

September 26, 2014

John Gioia, Chair
Stationary Source Committee
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109



Re: **Worker-Community Cleanup Approach for Refineries, Proposed Rule 12-15**

Dear Chair Gioia,

Communities for a Better Environment (CBE) and the undersigned groups are writing to express our support for an Air District Board resolution directing that our ‘worker-community approach’ for reducing oil refinery air pollution be developed as an option for Board consideration in proposed Rule 12-15. We write to urge the Stationary Source Committee to recommend this course to the full Board and seek adoption of such a resolution at the next full Board meeting.

This approach was developed by refinery community, refinery worker, environmental, and academic groups and was first recommended in comments on the rule during 2013. It would require, by 2020, that each refinery reduce its emissions of specific pollutants¹ by 20% ***or*** demonstrate that it is using the best emission control technology available.

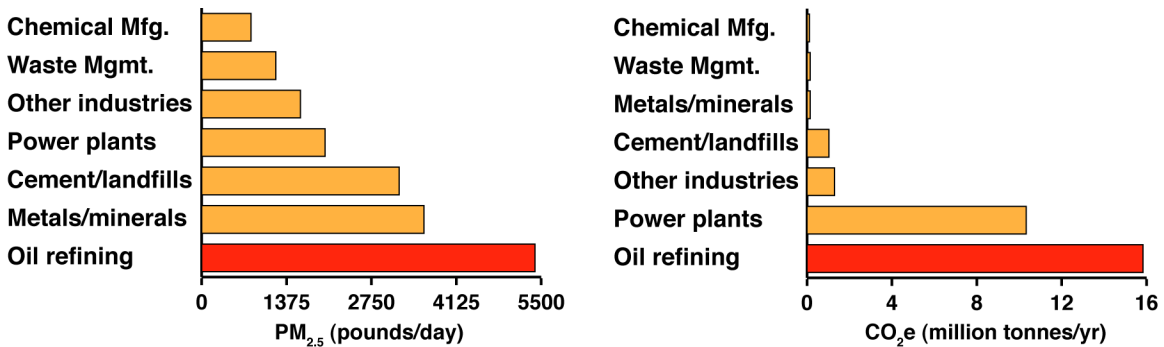
We thank you and the Board for articulating, at the September 3rd Board meeting, the principle that harmful air pollution should be reduced, when feasible, and without delay. We also appreciate our ongoing discussions with you and District staff about making this principle a policy in the proposed rule. It is clear to us that together, our communities and you, our representatives on the Board, have begun to press for critically needed improvements to this rule so that it will provide real health protections for our communities.

¹ See the sample resolution attached for the full text of this approach; pollutants specified include PM_{2.5}, NO_x, SO₂, H₂S, VOC, GHGs (CO₂e, carbon dioxide, nitrous oxide, and methane), BTEX (benzene, toluene, ethylbenzene and xylenes), metals (lead, mercury, chromium, arsenic, nickel and vanadium), and PAHs (total PAH, benzo[a]pyrene, and naphthalene).

In this spirit—and to answer questions the oil industry has raised—we offer a brief outline of why we believe that, after due consideration, the Board can find that the worker-community approach is needed, feasible, and appropriate regional policy to protect our air quality and environmental health:

Need

Air pollution kills thousands in the Bay Area annually² and threatens to destroy our climate globally.³ Oil refining is the largest industrial air polluter in the region; this point is illustrated for two key pollutants in the charts below. Further, the industry’s substantial contribution to regional air pollution disparately harms communities and workers near its refineries. Even more problematic, the industry’s region-wide move to refine more ‘extreme’ oil, such as tar sands bitumen and heavy gas oil, could increase refinery emissions substantially. The Air District has primary responsibility over direct emissions from industrial sources in the region.⁴ Thus, Air District action to reduce refinery emissions is needed to improve air quality and protect public health. Therefore, the industry’s assertion that it is unnecessary to adopt the worker-community approach—or any reasonable requirements to reduce its refinery emissions—is incorrect.



Direct industrial emissions of particulates (PM_{2.5}) and GHGs (CO₂e) in the Bay Area.

PM_{2.5} data from SIP Inventory adopted by BAAQMD for 2010; CO₂e data from CARB Mandatory GHG Reporting for 2012. Note that the charts show ‘apples to apples’ comparisons of direct industrial emissions. Including indirect emissions (e.g., from oil extraction for refinery feedstock and motor vehicle combustion of refinery products) would reveal greater pollution rates but would include emissions beyond BAAQMD’s jurisdiction. Comparing vehicle emissions as a separate category (the refiners’ preferred method) would add further confusion by suggesting that refiners bear no responsibility for harm caused by their products.

² See BAAQMD, 2012. *Understanding Particulate Matter*.

³ See Intergovernmental Panel on Climate Change, 2013. *Fifth Assessment Report*.

⁴ HSC §§ 39002 and 40910 et seq.; 42 U.S.C. § 7401 et seq.

Feasibility

Bay Area refiners can cut their emission rates by at least 20% by upgrading old and outdated equipment. At one Bay Area refinery, expanding an existing control device, called an electrostatic precipitator, in order to eliminate ammonia injection, could cut fluid catalytic cracker (FCC) emissions of PM_{2.5} by up to 217 tons/year, or 47% of refinery-wide particulate emissions.⁵ At a second refinery, existing emission controls including amine scrubbing with a CO boiler and selective catalytic reduction are reported to achieve equally good or better performance in controlling FCC, coking and crude unit emissions.⁶ At third Bay Area refinery, installing hydrotreating of “off-gasses” from its coker to better clean these gasses before burning them as fuel could cut facility-wide SO₂ emissions by as much as 50%.⁷ A fourth Bay Area refinery reports that a project to reconfigure its refinery for lower-density crude, though planned as a means to reduce greenhouse gas (GHG) emissions, could reduce refinery-wide emissions of SO₂ by 25%.⁸

These are only examples of the broader, deeper emission cuts available from upgrading old and outdated equipment: Hundreds of emission sources in Bay Area refineries are identified as ‘non-new source review,’ ‘grandfathered’ or otherwise ‘exempt’ from current requirements to use the best available emissions control technology.⁹ Indeed, an Air District permit review¹⁰ notes that “most sources at refineries are grandfathered.”

Emission-cutting measures found at one refinery often work at another refinery, and installing these improvements would create jobs. At an estimated average refinery revenue exceeding \$185 million daily,¹¹ the amortized cost of such upgrades cannot reasonably be portrayed as unaffordable to the oil companies.

Finally, even in the unlikely event that upgrading to the emission control technology now available does not cut a pollutant emission by at least 20%, our proposed approach anticipates and allows for that—all the refiner has to do is show that those upgrades are in place.

Thus, the oil industry makes a false assertion that reducing harmful refinery emissions in this way is not feasible. In fact, the worker-community approach *is reasonable*.

⁵ See Chevron ‘Modernization’ Transmittal #74; and BAAQMD Emission Inventory 2011-2013. We note that Chevron’s 9/24/14 letter does not dispute its previous admission that this measure is feasible; instead, it complains about the potential cost of this measure to Chevron and argues for further study before any requirements for FCC cleanups, which it says should apply regionally.

⁶ See Valero Title V air permit; and BAAQMD Emission Inventory 2011-2013.

⁷ See Phillips 66 Rodeo Refinery “Propane Recovery Project” CEQA documents.

⁸ See Contra Costa County File LP14-2006; Shell ‘Greenhouse Gas Reduction Project.’

⁹ See current Chevron, Phillips 66, Tesoro, and Valero Title V air permits.

¹⁰ Shell Martinez Permit Renewal App. 18239 Statement of Basis at 158.

¹¹ California Governor’s Office, 2014. *Improving Public and Worker Safety at Oil Refineries*; report of the Interagency Working Group on Refinery Safety. See page 21.

Authority

The oil industry has promoted absurd legal claims to have ‘vested rights’ to pollute.¹² Instead, substantially increased emissions from changes in processing associated with refining new and different oil feedstock—the original impetus for this rule—trigger requirements for exactly the kind of emission-cutting upgrades of outdated equipment that the worker-community approach contemplates to reduce already-harmful emissions.

Each refiner now proposes a project designed to change its oil feedstock, has already begun to change its oil feedstock, or both. Chevron’s project enables it to process more high-sulfur heavy gas oil; the Valero and Phillips 66 (SFR) projects allow them to process more tar sands ‘dilbit’ (diluted bitumen); Shell’s project would retool for relatively lighter crude. Tesoro has asserted an exclusive contract to receive Bakken crude via the new Kinder-Morgan crude-by-rail terminal in Richmond.

Oil is “the basic feedstock” for oil refining,¹³ and the fact that feedstock quality is a key process variable is beyond reasonable dispute. Making the same products from different quality oil causes or requires changes in the configurations, feed rates, temperatures and pressures, energy requirements, and firing rates of refineries and their production units, and also in the types and amounts of various contaminants and byproducts present in them.¹⁴ These physical changes in refineries and changes in their methods of operation increase emissions of criteria, toxic, and greenhouse pollutants substantially—both from burning more fuel to process heavy gas oil and bitumen, and the greater ‘fugitive’ leak rates of lighter oils, such as Bakken and the diluents in tar sands dilbits.¹⁴

These physical and operational modifications of refinery emission sources that increase their emissions authorize and require applying the best available control technology (BACT). The worker-community approach would implement this requirement, so that, instead of further increasing, the already-harmful emissions that feasibly can be reduced by upgrading Bay Area refiners’ old and outdated equipment would be reduced.

¹² See May 31, 2013 comments of D.R. Farabee for Western States Petroleum Association at 3.

¹³ *CBE v. City of Richmond* 184 Cal_Ap.4th.

¹⁴ See Abella and Bergerson, 2012. *Env. Sci. Technol.* DOI: 10.1021/es3018682; Karras, 2010. *Env. Sci. Technol.* DOI: 10.1021/es1019965; Bredeson et al., 2010. *Int. J. Life Cycle Assess.* DOI: 10.1007/s11367-010-0204-3; Expert reports of P. Fox on Valero Benicia (SCH# 2013052074), Phillips 66 Rodeo (SCH# 2012072046), and Phillips 66 Santa Maria (SCH# 2013071028) project EIRs. See also Myers, 1986. *Handbook of petroleum refining processes*. ISBN 0-07-041763-6, McGraw-Hill; Speight, 1991. *The chemistry and technology of petroleum*, 2nd ed.; Heinemann, H., Ed.; Marcel Dekker: New York, Chemical Industries, Vol. 44.; and Speight, 2013. *Heavy and extra-heavy oil upgrading technologies*. Elsevier: Oxford, UK.

Conclusion

We believe the facts show that our recommended worker-community approach for proposed Rule 12-15, as set forth in the resolution text sample attached, is needed, feasible, authorized, and appropriate in order to reduce harmful air pollution and better protect our environmental health. We respectfully urge the Air District Board to adopt a resolution directing that this approach be developed as at least one option for future Board consideration for adoption of the proposed rule.

Thank you for your leadership in focusing on solutions available today to clean up refinery air pollution, and for your consideration of this critically important matter for environmental health and justice.

In Health,

Greg Karras, Senior Scientist
Communities for a Better Environment (CBE)

Diane Bailey, Senior Scientist
Natural Resources Defense Council (NRDC)

Nancy Rieser
Crockett-Rodeo United to Defend the Environment (C.R.U.D.E)

Steve Nadel
Sunflower Alliance

Ethan Buckner, US Organizer
ForestEthics

Miya Yoshitani, Executive Director
Asian Pacific Environmental Network (APEN)

Bradley Angel, Executive Director
Greenaction for Health and Environmental Justice

Jess Dervin-Ackerman, Conservation Program Manager
Sierra Club San Francisco Bay Chapter

Kalli Graham
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Pennie Opal Plant
Idle No More SF Bay

(continued)

John Gioia
September 26, 2014
Page 6

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Colin Miller, Program Manager
Bay Localize

Stephanie Hervey, Policy Advisor
The Action Hub – Richmond

Jovanka Beckles
Black Mobilization Organization Education Richmond (BMOER)

Attachment: Draft Sample Resolution of the Board

Copy: Members of the BAAQMD Board
Jack Broadbent, Air Pollution Control Officer
Refinery Action Collaborative
Interested individuals and groups

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT
RESOLUTION NO. _____**

**A Resolution of the Board of Directors of the
Bay Area Air Quality Management District**

**Resolution Adopting Community Health Protections in the
Petroleum Refining Emissions Tracking Rulemaking**

WHEREAS, The Bay Area has five major oil refineries that contribute significantly to local, regional, and global air pollution; and

WHEREAS, Bay Area refineries, on average, report more than twice the toxic chemical releases reported by Los Angeles Area refineries, according to U.S. EPA Toxics Release Inventory data; and

WHEREAS, Refinery pollution is known to contain many chemicals that are hazardous to public health including but not limited to carcinogens such as benzene and benzo(a)pyrene, acids such as sulfuric acid and hydrochloric acid, heavy metals such as lead and mercury, teratogens such as toluene, mutagens such as polycyclic aromatic hydrocarbons; and

WHEREAS, Refineries emit substantial amounts of fine particulate matter (PM_{2.5}), which has been recognized by the Bay Area Air Quality Management District (“Air District”) in its report, *Understanding Particulate Matter* (November 2012), as “the pollutant that poses by far the greatest health risk to Bay Area Residents”, associated with premature mortality from cardiac illness, stroke and lung cancer, increased respiratory illness and asthma, increased hospital admissions, and greater school absences and missed workdays; and

WHEREAS, Many studies have found elevated rates of cancer, asthma, adverse pregnancy outcomes and premature deaths in communities near refineries; and

WHEREAS, Most of the communities around refineries are predominantly low-income and people of color, such that reducing refinery emissions is an environmental justice priority; and

WHEREAS, All Bay Area refineries are in the process of significant infrastructure and crude oil changes that have the potential to result in significant worsening of the quality of the overall crude oil feedstock processed by the regional industry; and

WHEREAS, Without adequate mitigation, lower quality crude oil feeds not only could lead to significant increases in routine, day-to-day air emissions, but also could increase the frequency and magnitude of upsets and equipment failures leading to refinery spills, fires, and explosions, which, in turn, could cause acute exposures to air

pollutants; and

WHEREAS, On average, processing lower quality crude oil blends can increase refinery greenhouse gas (GHG) emission intensity substantially, and can also contribute to increased GHG emissions from oil extraction activities; and

WHEREAS, Measures to reduce Bay Area refinery emissions of criteria air pollutants and toxic air contaminants will support the goals of the Air District's *2010 Clean Air Plan* as well as the *2015 Clean Air Plan* now in development; and

WHEREAS, Pursuant to the California Clean Air Act and Amendments (HSC Sections 39002 and 40910 et seq.) and the Federal Clean Air Act and Amendments (42 U.S.C. Section 7401 et seq.), the Air District has "the primary responsibility" to regulate emissions from non-vehicular sources of air pollution, including GHGs, and has the authority to enact more protective requirements than federal or State law; and

NOW, THEREFORE, BE IT RESOLVED THAT in order to address the ongoing health hazards in refinery impacted communities and prevent backsliding or increases in emissions caused by changing crude oil feedstock, the Board of Directors ("Board") of the Air District directs Air District staff to develop and present for Board consideration for possible adoption in a duly noticed public hearing, at least one option or version of the proposed *Regulation 12 Rule 15 ("Petroleum Refining Emissions Tracking")* that will include the following elements to limit and reduce emissions:

- Each refinery is required to decrease refinery-wide emissions of each ***pollutant that is known to cause or contribute to environmental health hazard*** by not less than 20 percent below the refinery's ***baseline*** by 2020, demonstrating adequate incremental progress; **and** Where such progress is found to be infeasible, such refinery shall demonstrate that the best available emission control technology is installed and operated in all permitted units throughout the refinery (i.e., eliminate 'grandfathered,' 'non-BACT' and 'exempted' sources in the refinery).
- ***Pollutants that are known to cause or contribute to environmental health hazard*** include, at a minimum: fine particulate matter (PM_{2.5}); nitrogen oxides (NO_x); sulfur dioxide (SO₂); hydrogen sulfide (H₂S); total volatile organic compounds (VOC); greenhouse gases (CO₂e, carbon dioxide, nitrous oxide, and methane); BTEX (benzene, toluene, ethylbenzene, and xylenes); metals (lead, mercury, chromium, arsenic, nickel, vanadium); and PAHs (total PAH, benzo[a]pyrene, and naphthalene).
- ***Baseline*** emissions represent the most recent three-year historical average for each pollutant (expressed in units of tons or pounds per year), adjusted to exclude: (a) any emissions that would have exceeded an emission limitation

with which the refinery must comply on or before the effective date of the Petroleum Refining Emissions Tracking Rule, or (b) emissions that exceeded regulatory or permitted limits, or emissions resulting from accidents.

AND BE IT FURTHER RESOLVED THAT, Air District staff shall develop proposed additional regulatory language to implement the requirements under this Resolution not later than December 2014 and shall provide for Board consideration for possible adoption of the above described **community health protections** into the *Petroleum Refining Emissions Tracking Rule* no later than March 2015.

AND BE IT FURTHER RESOLVED THAT, It is the intention of the Air District Board of Directors to explore the relevant expansion of the Petroleum Refining Emissions Tracking Rule to other non-refinery stationary sources within the Air District's regulatory jurisdiction and directs Air District staff to make recommendations to the Board of Directors on how to achieve this expansion to other stationary sources.