

Summary of CAC Comments and Responses

Following is a summary of items that were identified by the Community Advisory Council (CAC) members at the January 22, 2020 meeting. The comments are divided into four categories: Fenceline Monitor Design & Installation, Open-path Technology Operation, Public Data from the Monitoring Systems, and General Comments. Revisions that were made to the Rule 364 documents as a result of the discussion are listed at the end of the document.

Fenceline Monitor Design & Installation

Comment #1: Is the District expecting the refinery to cover their entire fenceline perimeter with the monitors?

Response/revisions: No. The District is anticipating the facility will monitor only on the southern and eastern sides of the facility, as those sides are more likely to detect the pollutants that will affect the community, based on the wind patterns in the region.

Comment #2: At what height will the fenceline monitors be installed? I'm concerned about the public or wild animals that may interfere with the open-path systems.

Response/revisions: Open-path monitoring systems can be installed at a vertical height of 5 feet off the ground. In some instances, the monitoring systems can be installed at elevations of 15-20 feet off the ground so that the equipment doesn't interfere with facility operations (personnel, vehicles, etc.) or to accommodate other site-specific characteristics such as topography or building and road configurations. Fencing may also be used for security purposes to prevent the public and wild animals from interfering with the system.

Comment #3: At the 5-foot level, the fenceline monitoring equipment most likely won't detect the pollution from any of the process heater exhaust stacks. Is this correct?

Response/revisions: The fenceline monitoring equipment is intended to detect the highest emission concentrations at the refinery, which typically occur near ground level due to accidental or fugitive releases. The exhaust from the process heaters are directed upward, but some of the pollution will still register at ground level due to vertical mixing.

Comment #4: Are any additional County permits required to install the fenceline monitors? Also, will the Federal Aviation Administration (FAA) prevent the installation of any tall structures, such as the met station tower?

Response/revisions: Based on conversations with County staff, the changes at the refinery to accommodate the fenceline monitoring equipment will require planning and building permits to install the equipment shelter, electrical utilities, concrete pads, and meteorological tower. Based on discussions with Santa Maria Airport staff, a meteorological tower, which is typically 10 meters tall, will not trigger additional review by the FAA. Furthermore, other equipment at the refinery already exceeds 10 meters in height, and so the FAA is not anticipated to prevent or delay the installation.

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Open-path Technology Operation

Comment #5: The emission detection levels for the open-path systems are very low. Is this proven technology? What happens if it is problematic to use this technology?

Response/revisions: The open-path technology is proven and well-established, and has been used since the 1990s at other California refineries. Since then, the technology has improved the detection limits and detection capabilities for additional compounds. The monitoring systems will be professionally installed and designed to work at each location.

The District recommends the use of the open-path system so that the refinery fenceline monitoring achieves sufficient spatial coverage. However, the refinery may still propose alternative technologies in its monitoring plan if the refinery demonstrates that the open-path system is not feasible for the specific location.

Comment #6: What are the potential weather-related issues and interferences with the open-path system (i.e dust, fog, rain, strong winds)?

Response/revisions: Weather-related environmental conditions can reduce the visibility in the area and prevent the light beams from being received by the open-path system. Based on the monitoring plans submitted for other California refineries (including coastal refineries), these weather-related events are expected to prevent the system from displaying emission readings for approximately 1% of the time each year. The refinery's QA/QC protocol and procedures will address these weather-related events as well as other data flagging events such as outliers or stuck values. As stated in the Rule 364 Refinery Fenceline Air Monitoring Guidelines, the fenceline monitoring system plan shall specify a data recovery efficiency of 90% or greater.

Comment #7: Are there going to be other chemical compounds that will invalidate or interfere with the readings of the open-path system, or create false-positive readings?

Response/revisions: Every compound has a unique light absorption "signature" that can be measured by the instrument at the same time. For example, the signature for benzene is different from the signatures of other compounds that contain a benzene ring. The system's analytical software is designed to identify select bands of light that enable the instrument to distinguish between these compounds with certainty. Thus, the instrument and its related software are able to identify the specific chemicals being measured and their relative concentrations with high accuracy, and avoid any cross-interferences between different chemical compounds.

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Comment #8: How will the open-path monitoring equipment be calibrated?

Response/revisions: The main method to calibrate the open-path equipment is to use gas calibration cells that contain known concentrations of benzene and sulfur dioxide. The calibration cells are inserted into the beam path on a monthly basis and the system is checked against the known concentrations of each gas. The specific calibration methods that the facility will be using should be identified in the refinery's fenceline monitoring plan.

Comment #9: Who determines that the refinery's fenceline monitoring system audits are performed by a qualified and independent contractor?

Response/revisions: As part of the District's review of the fenceline monitoring plan, the District will consider the contractor's qualifications. If the contractor has audited the fenceline monitoring systems at other refineries in California, and those audits have been accepted by other air districts, then we would accept the auditor in our district as well. Whereas, if the refinery proposes to use a brand new contractor, then the District would further review the contractor's qualifications.

Public Data from the Monitoring Systems

Comment #10: How is the public going to respond when they see the data from the fenceline system?

Response/revisions: The Rule 364 Refinery Fenceline Air Monitoring Guidelines require the refinery to have education materials about the different pollutants on the refinery's data website. The refinery also has to correlate the specific pollutant levels to the Reference Exposure Levels (RELs) of concern. RELs are designed to protect the most sensitive individuals in the population and they are assessed by the Office of Environmental Health Hazard Assessment (OEHHA). As stated in the guidelines, the refinery's data website should include a notification system that allows interested members of the public to be notified via email if the 1-hour REL threshold is exceeded for any of the pollutants. The extensive requirements for a publicly available website are intended to help educate the public, so that they can better understand the values that are generated by the fenceline monitoring equipment.

Comment #11: Will the refinery fenceline system have to notify the interested members of the public even if the background pollutant levels are high?

Response/revisions: Yes, the fenceline system will have to notify the interested members of the public if the 1-hour REL thresholds are exceeded, even if a portion of the total pollution is due to background pollutant levels. The background pollutant levels by themselves are not expected to exceed the 1-hour REL thresholds.

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Comment #12: Will the 1-hour REL threshold notifications be coordinated with other local response agencies?

Response/revisions: According to the Rule 364 Refinery Fenceline Air Monitoring Guidelines, the refinery operator must list in their monitoring plan the primary local agency that provides emergency preparedness and response services and work with them to coordinate any public alert thresholds or public alert systems. The District will also take an active role in monitoring the data feed and communicating with emergency response agencies, including the Santa Barbara County Fire Department and the Office of Emergency Management.

Comment #13: Can the District maintain one website that has both the refinery fenceline monitoring data and the community monitor data?

Response/revisions: District staff believes that a separate data collection and reporting system will be the most efficient and cost-effective approach. Each data website will maintain a weblink to the other website to promote their existence to the public. Consolidating the data from both systems could be done, but the additional District costs would be passed on to the refinery. Standard templates for data collection, reporting, and noticing have already been developed by contractors for other California refineries. It would be more effective to use these existing tools, rather than integrate the data collection and reporting into the District's system. Furthermore, including the refinery's fenceline data on the District's website could confuse the public into thinking that the District operates the fenceline monitors.

Comment #14: For the community monitor, I'm concerned about the background levels of air pollution from the airport and that the monitor could detect high pollution levels from sources other than the refinery.

Response/revisions: The District is currently identifying potential locations for a community air monitor. The District will utilize a site selection checklist that is based on EPA siting guidelines and that will help evaluate and rank the sites that are being considered. This site evaluation process will help determine the location of the community monitor.

One of the main purposes of the community monitor is to show what the community is actively breathing. At times, there may be a direct correlation between the pollution levels detected at the refinery fenceline system and the pollution levels at the community monitor. In other instances, the wind direction may indicate that the community monitor is impacted by sources other than the refinery.

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General Comments

Comment #15: Did the District consider approaching the refinery directly rather than going through the rule process to implement the state mandate?

Response/revisions: Yes, we did consider it, but a rule is more defensible and it gives the public an opportunity to become involved and comment on the proposed requirements. This approach is consistent with the District's approach to implement other state mandates. For example, in most cases the rule development process for implementing the Best Available Retrofit Control Technology (BARCT) requirements of Assembly Bill 617 only apply to one or two sources.

Comment #16: Did the draft rule initially require additional pollutants to be monitored?

Response/revisions: The draft rule that was presented at the December 16, 2019 workshop included 17 different pollutants, which was similar to the pollutant list that was proposed by the South Coast Air Quality Management District for their equivalent rule. The larger refineries in other air districts have additional processes and a larger processing capacity, so they are more likely to record detectable levels of the 17 pollutants. After reviewing the recent rule proposal by the San Joaquin Valley APCD (which also has smaller refineries) and the comments received from the Santa Maria Asphalt Refinery, District staff considered which pollutants were the most critical ones to be monitored based the pollution that is expected to be emitted from this particular type and size of petroleum refinery. The list was then narrowed to the 6 priority pollutants that are included in the proposed rule. The 11 removed pollutants may still be emitted in trace amounts, but they are unlikely to record levels higher than the monitoring equipment's minimum detection limits (MDLs).

Comment #17: Can the District reduce the fenceline monitoring requirements in 4-5 years if the refinery shows that they haven't found considerable amounts of the pollutants?

Response/revisions: The refinery is required to continue monitoring the refinery-related pollutants unless the state legislature amends the requirements in California Health and Safety Code. Also, the fenceline system is intended to identify potential process upsets or fugitive releases from the refinery as it is currently permitted. So even if there are no major leaks in a 5-year period, there still may be a future leak where the continuous monitoring at the fenceline would be beneficial to the community.

Comment #18: Is the refinery satisfied with the responses to their comments? They asked for a full year to install and operate the fenceline system, but the rule only allows for 9 months.

Response/revisions: The refinery representatives that provided public comment at the January 22, 2020 CAC meeting expressed that they are still concerned with 9 months being too short. After further review, the District has increased the implementation timing from 9 months to 1 year.

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Comment #19: This rule is open-ended. If the open-path system doesn't work, it's at the APCD discretion to determine how many point source monitors are necessary to achieve adequate spatial coverage on the refinery fenceline. Multiple point source monitors at the fenceline can increase the costs related to the rule.

Response/revisions: The District has a history of working with the regulated businesses to find equitable solutions while still meeting the objectives of local, state, and federal mandates. If the refinery provides information indicating that an open-path system isn't feasible, we will consider alternatives that continue to meet the objectives of Assembly Bill 1647. Fenceline monitoring systems are highly technical and their implementation requires consideration of site-specific and equipment-specific information. Having an overly prescriptive rule may limit the refinery from using new technologies as they are developed in the future.

Corrections/Revisions made to Rule 364 materials

In response to the comments, corrections and revisions were made to the proposed rule, staff report, and monitoring guidelines.

- Rule 364 Refinery Fenceline Air Monitoring Guidelines: Added a refinery fenceline equipment data recovery efficiency of 90% or higher, which is based on the goals for systems in other Air Districts and similar District programs. *[See Comment #6]*
- Rule 364 Refinery Fenceline Air Monitoring Guidelines: Clarified that the refinery's data website should contain a weblink to the District's air monitoring website. *[See Comment #13]*
- Proposed Rule 364: Updated the implementation timing for the installation and operation of the refinery fenceline monitoring system from 270 days to 1 year. *[See Comment #18]*