

Communities for Better Environment (CBE), submitted by Julia May on 12/19/19

Comment CBE1:

I. CAMP -- Siting and Process

We are extremely concerned that 5 out of 6 monitoring sites planned for the Wilmington / Carson / W. Long Beach ("WCWLB") area, are apparently already chosen. These choices were made even before the written comment period for the draft Community Air Monitoring Plan (CAMP) is complete. (Apparently the same is true for the other refinery regions). **None of these WCWLB sites cover certain key impacted residential areas, as described below.** As there is only one site left to add in this area, most of these residential areas will miss out on needed monitoring unless additional sites or adjustment of siting is carried out. (See map below.)

Response: South Coast AQMD staff held a community meeting in June 2019 in Wilmington to update the public on the implementation of the Rule 1180. During this meeting, staff presented a map of the Carson/Wilmington/Long Beach area showing potential locations for community air monitoring sites and reached out to these communities for feedback. A Rule 1180 community workshop was also held in December 2019 where air monitoring siting was also discussed. The material presented during the public meetings is available on the Rule 1180 website (http://www.aqmd.gov/docs/default-source/fenceline_monitoring/r1180_community_meeting_dec_2019_all_communities_final.pdf?sfvrsn=8). Public input was considered in the final selection of the air monitoring sites. It should be noted that South Coast AQMD is actively involved in other air quality projects and initiatives in the Carson, Wilmington, Long Beach region (for example AB 617, EPA Community Air Toxics Monitoring Grant, and Coastal Odors Investigation). Therefore, Rule 1180 community and fenceline air monitoring is a part of overarching strategy designed to better understand the impact of air pollution in this region, develop strategies to minimize emissions, and ultimately minimize community exposure.

Comment CBE2:

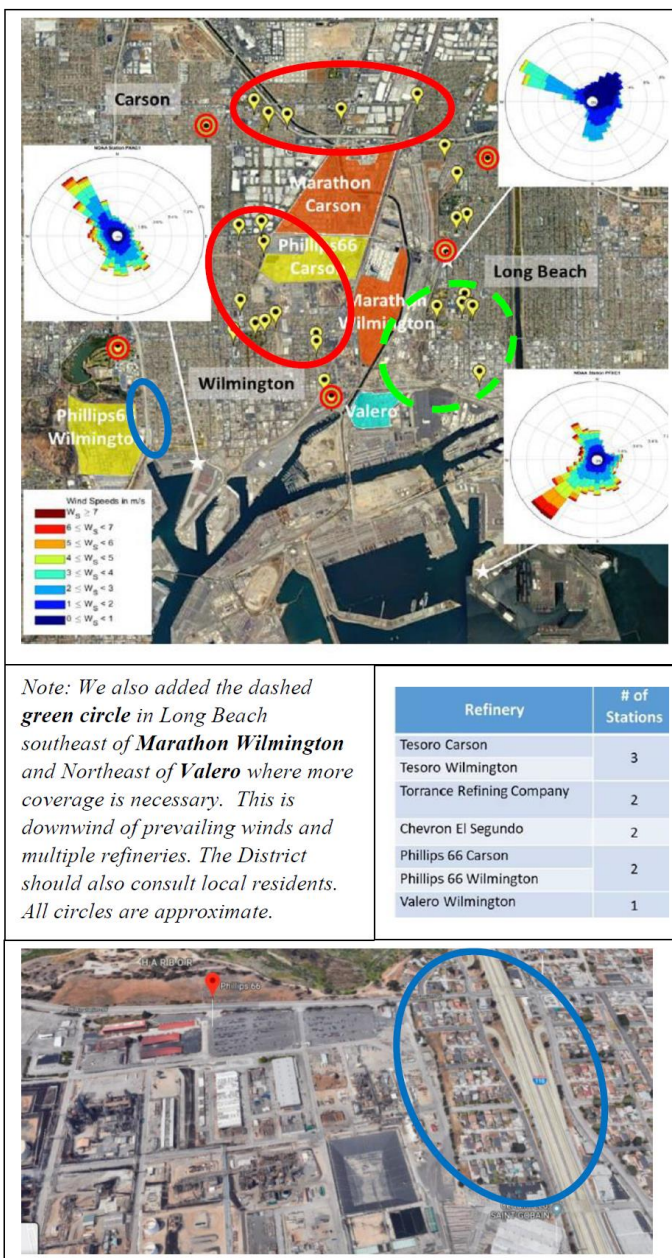
The District presented the map and table at right in workshops.¹ We could not attend, but were told the District explained the unlabeled orange bullseyes are sites where the District already has permissions and contracts. Yellow balloons are other potential sites. (Finalized sites were not identified in the draft CAMP.)

CBE added orange circles identifying two big monitoring gaps in heavily impacted residential areas:
1) south and west of **Phillips Carson** and both **Marathon refineries**, and
2) directly north of Marathon Carson.

We also added the blue circle showing a particularly impacted residential area east of **Phillips Wilmington** which has no coverage. (See expanded map below.)

The CAMP states regarding siting criteria: “Local meteorology (at least one community station will be placed downwind of each refinery)”.² We do not believe monitoring chosen for Phillips Wilmington and other areas complies with this fundamental necessity.

The expanded blue circle area to right near Phillips Wilmington shows a residential area CBE previously identified as a priority to the District. Indeed, the District and CARB have repeatedly included this area as one of the stops in its tours, to illustrate the extreme proximity of neighbors against this refinery fence line. This area should be high-priority for monitoring. While the Harbor College area to the North is also a high priority for monitoring, the



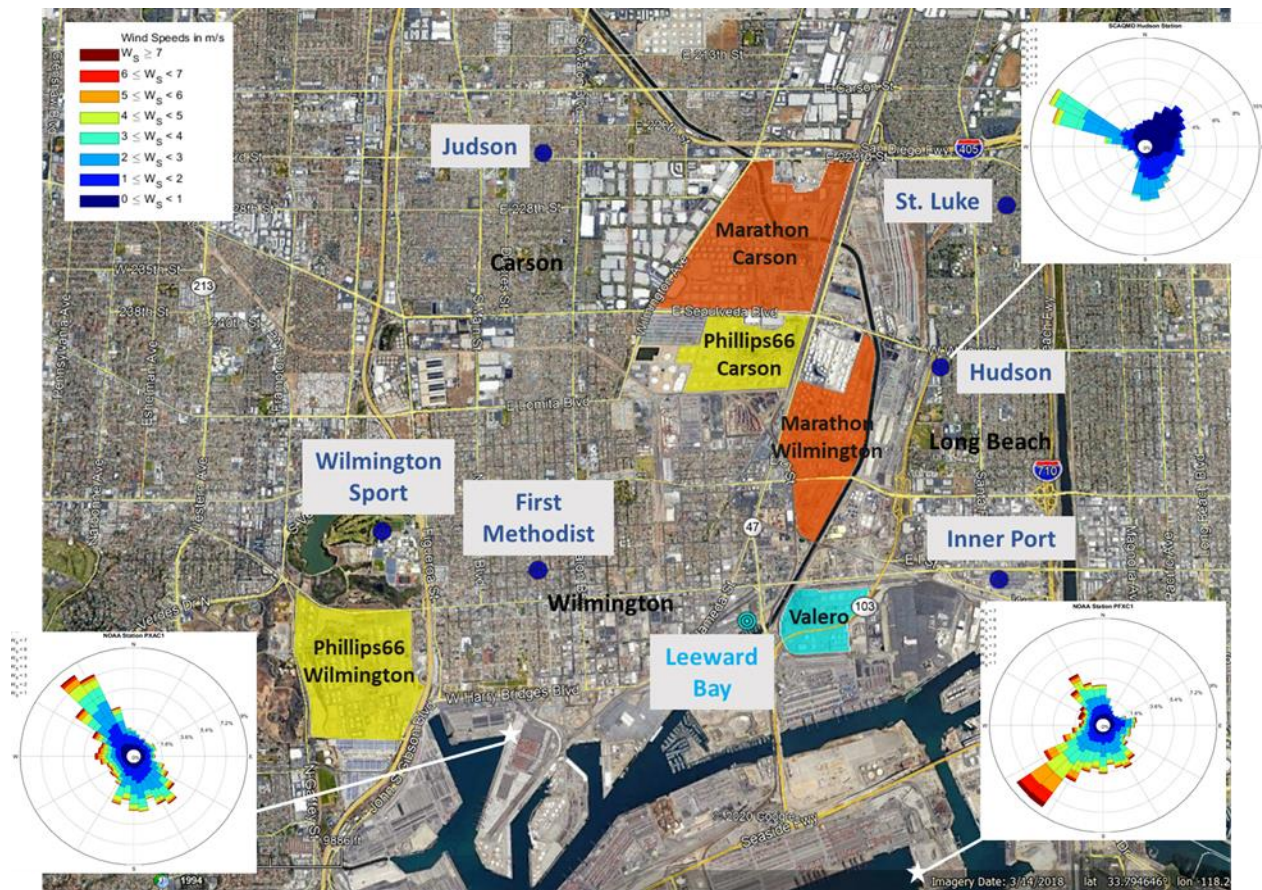
community monitoring siting proposed is at the northernmost end, farthest from the refinery, so that it is likely to miss the highest concentrations when winds blow from Phillips Wilmington.

Such gaps regarding covering all wind directions are present for *all* the encircled areas listed above in Wilmington, Carson, and Long Beach. The CAMP found: “Overall, wind directions in this region vary widely on daily time scales and across all elevations therefore supporting the need for community air monitoring stations widely dispersed throughout communities in Carson, Wilmington and Long Beach.” (p. 35) At this time, the plan does not address this key reality.

Response: Since the draft CAMP was released for public comment in November 2019, the South Coast AQMD obtained permission and established community air monitoring stations in the areas indicated by the red and green circles outlined by the commenter. A revised map with the locations of all Rule 1180 community air monitoring stations in the Carson/Wilmington/Long Beach region is shown in Figure 4 of the revised CAMP and added to this response document. At this time, staff believes that the final configuration of Rule 1180 community air monitoring stations in this region is suitable and adequate for the purpose of Rule 1180 community monitoring. Once the Rule 1180 community and fenceline air monitoring are implemented, South Coast AQMD staff will periodically analyze the collected air quality data to assess the network suitability and performance.

The commenter expressed concerns that there is no adequate monitoring coverage in the Wilmington community east of Phillips 66. This residential community (identified by the blue circle in the picture provided in the comments) is less than 200 feet away from the north-east side of the fenceline monitoring system implemented by the Phillips 66 Wilmington refinery. Therefore, this system will be able to detect fugitive and other unplanned refinery emissions that have the potential to impact local residents and the Wilmington community.

South Coast AQMD staff conducted extensive and comprehensive surveys in the communities surrounding all seven major refineries in the South Coast Air Basin. Staff considered a number of criteria while seeking suitable air monitoring locations, which are discussed in the draft CAMP (Section 2.1.1, Page 6). Some of these considerations are directly related to the purpose of the monitoring, such as proximity to the refinery, local meteorology, suitability of the site as per EPA citing requirements. However, other factors, such as available space, infrastructure, access, safety, and long-term site availability for monitoring also needed to be taken into account. In densely populated areas, such as in Carson/Wilmington/Long Beach, locating and securing up to 6 sites that would satisfy **all** of these requirements is an extremely challenging task. Nonetheless, South Coast AQMD staff identified, evaluated, and explored permissions for nearly 30 site locations (presented as yellow pins in Figure 4 of the draft CAMP). During this process, South Coast AQMD staff approached residents, local schools, libraries, businesses, and local utilities companies to inquire about site availability for long-term monitoring. The resulting community air monitoring site locations for Rule 1180 satisfy most of the required siting criteria and guarantee secure access for long-term monitoring, and adequate for purpose of Rule 1180 community air monitoring, as described in section 2.1.1 of the Rule 1180 CAMP.



Comment CBE3:

- Given the size of the WCWLB region, the complex winds, and the presence of the largest petrochemical complex on the West Coast side by side with concentrated residences and sensitive receptors, **it appears necessary to add monitoring sites in order to monitor the large number of areas impacted by the many refineries.** (Note that Rule 1180 does not specify the number of sites, just the amounts of funding the refineries will contribute.)

Response: *The locations selected in the CAMP satisfy the requirements in Health and Safety Code section 42705.6 of enabling the South Coast AQMD to estimate pollutant exposures and health risks from refinery operations on surrounding communities over time. Rule 1180 only specifies the costs that refineries must pay for the initial implementation costs of the community air monitoring system. It is important to note that the total number of community air monitoring stations that will be deployed is based on the amount of funding contributed by each refinery for community air monitoring, as specified in the Rule.*

Comment CBE4:

- **The areas we identified by the orange, blue, and green circles above need monitoring.** And currently, Wilmington near the Tesoro facilities and near Phillips Carson is completely missing draft siting of community monitoring.

Response: Please see our response to Comment CBE2.

Comment CBE5:

- **Community members need more detail about the monitoring sites,** including the exact site, and the likelihood of detecting refinery emissions at the particular sites based on meteorology and monitoring technologies. (Apparently the District is not releasing the exact locations.)
- **The District should publicly evaluate the effectiveness of each of the draft final sites in detecting the lowest still significant concentrations which can impact residents, in all wind directions.** This could be done for example through simplified air dispersion screening. If these draft final sites are too far or in the wrong direction to detect significant levels that would be experienced by residences or sensitive receptors closer to the refinery, these sites should be moved. We understand the difficulties in securing permanent sites with power and District access, but it would defeat the purpose if the sites are not located where they can detect significant pollutants in impacted areas.
- **The siting should comply with the CAMP finding that community monitoring stations be widely dispersed throughout Carson, Wilmington, and Long Beach, and that at least one monitoring station be placed downwind (which can be any direction).**

Response: South Coast AQMD staff conducted a detailed evaluation of the meteorological and wind patterns in Carson, Wilmington, and Long Beach, which are presented in Appendix 1, page 29 of the draft CAMP. Staff concluded that the current locations of community air monitoring sites provide the best spatial coverage of the prominent wind directions in the area, and also satisfy other important siting requirements for air pollution monitoring. The exact locations of Rule 1180 community air monitoring stations are presented in Figures 4, 5, and 6 and in Tables 3, 4, and 5 of the revised CAMP.

Comment CBE6:

- Assuming additional funding would be needed for additional monitors, the District should increase refinery fees – siting is key to monitoring effectiveness.

Response: The possibility of increasing refinery fees for additional air monitoring stations may be evaluated in the future, after the existing community monitoring network has been in operation, a thorough analysis of the collected data has been conducted, and it has been determined that the network is not adequate.

Comment CBE7:

Please correct the error on Table 3 of the CAMP (p. 14), which identified the Rule 1180 air pollutants to be monitored. **This table is missing a key pollutant of Rule 1180 – carbonyl sulfide.** In addition, this chemical was missing from the District presentation on chemicals monitored by the CAMP (slide

Response: This error has been corrected by South Coast AQMD staff. This compound will be monitored by FTIR technology at every community site, but was omitted in the draft CAMP by mistake. The final CAMP will include carbonyl sulfide in the list of Rule 1180 compounds.

Comment CBE8:

One of the most difficult but important pollutants to monitor near refineries is Hydrogen Sulfide (H₂S), because the human nose can detect it at lower levels than monitoring equipment can (even below a ppb). At the same time, people exposed repeatedly can lose their ability to smell H₂S. (And it is a lethal hazard to workers.)

The draft CAMP states that detection limits for monitoring equipment is at ~2ppb, although the District does not plan to notify the public until it reaches 30 ppb. But OSHA finds that the typical background level of H₂S is far lower — typically 0.1 to 0.33 ppb (or 0.00011-0.00033ppm).⁴

Recently, AQMD has announced that it has updated its understanding regarding levels of H₂S in Tesoro refinery's crude oil supply, at much higher levels than previously assumed (45 ppm rather than 5ppm – see comments below on Tesoro's plan). This translates to far higher levels in vapor spaces, which can in turn be emitted to the air through fugitive emission points or due to accidents.

With CAMP H₂S detection limits at ~2ppb, the District should notify the community at far lower levels than the proposed 30ppb, which is 90 to 300 times higher than typical background levels identified by OSHA. There is no reason to wait. If the District finds that these lower levels above normal background (e.g. 5-10 ppb) are exceeded frequently, this would be valuable information for the District, which could lead to identification of previously undocumented leaks, and resolution of these.

This is also information that would help community members, who may be smelling H₂S at even lower levels, but have no information regarding its source other than community monitoring data. A good network of H₂S reporting near oil refineries (at, for example 5-10 ppb) could solve one aspect of a repeated statewide problem – so that community members who have grown tired of reporting smells to Air Districts, or do not know who to report to, or have lost their sense of smell for H₂S (as one of our Wilmington members has), will have permanent reliable reporting when levels exceed background.

Response: The notification levels selected by South Coast AQMD staff are based on established federal or state regulatory standards, which are well-established health-based exposure levels for all rule 1180 compounds and are summarized in Appendix 3, page 52 of the draft CAMP. Staff selected the most conservative of the federal or state levels, based on the shortest exposure time intervals. For H₂S, this value is 30 ppb, which represents the OEHH 1-hr relative exposure limit (REL) as well as the California Air Quality Standard. South Coast AQMD staff will analyze all collected community air quality data collected at all refinery fenceline locations and community air monitoring sites to evaluate how often levels of H₂S and other pollutants exceed their “normal” urban background concentrations, even if they do not rise to the established notification level. Please note that the monitoring and reporting of the Rule 1180 pollutants, including H₂S, is continuous. So while the community will not be notified until the

threshold is exceeded, the community will be able to access the monitoring data through our dedicated Rule 1180 website (<https://xappprod.aqmd.gov/Rule1180CommunityAirMonitoring>) , so that this information will always be available to residents. If smells are detected, local residents can still submit air quality complaints to 1-800-CUT-SMOG.

Dr. Genghmun Eng, submitted on 12/11/19

Comment DrEng1:

Item #A-1, Page 4: "Release of Draft CAMP for 21-day Public Comment Period; Estimated Schedule {start} November 11, 2019". Revision is needed to reflect the new Dec. 11, 2019, 5:30 PM deadline.

Response: Staff updated Table 2 of the CAMP to reflect the extension of public comment period of the CAMP to December 20, 2019.

Item #A-2 {see Rule 1180, page 1180-1}: Rule 1180 says: "*The purpose of this rule is to require real-time fenceline air monitoring systems and to establish a fee schedule..*" The "*fee schedule*" is Refinery Specific. Thus when "*various criteria air pollutants, volatile organic compounds, **metals**, and other compounds*" are detected by Rule 1180 monitoring systems, the emplaced monitors need to establish which Refinery is emitting the materials and compounds. CAMP needs to be implemented in a way that obviates the responsible Refinery from blaming others for their emissions.

Item #A-3: The CAMP also needs additional analyses to demonstrate that their FINAL number and placement of monitors is capable of distinguishing which of the six owners {Chevron, PBF-Energy, Valero, Andeavor/Marathon, Philips66, and Deltek/Paramount} are responsible for the pollutants from the eight facilities listed (see **page 1180-8**), so that an appropriate "*fee schedule*" can be developed.

Response: Data collected by the refinery fenceline monitoring systems, community air monitoring network and other available/relevant air monitoring information will be collectively analyzed to better understand air quality in the Basin. This includes looking at relative emissions/contributions of measured pollutants from each refinery. Based on past experience conducting fenceline refinery monitoring (using both stationary monitoring systems and mobile monitoring platforms) it is possible, in most cases, to attribute elevated levels of certain pollutants to a specific source. In other instances, levels of certain compounds may be generally elevated in the area due to the cumulative contribution from multiple sources. It should be noted that metals are not in the list of Rule 1180 compounds and cannot be measured using the type of technology that will be used for fenceline monitoring. The current Rule 1180 fee schedule was established during the public rulemaking process.

Comment DrEng2:

Item #A-4: Although many potential sites are indicated, only a small subset of those sites will provide the coverage for multiple sides of each Refinery in order to obey the **Rule 1180** purpose (see **Item #2**).

Response: South Coast AQMD staff believes that the current selection of community air monitoring sites is appropriate to satisfy the requirements of Rule 1180 community monitoring.

Comment DrEng3:

Item #A-5: Chevron (non-HF) has 2 monitoring sites planned. HF Refineries should have at least 3 monitoring sites, each on a different Refinery side, due to the SCAQMD not having a Rule 1410.

Item #A-6, Table 1, page 4; and Fig. 3, Fig. 5, and Fig. 6: Due to **Items #2, #3, and #5**, three more monitoring sites are needed [13 total]. In Region 3 {Chevron} two monitors may be adequate for a Non-HF refinery, as long as both are not on the same Refinery side (see **Fig. 6**)

In Region 2 {Torrance (ToRC)} two monitors are inadequate for an HF Refinery. The minimum should be three. With 3 monitors (see **Fig. 5**), they need to be placed on different Refinery sides. Thus, the SCAQMD needs to guarantee the Community that the single proposed Monitor Site west of ToRC is selected, as well as the single proposed Monitor Site south of ToRC, with the third site being one of the 11 proposed sites to the north of ToRC. In Region 3, Valero is also special, being the other HF Refinery. Presently **Table 1** only has one monitoring site planned for association with this facility. A minimum of two monitoring sites is needed in the plan. One site needs to be one of the two nearest to the Valero western boundary (see **Fig. 4**). In addition, the one site to the west of Valero also needs to be selected. Since HF-refineries should have at least three sides covered with monitoring, one of the cluster of 4 sites nearly due east of the Marathon/Wilmington site needs to be selected to monitor both Valero and Marathon/Wilmington, with this site functioning also as the northerly monitoring site for Valero. In Region 3, Phillips66/Wilmington and Phillip66/Carson have two sites planned in **Table 1**. The site directly to the north of Phillips66/Wilmington needs to be chosen, along with one of the group of 5 possible sites near a virtual line joining both these facilities. That site can also serve as a monitor for the western boundary of the Marathon/Wilmington facility. In Region 3, Marathon/Wilmington and Marathon/Carson have two sites planned in **Table 1**. These large complexes need to have a minimum of 3 monitoring sites. One of those Marathon/Wilmington sites needs to be to its east, to also serves as the northern site for the Valero-HF Refinery. Another needs to be chosen from the cluster of 3 at the western boundary between Marathon/Carson and Phillips66/Carson to help distinguish emission sources between them. The third one should be from the group of 5 to the north-northwest of the Marathon/Carson facility.

Response: Rule 1180, including established fees for each refinery, was developed through a public process. Fees for each refinery were set based on the size of each refinery and their throughput. Under the currently adopted Rule 1180 fee structure, the Torrance and Valero refineries are paying fees that

will allow for the installation of two and one community air monitoring stations, respectively. It should be noted that additional community air monitoring will be conducted in Torrance under the Torrance Refinery Supplemental Environment Project (SEP). Combined with Rule 1180 community monitoring, a total of four community air monitoring stations will be in operation in the Torrance community for the next two years. Overall, South Coast AQMD staff believes that the locations of the proposed community air monitoring network are appropriate to fully satisfy the requirements of Rule 1180 community monitoring. In addition, under Rule 1180 the Torrance refinery will be operating a comprehensive fenceline air monitoring system which will complement the air pollution measurements from the community air monitoring network.

Comment DrEng4:

Item #A-7, Page 16, Last Paragraph: The phrase: "*..better detection limits (i.e., sub-ppb) for benzene, acrolein and other..*" should specifically have hydrogen fluoride and hydrogen cyanide added, so as to read: "*..better detection limits (i.e., sub-ppb) for benzene, acrolein, **hydrogen fluoride, hydrogen cyanide** and other..*".

Response: *This sentence refers to VOC's measured by Automated Gas Chromatography (Auto GC) systems. Automated GC systems are unable to measure hydrogen fluoride or hydrogen cyanide. For Rule 1180 community monitoring, a separate instrument (Off-axis integrated cavity output spectroscopy; or OA-ICOS) has been selected to measure hydrogen fluoride. An FTIR multi-pollutant analyzer has been selected for monitoring hydrogen cyanide.*

Comment DrEng5:

Item #A-8, Page 16, Last Paragraph: An additional column is absolutely critically needed to supplement the "Detection Limits" column, and it should be "Detection Ranges", with each specified compound listed in the "Detection Limit" also be given a "Detection Range". For example, hydrogen fluoride is just listed as "0.5-1 ppb". The "Detection Range" column should say something like:

Primary Peak Lower Limit:

0.3-4 ppb

(see Document #B: Torrance Refinery Rule 1180 Plan, Vol. I, rev. 2-C, p. 81, Table 6-1 for HF)

2 -6 ppb

(see Document #B: Torrance Refinery Rule 1180 Plan, Vol. I, rev. 2-C, p. 81, Table 6-1 for HCN)

Primary Peak Upper Limit*:

10,000 ppm. (see Torrance Refinery Rule 1180 Plan, Vol. I, rev. 2-C, p. 84, Table 6-4)

* For values above this limit, use Secondary Peak values.

Secondary Peak Lower Limit*:

1,000 ppm. (please determine and use correct values)

* For values below this limit, use Primary Peak values.

Secondary Peak Upper Limit:

1,000,000 ppm. (please determine and use correct values).

***Response:** All instrumentation selected for Rule 1180 community monitoring is capable of quantifying small and large quantities (ppb to ppm) of the selected air pollutants. While South Coast AQMD staff is of the opinion that for the purpose of this project it is more important to detect and report the lowest possible concentrations for all Rule 1180 compounds, all selected instrumentation is also capable to detect and accurately quantify very high levels of all Rule 1180 pollutants. This information has been included in the revised version of the CAMP.*

Comment DrEng6:

Item #A-9, Page 17, Table 4: Community Representatives have been verbally guaranteed by the SCAQMD Rule 1180 Staff that for Hydrogen Fluoride, the Primary Peak and Secondary Peak data would both: (1) be part of the peaks that are automatically detected, and (2) be part of the peaks whose real-time data would be continuously made available to the public; in essence treating each peak as a separate "reportable substance". This guarantee should be made part of the official plan by adding and including the appropriate language into this document.

***Response:** The technology selected for detection and quantification of hydrogen fluoride at the community air monitoring stations is Off-axis integrated cavity output spectroscopy (OA-ICOS), which is capable of detecting and quantifying this pollutant over a broad concentration range from below 1 ppb up to a 2 ppm with high accuracy and precision. Quantification above 2ppm will also be achieved but with lower accuracy. The multi-pollutant FTIR analyzer (which is used as a back-up monitor for HF) can detect and quantify up to high ppm and will be also used to detect extremely high concentrations. This information has been included in the revised version of the CAMP. The data from this continuous monitoring will be made available to the public via Rule 1180 data portal <https://xappprod.aqmd.gov/Rule1180CommunityAirMonitoring/>.*

Comment DrEng7:

Item #A-10, Page 17, Table 4: Hydrogen cyanide should be treated similarly as Items #8-#9 for HF.

***Response:** Hydrogen cyanide at community air monitoring sites will be measured using multi-pollutant FTIR analyzers, which are capable of detecting HCN over a broad concentration range from a few ppb up to ppm levels.*

Comment DrEng8:

Item #A-11, Page 17, Table 4: Both n-butane and isobutane fall under the "Total VOCs (Non-Methane Hydrocarbons)". Since the HF-refineries have enormous quantities of both HF and n-butane and isobutane in their settler tanks, consideration should be given to have separate VOC peaks being automatically monitored, especially for isobutane, in a manner as in the above Items #8-#9.

Response: Rule 1180 does not require monitoring of isobutane and n-butane. However, these compounds will be accounted for in the measurement of Total VOC's at all Rule 1180 stations. Measurements of Total VOC's at all Rule 1180 stations will be achieved using multi-pollutant FTIR analyzers.

Comment DrEng9:

Item #A-12, Page 22, Section 2.4: Under this Section 2.4, "Public Education", it is noted that:

"Dissemination of air quality data measured in the community and of other relevant information via dedicated Rule 1180 community air monitoring website. This website will display the following:

- Near real-time (5-min) and time-averaged (1-hour and 24-hour rolling averages); .."

This SCAQMD commitment again makes it absolutely critical that to achieve this goal, "Reporting to the Public" should make ALL the Table 6.1 data for HF and HCN available to the Public, in an Automatically Reported manner, as noted in the above Item #B-1 and Item #B-2.

Response: All Rule 1180 pollutants measured at the community air monitoring sites and listed in Table 3 of the CAMP will be displayed on a dedicated public website (<https://xappprod.aqmd.gov/Rule1180CommunityAirMonitoring/>) in near-real time. It should be noted that the near real-time data that is available online is preliminary, and will be subject to periodic validation using QA/QC procedures which will be described in the Rule 1180 QAPP, which is currently being drafted.

Comment DrEng10:

Item #A-13, Page 44, Appendix A-2: For HCN, in addition to the present language stating:

"Why measure it? Hydrogen cyanide typically is a minor emission from refineries. Measurement may help determine whether an individual refinery is a significant source of potential community exposure."

the following language needs to be added: "In addition, since HCN releases have not been routinely monitored previously, it is important to determine if non-routine Refinery Operation, such as associated with Flares and other off-nominal Refinery operations have HCN emissions that are out-of-family with their nominal Refinery operations."

Response: If elevated levels of any pollutant are measured at any of the Rule 1180 community air monitoring sites, South Coast AQMD staff will perform an analysis of the collected data to identify the emission source(s). South Coast AQMD staff is of the opinion that addition of the proposed language not necessary.

Comment DrEng11:

Item #A-13, Pages 44-45, Appendix A-2: This Appendix is entitled "Description of Air Pollutants". For Hydrogen Fluoride (HF), the present text totally minimizes the potential impacts of a large scale HF disaster, and attempts to "normalize" this potential risk into appearing innocuous. Language needs to be added in the "Why Measure it?" that states the following:

"Hydrogen Fluoride (HF) releases differs from every other Air Pollutant in this appendix in that HF-releases can form a deadly ground-hugging cloud that can extend for miles from a large release. Even though neither of the two SCAQMD Refineries have had any large-scale HF releases, the U.S. Chemical Safety Board noted that Exxon-Mobil Torrance Refinery (now PBF Torrance Refining Company) had a Feb. 18, 2015 explosion that was a 'near miss' to a catastrophic HF release, due to a large chunk of exploding debris landing near one of the two on-site HF Settler Tanks.

Each of the Torrance Settler Tanks can routinely contain 6,000 gallons, or about 50,000 pounds each of liquefied and pressurized HF. That is ~100,000 pounds of HF, with the total amount of liquefied HF on site at Torrance estimated to be above 300,000 pounds. Valero has a 7,000 gallon Settler Tank, containing about 56,000 pounds of liquified HF, with the total amount of liquefied HF at the Wilmington site estimated to be above 500,000 pounds. In 1987, a large-scale HF release test, simulating nominal Refinery conditions, released ~1,000 gallons or about 8,000 pounds of HF, forming a ground-hugging HF cloud. That cloud still had an HF level of ~400 ppm at 1.9 miles downwind from the release point. With a 5.6 m/s (~12.5 mph) average wind speed, this HF cloud took ~9 minutes to reach this point, which is more than twice the 170 ppm AEGL-3 level considered lethal for a ~10 minute exposure.

Releasing the majority of the HF in a Settler Tank accident thus has the potential to injure tens to hundreds of thousands of people near these HF Refineries. By continuously monitoring HF at the HF Refinery fenceline, the SCAQMD and the Public will be able to see if the HF Refineries are becoming safer, or not."

Response: Appendix A is meant to provide general information about each Rule 1180 compound and on the most common emission source(s) for each pollutant. South Coast AQMD staff is of the opinion that the proposed additions are not necessary for the purposes of this rule and the requirements of Health and Safety Code section 42705.6. Table 5 of Appendix 3 of the draft CAMP provides acute exposure limits for all Rule 1180 pollutants.

Comment DrEng12:

Item #C-8, CAMP, Pages 16-17, Table 4, and Page 23: This Table 4 notes that two different ORS (Optical Remote Sensing) technologies are available for HF/MHF monitoring. One technology is FTIR (Fourier Transform Infra-Red photon Spectroscopy, continuous real-time monitoring with 3-5 minutes time resolution). The other technology is OA-ICOS (Off-Axis Integrated Cavity Output Spectroscopy, with continuous real-time monitoring with ~1 minute time resolution). The other technique noted is UV-DOAS (Ultra-Violet photon Differential Optical Absorption Spectroscopy), which is listed as an acceptable HF/MHF monitor on Page 23. Since all three technologies, OA-ICOS, UV-DOAS, and FTIR are capable of monitoring HF/MHF releases, both should ALL be used, and continuously reported on, both in the Refinery and the SCAQMD web-sites, in order to give the SCAQMD, First Responders, and the Public additional independent information on potential HF/MHF releases. This will also help make it easier for all parties to notice or identify if one or the other of these systems is going out of calibration.

Response: OA-ICOS technology will be used as primary method for HF measurements. This instrument provides the highest time resolution and detection capabilities for monitoring HF. FTIR optical cell technology is also capable of measuring HF, but its detection limit for this compound is higher than that provided by the OA-ICOS. Therefore, FTIR will only be used as a back-up for HF monitoring, in case the primary OA-ICOS is undergoing repairs or maintenance. UV-DOAS technology cannot measure HF, and was mentioned as having HF detection capability by mistake; this reference has been removed from page 23. South Coast AQMD will be archiving HF concentrations measured by FTIR technology at all stations that are part of the Rule 1180 community network and, per commenter's recommendation, will be using this data for additional inter-comparison with the primary HF data, and for additional QA/QC of both technologies.

California Air Resources Board, submitted by Russ Bennett on 12/20/19

Comment CARB1:

CAMP p2, paragraph 2: Should the background mention the fenceline and community monitoring system will be used in the Wilmington/Carson/Long Beach AB 617 area?

Response: This paragraph is referring to the latest MATES V study and to refinery-related activities that were conducted as a part of MATES V's enhanced monitoring project. Section 2.1.1.1 of the CAMP was modified to include a description of AB 617 in the Wilmington/Carson/Long Beach community.

Comment CARB2:

CAMP page 3, paragraph 2: Paramount was exempted from Rule 1180, but should the district install a community air monitoring station in the vicinity of this refinery?

Response: Rule 1180 community air monitoring is conducted by South Coast AQMD using fees paid by the seven major refineries in the Basin. Paramount Petroleum is exempt from Rule 1180 because it voluntarily accepted a permit condition limiting its throughput of crude oil to no more than 39,500 barrels per day, thus meeting the requirements for exemption (set at 40,000 barrels per day). As a result, no community air monitoring will currently be implemented near this facility. Note that Paramount Petroleum is no longer refining petroleum. If the facility's activities change in the future, South Coast AQMD will consider it for fenceline and community air monitoring. Residents in the area can still file air quality concerns by calling 1-800-CUT-SMOG.

Comment CARB3:

CAMP page 3, paragraph 2: CARB should review and comment on these QAPPs and SOPs.

Response: South Coast AQMD staff is working on a draft Quality Assurance Project Plan (QAPP) for Rule 1180 Community Air Monitoring Program. The draft QAPP and associated SOP's will be shared with CARB and other interested parties and stakeholders for review.

Comment CARB4:

CAMP page 3, section 1.2: SCAQMD should add two bullet points:

- * Provide actionable air quality data to first responders and the public during episodic releases.
- * Provide opt-in public notification when measured values exceed specified thresholds.

Response: Rule 1180 is not intended for emergency notification, but emergency respondents can use air monitoring data as an additional piece of information for decision-making during emergency situations. As a part of implementation AB 1646, South Coast AQMD is working with local agencies/authorities and first responders on how to best incorporate community and fenceline air monitoring data into their decision-making. We've added the following statement to the fourth bullet point on Page 3 of the CAMP: "provide a public notice when concentrations of pollutants exceed predetermined thresholds".

Comment CARB5:

Page 8, section 2.1.1.1: This section should also include mention of the Carson/Wilmington/Long Beach AB 617 monitoring and risk reduction.

Response: We added the following language to Section 2.1.1.1: "A portion of this region is also part of the AB 617 Wilmington/Carson/West Long Beach (WCWLB) community. As part of AB 617 activities, a Community Emission Reduction Plan (CERP) and a Community Air Monitoring Plan (CAMP) have been developed (both can be found on here: <http://www.aqmd.gov/nav/about/initiatives/community-efforts/environmental-justice/ab617-134/wilm>). The CERP provides a blueprint for achieving air pollution emission and exposure reductions to address the communities' highest air quality priorities. This plan includes actions to reduce emissions and/or exposures in partnership with community stakeholders. The main purpose of the AB 617 CAMP is to summarize the air monitoring activities for addressing the major air quality concerns identified by the community and provide information supporting the CERP. Beginning in late 2019, South Coast AQMD begun implementation of the CERP and AB 617 CAMP, which will continue over several years, and during which South Coast AQMD staff will track its progress and provide periodic updates to the community."

It should be noted that the CERP for the Wilmington/Carson/West Long Beach community has a measure to reduce NOx, SOx, VOCs and other associated toxics emissions from refineries by 50 percent between 2020 and 2030. To assess this measure, South Coast AQMD staff has been and will be conducting optical remote sensing measurements on a mobile platform to quantify and characterize fugitive VOC emissions near and around refineries and to assess progress in the future once a baseline has been established in 2020.

Comment CARB6:

Page 18, section 2.2: The data reporting website should:

- * Include a mechanism for downloading historical data so the public can analyze impacts from past unplanned/episodic releases.
- * Have some mechanism to highlight values above notification thresholds in all modes, including full scale readings.
- * All full scale instrument readings should automatically trigger public notification.

Response: Data download functionality was always implied when South Coast AQMD was developing the community air monitoring data portal. To avoid confusion we added the following sentence to paragraph 3 of section 2.2: "All monitoring data from the data platform will be displayed and made available for download on a dedicated Rule 1180 community monitoring website." We are not certain what commenter means by "full scale readings", but a public notification scheme is currently being developed as outlined in Section 2.3 of the CAMP.

Comment CARB7:

Page 18, section 2.2, paragraph 3: Need to add refinery community emergency preparedness.

Response: Refinery emergency preparedness is outside of the requirements of Rule 1180.

Comment CARB8:

Page 19, last sentence of section 2.2: OEHHA should review and comment on this sentence.

Response: Rule 1180 notification thresholds were developed in consultation with South Coast AQMD health effects officer and with input from other agencies, including OEHHA. OEHHA did not provide additional comments on this draft of the Rule 1180 CAMP.

Comment CARB9:

Page 19, section 2.3, first paragraph: How will exposure to chemicals with annual average health values be handled?

Response: The main goal of Rule 1180 is to provide near-real-time information on local air quality to communities of the South Coast Air Basin, located near refineries, and not to accurately determine acute and chronic exposure to air pollutants emitted by refineries. Air quality information collected by Rule 1180 will be displayed in real time and available for download. Other agencies and interested entities will have an opportunity to analyze long-term air quality trends. Other South Coast AQMD programs such as MATES focus more on the carcinogenic risk from exposure to air toxics. For more information on MATES please visit: <http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v>

Comment CARB10:

Page 22, section 2.4: The refinery air monitoring webpage should include:

- * A resources page with links to community emergency preparedness and response resources, including the use of community monitoring systems to stay informed during an emergency. Note - these systems can detect episodic releases from non-refinery sources in the vicinity of these systems.

- * A background on the inter-agency refinery task force, and how the community monitoring system fits in with implementation of REAMAR second report findings and recommendations.

Response: Refinery emergency preparedness is outside of the requirements of Rule 1180. However, South Coast AQMD is working with local agencies/authorities and first responders on how Rule 1180 community and refinery fence line air monitoring data can be integrated into their decision-making in emergency response situations involving refinery as well as local non-refinery sources.

Comment CARB11:

Page 23, section 3: Will the public be able to sign up for notifications the implementation of back-up monitoring?

Response: The purpose of back-up monitoring is to provide as much continuity in measurements as possible while the main instrumentation is being repaired or replaced. Some of the back-up monitoring options do not have real-time capabilities and, therefore, will not allow for near real time generation of public notifications. If back-up monitoring systems detect levels of pollutants that would cause health concern, South Coast AQMD staff would send an email notice to all subscribers to the Rule 1180 notification list.

Comment CARB12:

Page 24, section 3, Power Interruptions: Are Public Safety Power Shut Offs covered?

Response: We have expanded Section 3 to describe various measures that will be implemented at the Rule 1180 community air monitoring sites to mitigate effects of short- and long-term power outages, including public safety power shut offs.

Comment CARB13:

Page 24, bullet point regarding presentation of data to the public: Some considerations for dissemination and presentation of data to public:

- * How to best present newly available monitoring data in a format the public can understand and utilize for self-protection.
- * Why targeted compounds were selected.
- * Health effects and risk assessment.
- * Data analysis.
- * Data retention.

Response: These are very useful suggestions that will be considered when developing data presentation and educational materials for the public and while developing the Rule 1180 QAPP.

California Air Resources Board, submitted by Gavin Hoch on comments 12/20/19

Comment CARB14:

Section 2.3, Page 21, second paragraph: The CAMP states, “While issuing a notification is recommended when ambient levels of Rule 1180 compounds are above the OEHAA Acute 1-hr REL exposure limits, it is useful to also inform the public if measured concentrations exceed other more critical reference values (e.g. AEGL).” CARB recommends that SCAQMD clarify whether it intends to send additional notifications when more critical reference values (e.g., AEGLs) are exceeded.

Response: At this time, Rule 1180 public notifications will be issued based on the thresholds outlined in Section 2.3. Rule 1180 notification language will clearly state that the public and interested agencies should refer to the appropriate local authorities during emergency situations. However, South Coast AQMD is working closely with local first respondents on how Rule 1180 community and refinery fenceline air monitoring data can aid their decision-making in emergency situations.

Earthjustice, submitted by Oscar Espino-Padron on 12/19/19

Comment Earthjustice1:

Dear Dr. Polidori,

The technology selected for monitoring list on pages 17-18 fails to list carbonyl sulfide, one of the require pollutants for monitoring – we want to make sure that South Coast AQMD corrects that issue and confirms that equipment will monitor for this pollutant.

Thank you for your time and attention.

***Response:** Omission of carbonyl sulfide from the list of monitored compounds was an oversight from South Coast AQMD staff. This compound will be monitored by FTIR technology at every community site and the final CAMP will include carbonyl sulfide in the list of monitored compounds. South Coast AQMD always intended to monitor carbonyl sulfide using multi-pollutant FTIR analyzers at all Rule 1180 community sites. Omission of this pollutant from the draft CAMP was an oversight. We've revised the CAMP to include carbonyl sulfide in the list of pollutants measured at the Rule 1180 community stations.*

Coalition For A Safe Environment, submitted by Jesse Marquez on 12/20/19

Emergency Public Notification Proposal

Comment CFASE1:

Types of Public Notification

Tier I	Emergency. Incident that poses a threat of exposure to airborne contaminants when that exposure is likely to Cause Immediate Death (Public Health & Safety Threshold Exceeded/Natural Disaster) No longer than 1 minute from detection.
Tier II	Emergency. Incident that poses a threat of exposure to airborne contaminants when that exposure is likely to cause immediate or delayed Permanent Adverse Health Effects (Public Health & Safety Threshold Exceeded/Natural Disaster) No longer than 5 minutes from detection.
Tier III	Equipment Failure or Malfunction, Power Failure, Weather Impact, Internet Outage etc. No longer than 10 minutes from detection.
Tier IV	The posting of new information such as Report Availability, Planned Maintenance, New Equipment Purchase, Public Tour etc. No longer than 1 hour after availability.

Response: South Coast AQMD staff is striving for notifications based on the community air monitoring data to be issued shortly after the concentration of a certain pollutant has exceeded the corresponding threshold level. These thresholds are based on short-term (1-hr) health-based standards and do not have a tiered approach. Staff is also working with all refineries to assure their public notifications are issued as expeditiously as possible in case of an exceedance.

For equipment failure, Rule 1180 requires refineries to call 1-800-CUT-SMOG within two hours of discovering an equipment problem, submit a written notification to South Coast AQMD for failures lasting longer than 24 hours, and submit an updated fence line monitoring plan if equipment failure lasts more than 30 days.

Comment CFASE2:

Methods of Public Notification

Emergency (In order of priority)

- a. Direct Phone Call To Home or Residence
- b. Direct Phone Call To Cell Phone
- c. Direct Phone Call To Designated Person/Guardian
- d. Direct Phone Call To Work or Field Location
- e. Text Message To Cell Phone
- f. Community Door-to-Door Advisement
- g. Facility Public Loud Audio Announcement
- h. Facility Public Loud Audio Alarm
- i. Off-Site Public Location Loud Audio Announcement
- j. Off-Site Public Location Loud Audio Alarm
- k. Drone Aerial Loud Audio Announcement/Alarm
- l. Mobile Vehicle Speaker Announcement
- m. Police/Emergency Response Vehicle Speaker Announcement

Non-Emergency (In order of priority)

- a. Personal Email
- b. Identified Listed Social Media
- c. US Postal Mail
- d. Door-to-Door Drop-Off

***Response:** Rule 1180 fenceline and community air monitoring is designed primarily for informational purposes only, with both community and refinery air monitoring systems allowing for community members to subscribe to notifications when pre-determined short-term air quality thresholds are exceeded. It is outside of scope of the program to employ all methods for notification outlined by the commenter. At this time, all interested community members that subscribe to air quality notifications will receive email notification(s). Emergency respondents can use air monitoring data as an additional piece of information for decision-making during emergencies. South Coast AQMD is working with local authorities and first responders on how to best incorporate community and fenceline air monitoring data into their decision-making, and their public alerting system(s). We have added additional language on the purpose of Rule 1180 public notifications on page 19 of the CAMP.*