 lbs/day of PM10, and 13.8 lbs/day of PM2.5 created by these test wells and related operations that are included in the DEIR as *existing conditions*—or, the baseline—must be included in the analysis of the project's significant impacts on air quality.[41] The DEIR estimates that the only exceedance of South Coast Air Quality Management District CEQA significant thresholds will be NOx emissions from construction impacts.[42] Yet, by themselves, the *two* test well operational

[37] For an overview of the effects of VOCs, ozone, and other air pollutants caused by oil and gas drilling operations, *see generally,* Natural Resources Defense Council, et al., *Drilling Down: Protecting Western Communities from the Health and Environmental Effects of Oil and Gas Production*, October 2007, at 8-13.
[38] DEIR, at 4-14.
[39] DEIR, at 1-6; *see also*, 4-8 – 4-9.
[40] DEIR, at 1-6.
[41] DEIR, at 1-9, 4-9.
[42] DEIR, at 1-19.

emissions of VOCs and NOx exceed the South Coast Air Quality Management District significant thresholds.[43] Furthermore, the diesel-powered generators and rill rig used to drill the wells from November 2010 through May 2011[44] also emitted significant criteria pollutants that should have been included in the calculations.

b. The DEIR Fails to Account for Criteria Pollutants from the Flares, Truck Traffic, and Fugitive Emissions

The DEIR notes that, with respect to the current operations, the "primary sources of onsite emissions are the process heater and the process flare."[45] Aside from the fact that these emissions are not part of the existing setting but rather must be included as part of the project's projected air quality impacts, as noted above, the DEIR severely underestimates the emissions from the process and emergency flares in the proposed project as described in the DEIR.

From a commonsense standpoint, it makes little sense to note that the flare associated with *two wells* constitutes are primary source of emissions (which are significant) and then argue that the emissions from the two flares associated with *two hundred more wells* will not be significant. The technical comments of Julia May, demonstrate why and how this logical conclusion is true. In brief, with respect to the emergency flare, the "DEIR calculations included only the pilot flame emissions, leaving out the much higher emissions that occur due to actual flare usage."[46] At the same time, the DEIR hugely overestimated the possible efficiency of the process flare, thereby significantly underestimating emissions of VOCs.[47] For instance, at 98% efficiency, which is what EPA recommends to use for an extremely efficient, well-functioning, consistent flare,[48] the VOC emissions would be 392 lbs/day,[49] *seven times* the SCAQMD CEQA air quality significance threshold for VOC operational emissions.

The DEIR similarly notes that, with respect to the current operations, the "primary sources of offsite emissions are from the various transport trucks."[50] It argues that emissions from the proposed project will be lower than baseline emissions due in large part "to the reduction in truck traffic and the use of electric drill rig rather than diesel rig."[51] Nowhere does the DEIR explain how building two hundred wells and processing the resulting oil and gas *for sale* will *decrease* truck traffic from the current conditions that consist of two "test" wells. The DEIR fails to note how many truck trips per day currently occur (or, better yet, occurred prior

[43] DEIR, at 4-3; http://www.aqmd.gov/ceqa/handbook/signthres.pdf .
[44] DEIR, at 1-11.
[45] DEIR, at 4-9.
[46] *See* accompanying technical comments of Julia May, attached at Exhibit A.
[47] *See, Id.*
[48] *See* United States Environmental Protection Agency, Emission Estimation Protocol for Petroleum Refineries, May 2011, version 2.2.1, Chapter 13, Sect. 4, Example 4-4, available at: http://www.epa.gov/ttnchie1/efpac/protocol/Emission_Estimation_Protocol_for_Petroleum_Refinerie_052011.pdf .
[49] Technical comments of Julia May, p. ____.
[50] DEIR, at 4-10.
[51] DEIR, at 4-14.

to the drilling of the test wells) or how much production occurs at the current test wells that would require trucks to transport product and waste, and thus fails to support its conclusory statement that the proposed project will result in a reduction in truck traffic. At the same time, the DEIR notes in several places where trucks will, in fact, be used during *operation* of the proposed project (setting aside for now the significant number of trucks that will be used for construction). These include *inter alia*, moving a maintenance rig,[52] transporting NGL from the facility (an estimated one to two trucks per day),[53] trucking hydrostatic testing water offsite,[54] trucking drilling mud off-site (an estimated one truck trip per day),[55] worker vehicles and truck deliveries.[56] Additionally, the DEIR's use of 500 extra truck trips per day to determine significance is absurd. It is based on Los Angeles County traffic impact analysis guidelines that are almost 15 years old, and is not based on air quality impacts but on traffic impacts.[57] The DEIR also ignores the other cases that cause county staff to be "concerned," including whether the project will impact traffic flow and whether it generates or alters traffic flow in a residential neighborhood.[58] It is unclear from the DEIR whether these truck trips will be through the nearby residential housing areas, thereby affecting the traffic flow of these neighborhoods and the health of sensitive receptors.

The DEIR further severely underestimates the fugitive emissions from the proposed project's operations. The DEIR bases its fugitive emissions calculations on miniscule leak rates; however, evidence shows much higher leak rates from oil and gas operations generally (and even higher rates in Los Angeles) than was used for analysis in the DEIR.[59] In addition to being a potent GHG, methane is a powerful ozone precursor[60] and the DEIR fails to take this into account when calculating the project's impacts on air quality. Though the studies cited in the Technical Comments of Julia May evaluated methane (the largest volume of gas), other pollutants—including ethane, propane, butane, hydrogen sulfide, and others—are also emitted as fugitive emissions from oil and gas operations. If leak rates are higher leading to higher emissions of methane, then the emissions of these other pollutants would also be expected to be higher. The DEIR, therefore, must evaluate what the increased fugitive emissions levels would be a fugitive leak rate of 4-17%--more realistic leak rates, based on substantial evidence—was applied.[61]

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[52] DEIR, App. A, at 1-9.
[53] DEIR, App. A, at 1-11, 1-18, 2-31.
[54] DEIR, App. A, at 1-15.
[55] DEIR, App. A, at 1-16.
[56] DEIR, App. A, at 2-12.
[57] DEIR, App. A, at 2-51, Los Angeles County Department of Public Works, Traffic Impact Analysis Report Guidelines, January 1, 1997 ("Traffic Impact Guidelines"), available at: http://dpw.lacounty.gov/traffic/traffic%20impact%20analysis%20guidelines.pdf .
[58] Traffic Impact Guidelines.
[59] *See* Technical Comments of Julia May (explanation of the hazards associated with Methane Leaks, which are omitted from the DEIR).
[60] *See*, NASA technical report, "No Need to Wait for Clean Air" by Drew Shindell, New York, NY, April 16, 2012, published in Meteorology and Climatology; Environment Pollution, New Scientists Opinion; Issue 2860, available at: http://ntrs.nasa.gov/search.jsp?R=20140001051, last accessed March 25, 2014.
[61] *See* Technical Comments of Julia May, supra, (explanation of the hazards associated with Methane Leaks).

As a result of these efforts to obscure the true air impacts of this project, combined with the fact that the area is out of attainment for pollutants that this project and projects like it are known emit, the DEIR fails to comply with CEQA. Without an accurate understanding of the significant impacts of the project, the project proponent cannot take the appropriate measures to mitigate the impacts. The City should, therefore, reject the DEIR and refuse to approve the project with such an inadequate analysis of critical air emissions impacts.

ii. The DEIR Underestimates the Project's Hazardous Air Pollutants Emissions.

Oil and gas operations emit large amounts of VOCs and non-methane hydrocarbons ("NMHCs") that are dangerous to human health. According to the DEIR, the Project is expected to produce up to 3 million cubic feet of natural gas every day.[62] Studies indicate that a large amount of this will be released as fugitive emissions and a substantial portion of this natural gas will be released in the form of VOCs, including non-methane hydrocarbons like the carcinogen benzene, among others.[63] The DEIR's failure to consider all of the Project's potential fugitive and process emissions in its impacts analyses, however, obscures the potentially harmful impacts that these pollutants can have on the health of those residing in the vicinity of the Project. For similar reasons as those explained above in relation the DEIR's failure to adequately analyze the Project's criteria pollutants, the DEIR has also failed to adequately analyze the extent of potentially harmful Hazardous Air Pollutants (HAPs).

VOC emissions, which make up about 3.5 percent of the gases emitted by oil or gas operations,[64] are particularly hazardous.[65] VOC emissions include what are known as "BTEX compounds" – a combination of benzene, toluene, ethyl benzene, and xylene – which are HAPs, subject to regulation by both the United States Environmental Protection Agency (US EPA) and the California Air Resources Board (CARB).[66] The Health effects associated with each of these compounds can be severe, and in combination are even more troubling. For example, some of the more severe health effects associated with benzene alone include "acute and chronic nonlymphocytic leukemia, acute myeloid leukemia, chronic lymphocytic leukemia, anemia, and other blood disorders and immunological effects."[67] Further, maternal exposure to benzene has been associated with an increase in birth prevalence of neural tube defects. [68] Acute, short-term exposure to ethyl benzene has been known to cause both respiratory and neurological effects including throat irritation, chest contractions and

[62] DEIR at 1-6.
[63] *See*, Brown, Heather, Memorandum to Bruce Moore, USEPA/OAQPS/SPPD re Composition of Natural Gas for Use in the Oil and Natural Gas Sector Rulemaking at 3 (Jul. 28, 2011)
[64] Brown Memo at 3.
[65] McKenzie, Lisa et al., Human Health Risk Assessment of Air Emissions form Development of Unconventional Natural Gas Resources, Sci Total Environ (2012), doi:10.1016/j.scitotenv.2012.02.018; Food & Water Watch, The Case for a Ban on Fracking (2012).
[66] 42 U.S.C. § 7412(b).
[67] McKenzie 2012 at 2.
[68] *Id.*

dizziness,[69] and the same levels of exposure to xylene can also cause eye, nose, and throat irritation, difficulty in breathing, impaired lung function, and nervous system impairment.[70] In fact, many of the volatile chemicals associated with drilling and oil and gas waste are associated with serious effects to the respiratory, nervous, or circulatory systems.[71]

A recent study sampling air quality near Colorado gas wells found additional cause for concern regarding VOC emissions: among other things, it found methylene chloride in high concentrations.[72] The study states that for the wells tested "[m]ethylene chloride, a toxic solvent not reported in products used in drilling or hydraulic fracturing, was detected 73% of the time; several times in high concentrations," including one reading of 1730 ppbv.[73] While the source of the methylene chloride was not entirely clear, the study reported that it is commonly stored on well pads for cleaning purposes.

In addition, the study of Colorado gas wells also found high levels of multiple NMHCs, which can be associated with multiple health effects, including potentially effects to the endocrine system at very low concentrations.[74] NMHCs generally make up almost 18 percent of produced natural gas, and operations ultimately emit large amounts of these pollutants. Moreover, like VOCs and NO_X, NMHCs are ozone precursors.

Notably, while Oxy has assured the City and the Public that "hydraulic fracturing" or any other unconventional well stimulation techniques will not be used in the wells proposed for production in the Project, SCAQMD has recorded data since July 2013, showing the use of concerning HAP chemicals in other Oxy wells throughout the South Coast Basin. For example, according to the data reported by Oxy to the SCAQMD, Oxy has used hydrogen-fluoride, or hydrofluoric acid (HF) in wells that it owns and operates in both Orange County and Long Beach.[75] While the reports submitted to SCAQMD and retained by the agency specify that HF in three instances was used for the purpose of acidization of wells in each instance – an activity that Oxy claims will be precluded from the Project, but remains a reasonably foreseeable Project component – HF can, and has also been used throughout the South Coast Basin for the purpose of routine well maintenance. As such, even if Oxy's assurances are kept, and unconventional well stimulation methods will not be used throughout the life of the Project, the impacts of HF, among other chemical HAPs are not avoided. Thus,

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[69] *See*, United States Environmental Protection Agency Hazard Summary re Ethylbenzene, available at: http://www.epa.gov/ttnatw01/hlthef/ethylben.html, last accessed November 23, 2013.
[70] *Id.*
[71] Colborn, Theo et al., Natural Gas Operations from a Public Health Perspective, 17 Human and Ecological Risk Assessment 1047 (2011).
[72] Colborn, Theo, *et al.*, An Exploratory Study of Air Quality near Natural Gas Operations (2012) ("Colborn 2012").
[73] *Id.*
[74] Colborn 2012.
[75] *See* SCAQMD Rule 1148.2 Oil and Gas Activity Notification Report, Chemical Report Data, Event ID No.1256 and Event ID No. 1254, available at: http://xappprod.aqmd.gov/r1148pubaccessportal/ (last accessed on March 25, 2014).

the DEIR cannot omit mention of these chemicals, and a full analysis of the risks and potential impacts associated with their release.

HF is, moreover a particularly dangerous chemical, and therefore merits careful analysis in this, and any DEIR relating to drilling operations, especially in the context of enhanced drilling techniques. The use of HF has been well documented throughout various well operations in the South Coast region, its documented use extends beyond exclusively "fracking" and other unconventional well stimulation activities.[76] The potential human health effects caused by exposure to HF include damage to the skin, eyes and other sensory organs, respiratory system, gastrointestinal system and liver, brain and nervous system, immune system, kidneys, cardiovascular system and reproductive system; as well as mutagen and developmental inhibition.[77] The omission of any analysis of the risks relating to the release of this chemical, is therefore fatal to the integrity of the DEIR as an adequate environmental review document.

In light of the hazardous emissions oil and gas operations generate, and particularly in light of the increased use of particularly harmful chemicals in drilling operations, it is unsurprising that living close to oil and gas wells is associated with serious negative health outcomes. One study found that "proximity to wells reduces birth weight and gestation length on average and increases the prevalence of low birth weight and premature birth."[78] Another study "observed an association between density and proximity of natural gas wells within a 10-mile radius of maternal residence and prevalence of [congenital heart defects] and possibly [neural tube defects]."[79]

Because the DEIR fails to identify much less analyze the full range of potential impacts relating to the release of HAPs into the environment as a result of the Projects, its analysis is incomplete. Moreover, this critical shortcoming amounts to yet another reason the City should reject the DEIR as drafted.

C. The DEIR fails to analyze and disclose the project's significant impacts from the discharge of hazardous substances

An EIR must provide sufficient information to evaluate all potentially significant impacts of a project, including public safety risks due to accidents or, "information about how adverse the adverse impact will be."[80] Without this information, it is impossible for City decision makers and the public to evaluate the extent and severity of the Project's impacts relevant to public safety. The DEIR fails to meet this burden, as illustrated by its limited and

[76] *See* Id.
[77] *See* Center for Biological Diversity, *Dirty Dozen: The 12 Most Commonly Used Air Toxics in Unconventional Oil Development in the Los Angeles Basin*, at 5, *available at* http://www.biologicaldiversity.org/campaigns/california_fracking/pdfs/LA_Air_Toxics_Report.pdf
[78] Hill, Elaine, The Impact of Oil and Gas Extraction on Infant Health In Colorado (2013).
[79] McKenzie, Lisa M. *et al.*, Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado, Environmental Health Perspectives (2014).
[80] *Santiago County Water District v. County of Orange* (1981) 118 Cal. App. 818, 831.

conclusory analyses of the risks of well and pipeline failure. The DEIR therefore cannot provide any currently real and enforceable measures and performance standards to provide any assurances that the Project's impacts related to hazards would not be significant, or that they would even be mitigated at all.[81]

The DEIR notes the potential hazards of this Project: they include, flash fires, explosion or overpressure, pool/torch fire, thermal radiation, boiling liquid expanding vapor cloud explosion, and toxic gas releases.[82] In addition, the equipment/release events could include: oil storage tank top fire; oil transfer pump rupture; gas compressors line rupture; low temperature separator line rupture; crude oil pigging station rupture; crude oil pipeline rupture; and natural gas pipeline rupture.[83] Nevertheless, the DEIR maintains, on limited analysis, that these potential hazards present no significant impact to the environment, largely as a result of being "contained by the 30 foot wall and remain onsite."[84] The DEIR goes on to state that the hazards are of such a low probability that their potential impacts are less than significant.

To the contrary, the DEIR's analysis of hazards, mitigation of those hazards and identification of cumulative impacts of those hazards is wholly flawed. The following two examples illustrate the DEIR's shortcomings.

i. The DEIR Provides an Inadequate Analysis of the Risk of Well Failure.

Formulation of mitigation measures should not be deferred until some future time.[85] Numerous cases illustrate that reliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decision making.[86] An EIR cannot rely on any management plans, studies, or reports developed *after* the EIR process.[87] Moreover, CEQA specifically forbids any post-project approval bilateral negotiation between project proponent and lead agency.[88]

The DEIR's analysis of the risk of well failure therefore fails in two distinct respects. First, the DEIR predicates any analysis of hazards with the qualification: "provided that applicable federal, state, and local regulations are adhered to, the risk of exposure to hazardous materials is limited."[89] This is deferred mitigation. This is exactly the type of bilateral negotiations specifically prohibited under CEQA, especially where the project proponent would require additional City permits to comply with local regulations. Those precautions, and all other proposed hazard mitigation measures, should be finalized, or, at a minimum, analyzed prior to project approval. The fact that the DEIR's asserts quizzical statements regarding the

[81] *See Sacramento Old City Ass'n v. City Council* (1991) 229 Cal. App. 3d 1011.
[82] DEIR at 1-24.
[83] *Id*.
[84] *Id*.
[85] CEQA Guidelines section 15126.4(a)(1)(b).
[86] *See eg.* Communities for a Better Environment v. City of Richmond, 184 Cal. App. 4th 70, 92 (2010).
[87] *Id.*
[88] *Communities for a Better Environment* v. *City of Richmond*, 184 Cal. App. 4th at 93.
[89] DEIR at 1-27.

question of whether the regulations even apply, however, push the document's reliance on deferred mitigation measures, to a known certainty. [90]

Second, the DEIR asserts that in order, "to avoid adversely influencing the 18 wells identified during the records review, the City is imposing mitigation measures to restrict the use of salt water injection wells in vicinity of the wells listed in Table 4.5-4. Mitigation measures H-1 and H-2 require the evaluation of abandoned wells and restrict injection wells within 75 feet of the 18 existing abandoned wells.[91] Mitigation measures are expected to reduce project-specific impacts to less than significant.[92] However, mitigation measure H-2 requires the project proponent to, "reasonably avoid the existing wells based on their evaluation of the location of the existing abandoned wells."[93] Evidently, a future evaluation offers no assurances, and certainly no future guarantees, of mitigation measures and evaluation required *now*. Quite simply, the DEIR's analysis of well failure and its subsequent identification of mitigation measures cannot comply with CEQA until the City has had an opportunity to review, approve and include Mitigation Measure H-2's findings in a revised document.

Finally, fires and explosions at oil and gas wells have been documented in many states in the U.S.,[94] for instance:

- In February 2005, a Durango, Colorado trailer exploded and a man was sent to the hospital when methane from an abandoned well seeped into his home and exploded when he lit his stove. The 70-year-old man in the home was severely burned -- his hair was singed off and his clothes were burned to his body.
- In November 2005, a hydraulic fracturing pit caught fire at natural gas well site near Rifle, Colorado.
- In December 2005, residents living near Silt, Colorado raised concerns about chemicals being released from the intentional burning of condensate pits at gas well sites in their neighborhood.
- In February 2006, a gas well fire injured six people in Fayette County, Pennsylvania. Other incidents in Pennsylvania that year included a hydraulic fracturing fluid fire, truck explosions at well sites, and other gas well explosions.
- In February 2006, as many as 50 people were evacuated from their homes in Weld County, Colorado when thick, black smoke from a burning natural-gas tank spread through their community.
- In November 2007, an explosion at a natural-gas processing plant west of the Durango Colorado airport shook homes and woke residents. The plant was purged of all

[90] *Id*.
[91] DEIR at 4-49.
[92] DEIR at 1-39.
[93] DEIR at 4-50.
[94] *See* Earthworks, *No Dirty Energy*, http://www.nodirtyenergy.org/index.php?Itemid=164&id=115&option=com_content&task=view (last visited Mar. 25, 2014).

petroleum products, but because of the hazardous materials on site firefighters had to allowed a certain amount of the fire to burn itself down before they could attempt to put out the fire.

- April 2005: Tab Dotson, a worker on a crew drilling a natural gas well in Wise County, Texas, was killed when the forklift he was driving knocked open a closed gas well causing it to explode. The ensuing explosion and fire killed Dotson instantly. Another worker was injured.
- December 2005: A natural gas well and pipeline explosion injured a worker at a nearby rig and ignited secondary fires for a mile around. The sound from the blast shook residents for miles around the area, and the flash was visible for 100 miles.
- April 2006: Robert Gayan was killed when a natural gas well he was working on in Forest Hill exploded. Nearby residents complained of breathing problems. The gas well exploded in the Fort Worth suburb of Forest Hill, Texas, forcing the mandatory evacuation of 500 homes.
- March 2007: plumes of black smoke were created from a pipeline explosion and fire that occurred after a backhoe digging a trench for a new Barnett Shale pipeline hit existing propane and gas lines. A number of vehicles were destroyed, and the fire melted a high-voltage power line that left 5,000 people without electricity for several hours.

The risk of fire and other catastrophes as a result of well failure is readily apparent. Nevertheless, as further detailed below, the DEIR illegally defers analysis of these impacts based on an inaccurate assumption of their alleged improbability.

ii. The DEIR Provides an Inadequate Analysis of Risk of Pipeline Leak.

Certainly, "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project," constitutes a significant effect on the environment.[95] Probability does not factor into the evaluation of this adverse change alone without consideration for the magnitude of potentially catastrophic harm; the correct inquiry is whether the potential for such an adverse change exists. The DEIR attempts to steer the reader's eye to an apparently thorough assessment of pipeline safety.[96] However, as noted above, the DEIR's analysis for the risks of pipeline leak suffers from the same flaws of deferring mitigation to a later date and placing too heavy a reliance on probabilities.

Similarly, although the DEIR provides a comprehensive analysis of the regulatory framework for pipeline safety,[97] it still fails to provide any guarantees of compliance with that framework, or even, whether compliance would result in any significant impact to the environment. In addition, the choice to use this deferred mitigation method calls into question the facility's compliance record over time with applicable local, state and federal regulations. That record should be, and is currently not, part of this DEIR. In any event, the DEIR still

[95] CEQA Guidelines section 15382.
[96] DEIR at section 3.5.3.2, starting 3-39.
[97] See DEIR at section 3.5.5, starting at 3-43.

illegally defers mitigation of its hazards analysis in regards to pipeline safety. As a preliminary matter, that hazards analysis is in itself deficient.

Appendix 3 to the DEIR includes a thorough assessment of the worst-case scenario for of pipeline failure. The study concludes with: "the proposed additions result in an increased potential hazard compared to those posed by the existing pipeline configuration." The study further describes that, "using the hazard endpoints developed by the U.S. EPA, the off-site hazard increases associated with the proposed project are limited to adjacent residential areas near the proposed 6-inch oil pipeline and industrial areas near the facility."[98] The DEIR's subsequent analysis of the same hazards still employs the same probability factors, already illustrated as problematic throughout this comment. Not only are those probability factors outdated and largely irrelevant, but they also do not embrace or encompass the increased hazards of this Project as determined by the project proponent's own analysis.

Furthermore, the DEIR ignores the potentially catastrophic consequences of an accident involving such factors by focusing on the alleged improbability of one occurring.[99] The DEIR notes the dangers of crude oil pipeline leaks, and includes a hazard analysis showing that the impacts from a pool fire, explosion overpressure, or flash fire events could extend up to 205 feet of the crude oil pipeline.[100] This analysis even identifies the potential of a significant impact on sensitive receptors at local elementary and middle schools.[101] Yet, the DEIR still dismisses these dangers based on their alleged improbability.[102]

This probability-based criteria is not compatible with CEQA. Until the project proponent provides additional data, and discloses the full extent of its proposed Project, any historical analysis of frequency of risk upset is outdated and therefore irrelevant. Moreover, the DEIR's analysis relies on data from 1989.[103] Notably, all of the incidents outlined above, and the boom of the fracking industry occurred after 1989. While it is improper for the DEIR to base its conclusions on probability at all, it is especially improper, and contrary to the purpose of CEQA to base such conclusions on an assessment of probability reached through the use of data from an irrelevant time period.

Notwithstanding these serious flaws in the DEIR's probability analyses, numerous recent incidents involving pipeline fires show that such incidents are also reasonably foreseeable results of this Project The processing, storage and piping of hydrocarbons and other hazardous materials, raises particular concerns in this regard. Because the Project involves storage and piping of these volatile and hazardous materials, the Project may dramatically increase the risk of fires resulting from earthquake damage, compared to non-industrial areas. In addition, it is widely known that there is significant potential for fires due to natural gas line

[98] See DEIR at E-11 - E-27.
[99] *See eg.* DEIR at 1-25.
[100] DEIR at 1-25.
[101] *Id.*
[102] *Id.*
[103] DEIR at 4-28.

ruptures during a major earthquake:

> *"The **fourth main earthquake hazard is fire. These fires can be started by broken gas lines and power lines,** or tipped over wood or coal stoves. They can be a serious problem, especially if the water lines that feed the fire hydrants are broken, too."*[104]

The DEIR, therefore, must include a thorough evaluation of the obviously significant risk of fires, hazardous materials releases, and explosions due to the major earthquakes that will almost certainly impact this facility in the future. Compliance with local, state and federal regulations will not eliminate consequent damage to the Project's infrastructure. Moreover, the Project aims to process, combust, store, transport, and pipes hazardous materials, close to nearby residences - there is a clear and potentially significant risk from fires, releases, and explosions related to earthquakes. The DEIR has failed to, but must adequately analyze the direct and cumulative impacts of this Project.

Finally, the DEIR further dispels any significant risks to public safety on the basis of generalized and conclusory statements that are specifically prohibited under CEQA.[105] The following are examples:

> "Stringent safety measures, technological advancements, and careful regulation are reported to account for the low risk of a "significant" or "serious" accident associated with pipelines today." However, the DEIR fails to provide any greater detail regarding those safety measures and advancements.

> "The specific hazardous material trucking regulations and additional care provided by carriers and shippers of hazardous materials appear to be reducing the accident rate for hazardous material shipments." However, the DEIR fails to provide any greater detail regarding those regulations or "additional care" measures.

Such conclusory statements are wholly insufficient. The DEIR should have provided this additional information to properly evaluate the Project. Overall, the DEIR fails to properly assess, or even identify, the Project's significant, perhaps even catastrophic, risks to public safety, omitting any consideration of proper and critical mitigation. As further described below, this leads to an event more deficient cumulative impacts analysis relating to hazards of this Project in the DEIR as well. The bottom line is that the DEIR provides only conclusory statements, with little to no analysis conducted throughout the DEIR in relation to hazards. The DEIR's overall analysis of hazards presented by this Project is therefore, deficient and violates CEQA.

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[104] Michigan Tech, Geological and Mining Engineering and Sciences Division, available at: http://www.geo.mtu.edu/UPSeis/hazards.html (last accessed, March 25, 2014).

[105] *See Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs*. (2001) 91 Cal. App. 4th 1344, 1371 (striking down an EIR "for failing to support its many conclusory statements by scientific or objective data"); *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal. App. 4th 645, 659 ("[D]ecision makers and general public should not be forced to . . . ferret out the fundamental baseline assumptions that are being used for purposes of the environmental analysis.").

iii. The DEIR Provides an Inadequate Analysis of Potential Impacts Due to the Disturbance of Contaminated Soil

The DEIR fails to consider the potential impacts of the project disturbing contaminated soil. The DEIR justifies this refusal on the basis of previous soil remediation occurring at the project site and the existence of regulations that would limit emissions of pollutants if soil contamination is present.[106] This fails to satisfy CEQA's requirements.

Importantly, the DEIR's vague assertion that soil contamination "was remediated" when the warehouse at the project site was constructed does not indicate that soil contamination is no longer a concern. In fact, it demonstrates that the project site has been contaminated and may remain contaminated. Moreover, the DEIR fails to cite to any source to support its assertion, so it is impossible to tell based on the document's information and analysis, what the remediation entailed actually is, and whether or not it effectively removed contaminants.

Contrary to the DEIR's finding that soil contamination is not expected to be encountered at the project site, another CEQA analysis written by the City for another project actually indicates that soil contamination would likely be an issue for the project.[107] The project at issue in this other analysis was a residential development project to be located within the Dominguez Technology Center at a 5.2 acre site located very close to the proposed oil and gas wells and at almost the exact same location as one of the project's proposed pipelines.[108] The City found for the residential development that soil contamination had been previously remediated, but that this remediation was only aimed at achieving standards for industrial uses and as a result the contaminants found in the soil at the project site still exceeded residential standards for arsenic and total petroleum hydrocarbons, and that further remediation was necessary.[109]

Because of the very close proximity of the residential site the City previously considered and the lack of any data in the DEIR here concerning soil contamination levels, available evidence indicates that there is a high likelihood that the soil at the project site is contaminated. Like the residential project site, the project site here may have been remediated to comply with industrial standards. However, this does not mean that soil contamination is not a concern. The proposed oil and gas project site is very close to residential neighborhoods and thus emissions of pollutants from the soil would be a hazard "to people nearby."[110] Also, the contaminants in the soil could migrate to an aquifer due to disturbance, polluting

[106] DEIR at 4-6.
[107] City of Carson, Initial Study/Mitigated Negative Declaration for the Dominguez Technology Center Specific Plan – First Amendment, available at http://ci.carson.ca.us/CityDepartments/DevServ/Planning/env/Renaissance_IS.pdf.
[108] *Id.* at 2-3.
[109] *Id.* at 27-28.
[110] *Id.* at 27.

groundwater.[111] The City's failure to analyze and disclose the potential significant impacts of the disturbance of contaminated soil violates CEQA.

Moreover, the City has ignored the potential for the installation of new pipelines to result in harmful impacts due to the disturbance of contaminated soil. There is a very high likelihood that the construction of these pipelines will disturb contaminated soil because the pipelines will be placed very near the residential development project site noted above and because there is no evidence of soil remediation at the locations of the proposed pipelines.[112] The pipelines will also be installed underground, thus disturbing large amounts of soil.[113] The DEIR's failure to analyze and disclose the potentially significant impacts of the construction of the pipelines resulting in harmful disturbances of contaminated soil violates CEQA.

The City may not refuse to analyze and disclose such effects on the basis of a lack of data on contamination levels. The relevant question under CEQA is not simply whether the City will have to speculate about contamination levels, but whether the City can complete a useful analysis at this time.[114] The City can certainly complete a useful analysis at this time. It would not be difficult for the City to obtain data by sampling the soil, and even if such sampling is not possible, CEQA allows the City to project what contamination levels might be and to project potential consequences.[115] Also, the City's reliance on regulations to prevent the unanalyzed harms is also inadequate. The City notes that soil piles will be covered with plastic sheets and that soil will be kept moist;[116] however, it unlikely that plastic sheets will substantially limit the escape of VOC gases and also some types of soil are not effectively controlled through water application.[117]

Thus, the DEIR violates CEQA by failing to analyze and disclose the potential significant effects of the disturbance of contaminated soil.

iv. The DEIR Fails to Analyze or Disclose the Project's Groundwater Impacts

This project sits on the eastern edge of the West Coast Groundwater Basin, which underlies 160 square miles of southwestern Los Angeles County.[118] The Basin provides water to the residents and industries in twenty incorporated cities and several unincorporated areas that overlay the Basin. The needed water from the Basin is pumped directly from the

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[111] Newhall Neighborhood Remediation, Understanding Contamination, available at http://www.newhallinfo.org/PDFs4download/health-general/health-contamination.pdf.
[112] DEIR at 2-19.
[113] *Id.*
[114] *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 402-03, 414-15, 415 n.11; *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180, 194-95.
[115] CEQA Guidelines §§ 15152, 15162-63, 15167-68.
[116] *Id.* at 4-6.
[117] MacDougall, Catherine *et al.*, Evaluating Soil by Particulate Emission Potential, available at http://www.epa.gov/ttnchie1/conference/ei10/fugdust/macdougall.pdf.
[118] DEIR, at 1-14, 3-59.

groundwater for use by these residents and industries.[119] Contamination of the Basin would therefore be a catastrophe. The DEIR argues that the geologic and engineering features will serve to prevent contamination of this important source of water.[120] Yet, the project proponent cannot absolutely guarantee that equipment failure leading to contamination will not happen, and the DEIR lays out no contingency plan for what to do in such an event. Given the importance of this water source, this project cannot be allowed to move forward without such a plan.

D. The DEIR fails to analyze and disclose the project's significant impacts from the use of enhanced recovery techniques.

The DEIR fails to adequately analyze and disclose the Project's potential significant direct and indirect impacts resulting from Oxy's use of enhanced recovery techniques. While the DEIR does mention that the Project will involve saltwater injection, it fails to provide essential information about those activities and as a result never analyzes many of the significant environmental impacts that could result. In particular, Oxy will mix "saltwater additives" with the saltwater to aid production.[121] The DEIR, however, does not specify which chemicals could be used as saltwater additives. This is a serious oversight because the categories of chemicals Oxy intends to use – corrosion inhibitors, scale inhibitors, polymers, biocides, oxygen scavengers, surfactants, and flocculants – include numerous specific chemicals that can create dangers to public health. For example, a commonly used corrosion inhibitor is formaldehyde, exposure to which is associated with, among other things, lung and nasopharyngeal cancer.[122] Methylisothiazolinone (2-methyl-4-isothiazolin-3-one) is a commonly used biocide, and there is evidence that prolonged exposure to low levels of the chemical has damaging effects on developing nervous systems.[123] The U.S. EPA states that "Methylisothiazolinone is moderately to highly acutely toxic in oral, dermal, eye irritation, dermal irritation, and inhalation acute toxicity studies."[124] Also, ethylbenzene and xylene are commonly used surfactants, and both chemicals are associated with serious dangers to human health.[125] Exposure to relatively low concentrations of ethylbenzene can result in serious ear and kidney damage, and long-term is suspected of causing cancer in humans.[126] Exposure to

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[119] *See* State of California, California Natural Resources Agency, Department of Water Resources, Southern Region Office, Watermaster Service in the West Coast Basin, Los Angeles County, July 1, 2012 to June 30, 2013 (September 2013), available at http://www.water.ca.gov/watermaster/sd_documents/west_basin_2013/westcoastbasinwatermasterreport2013.pdf .

[120] DEIR, at 4-57 – 6-60.

[121] DEIR at 4-59.

[122] SCAQMD Data; U.S. Environmental Protection Agency, Formaldehyde, available at http://www.epa.gov/ttn/atw/hlthef/formalde.html.

[123] SCAQMD Data; He, Kai *et al.*, Methylisothiazolinone, A Neurotoxic Biocide, Disrupts the Association of Src Family Tyrosine Kinases with Focal Adhesion Kinase in Developing Cortical Neurons, 317 JPET 1320 (2006)

[124] U.S. Environmental Protection Agency, R.E.D. Facts, Methylisothiazolinone at 3 (1998), available at http://www.epa.gov/oppsrrd1/REDs/factsheets/3092fact.pdf.

[125] SCAQMD Data.

[126] U.S. Agency for Toxic Substances and Disease Registry, Ethylbenzene, available at http://www.atsdr.cdc.gov/toxprofiles/tp110-c1.pdf.

xylene can cause "headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance" as well as "irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possibly changes in the liver and kidneys."[127] Exposure to very high levels of xylene can cause death.[128] Clearly, the use of chemicals such as these may result in significant public health impacts, for example, due to emissions or spills of these chemicals. The DEIR's failure to disclose or analyze such impacts violates CEQA.

The DEIR's project description is also inadequate because of its failure to disclose and analyze the impacts of other enhanced recovery methods Oxy may employ. The use of such methods is clearly foreseeable. Companies have used salt-water injection to produce oil in the Dominguez Oil Field since the 1940s;[129] however, the use of this technique has been used with only limited success over the past roughly 40 years, resulting in the production of only 24 million barrels of oil between 1970 and 2011, while the field produced more than 250 million barrels between 1923 and the end of 1971.[130] Yet, now Oxy predicts that it will produce from this same oil field over 2 million barrels of oil per year through a single project.[131] Clearly, based on the history of the oil field, other enhanced recovery methods may be necessary to produce as much oil as Oxy expects. Enhanced recovery methods that may be used, and therefore, the City must consider in the DEIR include acidization; thermal recovery techniques, such as cyclic steam injection and steam flooding; frac packing; enzyme enhanced recovery; and gas lifting

Acidization in particular has been used with increasing regularity around California. The technique involves the injection of large amounts of acid – commonly hydrochloric acid – into the well. This acid can spill or leak into the environment.[132] Exposure to hydrochloric acid can be harmful. It is corrosive to the eyes, skin, and mucous membranes.[133] It is also listed as a hazardous air pollutant under the Clean Air Act,[134] and exposure to hydrochloric acid fumes can cause irritation of the respiratory system and pulmonary edema in humans.[135] Hydrofluoric acid is also used, and is also extremely dangerous.[136] In addition, acid treatments, just like

[127] U.S. Agency for Toxic Substances and Disease Registry, Xylene, available at http://www.atsdr.cdc.gov/toxfaqs/tfacts71.pdf.
[128] *Id.*
[129] DEIR at 5-13.
[130] DEIR at 2-5.
[131] DEIR at 1-1.
[132] Detrow, Scott, 4,700 Gallons Of Acid Spill At Bradford County Drilling Site (July 5, 2012), available at http://stateimpact.npr.org/pennsylvania/2012/07/05/4700-gallons-of-acid-spill-at-bradford-county-drilling-site/.
[133] U.S. Environmental Protection Agency, Hydrochloric Acid (Hydrogen Chloride) (Jan. 2000), http://www.epa.gov/ttnatw01/hlthef/hydrochl.html ("EPA Hydrochloric Acid")
[134] U.S. Environmental Protection Agency, The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants, http://www.epa.gov/ttnatw01/orig189.html.
[135] EPA Hydrochloric Acid.
[136] Collier, Robert, Part 1: The Most Dangerous Chemical You've Never Heard Of, August 8, 2013, available at http://www.thenextgeneration.org/blog/post/monterey-shale-series-distracted-by-fracking; Collier, Robert, Part 2: The Most Dangerous Chemical You've Never Heard Of, August 15, 2013, available at http://thenextgeneration.org/blog/post/monterey-shale-series-the-most-dangerous-chemical.

hydraulic fracturing, can contain other hazardous additives, including *inter alia* corrosion inhibitors, surfactants, solvents, iron control agents, and non-emulsifiers,[137] creating the risk that these substances could escape into the environment.

Steam injection is also dangerous, with use of the technique associated with the creation of "large temperature variations and formation movements," putting extreme pressure on the ground and well, and sometimes resulting in well failure or the migration of fluids and steam.[138] In fact, the practice can deform the ground so much as to result in "surface expressions," which is another way of saying that the steam, oil, gas, and whatever else might be mixed in underground have come bubbling to, or even exploding out of the surface of the ground.[139] Such a surface expression formed in Kern County's Midway-Sunset oil field as a result of cyclic steam injection and killed a Chevron worker who went to investigate steam coming from the surface expression.[140] The worker fell into a sinkhole while approaching the plume of steam when the ground gave way.[141] It is also important for DOGGR to analyze ahead of time whether the Project will employ steam injection because the process of creating the steam for injection is energy and water intensive and results in large amounts of air pollution emissions.[142] Moreover, compared to lighter varieties of oil, the heavy oil steam injection is used to produce is more difficult to process and refine, resulting in those processes having more severe environmental impacts.[143]

Finally, even though the DEIR states that the Project will not involve hydraulic fracturing and that the prohibition would be enforced in a mitigation measure barring the use of

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[137] Frenier, Wayne W. et al., Abstract: Effect of Acidizing Additives on Formation Permeability During Matrix Treatments, Society of Petroleum Engineers (Feb. 2002), available at http://www.onepetro.org/mslib/servlet/onepetropreview?id=00073705.

[138] *See, e.g.*, Xie, Jueren, Analysis of Casing Deformations in Thermal Wells (2008) ("Xie 2008"); Kulakofsky, David, Achieving Long-Term Zonal Isolation in Heavy-Oil Steam Injection Wells, a Case History (2008) ("Kulakofsky").

[139] California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Report of Occurrences, The Chevron Fatality Accident, June 21, 2011, and Area Surface Expression Activity, Pre and Post Accident, Sections 21 & 22 T.32S./R.23E., Midway-Sunset Oil Field, Kern County (May 2012) ("Accident Report"); California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Reports of Occurrence: Surface Expressions in Bakersfield (2011) ("Spill Binder").

[140] Department of Conservation Division of Oil, Gas and Geothermal Resources, Executive Summary of Report of Occurrences: The Chevron Fatality Accident June 21, 2011 and Area Surface Expression Activity Pre and Post Accident – Sections 21 & 22 T.32S./R.23E., Midway-Sunset Oil Field Kern County (May 2012). ("Accident Report ES"); Accident Report at 2.

[141] Accident Report at 2.

[142] California Air Resources Board, Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Low Carbon Fuel Standard, Appendix C – Calculation of Baseline Crude Average Carbon Intensity Value (2011); Mark, Jason, Oil drilling could be new nadir for Pinnacles National Park (2013), available at http://www.salon.com/2013/03/03/oil_drilling_could_be_new_nadir_for_pinnacles_national_park_partner/; Gordon, Deborah, Understanding Unconventional Oil (2012).

[143] Karras, Greg, Combustion Emissions from Refining Lower Quality Oil: What Is the Global Warming Potential?, 44 Environ. Sci. Technol. 9584 (2010), available at http://pubs.acs.org/doi/full/10.1021/es1019965; Peeples, Lynne, Keystone XL Risks Harm To Houston Community: 'This Is Obviously Environmental Racism' (2013), available at http://www.huffingtonpost.com/2013/03/27/keystone-xl-pipeline-houston-air-pollution_n_2964853.html.

fracking, the DEIR must still consider the potential impacts of fracking. CEQA requires that an agency consider the future expansion of a project if that expansion is a reasonably foreseeable consequence of the approval.[144] Here, especially because companies commonly frack wells in California, fracking is undoubtedly a reasonably foreseeable consequence of the approval the City is contemplating. If Oxy moves forward with the project, it may ultimately decide that fracking is necessary or would be helpful to produce the wells, and if another company steps in, there is a significant chance that company will reach the same conclusion. That another approval may be required for fracking to occur does not eliminate the need to consider the impacts of fracking because courts have repeatedly determined that future expansion can be reasonably foreseeable even if the expansion is dependent upon the occurrence of certain conditions, such as the issuance of a permit.[145]

It is particularly important that the DEIR analyze the impacts of fracking now because the potential harms of fracking are severe. The evidence is overwhelming that fracking degrades air quality in ways that threaten human health, for instance, by emitting carcinogenic and hazardous pollutants.[146] Among other effects, this air pollution results in negative health effects for infants living near fracked wells.[147] Also, the exploration, development, and production of oil and gas from fracked wells releases large amounts of greenhouse gases, such as methane, which operations vent and leak to the atmosphere.[148] Fracking also negatively affects water resources. The fracking of a single well can require millions of gallons of water, and as a result, fracking can deprive communities and farmers of water.[149] Moreover, fracking generates huge amounts of dangerous fluids, such as fracking fluid and waste water, that can leak or be spilled into the environment, contaminating surface or ground water with pollutants that, among other things, can affect the cardiovascular, endocrine, and nervous systems and

[144] *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 396.

[145] *See, e.g., Joy Road Area Forest & Watershed Assn. v. California Dept. of Forestry & Fire Protection* (2006) 142 Cal.App.4th 656, 679-80; *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180, 194-95; *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 402-03, 414-15.

[146] *See, e.g.*, Colborn, Theo et al., Natural Gas Operations from a Public Health Perspective, 17 Human and Ecological Risk Assessment 1047 (2011); McKenzie, Lisa et al., Human Health Risk Assessment of Air Emissions form Development of Unconventional Natural Gas Resources, Sci Total Environ (2012) ("McKenzie 2012"), doi:10.1016/j.scitotenv.2012.02.018; Center for Biological Diversity, Dirty Dozen: The 12 Most Commonly Used Air Toxics in Unconventional Oil Development in the Los Angeles Basin (2013).

[147] McKenzie, Lisa M., Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado (2014); Hill, Elaine, The Impact of Oil and Gas Extraction on Infant Health In Colorado (2013)

[148] *See, e.g.*, Howarth, Robert, et al., Methane and the greenhouse-gas footprint of natural gas from shale formations, Climactic Change, doi 10.1007/s10584-011-0061-5 (Mar. 31, 2011); Howarth, Robert, et al., Venting and Leaking of Methane from Shale Gas Development: Response to Cathles et al. (2012); Tollefson, Jeff, Methane leaks erode green credentials of natural gas (2013), available at http://www.nature.com/news/methane-leaks-erode-green-credentials-of-natural-gas-1.12123.

[149] *See, e.g.*, U.S. Government Accountability Office, Information on Shale Resources, Development, and Environmental and Public Health Risks GAO-12-732 (Sep. 2012); Entrekin, Sally, Rapid expansion of natural gas development poses a threat to surface waters, 9 FRONT ECOL ENVIRON 503-511 (2011); Freyman, Monika, Hydraulic Fracturing and Water Stress: Water Demand by the Numbers (2014); Freyman, Monika & Ryan Salmon, Hydraulic Fracturing & Water Stress: Growing Competitive Pressure for Water (2013).

cause cancer.[150] Activities associated with fracking, particularly the underground injection of wastewater from fracking operations, can even result in large earthquakes.[151] Shale oil produced by fracking also appears to be more explosive and flammable than traditional crude oil.[152] Indeed, there have been multiple recent rail accidents involving oil produced through fracking, including one in Quebec that leveled a town and left 47 people dead.[153]

E. The DEIR Fails to Adequately Analyze or Disclose the Project's Cumulative Impacts.

The DEIR omits, or otherwise provides an inadequate analysis of cumulative impacts of the Project; one of CEQA's most vital requirements.[154] An EIR **must** "discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable."[155] Furthermore, a lead agency must find "that a project may have a significant effect on the environment" when "[t]he project has possible environmental effects that are individually limited but cumulatively considerable." [156] The Guidelines define "cumulatively considerable" to mean "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."[157] The purpose of this analysis is to avoid considering projects in a

[150] *See, e.g.*, Christopher D. Kassotis, et al. Estrogen and Androgen Receptor Activities of Hydraulic Fracturing Chemicals and Surface and Ground Water in a Drilling-Dense Region. Endocrinology (2013); Fontenot, Brian E. *et al.*, An evaluation of water quality in private drinking water wells near natural gas extraction sites in the Barnett Shale Formation, ENVIRONMENTAL SCIENCE & TECHNOLOGY at 4 (2013); Vidic, R.D. *et al.*, Impact of Shale Gas Development on Regional Water Quality, SCIENCE 340 (2013); U.S. Environmental Protection Agency, Draft Investigation of Ground Water Contamination near Pavillion, Wyoming (2011); Myers, Tom, Assessment of Groundwater Sampling Results Completed by the U.S. Geological Survey (2012); Myers, Tom, Potential Contamination Pathways from Hydraulically Fractured Shale to Aquifers (2012); Bamberger, Michelle & Robert E. Oswald, Impacts of Gas Drilling on Human and Animal Health, NEW SOLUTIONS, Vol. 22(1) 51-77 (2012).

[151] *See, e.g.*, Kim, Won-Young, Induced seismicity associated with fluid injection into a deep well in Youngstown, Ohio (2013); BC Oil and Gas Commission, Investigation of Observed Seismicity in the Horn River Basin (Aug. 2012) ("BC Oil 2012"); Keranen, Katie, Potentially induced earthquakes in Oklahoma, USA: Links between wastewater injection and the 2011 MW 5.7 earthquake sequence (2013); van der Elst, Nicholas J. *et al.*, Enhanced Remote Earthquake Triggering at Fluid-Injection Sites in the Midwestern United States, 341 SCIENCE 164 (2013).

[152] U.S. Department of Transportation, Safety Alert -- January 2, 2014, Preliminary Guidance from Operation Classification (2014), available at http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/1_2_14%20Rail_Safety_Alert.pdf ; Krauss, Clifford & Jad Mouawad, Accidents Surge as Oil Industry Takes the Train (2014), available at http://www.nytimes.com/2014/01/26/business/energy-environment/accidents-surge-as-oil-industry-takes-the-train.html?hp&_r=0; Ayers, Christin, Explosive Fracked Oil Destined For Bay Area; Neighbors Rail Against Chemical Trains (2014), available at http://sanfrancisco.cbslocal.com/2014/01/11/trains-carrying-fracked-oil-may-pose-dangers-to-bay-area/.

[153] Ayers, Explosive Fracked Oil Destined For Bay Area.

[154] *See* Pub.Res.Code § 21082 (referring to the CEQA Guidelines §§ 15130(a)(1) and 15355 for the applicable definition of cumulative impacts); *see also, Bozung v. Local Agency Formation Commission* (1975) 13 Cal.3d 263, 283

[155] CEQA Guidelines § 15130(a) (emphasis added).

[156] CEQA Guidelines § 15065(a).

[157] *Id.*

vacuum, wherein seemingly benign impacts could lead to severe environmental harm, in light of the environmental context.[158]

Notably, the omissions in the project description and baseline emission levels used in the DEIR and identified above also hold implications for the DEIR's cumulative analysis. Even if the DIER does not include the production and emissions levels for the existing two production test wells in its baseline or project description the DEIR **must** include an analysis of the *cumulative* impacts of the Project in the context of those existing production and emission levels. Yet, the DEIR does not. In fact, the DEIR, again, fails to provide the existing the production levels for the two wells, and fails to provide an adequately detailed analysis of the cumulative significance of the Project's impacts, as impacts that will be added, on top of the existing environmental impacts of the two wells.

The DEIR must "demonstrate that the significant environmental impacts of the proposed project were adequately investigated[,] discussed[,] and … considered in the full environmental context," including existing pollution burdens in the areas that are directly impacted by the Project.[159] Because it fails to provide this analysis the DEIR further fails as an informational document, and does not comply with CEQA requirements. For this reason, as detailed below, the DEIR as drafted should be rejected.

i. The DEIR Fails to Analyze Or Disclose the Cumulative Impacts to the Environment and Human Health Within the Vicinity of the Project

The City of Carson and its surrounding communities including the areas of Wilmington, and West Long Beach to the south of the Project, and the City of Compton to the north of the Project, have all been identified by the Office of Environmental Health and Hazards Assessment (OEHHA) as bearing a highly concentrated burden of health hazards resulting from various pollution sources. [160] This means that impacts, which may appear insignificant by themselves, are indeed significant when considered in the context of existing sources of environmental impacts, which often tend to be concentrated in some areas more than others.

Some of the indicators or factors used to identify the above communities as highly burdened communities include: number of pollution sources, including active and inactive waste cleanup sites; heavy industrial facilities, such as refineries; and hazardous waste, groundwater waste; and the presence of ozone and ozone precursors in the ambient environment, among others. The public health indicators examined further include, *inter alia*, asthma and low birth weight rates.

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[158] *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th at 720.

[159] CEQA Guidelines § 15125(c).

[160] OEHHA Cal Enviro Screen 1.1 (amended), Statewide Zip code Results, available at: http://oehha.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=1d202d7d9dc84120ba5aac97f8b39c56, zip code results for 90745 (Carson) and 90744 (Wilmington); see also, results for zip codes 90220, 90211 (Compton), last accessed, March 21, 2014.

Each of the above communities has a high concentration of solid waste sites, including both active and in-active clean-up sites, meaning that the residents of these areas already bear a significant burden of existing concentrated mal-odors, methane and carbon dioxide emissions from existing facilities, including existing oil production and refining activities. [161] Moreover, these communities also score among the state's highest Toxic Release Inventory chemical burdens and ranging from the top 14-11% within the state in Compton, to the top 7-2% in Carson and Wilmington respectively. These communities are all also identified as being highly linguistically isolated, and largely impoverished. The combined impacts of these factors render the City of Carson and its surrounding areas particularly vulnerable to suffering from an exacerbated level of significance of otherwise potentially moderately significant or in-significant environmental and health burdens. Wilmington, moreover, shares connections to the City of Carson by pipeline, including a pipeline connecting two refining facilities owned and operated by Phillips 66 – a proposed recipient of oil and gas produced by the Project.

The particular vulnerabilities of these communities, and the existing pollution burdens that exist in each, even without the added impacts of the Project, demand a full analysis, beyond what is presently included in the DEIR. As detailed above, the Project's emissions and impacts analysis is incomplete, as a result of the DEIR's failure to disclose information relating to the Project's true components, including those that exist currently, such as the two existing production test wells, as well as those that can be reasonably anticipated to exist in the near future, such as the unconventional well-stimulation production techniques. Even absent an analysis that includes these missing Project components, however, the emissions analysis currently stated in the DEIR remains incomplete, as it fails to analyze the Project's impacts in the context of the existing pollution burdens within Carson, and its surrounding cities and communities. Without a more complete analysis in this regard, the DEIR cannot be used informational document, for the purpose of reaching an informed decision regarding the true environmental and human health impacts of the Project, prior to its approval.[162]

ii. The DEIR Fails to Analyze or Disclose the Project's Greenhouse Gas Emissions

Lead agencies should analyze the "potentially cumulative GHG emission impacts" of a project and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project."[163]

The DEIR fails to adequately analyze the GHG emissions of the proposed Project, because it has impermissibly defined the baseline level of GHG emissions to disguise the true

[161] OEHHA Cal Enviro Screen 1.1 (amended), Statewide Zip code Results, available at: http://oehha.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=1d202d7d9dc84120ba5aac97f8b39c56, last accessed, Jan. 26, 2014.

[162] CEQA Guidelines §§ 15064(d), 15125(c); *see also, Kings County Farm Bureau*, 221 Cal. App. 3d 692, 729.

[163] *North Coast Alliance v. Marin Mun. Water Dist. Bd. of Directors*, 216 Cal.App. 4th 614, 650; CEQA Guidelines § 15064.4(a).

impacts of the Project. As discussed *supra* in Parts I, and II A., the two production test wells have no independent utility, and are integral to the proposed Project. As such, the GHG emissions of the two test wells should be included in the DEIR's analysis.

The GHG consequences of this piecemealing are substantial. The DEIR concluded that GHG emissions from the proposed Project do not reach the significance threshold of 10,000 metric tons of CO2-equivalent per year, established by the Air District.[164] Though the DEIR asserts that the *incremental* direct GHG emissions resulting from the proposed Project would be only 472 metric tons of CO2-equivalent per year, the *total* direct emissions associated with the proposed Project are 18,497 metric tons per year.[165] The baseline emissions, associated primarily with the two test wells, are 18,025 tons per year, which far exceeds the SCAQMD significance threshold.[166] By piecemealing the Project and excluding the test wells from its analysis, the DEIR impermissibly avoids the significance threshold.

Given that the test wells are part and parcel of a non-piecemealed Project description, the total direct GHG emissions associated with the proposed Project amount to 18,497 tons per year, well exceeding the significance threshold of 10,000 tons per year established by the Air District. The GHG impacts of the proposed Project are significant, and the DEIR must be revised in order to analyze feasible mitigation measures and alternatives that would significantly reduce the GHG emissions associated with the proposed Project.

Further, the DEIR's analysis of the indirect GHG emissions of the project is inadequate. A DEIR must consider both direct and "reasonably foreseeable indirect physical changes in the environment which may be caused by the project."[167] Indirect impacts are those which are "caused by the project and are later in time or farther removed in distance, but are still reasonable foreseeable."[168]

The only indirect emissions that the DEIR identifies are those associated with purchased power and waste disposal.[169] However, the combustion oil produced as a result of this Project is reasonably foreseeable, and arguably inevitable. This combustion will result in substantial GHG emissions that are not accounted for in the DEIR. The indirect nature of these off-site emissions cannot be ignored as "it is inaccurate and misleading to divide the project's air emissions analysis into on-site and secondary emissions for purposes of invoking the presumption the project will have no significant impact."[170] The DEIR must be revised in order to estimate and analyze the significance of these foreseeable indirect emissions.

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[164] DEIR at 5-14, 5-23.
[165] DEIR at 5-18.
[166] DEIR at 5-16.
[167] CEQA Guidelines § 15064(d).
[168] CEQA Guidelines § 15358(a)(2).
[169] DEIR at 5-19.
[170] *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 717.

Finally, the DEIR's discussion of GHG emissions relies upon an inaccurate assumption that the oil recovered as a result of the proposed Project will displace imported crude oil in the California oil market.[171] Because Dominguez Hills crude oil is an intermediate weight sweet crude, which requires less energy to refine than heavier imported crude oils, the DEIR argues that the proposed Project would be beneficial in terms of GHG emissions, because less energy would be used to refine the produced oil. However, the DEIR's assumption that the oil displaced from the California market will not be refined and processed is flawed. This oil will likely still be refined and combusted, and the DEIR must consider those GHG emissions.

iii. The DEIR Errs by Assuming Away Indirect Emissions of GHGs.

Just because the universe of sources covered by AB 32 will have to reduce emissions, does not mean that the indirect emissions attributable to the project can be ignored. AB 32 and the Low Carbon Fuel Standard ("LCFS") will not prevent the GHG emissions from contributing to climate change, and in fact, both regulation standards require a full analysis of the indirect emissions attributable to the project. The DEIR's conclusory statement that emissions covered by AB 32 are not significant per se, is, therefore, impermissible.[172]

As shown in the May comments, large quantities of methane are leaked during the oil development processes. Methane is a potent GHG—over twenty times more potent than CO2. Recent studies have shown that oil and gas operations alone in the Los Angeles region leaked at a rate of about 17%—far higher than other Western states, which themselves had high leak rates. Not only is the DEIR underestimating the amount of GHG emissions caused by the project, but not all of these emissions are accounted for in AB 32 or the LCFS.

The DEIR's omission of this analysis, and its failure to address adequate mitigation measures for the Project's GHG and CO2 emissions levels, amounts to an additional, significant shortcoming of the document, rendering the document inadequate under CEQA.[173]

iv. The DEIR fails to analyze and disclose the project's potentially significant cumulative impacts from the use of enhanced recovery techniques.

CEQA requires that a cumulative impacts analysis include consideration of reasonably foreseeable future actions.[174] As explained above, it is reasonably foreseeable that future activities at the project site will include the use of enhanced recovery techniques including, but not limited to fracking, acidization, thermal recovery techniques, such as cyclic steam injection and steam flooding, frac packing, enzyme enhanced recovery, and gas lifting. The City's failure to consider the potential impacts of the use of these techniques as cumulative impacts violates CEQA.

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[171] DEIR at 5-21.

[172] *See Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs*., supra, at 1371 (striking down an EIR "for failing to support its many conclusory statements by scientific or objective data").

[173] *Id.*

[174] *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal. App. 4th 859, 870.

III. The DEIR Fails to Set Forth Adequately mitigation Measures to Address the Project's Potentially Significant Impacts.

CEQA requires that agencies "mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so." Pub. Res. Code § 21002.1(b). Mitigation of a project's significant impacts is one of the "most important" functions of CEQA. Sierra Club v. Gilroy City Council, 222 Cal.App.3d 30, 41 (1990). Therefore, it is the "policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects." Pub. Res. Code § 21002. Importantly, mitigation measures must be "fully enforceable through permit conditions, agreements, or other measures" so "that feasible mitigation measures will actually be implemented as a condition of development." Federation of Hillside & Canyon Ass'ns v. City of Los Angeles, 83 Cal.App.4th 1252, 1261 (2000).

The DEIR fails to set forth legally adequate mitigation. The City failed to provide any mitigation for a number of impacts that it found would not be significant, including, but not limited to impacts from operational air pollution and greenhouse gas emissions. Because, as explained above, the DEIR unlawfully ignores many of the project's potentially significant impacts, CEQA actually requires the mitigation of such impacts, and the DEIR's failure to do so violates CEQA.

Much of the mitigation the City does include does not satisfy CEQA's requirements because the measures are unenforceable, defer actual mitigation, or are ineffective. Many of the mitigation measures include language that is so ambiguous that the operator may argue that the measures do not require anything at all. For instance, to mitigate noise, the DEIR states that operations "construction shall be completed as rapidly as possible," but it is entirely unclear what this means.[175] Similarly, the requirement that equipment be "properly maintained" is unenforceably vague.[176] For air quality impacts, the DEIR states that "applicant shall investigate the use of temporary power," but again, requiring an investigation will not mitigate impacts and there is no requirement that the operations actually use temporary power.[177]

Moreover, the DEIR fails to include feasible mitigation measures that would avoid or substantially lessen the project's significant environmental effects. Among other things, the DEIR should require the electrification of project equipment where the operator can obtain such equipment, regardless of cost. Further, the DEIR states that "[c]onstruction activities are anticipated to occur only during daytime hours";[178] however, the City should make this enforceable by restricting operations to hours between 8 a.m. and 5 p.m.

[175] DEIR at 4-76.
[176] DEIR at 4-76.
[177] DEIR at 4-20.
[178] DEIR at 4-64.

CONCLUSION

For the reasons stated above, we ask that the City not approve the proposed oil and gas project. If the City insists upon moving forward with its consideration of the project, it must correct the problems this comment letter identifies.

Respectfully submitted,

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