From:
Charles Davidson
Hercules, CA

To:
Joseph Lawlor
Project Manager
CCC Department of Conservation and Development
30 Muir Rd
Martinez, CA 94553
joseph.lawlor@dcd.cccounty.us

Subject: Public Comment on the Revised Environmental Impact Report for the Rodeo Renewed Project (State Clearinghouse# 2020120330, County File No. CDLP20-02040)

Dear Mr. Lawlor,

I am submitting this detailed technical critique concerning the Revised Environmental Impact Report (REIR) for the Rodeo Renewed Project, aligning my observations with previous submissions related to the Phillips 66 project and the Marathon Renewable project, which I have attached.

**Greenhouse Gas Emissions:** The REIR significantly underestimates the greenhouse gas emissions from the production of renewable diesel biodiesel from lipid triglycerides. The process of converting fats, oils, and greases into refinery biodiesel is estimated to emit 30% more kg of CO2 per barrel at Phillips 66, a figure alarmingly higher than traditional petroleum diesel refining (based upon the project EIR). The figure is 42% higher at Marathon Renewable (based upon their project EIR). This profound under-representation of the carbon footprint of the hydrodeoxygenation reaction in lipid hydrocracking overlooks a critical environmental impact, necessitating a comprehensive reassessment of the REIR and DEIR. (See Part II, starting on page 3 of the attachment to this letter: 11 April 2022 [Updated 4/21/2022] Re: Appeal of Contra Costa County Planning Commission Certification for the Final Environmental Impact Report for the Phillips 66 Rodeo Renewed Project [File No. LP20-2040 and the Contra Costa County Code, section 26-2.2406]).

**Inefficient Land Use:** The REIR fails to adequately address the inefficiency of converting agricultural land for biofuel feedstock, especially soybeans. Producing a mere 57 gallons, or roughly 1.5 barrels of soybean oil per acre annually, results in only about 150 barrels or approximately 24 tons of oil over a century per acre. This pales in comparison to the carbon sequestration potential of natural landscapes. For instance, an acre hosting 25 large, 100-year-old oak trees can sequester up to 1,000 tons of carbon, a stark 40-fold increase in efficiency compared to soybean cultivation.

**Safety Concerns in Refinery Projects:** Refinery renewable diesel biofuel projects at Phillips 66 and Marathon Renewable refineries introduce significant and unprecedented risks. Particularly, the exothermic hydrogen runaway reaction poses a greater danger than traditional hydro-cracking of petroleum hydrocarbons. The historical instance at the Tosco Refinery, where operators struggled to detect or respond to hot spots in a catalyst bed, leading to a runaway reaction, exemplifies these risks.

Safety concerns regarding exothermic hydrogen runaway reactions in HDO units are inadequately addressed. The fatal 1997 Tosco Refinery explosion, which saw temperatures reaching 1,398 degrees Fahrenheit - far exceeding the safe limit of 800 degrees Fahrenheit - underscores the grave risks of such processes. This incident illustrates the heightened safety hazards inherent in the proposed project environment.

The presence of oxygen in lipids creates an enhanced risk scenario. The high pressure, high temperature refinery hydrogen needed in order to crack lipids that are 11 percent oxygen, by weight, may further increase the tendency for marked temperature imbalances and hotspots in the catalyst bed. Just recently, on November 19th, 2023, at Marathon, the HDO unit (furnace) at the Marathon Refinery caught fire and critically injured one employee. Initial release estimates include approximately 207,300 pounds of renewable diesel and 2,200 pounds (i.e., one-metric ton) of hydrogen. Refinery renewable diesel biofuels projects on the scale the Phillips 66 and Marathon Renewable Refineries’ are unprecedented and pose an unknown and significant risk.

**Carbon Neutrality Claims Regarding Land-Use and CO2 Emission Inefficiencies:** The claim in the REIR, aligned with the Low Carbon Fuel Standard, that renewable diesel biofuel combustion is carbon-neutral, is overly simplistic. This claim fails to acknowledge the comparative inefficiency of biofuel feedstocks in carbon sequestration over a century. By ignoring the natural carbon sequestration potential of land, the report significantly misrepresents lifecycle CO2 calculations.

The following position of CARB is based upon factually inaccurate land-use GHG assumptions as a reason for disregarding renewable diesel biofuels combustion during the tailpipe emissions portion of their lifecycle (which is considered to be approximately 75% of the total). CARB states that “the CO2 emitted from vehicles during biofuel combustion is considered carbon neutral, in accordance with IPCC and U.S. EPA GHG inventory guidelines, as the carbon released was uptaken from the atmosphere within a short timeframe by the plant that produced the oil”. In this case, for land-use GHG considerations, the DEIR and Revised EIR do not consider the "No Project" alternative of preserving natural lands for natural carbon sequestration, which starkly contrasts with the inefficient agricultural use for soybean farming. By not including tailpipe admissions in the renewable diesel biofuel lifecycle GHGs, the report gives the refinery an unmerited advantage, as tailpipe emissions account for about 75% of the total petroleum diesel lifecycle emissions and they should be for renewable diesel biofuels as well.

**Project Piecemealing:** The Revised DEIR does not adequately address the cumulative environmental impact of related projects, like the Nustar Soybean Oil Project and the continued use of the Delayed Coker unit. This fragmented approach potentially obscures the comprehensive environmental impact of these combined initiatives.

Another issue that has occurred in relation to the Phillips 66 refinery, since the Rodeo Renewed Project was approved by the Contra Costa County Board of Supervisors in April 2022, is that while their Carbon Plant is slated to close, a company called H-Cycle is requesting the use of that site of a waste-to hydrogen facility. Furthermore, the refinery is now requesting 40% of H-Cycle’s hydrogen and hopes to transport it to the refinery as a mixture within existing natural gas pipelines.

Will these renewable diesel feedstock solids be used within the H-Cycle facility to produce extra hydrogen This possibility was not mentioned in the Rodeo Renewed Project DEIR. The DEIR noted no adequate description regarding Phillips 66’s disposal of solid residues cleaned from the mixed lipid feedstock in the pretreatment facility. These are potential odor and piecemealing issues

**Wastewater Treatment Concerns:** There is a concerning lack of detail regarding wastewater treatment, especially for mixed streams from lipid and petroleum processing at the wastewater treatment pond. This poses significant concerns for local residents, necessitating a detailed account of the treatment methods and microorganisms used in bioremediation, given the proximity of residences within 1,000 feet of the project, for which I also made a public comment to BAAQMD on, focusing on potential problematic aerosol emissions and odor. (3)

In conclusion, the Rodeo Renewed Project, in its current proposed form, raises significant environmental and safety concerns. I urge a comprehensive reevaluation of its impact, particularly regarding greenhouse gas emissions, land use efficiency, safety risks, and the overall environmental footprint.

Thank you for considering my detailed technical comments on this matter.

Sincerely,

Charles Davidson

1) ATTACHED: **ATTACHMENT B: 72 HOUR FOLLOW-UP NOTIFICATION REPORT FORM**

**CONTRA COSTA HEALTH SERVICES HAZARDOUS MATERIALS PROGRAMS.** SUMMARY OF EVENT: At approximately 00:21 on November 19, 2023, a fire erupted from a furnace in the 2 HDO Unit. DESCRIPTION OF INJURIES: One employee suffered burn injuries and was taken to the hospital where he was admitted for treatment. IDENTITY OF MATERIAL RELEASED AND ESTIMATED OR KNOWN QUANTITIES: Initial release estimates include approximately 207,300 pounds of renewable diesel and 2,200 pounds of hydrogen.

2) ATTACHED: 11 April 2022 [Updated 4/21/2022]

Re: Appeal of Contra Costa County Planning Commission Certification for the Final Environmental Impact Report for the Phillips 66 Rodeo Renewed Project (File No. LP20-2040 and the Contra Costa County Code, section 26-2.2406)

3) Begin forwarded message:

**From:**CommentsP66RodeoRenewed <commentsp66rodeorenewed@baaqmd.gov>

**Subject: RE: UPDATED: ADDED one reference (1b) - Fwd: Charles Davidson public comment to BAAQMD regarding the Phillips 66 Refinery Rodeo Renewed Project’s impacts on residents located within 1,000 feet of the project wastewater unit - charlesdavidson@me.com DECEMB**

**Date:**January 20, 2023 at 7:38:13 PM PST

**To:**"charlesdavidson@me.com" <charlesdavidson@me.com>

Hi Charles,

Thank you for providing your comments during the public notice period for Air District Application #31157 (Rodeo Renewed Project).  Attached please find the Air District’s responses to all public comments received during the public notice period.  This document will also be posted at: <https://www.baaqmd.gov/permits/public-notices/page-resources/table-data/2022/111522-31157/phillips-66-company-san-francisco-refinery>.

Regards,

Jimmy Cheng

Senior Air Quality Engineer, Engineering Division

Bay Area Air Quality Management District