

Draft Rule 364

Refinery Fenceline & Community Air Monitoring

Public Workshop

Santa Barbara County

Air Pollution Control District

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December 16, 2019



air pollution control district

SANTA BARBARA COUNTY

Outline of the Presentation

- 1) Assembly Bill 1647
- 2) Santa Maria Asphalt Refinery
- 3) Fenceline Monitoring
- 4) Community Air Monitoring
- 5) Rule Development Timeline

Assembly Bill 1647 (2017-2018)

- Concerns about public health and air quality impacts from refineries.
- AB 1647 approved by the Governor of California on October 8, 2017.
 - Applicable to 1 refinery within Santa Barbara County.
- AB 1647 requires the following:
 - 1) Petroleum refineries install, operate, and maintain a fenceline air monitoring system.
 - 2) Air districts install, operate, and maintain a refinery-related community air monitoring station.
 - 3) Real-time data is made accessible to the public.
 - 4) Refineries are responsible for the costs to implement the requirements.

Santa Maria Asphalt Refinery

- Originally constructed in 1932.
- Current owner is California Asphalt Production Inc.
- Produces up to 10,000 barrels per day of petroleum-based products.
 - Includes naphtha, kerosene distillate, and gas oils.
 - Majority of product is used in asphalt production.
- Permitted equipment at the facility includes:
 - Fractionator tower,
 - Boilers and process heaters,
 - Storage tanks, and
 - Loading racks.

Santa Maria Asphalt Refinery



Santa Maria Asphalt Refinery

- Refinery is subject to permit conditions, regular District inspections and on-going reporting requirements.
- Applicable rules that reduce air emissions include the following:
 - **Rule 331:** Leak Detection and Repair (LDAR) program.
 - **Rule 325/326:** Vapor recovery on storage tanks.
 - **Rule 346:** Vapor recovery on loading rack.
 - **Rule 342/361:** Low NOx burners on combustion units.
 - **Stationary Diesel ATCM:** Limits on emergency engines.

Fenceline Monitoring

- **Criteria Pollutants**

- Sulfur Dioxide (SO₂) and Nitrogen Oxides (NO_x)

- **Reactive Organic Compounds**

- Total ROCs, Formaldehyde, Acetaldehyde, Acrolein, 1,3 Butadiene, Styrene
- BTEX (Benzene, Toluene, Ethylbenzene, Xylenes)

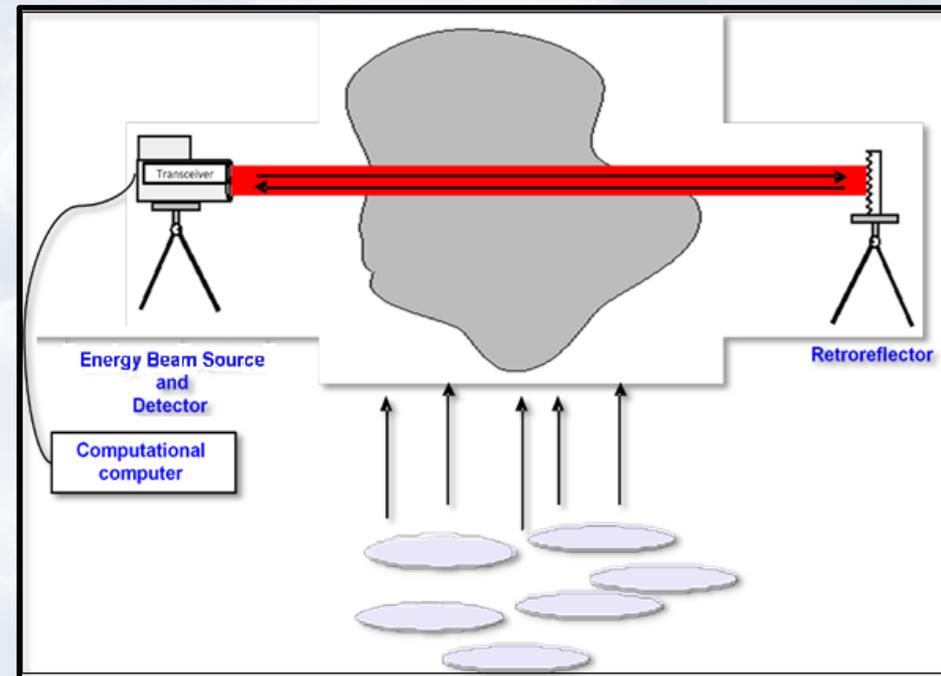
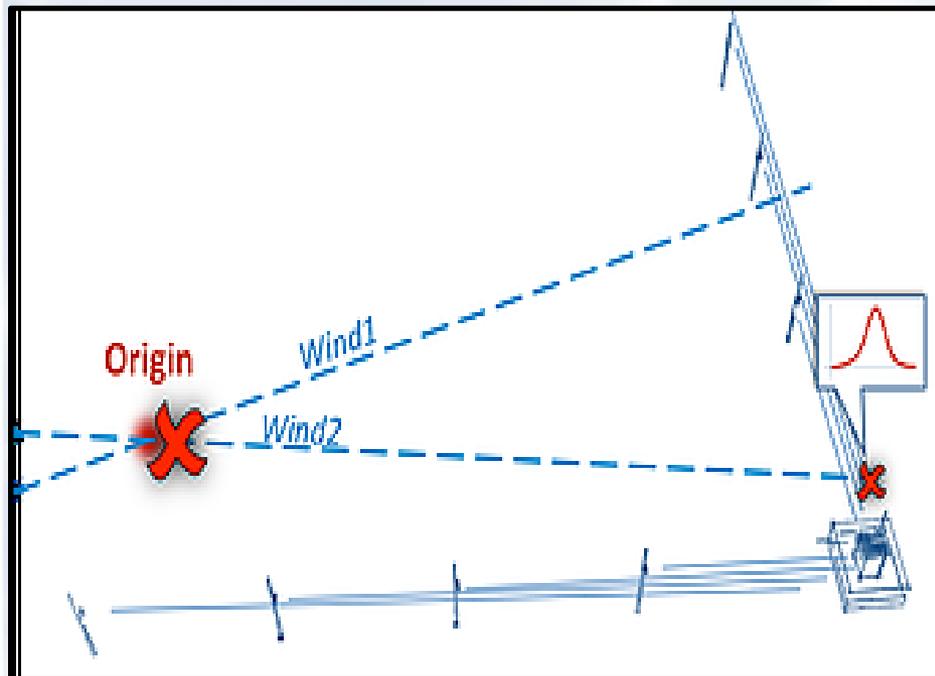
- **Other Compounds**

- Hydrogen Sulfide, Carbonyl Sulfide, Ammonia, Black Carbon, Hydrogen Cyanide

* Pollutant list is based on the OEHHA Analysis of Refinery Chemical Emissions [March 2019] and the SCAQMD Rule 1180 list.

Fenceline Monitoring

- **Open Path Fenceline Monitoring Technologies**
 - Collect measurements over a larger area compared to traditional point source monitors
 - Fourier Transform Infrared Spectroscopy (FTIR)
 - Ultraviolet Differential Optical Absorption Spectroscopy (UVDOAS)



Fenceline Monitoring

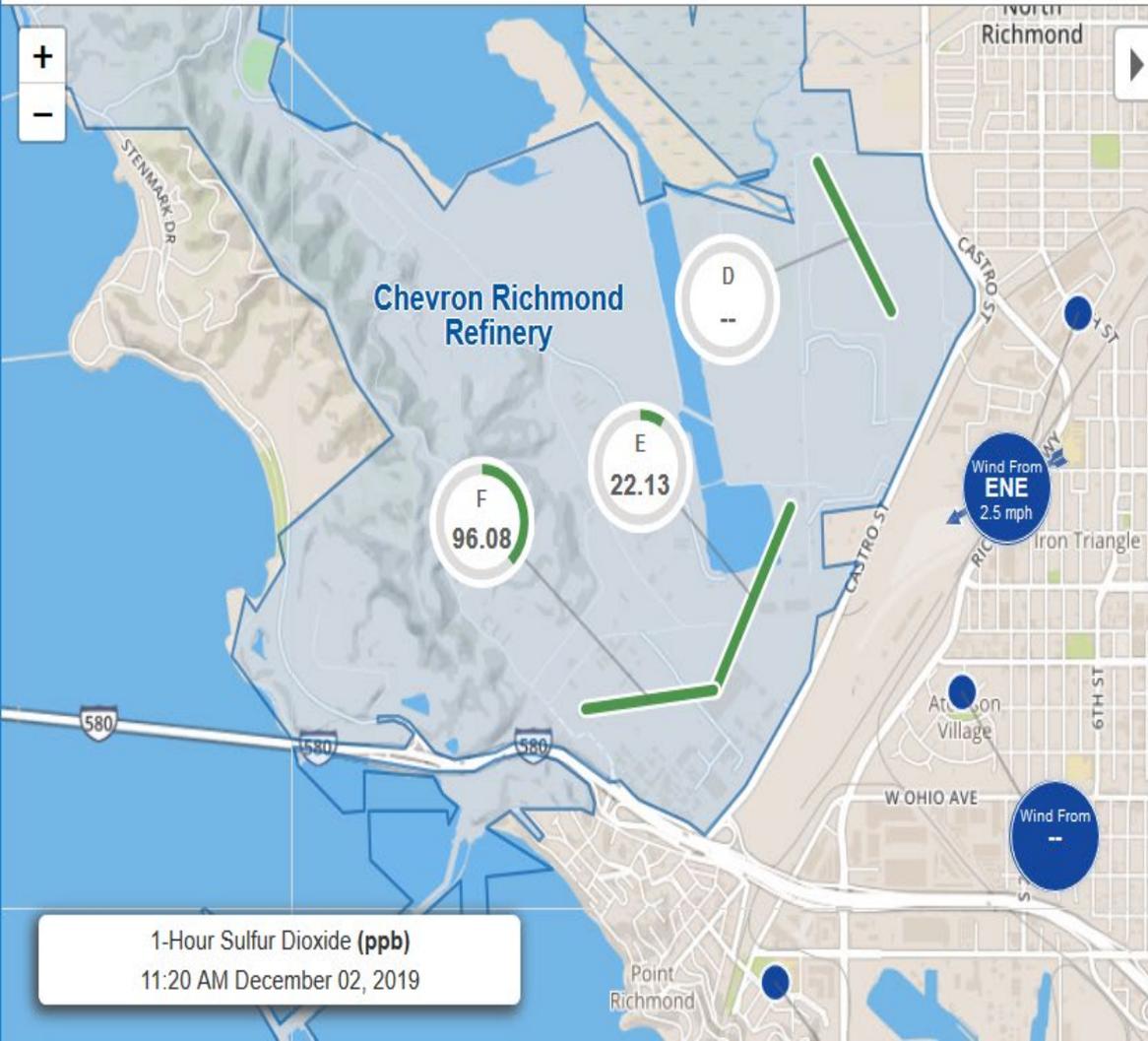
- Monitoring Plan submitted 3 months after rule adoption.
- Needs to conform with the District's Fenceline Air Monitoring Plan Guidelines:
 - Equipment specifications and justification that the equipment will accurately measure real-time pollutant levels.
 - Timeline for installing the equipment.
 - Procedures for equipment maintenance and failures.
 - Procedures for QA/QC by a qualified independent party.
 - Methods for disseminating data to the public.
- After District approval of the Monitoring Plan, the refinery has 6 months to install and operate the fenceline system.

Refineries in Other Districts

District	Rule Number	Adoption Date	# Applicable Refineries
Bay Area AQMD	Reg 12, Rule 15	April 20, 2016	5
South Coast AQMD	Rule 1180	Dec 1, 2017	7
San Joaquin Valley APCD	Rule 4460	Proposed Dec 2019	3
SLO County APCD	N/A	N/A	1

Public Data - Example

about measurements resources

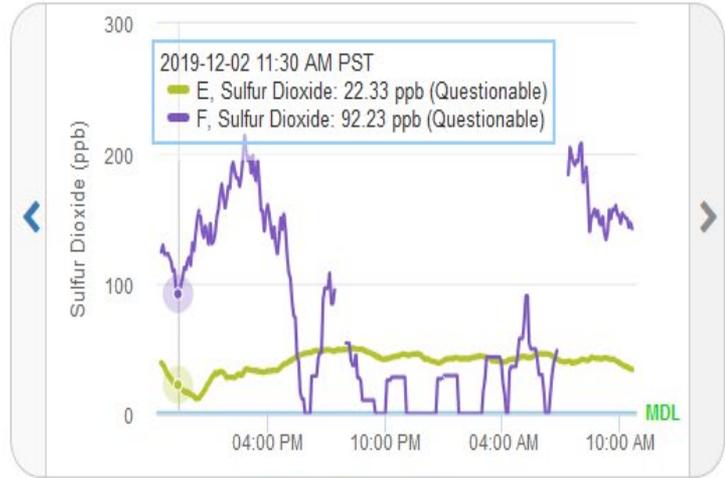


1-Hour Sulfur Dioxide (ppb)
11:20 AM December 02, 2019

11:20 AM December 02, 2019 ▼ 1-HOUR AVG ▼

Sulfur Dioxide ▼

All data shown are preliminary until validated every 90 days.
Download summary of historical [final data](#).



Fenceline Monitors **D** **E** **F**

Synchronize Graph with Map Display

Community Monitoring

- District must operate a community monitor to measure the same refinery-related pollutants.
- Nearest monitoring station is in central Santa Maria.
 - Monitors ozone, NO₂, CO, PM₁₀, and PM_{2.5}
 - Unlikely to adequately monitor refinery pollutants based on wind patterns.
- The District is evaluating locations to move the existing station and co-locate the community monitoring station.

Community Monitoring Costs

- Refinery responsible for all costs to implement.
 - **Initial costs:** Used to purchase new monitoring equipment.
 - **Annual costs:** Includes costs for the site lease, electricity, maintenance, and District staff time.
- Costs are based on the analysis performed by the SCAQMD and adjusted downward based on District staff assessment.
- If the community monitor is co-located within the District's ambient air monitoring network, fees will be shared/reduced.

Rule Development Timeline

- **December 16, 2019:** Public Workshop
- **January 7, 2020:** Provide written comments
- **Tentative – Late January 2020:** Community Advisory Council
 - Typically held in Buellton
 - Updated Rule & Staff Report will be released prior to the event
- **Tentative – March 19, 2020:** Board Hearing

Questions?

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Written comments requested by **January 7, 2020.**