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May 5, 2017

VIA EMAIL AND OVERNIGHT MAIL

Ms. Jillian Wong, Program Supervisor, CEQA
c/o Office of Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
jwong1@aqmd.gov

Re: **Tesoro Los Angeles Refinery Integration and Compliance Project**

Dear Ms. Wong:

We are writing on behalf of **Safe Fuel and Energy Resources California ("SAFER California")**, Peter Estrada, Leonardo Parra and Nicolas Garcia regarding the Draft Environmental Impact Report ("DEIR") prepared by the South Coast Air Quality Management District ("SCAQMD"), pursuant to the California Environmental Quality Act ("CEQA"), for the Tesoro Los Angeles Refinery Integration and Compliance Project ("Project"). We submitted comments on the DEIR on June 10, 2016. In April of 2017, a report entitled "FluxSense Inc., Emission Measurements of VOCs, NO2 and SO2 from Refineries in the South Coast Air Basin Using Solar Occultation Flux and Other Remote Sensing Methods" ("FluxSense Report") was published. The FluxSense Report compares real-time measurements of volatile organic compounds ("VOC"), Nitrogen Oxides, Sulfur Oxides, Benzene, Toluene, EthylBenzene and Zylenes ("BTEX") at six refineries and one tank farm in the SCAQMD, including the Tesoro Carson refinery. We reviewed the FluxSense Report with the assistance of refinery and air quality expert Phyllis Fox, Ph.D., QEP, PE, DEE. We found that the FluxSense Report supports our previous comments and provides additional evidence that the DEIR substantially underestimates the Project's VOC emissions and health risks. Specifically, the FluxSense Report shows that the DEIR's analyses of the Project's VOX and BTEX emissions rely on generic emission factors that are known to underestimate emissions. Dr. Fox's attached letter (**Attachment A**) shows that when site-specific

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measurements are used to estimate the Project's VOC emissions, the Project results in significant air quality and public health impacts. Therefore, the DEIR must be revised and recirculated for public review and comment.

I. The Project's 6,000 Barrels Per Day Increase in Crude Throughput Would Result in a Significant Air Quality Impact from VOC Emissions

The Project proposes to increase crude throughput by 6,000 barrels per day. According to the DEIR, the project would increase VOC emissions by 49.09 lb/day, which is just under the SCAQMD's 55 lb/day significance threshold. The FluxSense Report provides evidence that the DEIR significantly underestimates the Project's VOC emissions.

According to the FluxSense Report, the Tesoro Carson refinery underestimated its VOC emissions reported to the SCAQMD in its emissions inventories by a factor of 6.4.¹ Dr. Fox explains that Tesoro's emissions inventories for VOCs are based on calculations similar to those used in the DEIR.² Dr. Fox also explains that the FluxSense Report results (0.020% of the crude throughput at the Tesoro Carson refinery was emitted as VOCs) can be used to estimate the Project's increase in VOCs from the 6,000 barrel/day throughput increase. Using the FluxSense Report results, Dr. Fox determined that *the Project's throughput increase would result in an increase in VOC emissions of at least 312 lb/day.*³ This increase alone exceeds the SCAQMD's significance threshold by a factor of almost six. This is a significant air quality impact that was not identified or mitigated in the DEIR. Notably, as explained in our previous comments on the DEIR, the throughput increase is just one of several Project components that would increase VOC emissions.

II. The Project's Increase in Tank VOC Emissions Would Result in a Significant Air Quality Impact

The DEIR estimates that storage tanks are the Project's major source of VOC emissions, totaling 322.62 lb/day. 141.64 lb/day are attributed to two new tanks at

¹ FluxSense Report, Table 43.

² Attachment A, p. 4.

³ *Id.*

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the Wilmington refinery and 112.51 lb/day are from six new tanks at the Carson refinery. Conversion of two existing fixed roof tanks to internal floating roof tanks and increased utilization of 11 existing tanks provide an additional 68.4 lb/day.

Dr. Fox previously commented that if VOC emissions from these new and existing tanks were as little as two percent more than estimated in the DEIR, the Project's operational VOC emissions would exceed the SCAQMD's daily VOC significance threshold. Dr. Fox also identified several errors and omissions in the DEIR's tank emissions calculations that, when corrected, would increase tank VOC emissions above the VOC significance threshold of 55 lb/day. Citing actual measurements at refinery tanks using optical remote sensing methods similar to those used in the FluxSense Report, Dr. Fox explained that the method (TANKS 4.09d) used in the DEIR to estimate the Project's tank emissions underestimated emissions by factors of two to fifteen.

The FluxSense Report used mobile optical measurements at the Carson tank farm for eight days to estimate tank VOC and BTEX emissions. The Report confirms that the tanks are the major source of VOC emissions at the Carson refinery (71 percent). The Report also shows that measured VOC emissions from the Carson refinery are 6.5 times higher than reported to the SCAQMD in emissions inventories using the same calculation method used in the DEIR. Assuming the DEIR underestimated tank emissions by a factor of 6.5, Dr. Fox explains that the net change in Project VOC emissions would increase from 49.09 lb/day to 1,422 lb/day, exceeding the significance threshold of 55 lb/day by a factor of 25.⁴ The FluxSense Report provides additional evidence to support Dr. Fox's previous comments that the DEIR substantially underestimates the Project's tank VOC emissions. The DEIR must be revised accordingly.

III. The Project's Increase in VOC Emissions Would Result in Significant Public Health Impacts

VOCs are converted into ozone in the atmosphere. The South Coast Air Basin is in extreme nonattainment with the federal 1-hour and 8-hour ozone standards and in nonattainment with the state 1-hour and 8-hour ozone standards. Dr. Fox explains that the Project area has the worst ozone pollution in the United States and the Los Angeles/Long Beach area has been at the top of the worst ozone

⁴ *Id.*, p. 8.
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pollution list for 17 of the 18 years that the American Lung Association has ranked pollution in its State of the Air Report.⁶ Further, there are more than 18 million people in the Project area that belong to seven groups known to be vulnerable to the effects of breathing ozone, including those under the age of 18, those over the age of 65, those with pediatric asthma, those with adult asthma, those with COPD, those with cardiovascular disease and those living in poverty.⁶

A revised Health Risk Assessment (“Revised HRA”) was prepared for the Project, which identifies 23 sensitive receptors (schools, hospitals, child care facilities and churches) located in close proximity to the Project. Yet, the Revised HRA fails to identify significant health impacts from elevated ozone levels, as summarized by the American Lung Association in its 2017 State of the Air report, including premature death, developmental harm, reproductive harm, asthma attack, wheezing and coughing, shortness of breath, cardiovascular harm, susceptibility to infections, lung tissue redness and swelling, increased admission to hospitals for asthma, increased asthma in adolescents, and lower birth weight and decreased lung function in newborns.⁷ Dr. Fox also references a new study that shows that cancer patients face increased risks from ozone exposure.⁸ The Revised HRA and DEIR must be revised to include these significant health impacts.

The Revised HRA reports an increase in cancer risk at the maximally exposed individual residential receptor (“MEIR”) of 3.7 in one million, which is less than the cancer significance threshold of 10 in one million. The Revised HRA also reports that emissions from the Project’s tanks and associated fugitive components are the major source of cancer risk at the MEIR, contributing 78 percent of the total cancer risk. According to the Revised HRA, benzene is responsible for 33.2 percent of the cancer risk at the MEIR.

The FluxSense Report concludes that benzene was underestimated in emissions reported to the SCAQMD for the Carson refinery by a factor of 43. Based on the FluxSense Report, Dr. Fox explains that the cancer risk at the MEIR would increase from 3.7 in one million to 55 in one million.⁹ Further, according to Dr. Fox, “the cancer risk at all of the ‘most exposed sensitive receptors,’ which are all schools,

⁶ *Id.*, p. 5.

⁹ *Id.*

⁷ *Id.*, p. 6.

⁸ *Id.*

⁹ *Id.*, p. 9.

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would exceed the cancer significance threshold by a significant amount, when adjusted as for the MEIR.”¹⁰ Thus, the Project would result in significant cancer risks, and the Revised HRA and DEIR must be revised.

IV. Conclusion

The FluxSense Report supports our previous comments on the DEIR and provides additional evidence that the Project would result in significant, undisclosed and unmitigated air quality and public health impacts from VOC emissions. The SCAQMD must revise the DEIR accordingly and recirculate it for public review and comment.

Sincerely,



Rachael Koss

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¹⁰ *Id.*
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