Draft Rule 364
Refinery Fenceline & Community Air Monitoring

Community Advisory Council Meeting

Santa Barbara County Air Pollution Control District

Molly Pearson, Planning Division Manager
Timothy Mitro, Air Quality Engineer

January 22, 2020

air pollution control district
SANTA BARBARA COUNTY

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 all refineries statewide, with only 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.

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	Dec 19, 2019	2 - 4
SLO County APCD	No Rule	No Rule	1

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 326:** Vapor recovery on storage tanks.
  - **Rule 346:** Vapor recovery on loading rack.
  - **Rules 342 & 361:** Low NOx burners on combustion units.
  - **Stationary Diesel ATCM:** Limits on emergency engines.

Proposed Refinery Fenceline Monitoring

- OEHHA Analysis of Refinery Chemical Emissions [March 2019] identified the prime chemicals from refineries statewide.

TABLE 1 - POLLUTANTS FOR FENCELINE AIR MONITORING

Air Pollutants
Benzene
Toluene
Ethylbenzene
Xylene
Sulfur Dioxide (SO_2)
Hydrogen Sulfide (H_2S)

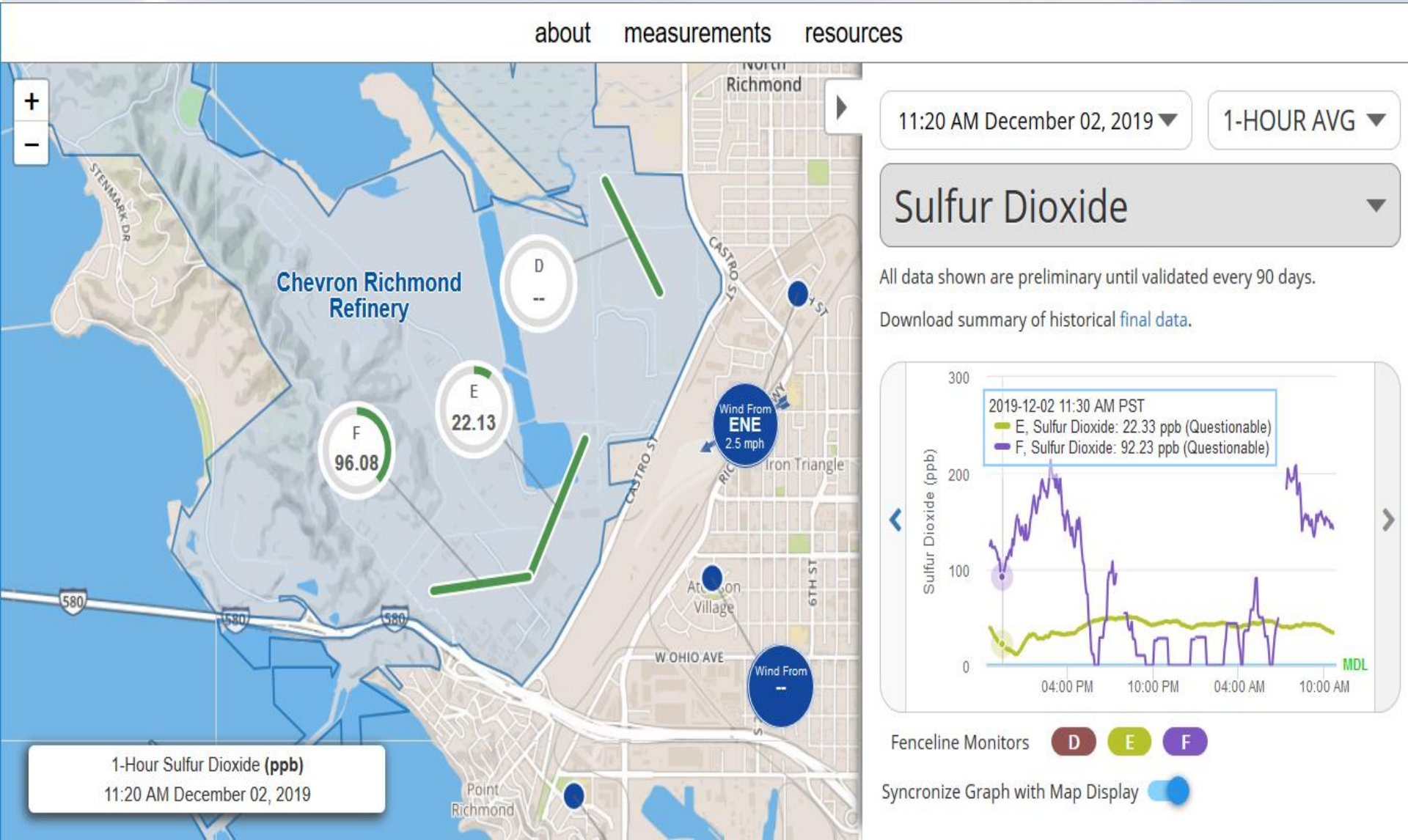
Proposed Refinery Fenceline Monitoring

- **Open Path Fenceline Monitoring Technologies**
  - Collect measurements over a large area.
  - Fourier Transform Infrared Spectroscopy (FTIR)
  - Ultraviolet Differential Optical Absorption Spectroscopy (UVDOAS)

Proposed Refinery Fenceline Monitoring

- Monitoring Plan submitted 3 months after rule adoption.
- Plan needs to conform with the District's Fenceline Air Monitoring 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, refinery has 270 days to install and operate the fenceline system.

Public Data - Example



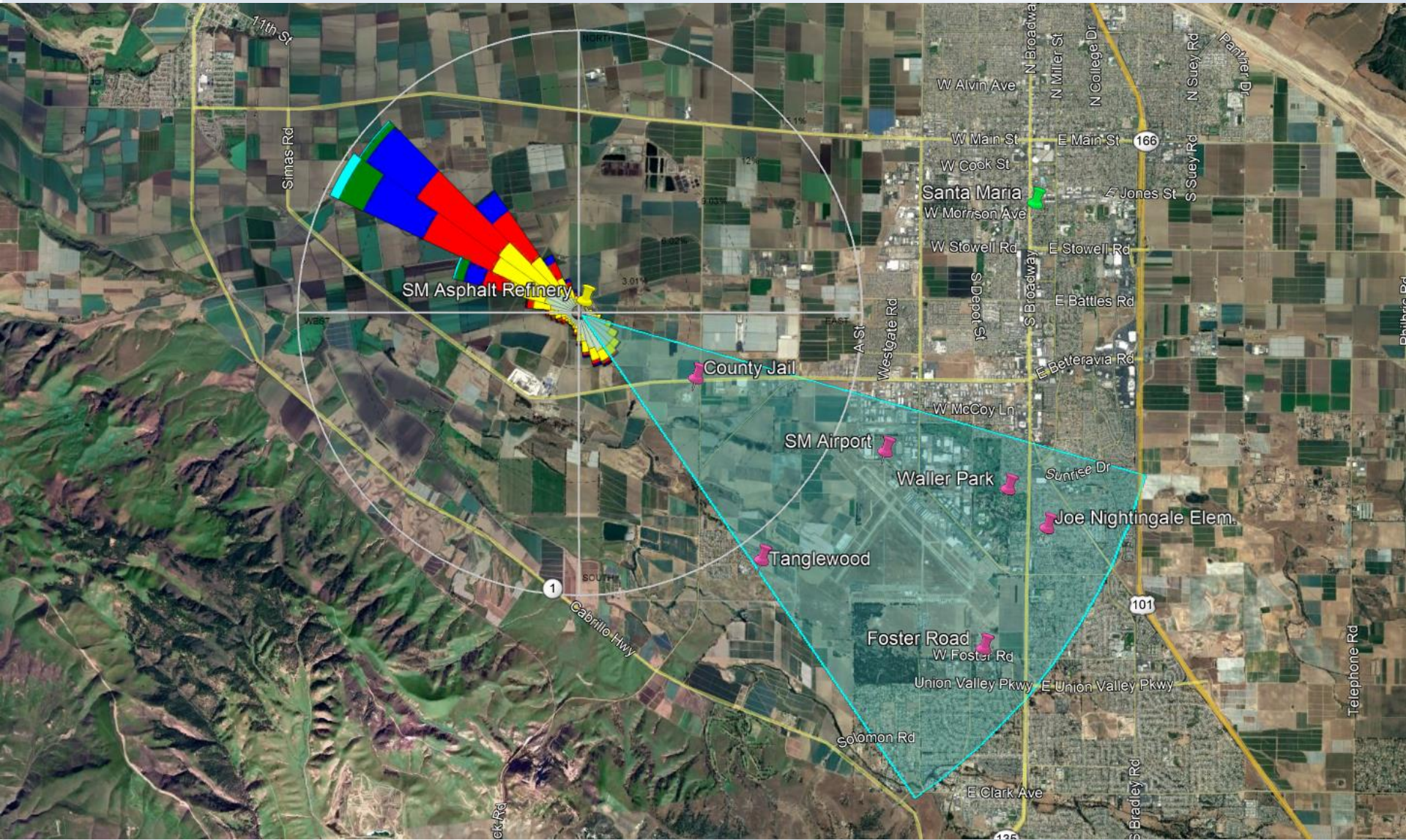
Community Monitoring

- District must operate a community monitor to measure the same refinery-related pollutants.

- Nearest monitoring station is in central Santa Maria.
  - Monitors ozone, NO_2, CO, PM_{10}, and $PM_{2.5}$
  - Station is being moved after assuming responsibility from CARB.
  - Current location also 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.

Potential Community Locations



Estimated 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.

TABLE 2 - ESTIMATED COMMUNITY AIR MONITORING STATION COSTS

	Co-Located	Independent	Cost Difference
Initial Capital Costs	**$253,750** [1]	**$367,500**	**$113,750** [2]
Annual Operating and Maintenance Costs [3]	**$62,900**	**$109,700**	**$46,800**

1: Due 3 months after rule adoption.

2: Upon written notification by the District, due within 60 days.

3: Invoiced annually in January.

Public Workshop

- December 16, 2019 at APCD office in Santa Barbara.
  - Attended by the refinery and consultants.
  - Comments and responses shown in Staff Report.

#	Comment	District Response
1)	Request to limit pollutant list to only BTEX.	Focused pollutant list on BTEX, SO_2, and H_2S.
2)	Request to extend the implementation timeline from 180 days to 1 year.	Implementation timeline extended to 270 days.
3)	Promotes the co-located community monitor approach.	The District supports this approach.

Questions?

Contact Info:

Timothy Mitro

Air Quality Engineer

805-961-8883

MitroT@sbcapcd.org