

February 10, 2021

Mr. David Joe
Bay Area Air Quality Management district
375 Beale Street, Suite 600
San Francisco, CA 94105
Email: djoe@baaqmd.gov

Re: Comments on **BAAQMD Draft Rule 6-5 (Oil Refinery FCCUs)**

Dear Mr. Joe,

Thank you for the opportunity to review and comment on the proposed **Draft Rule 6-5** (Oil Refinery FCCUs). I am an environmental compliance consultant in the Bay Area while also pursuing a master's degree in environmental management. I have been in the industry for 7 years and am passionate on topics of environmental justice and reducing environmental pollution. I am hopeful that the proposed rule can make a difference in Bay Area resident's lives if regulations that are more stringent are adopted.

Summary of Findings and Recommendations:

- Draft Rule 6-5 is a good start to begin to reduce PM_{2.5} concentrations in the surrounding environments.
- However, stricter emission standards are necessary in order to reduce health impacts to surrounding communities, especially among disadvantaged communities and African American, Asian, and Hispanic populations.
- Refineries should not be allowed to knowingly cause health impacts to nearby communities, including death.
- An cap should be imposed for all PM_{2.5} emissions to included non-FCCU and FCCU sources.

There is significant research that there are serious health effects from exposure to Particulate Matter 2.5 (PM_{2.5}) at concentrations below current standards which include mortality, heart attacks, and chronic bronchitis.¹ It is shown in the summary of health and monetary impacts of PM_{2.5} from the Chevron Richmond refinery emissions and percent change of FCCU emissions, that FCCU emissions present a serious health impact to the surrounding communities. One of the most shocking statistics is that 5.1-11.6 premature deaths occur annually due to the Chevron Richmond refinery.² A business should not be allowed to profit while knowingly causing death in its nearby communities. Although there would be a 23% reduction under Control Scenario B, this is not enough. A business should be held to the standard of not being allowed to cause any deaths. If Rule 6-5 is made stronger by imposing more stringent emission

¹ *Understanding Particulate Matter: Protecting Public Health in the San Francisco Bay Area*: BAAQMD, Draft August 2012, available at https://www.baaqmd.gov/~media/files/planning-and-research/plans/pm-planning/understandingpm_draft_aug-23.pdf

² Modeling Fine Particulate Matter Emissions from the Chevron Richmond Refinery: An Air Quality Health Impact Analysis (Interim DRAFT Report – Version 1), Appendix A.2, January 2021, available at https://www.baaqmd.gov/~media/dotgov/files/rules/reg-6-rule-5-particulate-emissions-from-refinery-fluidized-catalytic-cracking-units/2020-amendment/documents/20210127_wsr_0605_a2-pdf.pdf?la=en

standards, more lives can be improved which is also consistent with the BAAQMD mission statement: The Air District aims to create a healthy breathing environment for every Bay Area resident while protecting and improving public health, air quality, and the global climate.

It is apparent that areas immediately surrounding these refineries are receiving the most impact from pollution. In the CALPUFF model created by BAAQMD, you can see that in the areas closest to the refineries there is $+1.0 \mu\text{g}/\text{m}^3$ $\text{PM}_{2.5}$. Areas farthest away from the refineries show to have only $+0.1 \mu\text{g}/\text{m}^3$. This disproportionately affects non-white communities as shown by the BAAQMD Exposure by Race/Ethnicity study.

Of the communities who are having health impacts due to these refineries emitting $\text{PM}_{2.5}$, African American, Asian, and Hispanic populations are being exposed to the greatest concentrations per capita.³ Disadvantaged communities are receiving the heaviest impacts of pollution and this needs to be addressed. According to the study, we can see that there will be a reduction in $\text{PM}_{2.5}$ concentration if FCCU's emissions are reduced (from $0.175 \mu\text{g}/\text{m}^3$ to $0.125 \mu\text{g}/\text{m}^3$ in African Americans), however, there will still be significant pollution caused by non-FCCU emission sources. In addition to imposing stricter emission standards on FCCU sources, BAAQMD should also impose stricter emission standards on non-FCCU sources to reduce concentrations as low as possible. Reducing pollution in these communities surrounding refineries will contribute to meeting the goals of Assembly Bill 617 in reducing air pollution in neighborhoods most impacted.

In conclusion, the final ruling of 6-5 needs to impose stricter $\text{PM}_{2.5}$ emission standards in order to significantly reduce public health impacts, especially to disadvantaged communities. $\text{PM}_{2.5}$ is extremely hazardous and needs to be addressed sooner rather than later. Therefore, a cap of total $\text{PM}_{2.5}$ emissions needs to be imposed on refineries to include non-FCCU sources.

Thank you for your consideration.

Sincerely,

Shayla Bergeron, Environmental Consultant

³ Exposure and Health Equity Assessment for Rule 6-5 (DRAFT), Appendix A.1, January 2021, available at https://www.baaqmd.gov/~media/dotgov/files/rules/reg-6-rule-5-particulate-emissions-from-refinery-fluidized-catalytic-cracking-units/2020-amendment/documents/20210127_wsr_0605_a1-pdf.pdf?la=en