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June 6, 2014

**Via U.S. and Electronic Mail**

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**RE: Draft Environmental Impact Report for the Chevron Refinery Modernization Project (SCH #2011062042)**

Dear Ms. Velasco:

Attorney General Kamala D. Harris submits the following comments on the Draft Environmental Impact Report (EIR) for the Chevron Modernization Project (Project) at its Richmond refinery. The Attorney General submits these comments pursuant to her independent power and duty to protect the environment and natural resources of the State. (See Cal. Const., art. V, § 13; Gov. Code, §§ 12511, 12600-12612; *D'Amico v. Bd. of Medical Examiners* (1974) 11 Cal.3d 1, 14-15.)

**Introduction**

Chevron's proposed project would make changes to its refinery to enable it to process crude and gas oils with a higher sulfur content. The most extensive change involves the replacement of an existing hydrogen production plant with a larger plant that will produce about thirty-percent more hydrogen for use at the refinery or for export. In addition to enabling the processing of higher sulfur crude and gas oils, Chevron's stated objectives for the project include (i) enhancing equipment reliability and safety, (ii) ensuring "no net increase" in emissions of greenhouse gases (GHGs) and criteria air pollutants (CAPs), (iii) ensuring no net increase in health risks associated with toxic air contaminants (TACs), and (iv) maintaining the refinery's current throughput processing capacity.

This letter follows our previous involvement with environmental issues at Chevron's Richmond refinery. In 2007, the Attorney General's Office commented on the adequacy of the prior EIR for the Richmond refinery project, which proposed to make changes to the refinery including a new hydrogen plant and processing higher sulfur crude. In 2013, the Attorney General's Office, along with the Contra Costa County District Attorney's Office, prosecuted Chevron for safety lapses associated with the 2012 fire at the refinery, resulting in requirements designed to improve safety at the refinery, as well as penalties.

### **Comments**

We recognize the City and Chevron's efforts to respond to the Court of Appeal decision in this matter<sup>1</sup> and appreciate the City and Chevron's willingness to discuss the EIR with our office and with the public. We understand that the City plans to make changes to the Final EIR in response to discussions with our office or comments filed by other stakeholders. Our comments are not intended, and should not be construed, as an exhaustive discussion of the EIR's compliance with the California Environmental Quality Act (CEQA). As set forth below, our review of the EIR has identified the following issues to further discuss and evaluate. Specifically, the EIR should:

1. Fully evaluate the safety risks posed by this Project;
2. Address the significance of the Project to the State's Climate Stabilization Objectives;
3. Analyze air quality impacts to the already impacted community of Richmond;
4. Consider feasible mitigation that could reduce local air quality impacts; and
5. Analyze a reasonable range of feasible Project alternatives.

We urge the City of Richmond to address these aspects of the EIR before considering whether to certify the Final EIR and approve the Project.

#### **I. The EIR's Public Safety Analysis Does Not Provide Sufficient Information to Determine Whether Safety Risks Have Been Adequately Disclosed and Addressed**

There is an increased safety risk associated with the Project's proposal to process higher sulfur crude and gas oils, and the EIR needs to adequately address at least three critical safety issues. First, the EIR should include a quantitative risk assessment (QRA) of the Project's safety risks. Second, to better inform the public and decision makers, the EIR should include a revised Risk Management Plan as part of the EIR process, rather than after construction of the Project. Third, the EIR should explain the basis for its assumption that temperature and naphthenic acid content – both of which contribute to corrosion risk – will not increase.

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<sup>1</sup> See *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4<sup>th</sup> 70.

The 2012 fire at this refinery was caused by sulfidation corrosion,<sup>2</sup> which occurs when sulfur compounds are present in a hydrocarbon stream and the temperature exceeds approximately 450 degrees. Because the proposed Project is seeking approval to process hydrocarbon streams with more sulfur than was processed in 2012, the EIR should fully identify, analyze and disclose the risks to worker and public safety that may result from the Project.

The U.S. Chemical Safety and Hazard Board (CSB) did an extensive investigation of the 2012 fire and made numerous findings and recommendations regarding how to improve safety at this refinery. The CSB found that the Risk Management Plan in effect at the time of the 2012 fire incident was deficient. (U.S. Chemical Safety and Hazard Board Report re Chevron Richmond Refinery Pipe Rupture and Fire, Jan. 2014, p. 83; available at <http://www.csb.gov/chevron-refinery-fire/>.) The CSB also found that the risk analysis in place at Chevron prior to the fire failed to identify corrosion as a safety risk because that analysis relied on a judgment-based qualitative analysis that was not evaluated or verified. (*Id.* at 10-11.) The CSB noted that a *quantitative* risk assessment (QRA) has the “highest level analytical detail” and that a *qualitative* approach is “the simplest approach.” (*Id.*, at 42, fn. 194.)

#### **A. Quantitative Risk Analysis**

The EIR appears to rely essentially on a qualitative analysis rather than a quantitative risk assessment because its methodology for evaluating the risks consisted of conducting “interviews with and review[ing] information provided by Facility and Chevron Technical Department subject matter experts.” (EIR, p. A44.13-REL-2.) According to an expert environmental engineer we have consulted,<sup>3</sup> a QRA would identify every piece of process equipment that is in contact with material that is toxic and/or flammable, find the failure frequency for the process equipment, develop a list of the possible ways the toxic/flammable material could be released, and determine the consequences of each potential release through computer modeling, including the likely location of releases. A QRA for a given processing unit, such as the hydrogen plant, would identify the potential ways in which a unit could fail (failure modes) and consequences, assign probabilities of occurrence to each failure mode, pick one or more worst case scenarios with the highest probability of occurring, and calculate the impacts in terms of concentration of released pollutants at various distances from the facilities (*e.g.*, NH<sub>3</sub> concentration at 10 ft, 500 ft, 1000 ft, etc.). In addition, the EIR’s Reliability Analysis appears to focus on corrosion, but it also needs to address in a QRA other potential failure modes, such as over-pressurization of vessels, check-valve blowout, failure of process instrumentation, failure of equipment for other reasons, and operator error.<sup>4</sup>

Chevron previously used a QRA to assess the impacts of equipment and feedstock changes at its Richmond refinery. (Chevron Reformulated Gasoline and FCC Plant Upgrade

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<sup>2</sup> There was also a similar incident involving sulfidation corrosion of refinery piping in 2007. (CSB Report, p. 10.)

<sup>3</sup> J. Phyllis Fox, Ph.D.

<sup>4</sup> See, *e.g.*, Recurring Causes of Recent Chemical Accidents (available at: <http://plant-maintenance.com/articles/ccps.shtml>).

EIR, SCH # 92113007, August 1993.)<sup>5</sup> The City noted in a recent discussion and follow up with our office that the EIR did take a QRA approach, called the “worst-case QRA,” one that it asserts is more rigorous than Chevron’s 1993 QRA. This analysis looked at the consequences of the increase in the use and storage of hydrogen sulfide, anhydrous ammonia, and flammables/hydrogen, and of storing these substances in new locations. Although the EIR summarizes the results of three “worst case” scenarios (for increased use and storage of ammonia, hydrogen and hydrogen sulfide) (EIR, p. A4.13-OCA), the EIR does not demonstrate that these scenarios are, in fact, “worst case.” Also, according to Dr. Fox, the EIR does not provide the RMP\*Comp model run input and output sheets nor otherwise report the assumptions that the modeling was based on, beyond citing general guidance.

For the “flammable” scenario, for example, it appears the EIR only evaluated a vapor cloud explosion (as it assumed an endpoint of 1.0 psi) at a fixed, unspecified point. The EIR does not consider other “flammable” endpoints, such as a BLEVE (boiling liquid expanding vapor explosion), pool fire, or flash fire. The EIR also does not consider the involvement of more than one piece of equipment in an accident. A leak of high-pressure hydrocarbons, for example, could drift to a different location before igniting and thereby involve other equipment and additional consequences. Without this additional analysis, there is insufficient support for the EIR’s conclusion that the risk of potential off-site impacts from the use and storage of these substances would be mitigated to less than significant. (EIR, pp. 4.13-2, 4.13-74 to 4.13-82.)

The EIR should include a QRA that would provide the type of information that would allow the public and decision makers to fully evaluate the Project’s risks.

## **B. Timing of Risk Management Planning**

The EIR states that a revised Risk Management Plan will be completed *after* the Project components have been installed, (EIR, p. 4.13-105). The Risk Management Plan is important because, among other things, it requires that the potential hazards from the Project be analyzed in detail and the potential impacts of accidents be minimized through design changes and other measures (*id.*, at 4.13-105; 4.13-110-4.13-111), as well as requires a revised off-site consequence analysis of worst-case and alternative accidental release scenarios (*id.*, at 4.13-105). The EIR should either include the Risk Management Plan, or its equivalent if the RMP cannot be made available, so that the public and decision makers may fully evaluate the analysis *before* the Project is approved.

## **C. Temperature and Naphthenic Acid Corrosion**

The current safety analysis appears incomplete in other important respects. The EIR assumes, without explanation, that the project would not result in changes to process temperatures. (EIR, p. A4.13-REL-3.) High temperature played a key role in the sulfidation corrosion that caused the 2012 fire. Accordingly, the EIR should provide information substantiating its conclusion that the proposed project will not result in increased temperatures.

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<sup>5</sup> Mobil Oil’s EIR for processing reformulated gasoline at its refinery in Torrance also used a QRA. See [http://www.aqmd.gov/ceqa/documents/2001/nonaqmd/mobil/final/mobil\\_f.html](http://www.aqmd.gov/ceqa/documents/2001/nonaqmd/mobil/final/mobil_f.html).

The EIR also concludes that naphthenic acid corrosion, a second type of potential corrosion inherent in the processing of certain crudes, is not a potential risk because the project will be processing low naphthenic acid crudes. (EIR, p. A4.13-REL-43 and 44.) The EIR, however, does not provide information to support that conclusion, including how Chevron proposes to reject high naphthenic acid crude blends, for example, by monitoring and sampling. We understand from our discussions with the City that this issue will be more fully addressed in forthcoming responses to comments and the Final EIR.

## **II. The EIR Fails to Address Whether the Proposed Project is Consistent With Achieving the State's Climate Stabilization Objectives and Post-2020 Mitigation**

The EIR for this long-term infrastructure project needs to consider both the significance of the project for the state's climate stabilization objectives and how significant GHG emissions can be mitigated over the full life of the project.<sup>6</sup>

As reflected in law and policy, California has committed itself to the objective of climate stabilization by reducing total statewide emissions to no more than its 1990 levels by 2020, and to 80% below 1990 levels by 2050, even as our population and economy grow. (See Governor's Exec. Order No. S-3-05 (June 1, 2005); Health & Safety Code, § 38501, et seq.; Air Resources Board, Climate Change Scoping Plan (2008).) Because transportation emissions are responsible for 38% of the State's GHG emissions, reducing GHG emissions from the transportation sector is essential to meeting our climate objectives. To this end, the State has, among other things, adopted a goal to transform personal transportation so that virtually all vehicles in the state are zero-emission by 2050 (see Governor's Exec. Order No. B-16-2012 (March 23, 2012)), and ultimately reduce transportation sector greenhouse gas emissions by 80 percent below 1990 levels.<sup>7</sup> It has also adopted the Low Carbon Fuels Standard, which will reduce the carbon intensity of the State's transportation fuels by at least 10 percent by 2020. (Cal. Code of Regs., tit. 17, § 95480, et seq.)

It appears that the proposed Project has the potential to increase the carbon intensity of the fuels the refinery produces – by emitting more GHGs for the same or nearly the same throughput of crude and gas oils. Accordingly, the EIR should include an analysis addressing whether and how this Project is consistent with the State's transition to low-and zero-carbon

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<sup>6</sup> The EIR finds that largely through Chevron's purchase of cap-and-trade GHG allowances, GHG emissions are mitigated to no net increase. (EIR, p. 4.8-68.) The EIR does not, however, appear to address how Chevron will mitigate the increase in GHG emissions if, for any reason, ARB does not extend its cap-and-trade regulation beyond 2020 to cover the full operational life of the Project, which is likely to go well beyond 2020. We understand from our discussions with the City that the Final EIR will make clear that in the absence of availability of the cap-and-trade program, the City will require the Project to curtail its GHG emissions to a level so that the remaining mitigation measures are sufficient to achieve no net increase. We also understand that the Final EIR will include discussion of two alternatives with no "physical" increase (as opposed to no "net" increase) in GHG emissions.

<sup>7</sup> See Integrated Energy Policy Report, 2012 Update, at p. 61. (available at [http://www.energy.ca.gov/2012\\_energypolicy/index.html](http://www.energy.ca.gov/2012_energypolicy/index.html)).

transportation fuels and renewable energy sources, commensurate with California's fuel and climate objectives.

### **III. The EIR Must Provide an Adequate Analysis of the Impacts of the Project**

CEQA requires that a project's direct and reasonably foreseeable indirect changes to the environment be disclosed. (Cal. Code Regs., tit. 14, § 15064, subd. (d).) "[D]irect and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects." (Pub. Resources Code, § 21100; Cal. Code Regs., tit. 14, § 15126.2(a).) The fact that a project's impact, standing alone, may seem minimal, is not dispositive. Rather, the EIR must examine whether the project's effects are cumulatively considerable. (Pub. Resources Code, § 21100; Cal. Code Regs., tit. 14, §§ 15130(a).) "Cumulatively considerable" means 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. (Pub. Resources Code, § 21100; Cal. Code Regs., tit. 14, §§ 15065(a)(3).)

Further, a project's impacts must be evaluated in the context of the local setting. (Cal. Code Regs., tit. 14, § 15064, subd. (b).) The context of an action or a specific impact may include the sensitivity of the environment or of the persons affected; for example, those affected who may already be subject to higher pollution burdens and thus more sensitive to even seemingly small incremental increases in that burden. (See *Kings County Farm Bur. v. City of Hanford* (1990) 221 Cal.App.3d 692, 718.)

Given that the residents of Richmond are already facing some of the highest pollution burdens in California – for example, Richmond is in the 98th percentile for emergency room visits for asthma and the Office of Environmental Health Hazard Assessment has ranked some of the areas around the Project area in the top five percent of California communities burdened by multiple sources of pollution (EIR, p. A4.3-PHYS-57 to PHYS-58) – the EIR must also analyze whether additional pollution will contribute significantly to the community's existing public health problems. In addition, the proposed Project is next to five residential neighborhoods in the City of Richmond and is located close to a number of sensitive receptors including elementary schools, infant and child care centers, hospitals, elderly residential care facilities, and community centers. (EIR, Table A4.3-HRA-11.) Thus, the EIR needs to contain a more detailed analysis of the potential cumulative impacts on the already overburdened community near the refinery and a full analysis of flaring impacts.

#### **A. The EIR Fails to Analyze the Cumulative Local Air Quality Impacts to the Already Overburdened Community of Richmond**

##### **1. Criteria Air Pollutants**

Chevron is the largest emitter of CAPs in Richmond – it emits over twenty-three times the CAP emissions of the next highest CAP emitter. (EIR Table A4.3-PHYS-4.) The EIR shows

that, with the Project, emissions of carbon monoxide and reactive organic gases will increase<sup>8</sup> during the processing of each potential crude blend that Chevron could process under the Project. (EIR, p. 4.3-88.) Carbon monoxide aggravates coronary heart disease, impairs central nervous system functions, and causes dizziness, among other problems. (*Id.*, at A4.3-Reg-2.) Depending on which of the nineteen crude blends discussed in the EIR the refinery ultimately processes, there may also be increases in other criteria air pollutants such as NO<sub>x</sub>, precursor organic compounds, and particulate matter.<sup>9</sup> These would exacerbate smog, aggravate asthma and cause other severe respiratory problems. (*Id.*)

The use of emission reduction credits issued by BAAQMD may allow Chevron to achieve “no net increases” over baseline, but they would not reduce the amount of pollution in the impacted community because emission reduction credits do not require reductions in the area directly affected by the Project. The EIR should examine the impact of the Project’s projected increase in localized air pollution emissions and apply mitigation that would reduce local impacts.

## 2. Toxic Air Contaminants

The EIR shows that the Project will cause substantial increases in TAC emissions, including the TACs most responsible for cancer risk. Richmond is currently one of six communities identified by the BAAQMD’s Community At Risk Evaluation (CARE) program that identifies areas with higher TAC exposure levels. (EIR, p. A4.3-PHYS-46.) According to the EIR: “[T]he estimated cancer risk in 2015 for locations in the vicinity of the Modernization Project ranges from 100 to 300 in a million (BAAQMD, 2012).” (*Id.*)

The EIR states that because the increases in TACs will not exceed the significance thresholds set by BAAQMD, the public health risk will not increase. However, the EIR does not appear to account for the cumulative impact of exposures to TAC emissions for the Project area,<sup>10</sup> which is already at increased risk. For instance, the Project as currently configured may increase emission of benzene by about half a ton, ammonia by 72,000 pounds/year and particulate matter by 300 to 3,000 pounds/year. (EIR, pp. 4.3-96 to 4.3-97.)<sup>11</sup>

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<sup>8</sup> Carbon monoxide may increase by 33 to 73 tons per year; reactive organic gases may increase by 12 to 65 tons per year, depending on the crude blend.

<sup>9</sup> Currently, the Bay Area air basin is not in compliance with state law for several CAPs, including particulate matter. (EIR, p. A4.3-PHYS-8.)

<sup>10</sup> EIR, p. 4.3-126.

<sup>11</sup> According to the BAAQMD, a carcinogen such as benzene has no threshold below which exposure can be considered risk-free, and the Project may increase benzene emissions by about half a ton. (See <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx>, Appendix C-17.) We understand the nearby Kinder-Morgan facility already emits or will be emitting benzene from trains carrying crude oil.

We understand that it is the City's intent to amplify the discussion of the TAC impacts. In doing so, the EIR should consider the cumulative impacts of the TAC emissions in light of the surrounding community's multiple exposures to TACs.<sup>12</sup>

### **B. The EIR Fails to Analyze Flaring Impacts**

A single episode of flaring<sup>13</sup> can result in the release of significant amounts of CAP, GHG and TAC emissions and, because the concentration of emissions occurs over a short period of time, the health impacts could potentially be significant. We raised flaring as a concern in our previous comment letters. We have reviewed the EIR pages the City identified as relevant regarding flaring. The EIR states in a footnote that flare emissions "will likely further decline with the Modernization Project as additional requirements on flare usage are being implemented." (EIR, p. A4.3-OP-11, fn. 3.) It goes on to say that "[p]otential changes in flare emissions are not considered quantitatively for purposes of this EIR." (*Id.*) But, the EIR needs to evaluate whether the change to higher sulfur crude – or other changes brought about by the project – could lead to an increase in flaring and/or an increase in emissions when flaring occurs and, if so, how any increase will be mitigated. In addition, the EIR should describe the "additional requirements on flare usage" referenced in the footnote, including the source of the requirement and the plan for compliance with the requirements.

### **IV. The EIR Must Consider Feasible Mitigation of Localized Air Pollution**

Under CEQA, "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects...." (Pub. Resources Code, § 21002; *Mountain Lion Foundation v. Fish and Game Com.* (1997) 16 Cal.4<sup>th</sup> 105, 134.) By the EIR's own estimates, emissions from the Project's operations will exceed the baseline for carbon monoxide and reactive organic gases. (See EIR, pp. 4.3-88, 4.8-28.) But the EIR's proposed mitigation measures<sup>14</sup> do not comprehensively mitigate these emissions' localized impacts.

#### **A. Criteria Air Pollutants**

To address the specific local impacts identified, the EIR should analyze – and the Project should achieve – all feasible emission reductions of localized air pollutants on-site before resorting to off-site mitigation. As we noted in a recent comment letter to the City of Pittsburg,

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<sup>12</sup> We recognize that in some instances CEQA does not require a cumulative impacts analysis if, as is the case here, emissions are in compliance with an air quality plan or regulations. CEQA, however, also provides that, notwithstanding this compliance, if there is substantial evidence that the possible effects of a project are still cumulatively considerable, a cumulative impacts assessment should be prepared. (Cal. Code Regs., tit. 14, § 15064(3).)

<sup>13</sup> Upsets in refinery processing create excess pressure in pipes, vessels, or process units. This excess pressure is released through flaring of gases.

<sup>14</sup> As mitigation, the EIR lists four measures to be implemented at the refinery, and commits Chevron to providing \$3 million a year, for ten years, to community-based greenhouse gas reduction programs to be selected and administered by the City of Richmond. (EIR, pp. 4.8-39 to 4.8-40.)



on-site mitigation of pollutants should be considered, especially when the pollution burden is already high in a particular community. (See <http://oag.ca.gov/environment/ceqa/letters>.)

As examples, on-site mitigation could include installing domes on many of the refinery's tanks rather than on only one tank as proposed by the Project; minimizing fugitive emissions from valves, flanges, and other equipment; installing additional low NOx burners throughout the refinery; and prohibiting diesel generators where access to the electrical grid is available.

The EIR should also consider whether subsidizing the installation of air filters in the community could reduce air impacts. We understand from our discussions with the City that the order in which different types of mitigation were ranked will be addressed further in the Final EIR and that direct mitigation will be required prior to reliance on emission reduction credits. In addition, we understand that the Final EIR will require that the refinery install domes on three of its storage tanks, rather than on one tank as the EIR proposes.

## **B. Toxic Air Contaminants**

The EIR proposes mitigation measures related to shipping to reduce TACs, but if after this mitigation the emissions exceed significant thresholds in a given year, the EIR requires that Chevron pay \$100,000 into a Clean Air Improvement fund (for on-site or community based reductions in emissions) under certain circumstances. (EIR, p. 4.3-118.) Post-emission remediation is less effective than preventative mitigation measures to reduce TAC emissions. The EIR should consider measures that mitigate TAC emissions in the first instance. We understand the Final EIR may require additional mitigation, such as retrofitting of at least one tugboat.

## **V. The EIR Must Analyze a Reasonable Range of Feasible Alternatives**

One of the "core" requirements of an EIR is an adequate consideration of alternatives. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.) In adopting CEQA, the Legislature found and declared that "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives ... available which would substantially lessen the significant environmental effects of such projects...." (Public Resources Code, § 21002.) As discussed below, the EIR should analyze the feasibility and effects of combining the Reduced Sulfur Processing and Hydrogen Cap alternatives. Further, to achieve a reasonable range of alternatives, the EIR should consider additional alternatives for a crude cap that are not discussed.

### **A. The EIR Should Analyze the Effect of Combining the Reduced Sulfur Processing Alternative and the Hydrogen Cap Alternative**

The EIR should analyze the feasibility and environmental benefits of combining the Reduced Sulfur Processing alternative and the Hydrogen Cap alternative. If the Reduced Sulfur Processing alternative would "bring less sulfur from crude" then the refinery would consume less hydrogen. As the EIR notes, the increase in hydrogen production is designed to support the processing of higher sulfur crudes. (*Id.*, at 6-3.) However, the Reduced Sulfur Processing alternative assumes, without explanation, that the new hydrogen plant would operate at 100% of capacity. If the Reduced Sulfur Processing alternative and the Hydrogen Cap alternative (which

caps the increase in hydrogen production at 197 million standard cubic feet per day) were combined into a single alternative, the environmental effects of the project would likely be reduced further. The combined caps on hydrogen and sulfur would appear to be environmentally superior to the Project and should be considered by the City as an alternative to the Project or explained why it is not feasible.

We understand that the Final EIR will include two additional alternatives that do combine the Reduced Sulfur Processing alternative with additional changes that, significantly, result in no physical increase in greenhouse gas emissions over baseline. Further, we understand that one of the new alternatives is environmentally superior to the other alternatives (and therefore to the Project) and that the second alternative is not superior (because of increases in emissions of other pollutants). We look forward to the opportunity, along with the public, to review and comment on these new alternatives.

### **B. Crude Cap Alternatives**

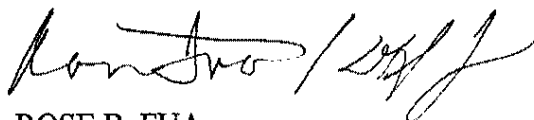
The EIR considers two crude caps that would limit the refinery to processing either the heaviest or lightest crude blends. Because these caps would exclude the intermediate blends, which the refinery is currently processing, the EIR considers the caps infeasible. (EIR, pp. 6-54 to 6-63.) The EIR states that these alternatives were evaluated in response to prior expressions of public interest. Our understanding, however, is that the public is concerned precisely about these two ends of the crude spectrum. Safety concerns have been raised regarding the transportation of certain light crude (Bakken), and lifecycle greenhouse gas emissions and other concerns have been raised with respect to certain heavy crudes. The EIR should evaluate whether an alternative can be structured so that sources of crude and gas oil for the refinery exclude one or both ends of the spectrum of crudes and gas oils, but allow for processing of intermediate crude and gas oils.

### **Conclusion**

We urge the City of Richmond to revise the EIR so that it will fully inform the public and the City Council of the local and statewide impacts of this Project.

Thank you for your consideration.

Sincerely,



ROSE B. FUA  
DAVID ZONANA  
Deputy Attorneys General

For KAMALA D. HARRIS  
Attorney General