August 21, 2008

Cheryl Casdorph
Supervising Planner
Planning Department
Kern County
2700 M Street
Bakersfield, California 93301

RE: Recirculated Draft Environmental Impact Report for the Clean Fuels Project by Big West of California, LLC (SCH # 2005121041)

Dear Ms. Casdorph:

Thank you for the opportunity to submit these comments on the Recirculated Draft Environmental Impact Report (rDEIR) for Big West of California’s “Clean Fuel Project” (CFP), a proposed expansion of the former Shell Oil Refinery.1 The Attorney General’s comments relate to two environmental impacts discussed in the rDEIR: (1) projected emissions of carbon dioxide (CO2) and other greenhouse gases (GHG) that contribute to global warming, and (2) potential accidental releases of modified hydrofluoric acid (MHF), an extremely toxic and volatile compound that can pose a risk to the public health and the environment. We express no opinion on other aspects of the rDEIR.

We commend Kern County for its leadership in addressing these issues in the rDEIR. As discussed in these comments, however, in several respects the rDEIR is inadequate under the California Environmental Quality Act (CEQA). First, the rDEIR does not adequately discuss global warming in the context of the presently occurring and future serious impacts on California. Second, the rDEIR is unclear in certain key respects. For example, it is not completely clear whether the rDEIR is describing the additional GHG emissions that will result from the CFP or the total amount of GHG emissions that will be produced by the expanded refinery. Similarly, the rDEIR sometimes relates the refinery’s outputs to what the rDEIR

1 The Attorney General provides these comments pursuant to his independent power and duty to protect the natural resources of the State from pollution, impairment, or destruction in furtherance of the public interest. (See Cal. Const., art. V, § 13; Cal. Govt. Code, §§ 12511, 12600-12; D'Amico v. Board of Medical Examiners (1974) 11 Cal.3d 1, 14-15.) These comments are made on behalf of the Attorney General and not on behalf of any other California agency or office.
describes as the “petroleum refining sector” and sometimes to what it describes as the “gasoline refining sector” and it is not clear whether this is an intentional distinction. This lack of clarity is of particular concern because the rDEIR suggests that additional GHG emissions from the CFP are disproportionately large relative to the throughput of the refinery. Third, the rDEIR identifies the GHG emissions that will result from the additional electric power the refinery will need for the CFP, but wrongly fails to include those additional emissions in the total impact from the project. Fourth, the rDEIR fails to incorporate sufficient mitigation for the CFP’s substantial GHG emissions, mitigating for less than 10% of emissions. Fifth, many of the rDEIR’s proposed GHG mitigation measures are vague or constitute improper deferral of mitigation. Sixth, the rDEIR does not fully disclose the substantial risks associated with the use of MHF.

Apart from the CEQA deficiencies identified above, we note that the rDEIR now presents an environmentally superior alternative (“Alternative D”) to the proposed use of MHF. We commend the County for including “Alternative D” in the rDEIR and for indicating that it would reduce or eliminate the two greatest adverse impacts of the CFP: First, by eliminating the alkylation unit, it would eliminate the use of hydrofluoric acid in any form, a very substantial benefit. Second, relative to the CFP as currently proposed, Alternative D would produce a thirty percent smaller increase in GHG emissions. As a result, we support Kern County’s consideration of Alternative D as the basis for the expansion.

Comments on GHG Pollution and Global Warming

Background -- The rDEIR Does Not Adequately Discuss Global Warming in the Context of the Presently Occurring And Future Serious Impacts On California.

We urge the County to expand the rDEIR’s discussion of the connection between GHG emissions and global warming and the impacts of global warming on California in particular.2 (rDEIR at p 4.2-146 & Appendix N.) There is overwhelming scientific evidence that the planet is warming and that this is due to human activities. In 2007, the International Panel on Climate Change (IPCC) concluded that “most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.” (Intergovernmental Panel on Climate Change, 2007: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Summary for Policymakers, p. 10.) The increase in global average temperatures affects certain areas more than others. The Western United States, in general, is experiencing more warming than the rest of the nation, with the 11 western states averaging 1.7 degrees Fahrenheit warmer temperatures than this region’s average over the 20th century. (See Saunders, et al, Hotter and Drier: the

2 Aside from noting California’s commitment (through AB 32) to reducing its GHG emissions, the rDEIR only vaguely discusses the impacts of climate change in California: “While it is not possible to determine whether the project individually will have a significant impact on global warming or climate change, the project clearly will contribute to cumulative GHG emissions in California (see Table 4.2-50) as well as related potential adverse environmental effects.” (rDEIR at 4.2-150.)
West’s Changed Climate (2008) pp. 2-3 (available at http://rockymountainclimate.org). This increase in Western temperatures has occurred more at high altitudes than low ones, and has had real impacts. It has, for example, contributed to reduced snowpack, and the reduction of snowpack is expected to worsen. (Id. at pp. 5, 8-10.)

California, in particular, is suffering, and will suffer from global warming. (See generally Climate Action Team Report to Governor Schwarzenegger and the California Legislature (2006) and California Climate Change Center, Our Changing Climate, Assessing the Risks to California (2006) (both available at www.climatechange.ca.gov).) In California, reduced snowpack will cause more winter flooding and summer drought and higher water temperatures in lakes and coastal areas. In the San Joaquin River Delta area “[a]s sea levels rise due to global climate change, the mean high-tide mark will move farther up land in and around the Delta,” resulting in potential flooding, breach of levees, inundation of cropland, saline water intrusion into aquifers used for drinking water, and other very serious consequences. (Isenberg et al, Our Vision for the California Delta, (2007) p. 25 (available at www.deltavision.ca.gov).) The incidence of wildfires in California will also increase, and the amount of increase is highly dependent on the extent of global warming. The California Climate Change Center finds that by the year 2070, the risk of large wildfires could increase by 55 percent under a medium warming scenario, which is twice the increase expected if temperatures stay in the lower warming range. (California Climate Change Center, supra, at p. 10.) Wildfire-related spending in California now exceeds $1 billion per year.3

In short, global warming is an urgent environmental issue. As reflected in the California Global Warming Solutions Act of 2006 (AB 32) and Executive Order #S-3-05, the best available science establishes that we must substantially reduce our total GHG emissions, achieving a low carbon future by mid-century in order to stabilize atmospheric concentrations of GHGs at a level that will reduce the risk of the most catastrophic outcomes of climate change. In its November 2007 staff report, the California Air Resources Board (CARB) determined that to meet AB 32’s goal of reducing emissions of GHGs in California to 1990 levels by 2020, Californians must generate 173 million metric tons of carbon dioxide equivalents (MMTCO2e) less than they would under a “business as usual” scenario. (California Air Resources Board, Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit (November 2007) p. 26.)

If we fail to make better decisions at all levels of government and at every opportunity, in a very short time, our climate goals may be out of reach. According to Rajendra Pachauri, Chairman of the IPCC, “If there’s no action before 2012, that’s too late. What we do in the next two to three years will determine our future. This is the defining moment.”4

3 Greenwire, Costs to battle blazes grow as fires get bigger, stronger (July 29, 2008) at www.eenews.net/Greenwire/pring/2008/07/29/23.

The rDEIR Does Not Clearly Distinguish Between Existing and Project Emissions of GHGs.

As the rDEIR acknowledges, global warming is an “effect on the environment” under CEQA, and an individual project’s incremental contribution to global warming can be cumulatively considerable. (rDEIR at p 4.2-150; see Cal. Pub. Res. Code, § 21083.05, subd. (a); see also Sen. Rules Com, Off. of Sen. Floor Analyses, Analysis of Sen. Bill No. 97 (2007-2008 Reg. Sess.) Aug. 22, 2007.) An EIR must identify and assess all significant environmental impacts of the proposed project, including direct and indirect impacts. (Cal. Code Regs., tit. 14 (hereinafter “CEQA Guidelines”) §§ 15064, 15358, subd. (a).)

In general, the rDEIR seems to indicate that its analysis of GHG emissions pertains to the CFP, i.e., the refinery expansion only. Thus, the rDEIR suggests that the CFP would increase GHG emissions from stationary sources at the refinery by roughly 1,047,000 tons per year of CO2e. (rDEIR at Table 4.2-50 and Appendix N, Table 4-2.) These increases would be slightly offset by a decrease in emissions from mobile sources (approximately 15,460 tons of CO2e). (Id.) This projected decrease results in part from the anticipation that the refinery’s products will be sold locally, in Kern County. (Id. at p. 4.2-91) The net increase in unmitigated GHG emissions from the refinery’s operations would be 1,032,000 tons of CO2e. (Id.) This translates to roughly 900,000 metric tons (MT) of CO2e. The rDEIR rightly concludes that contributing nearly 1 MMT of additional GHG emissions would be cumulatively significant. (rDEIR at 4.2-159.)

But where the rDEIR discusses the relationship of this refinery to other refineries in California, it is unclear whether the rDEIR is discussing the expansion alone or the entire expanded refinery. It states, for example, on page 4.2-150, that “[g]asoline refining accounts for approximately 2 percent of the statewide CO2 emissions inventory; the CFP will account for less than 3 percent of this state-wide gasoline refining capacity and a roughly corresponding percentage of emissions.” Presently, the refinery produces roughly 23,000 Barrels Per Day (BPD) of gasoline (rDEIR at p. 3-19) and it is not clear whether these figures refer to the new total gasoline producing capacity or the additional gasoline that the CFP would produce. Elsewhere, the rDEIR reports that “[p]etroleum refining, a component of industrial sources, was estimated to be responsible for 6% of total GHG emissions[,]” citing the California Energy Commission’s Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, at pp. 62-67. (rDEIR at Appendix N, N-4.) Thus, without explanation, the rDEIR seems to be distinguishing gasoline refining from petroleum refining, adding to the uncertainty about how much of an increased contribution to GHG emissions from the refining sector generally the CFP

---

5 It is sometimes difficult to determine whether individual figures in the rDEIR are given in metric tons or US tons. Footnote 1 to table 4.2-50, for example, states that “Greenhouse gases and global warming are global issues, the convention of metric tons is used to describe them.” Most figures in the table, however, seem to be given in US tons. In this letter all tonnages are given in US tons unless otherwise specified.
This issue takes on particular importance because the CFP’s GHG emissions seem disproportionately large. The California Air Resources Board estimates that California’s refinery sector produces 34.9 MMTCO2e per year in 2004. (California Air Resources Board, *Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit* (November 2007), p.7.) Thus, the additional GHG output of nearly 1 MMTCO2e from the CGP would increase by almost 3 percent the statewide GHG emissions from the refinery sector. This figure is surprisingly large, considering (as we understand it) that the Big West refinery currently represents roughly 3 percent of the state’s capacity for refining crude oil, and the CFP would not increase the refinery’s overall throughput.

The uncertainty described above is inconsistent with CEQA for at least two reasons. First, as the rDEIR properly finds, the additional GHG emissions from the CFP would be cumulatively significant. But decision makers cannot judge just how significant those impacts will be without being able to compare the additional GHG emissions to that currently produced by this refinery, and by the refinery sector in general. Second, understanding whether the expanded refinery will produce a proportionally large or small amount of GHG compared to other California refineries may help decision makers judge the adequacy of the proposed mitigation measures.

The rDEIR Fails to Include All CO2 Emissions That Will Result From the CFP.

The rDEIR estimates that the CFP would create an additional electricity demand of 28 megawatts and that the GHG emissions resulting from the additional electricity demand would be in excess of 100,000 MT per year. (rDEIR at 4.2-51 and Table 4.2-7.) The rDEIR does not, however, include those emission increases in the proposed project's total GHG operating emissions, summarily stating that those emissions have been previously addressed in the environmental analyses and permitting processes for the existing local power plants.

An EIR must identify and assess all significant environmental impacts of the proposed project, including direct and indirect impacts. (CEQA Guidelines, §§ 15064, 15358, subd. (a).) In evaluating the potential cumulative effects of a project, lead agencies “should not dismiss a proposed project’s direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence.” (Office of Planning and Research, *Technical Advisory, CEQA and Climate Chang*,(June 19, 2008) p. 6.) As the Governor’s Office of Planning and Research has plainly stated: “Lead agencies should make a good faith effort … to calculate, model, or estimate the amount of CO2 and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities.” (Ibid. [emphasis added].)

The rDEIR’s substantial understatement of emissions subverts one of the basic purposes of CEQA, which is to inform the public of potential, significant environmental impacts of a proposed project. (CEQA Guidelines, § 15002, subd. (a)(1).) The County should correct this error to ensure that the public and decision makers have full information before any decision is
The rDEIR Fails Adequately to Impose All Feasible Mitigation.

CEQA requires that “[e]ach public agency shall 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, subd. (b).) This requirement is the “core of an EIR.” (Citizens of Goleta Valley v. Board of Supervisors of Santa Barbara County (1990) 52 Cal.3d 553, 564-65.) “[I]f the lead agency determines that the GHG emissions from the project as proposed are potentially significant, it must investigate and implement ways to avoid, reduce, or otherwise mitigate the impacts of those emissions.”

The rDEIR includes five separate mitigation measures for the increased GHG emissions. They are as follows: limiting the firing rates of five identified heaters (AQ-6); installing Bambeck combustion control systems to increase the fuel efficiency of seven identified refinery units (AQ-7); conducting an energy audit (AQ-8); planting at least 1,000 trees at or near the refinery (AQ-9); not seeking offset or emission reduction credits associated with five extant emission reduction credits (AQ-10); and creating two “Global Protection Funds,” the “Big West Refinery Fund” and the “Big West Community Fund” (AQ-11).

As a threshold matter, even assuming they will be effective, the measures do not go far enough. The rDEIR estimates that the five mitigation measures, taken together, would reduce GHG emissions by less than 71,000 tons of CO2e, less than ten percent of the 1,032,000 tons of CO2e expected to be produced by the refinery. (rDEIR at Table 4.2-50.) When the additional GHG emissions associated with the additional electricity usage are taken into proper account, the relative amount of the mitigation drops even further. Less than ten percent mitigation of a significant environmental impact would be inadequate in almost any circumstance, but it is particularly so here given the pressing need to forestall global warming and aggressive emissions reduction target contained in AB 32 and Executive Order #S-3-05 and the very large contribution of this individual project to California’s total emissions. 6

The Majority of the rDEIR’s Mitigation Measures Improperly Defer Mitigation or are Vague.

While we commend Big West for its pledge to form the “Global Protection Funds,” neither of the funds as described in the rDEIR fully complies with the mitigation requirements of CEQA. In general, a lead agency cannot defer development of the specifics of a mitigation

6 The rDEIR itself provides a measure of the relative smallness of the proposed mitigation. Alternative D, which appears in most respects to be preferable to the CFP, would reduce the increase in GHG emissions by about a third relative to the CFP. (rDEIR at 6-39.) This is more than four times the reduction that the rDEIR projects would be achieved by the mitigation it proposes, yet the rDEIR acknowledges (rightly) that that the cumulative impact on global warming from Alternative D would still be significant.
measure to the future. (San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Cal.App.4th 645, 670 [holding that provision in EIR that allowed specifics of mitigation for biological impacts to be determined after future study violated CEQA where there were no specific criteria or standards of performance].) “CEQA’s demand for meaningful information is not satisfied by simply stating information will be provided in the future.” (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 431 (internal quotation omitted).)

Under certain limited circumstances, however, a project may use a future, not yet existing, “mitigation plan” as mitigation for a current project. “Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.” (CEQA Guidelines, section 15126.4, subdivision (a)(1)(B).) In other words, a mitigation plan is acceptable mitigation where the EIR includes a performance objective for the plan and the plan is sufficiently formulated that the lead agency and the public can have a level of assurance that the objective of the plan – real mitigation – will be achieved. (See, e.g., San Joaquin Raptor Rescue Center, supra, 149 Cal. App. 4th at 669 [“Although a generalized goal of maintaining the integrity of vernal pool habitats is stated, no specific criteria or standard of performance is committed to in the EIR.”]; Sacramento Old City Assn. v. City Council (1991) 229 Cal.App.3d 1011, 1020-22, 1028-30).

To comply with CEQA Guidelines, the Refinery Fund must include a performance standard as required for future mitigation. One such performance standard would be a numeric goal specifying the amount of GHG emissions to be reduced by the funded-projects.7 We have similar concerns about the Big West Community Fund. The rDEIR estimates that the Community Fund would produce less than 400 tons of mitigation annually. (rDEIR, p. 4.2-151.) Viewed either as deferred mitigation pursuant to CEQA Guidelines section 15126.4(a)(1)(B), or as payment of a fee to mitigate a cumulative impact, its goals are not sufficiently well specified. The weighting system for choosing projects to be funded by the Community Fund (which the Refinery Fund lacks) is a step towards a performance standard, but does not fully comply with section 15126.4.

Further, in addition to identifying a suitable performance standard, we urge the County to require that all of the additional elements for a deferred mitigation plan be specified, including measures for evaluation of progress, the required adaptive management provisions, and a list of potential mitigation strategies that will be analyzed and implemented to achieve specific GHG reduction targets. These specific elements must be required so that the County does not run afoul of CEQA’s rule against deferral. (Sacramento Old City Assn. v. City Council, supra, 229 Cal.App.3d at 1020-22, 1028-30; Lincoln Place Tenants Assn. v. City of Los Angeles (2007) 155

7 As noted in the rDEIR, an on-site solar power generating system could help supply the CFP’s electricity demand and reduce the project’s associated indirect GHG emissions by approximately 3,200 metric tons of CO2e per year. (rDEIR, Appendix N, at pp. N-43-44.) In addition to other incentives offered through the California Solar Initiative, the solar power array would also produce power worth approximately $1 million per year. (Id. at p. N-44.)
Cal.App.4th 425, 446.) We are confident that with further cooperation, the deficiencies noted above will be resolved.

Addressing the rDEIR’s other mitigation proposals, we begin with the proposed energy efficiency audit for the refinery. As we understand the proposal, Big West would conduct the audit during the construction phase of the CFP but the audit would focus on Big West’s existing and ongoing operations. We have two recommendations. First, as part of the energy efficiency audit, we recommend that Big West incorporate a facility-wide GHG emissions inventory and audit for all sources of GHGs, in other words the audit should inventory both energy usage and GHG emissions at the refinery. Second, Big West should make a firm commitment to implement the audit’s findings. The rDEIR, Appendix N at page N-42, states that Big West will report the results of the energy audit to the County and Big West may implement those findings as projects pursuant to the Big West Refinery Fund. The linkage between the audit and the Big West Refinery Fund should be strengthened and clarified.8

Finally, several of the other mitigation measures are vague and potentially unenforceable.9 For example, the rDEIR states that efficiencies related to certain refinery heaters and other units (AQ-6 and 7) would together reduce the refinery’s GHG emissions by roughly 30,000 US tons of CO2e. (rDEIR, Appendix N, at N-29 (Tables 6-1 and 6-2).) It is not possible, however, to determine the extent to which these measures have already been implemented, whether regulatory approvals or other factors may prevent their implementation and whether they can be properly credited as mitigation for the proposed project. Further, as discussed below, the rDEIR does not include any provisions to address the possibility that one or both proposals may prove infeasible.

The rDEIR Should Ensure that Mitigation Can Be Monitored for Effectiveness.

CEQA requires, as part of the lead agency’s enforcement process, either monitoring or reporting of the implementation of the mitigation measures to ensure those measures will be implemented and effective. (Pub. Res. Code, § 21081.6, subd. (a); CEQA Guidelines, § 15091, subd. (3)(d); see also Lincoln Place Tenants Ass’n v. City of Los Angeles (2007) 155 Cal.App.4th 425, 446.) To the extent, discussed above, that the proposed mitigation measures are vague or lacking standards, they cannot be appropriately monitored. The absence of more specific goals for the Refinery Fund or an obligation to implement measures identified in the energy audit, for example, preclude meaningful enforcement of the goals. Additional specificity of the measures would help cure this deficiency.

8 The rDEIR should, moreover, include a clear statement that the Global Protection Funds are above and beyond the other mitigation measures, i.e. the Global Protection Funds (AQ-11) will not be used to fund measures AQ-6 through AQ-10.

9 It is unclear whether mitigation measure AQ-10 “not seeking offset or emission reduction credits associated with five extant emission reduction credits” is in fact a mitigation measure. We seek clarification of this issue.
Comments on Modified Hydrofluoric Acid and Alternative D

As originally proposed, the CFP would have used pure hydrofluoric acid (HF) as an alkylation catalyst.\textsuperscript{10} HF is an exceptionally hazardous compound, being both highly volatile and highly toxic. As the rDEIR acknowledges, releases of HF, including from other refineries, have caused numerous injuries and severe economic dislocation. The 2005 report “Needless Risk,” by the U.S. Public Interest Research Group, provides a useful discussion of the hazards of using HF in any form.

We commend Big West and Kern County for the decision to substitute modified hydrofluoric acid (MHF) for hydrofluoric acid. Nonetheless, as the rDEIR likewise acknowledges, MHF also presents a substantial risk.\textsuperscript{10} For that reason, the use of MHF should be avoided when, as here, there is a viable alternative. While it is true that the Alkad stabilizer that Big West proposes to use in the CFP would reduce the volatility of stored hydrofluoric acid, it would do comparatively little to reduce the risk and potential hazard from an HF release that occurs in the reactor unit. We urge the County to expand the rDEIR’s analysis of the potential hazard from MHF. First, the rDEIR should include additional description of the risk of sabotage of the refinery. Second, any HF release that triggered an emergency response and activation of the local notification system would certainly cause additional dislocation and associated financial and environmental costs. The rDEIR should evaluate those costs. Third, under these circumstances it would be appropriate for Big West to complete a Process Hazard Analysis,\textsuperscript{11} as would be required for operation of the alkylation unit, and incorporate those results into the rDEIR.

The Attorney General supports the inclusion of Alternative D in the rDEIR. The rDEIR includes many indications that Alternative D is preferable to the CFP as currently proposed. First, by eliminating the alkylation unit, Alternative D would eliminate the need for the use of hydrofluoric acid in any form. A separate, similar benefit of Alternative D, according to the rDEIR, is that it would also allow Big West to use aqueous ammonia instead of anhydrous ammonia. Second, as discussed above, the rDEIR estimates Alternative D would produce thirty percent fewer additional GHG emissions than the CFP. Third, Alternative D would reduce other environmental impacts, including, for example, additional emissions of criteria pollutants and at least some hazardous air pollutants. These are all very substantial benefits of Alternative D.

Considering the benefits of Alternative D, it appears to be a preferable option to the CFP. We recognize that there are disadvantages to Alternative D, notably that it is a smaller project

\textsuperscript{10} Alkylation produces hydrocarbons with a high octane number that are important for producing “clean fuels.”

\textsuperscript{11} As defined in the rDEIR, a “Process Hazard Analysis” is a “systematic examination of every process unit in the refinery [generally] conducted at least every 5 years to identify hazards and ensure that adequate controls are in place to manage those hazards.” (rDEIR at p. 4.4-3.)
that would not completely eliminate the shipments of gas oil. The choice of which project will proceed rests with Big West as project proponent and Kern County as the permitting agency. From our vantage point, nonetheless, Alternative D is a good option and most likely a better option than the CFP. We urge the County to give Alternative D the full and fair consideration it deserves.

Thank you again for giving us the opportunity to comment. We stand ready to provide any assistance we can in this matter. If you wish to discuss any of the matters raised in this letter, please contact either Mr. Jim Potter at (213) 897-2637 or Mr. Ed Ochoa at (619) 645-2041.

Sincerely,

/S/

ED OCHOA
JAMES POTTER
Deputy Attorneys General

For EDMUND G. BROWN JR.
Attorney General

cc: Ms. Jocelyn Thompson