Proposed Amended Rule 1180
(PAR 1180)
Fenceline and Community Air Monitoring for Petroleum Refineries and Related Facilities

Proposed Amended Rule 1180.1
(PAR 1180.1)
Fenceline and Community Air Monitoring for Other Refineries

Working Group Meeting #1

April 29, 2026

9:00 AM PT

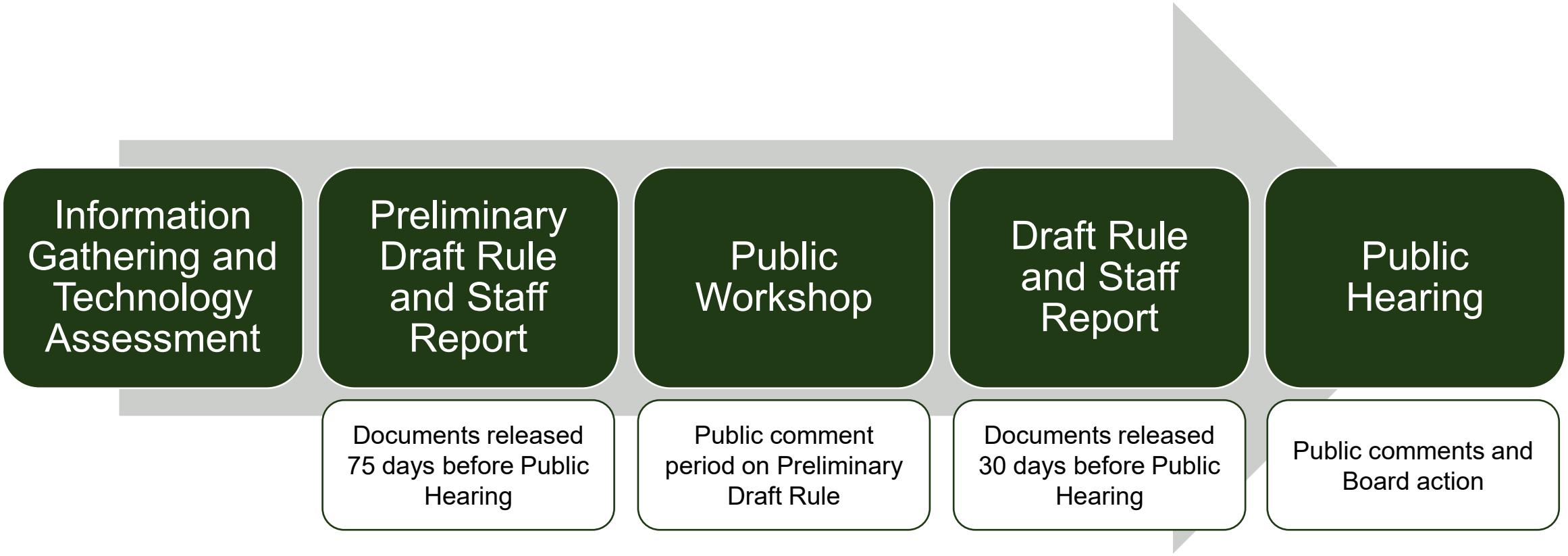
https://aqmd.zoomgov.com/j/1617117189

Zoom Webinar ID: 1617117189 (applies to all)

Agenda

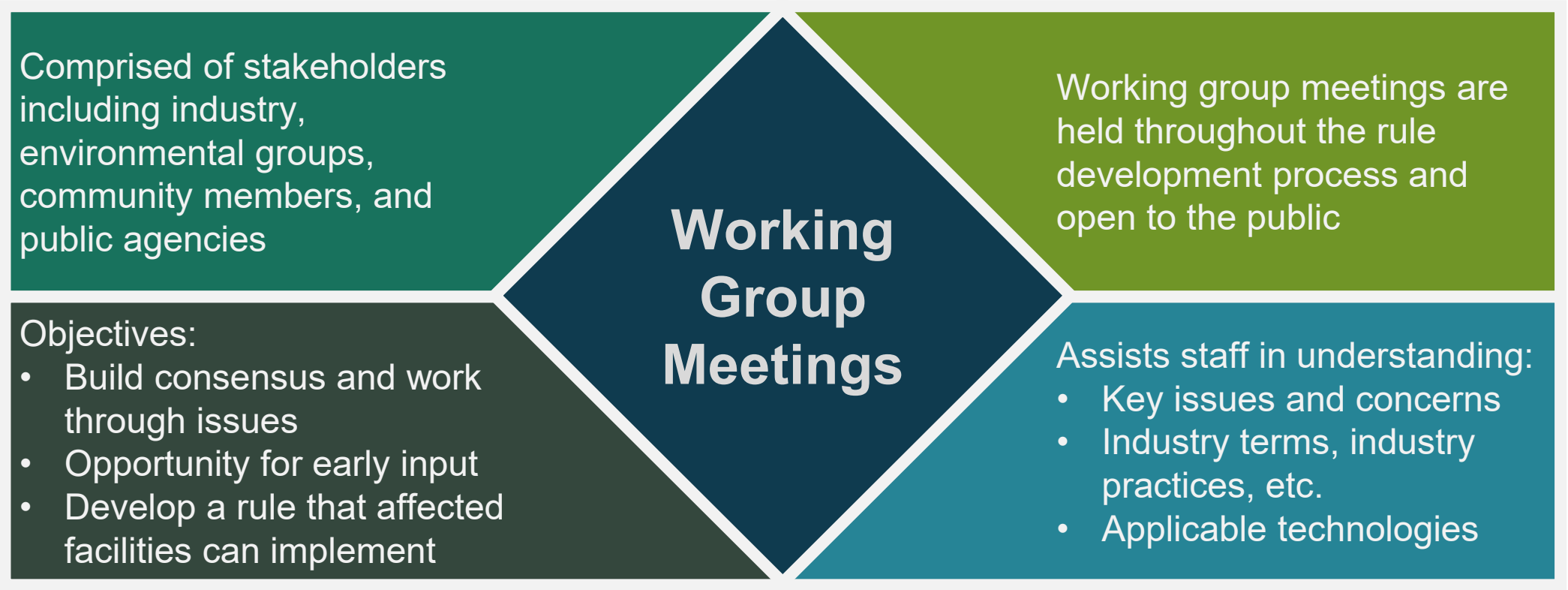
- Overview of Rule Development Process
- Background
- Implementation Update
- Need for Amendment
- Proposed Amended Rule 1180 and 1180.1 Concepts
- Next Steps

Overview of Rule Development Process



Working Group and stakeholder meetings are held throughout the process

Working Group Meetings



Stakeholder Input

- Stakeholders can provide input during working group meetings and rulemaking process
- Early input is strongly encouraged to help develop proposed rule amendments and to address issues
- Working Group Meetings, Individual Meetings, and Site Visits allow staff to work directly with stakeholders and discuss individual issues

Background on Rule 1180

- Adopted on December 1, 2017
  - Applicable to petroleum refineries that process more than 40,000 barrels per day (bpd) of crude oil
  - Requires facilities to:
    - Conduct real-time fenceline monitoring for specific compounds
    - Establish a fee structure for operation and maintenance of community air monitoring systems

Image Source: https://www.energyintel.com/00000194-4c4c-d243-a9d6-5eddc99b0000

Last Rule Development for Rules 1180 & 1180.1

Lawsuit against South Coast AQMD in 2022 alleged violation of Health & Safety Code 42705.6 because of the 40,000 bpd exemption

- Settlement committed the South Coast AQMD to amend Rule 1180 by January 5, 2024

Office of Environmental Health Hazard Assessment (OEHHA) Released Final Report on Petroleum Refinery Emissions in 2019

- Original Rule 1180 target compound list based on September 2017 draft report
- March 2019 final report updated the compound list, which included 7 compounds not on initial compound list

Rule 1180 amended and Rule 1180.1 adopted on January 5, 2024

Core Requirements for Rules 1180 & 1180.1

- Maintain a fenceline air monitoring system to conduct real-time monitoring of air pollutants at or near property boundaries
- Process and store historical fenceline data that can be used for notification system and web-based fenceline data display
  - Notify public when pollutants exceed threshold (e.g., acute REL)
- Find root cause of pollutant exceeding threshold (specific cause analysis)
  - If applicable, corrective action and reinspection required
- Independent audit of system once every three years
  - Corrective action plan required for deficiencies
- Establish fees for installation, operation, and maintenance of community monitoring systems
  - Monitoring of air pollutants in communities near applicable facilities

2024 Amendment Key Changes

Rule 1180

- Updated air pollutants monitored to address OEHHA report
- Removed 40,000 bpd exemption
- Included facilities with operations related to petroleum refineries
  - Facilities adjacent or contiguous to petroleum refineries that have operations related to refinery processes
  - Applicable to five related facilities
- Terminals with tank storage less than 310,000 bpd exempted

Rule 1180.1

- Adopted to address smaller refineries that were exempted under Rule 1180's previous 40,000 bpd exemption
- Mirrors core requirements in Rule 1180 with different plan submittal timelines
- Applicable to three facilities

Air Pollutants Required for Monitoring

Table 1– Air Pollutants and Notification Thresholds to be Addressed by FAMPs

Air Pollutants	Health Standard-Based Notification Threshold*	Information-Based Notification Threshold
Criteria Air Pollutants		
Sulfur Dioxide	75 ppb	N/A
Oxides of Nitrogen	100 ppb	N/A
Particulate Matter		
PM2.5	35 µg/m³ (24-hour avg.)	N/A
PM10	50 µg/m³ (24-hour avg.)	N/A
Volatile Organic Compounds		
Total VOCs (Non-Methane Hydrocarbons)	N/A	730 ppb
Formaldehyde	44 ppb	N/A
Acetaldehyde	260 ppb	N/A
Acrolein	1.1 ppb	N/A
1,3 Butadiene	297 ppb	
Naphthalene	N/A	N/A
Polycyclic Aromatic Hydrocarbons (PAHs)	N/A	N/A
Styrene	5,000 ppb	N/A
Benzene	8 ppb	N/A
Toluene	1,300 ppb	N/A
Ethylbenzene	N/A	N/A
Xylenes	5,000 ppb	N/A
Metals		
Cadmium	N/A	N/A
Manganese	0.17 µg/m³ (8-hour avg.)	N/A
Nickel	0.2 µg/m³	N/A
Other Air Pollutants		
Hydrogen Sulfide	30 ppb	N/A
Carbonyl Sulfide	270 ppb	N/A
Ammonia	4,507 ppb	N/A
Black Carbon	N/A	N/A
Hydrogen Cyanide	309 ppb	N/A
Hydrogen Fluoride	289 ppb	N/A

* Notification Thresholds are based on 1-hour averaging time unless otherwise noted.

- Rule 1180 initially required 18 air pollutants to be monitored
  - In 2024 amendment, 7 additional compounds added to reflect 2019 OEHHA report, “Analysis of Refinery Chemical Emissions and Health Effects”
  - New PM monitors and metal monitors required
- 1180.1 does not require metals monitoring because they do not have Fluid Catalytic Cracking Units (FCCU)
  - FCCU’s main contributor to metals emissions

Monitoring Equipment for Air Pollutants

Air Pollutant	Common Emissions Sources	Typical Monitoring Equipment
Sulfur Dioxide (SO_2) Oxides of Nitrogen (NOx)	Combustion equipment, Fluid Catalytic Cracking Units (FCCU), sulfur recovery units, flares	Open-path UV-DOAS
Total Volatile Organic Compounds (VOCs) and other selected VOCs	Fuel production processes, storage tanks, transport pipelines, waste areas	Open-path FTIR
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	Fuel production processes, storage tanks, transport pipelines, waste areas	Open-path UV-DOAS
Hydrogen Sulfide (H_2S)	By-product of crude oil refining, occurs naturally in crude petroleum and natural gas	Continuous H_2S monitor (point monitor)

Monitoring Equipment for Air Pollutants (Cont.)

Air Pollutant	Common Emissions Sources	Typical Monitoring Equipment
Carbonyl Sulfide Ammonia Hydrogen Cyanide Hydrogen Fluoride	By-product of oil refining, Catalyst regenerator vent releases, decay of organic matter, Alkylation unit, chemical plant manufacturing	Open-path FTIR
Black Carbon	Combustion of fossil fuels, biofuels, and biomass; diesel engines	Aethalometer (point monitor)
Particulate Matter (PM10 and PM2.5)	Abrasive blasting, asbestos abatement, boilers, cooling towers, crude units, heaters, cokers, FCCUs, incinerators, flares, combustion equipment	Continuous PM monitor (point monitor)
Metals	FCCU, process furnaces, cokers	Continuous multi-metal monitor (point monitor)

Real-time Monitoring of PAHs

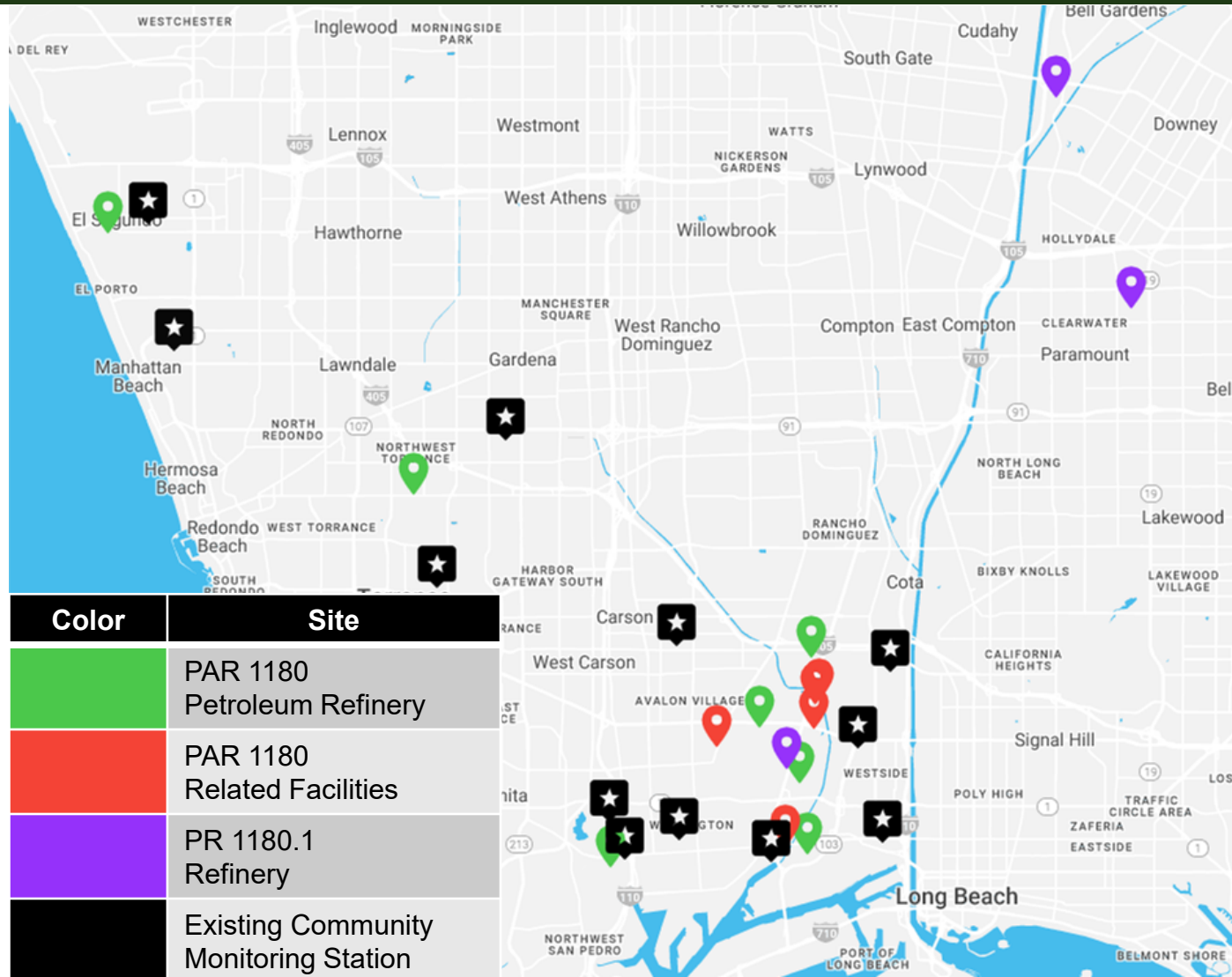
- 16 Polycyclic Aromatic Hydrocarbons (PAHs) are listed as priority air pollutants in the 2019 OEHHA report
  - PAHs added to list of air pollutants in last amendment but not required to be monitored until the Executive Officer notifies facilities that ***real-time monitoring*** of PAHs is feasible
- Naphthalene is the only PAH that can be monitored in real time
  - Required separately and is monitored via open path UV-DOAS
- Rule 1180 and 1180.1 monitors are intended to notify community of real-time air pollutant concentrations
- Typical sample preparation for PAH analysis take 16-24 hours, requiring time-specific, multistep preparations
  - Takes several days to collect samples, prepare samples, and perform analysis
- Staff is not aware of any commercially available technologies for real-time monitoring of PAHs
  - If technologies are identified in the future, facilities will be required to monitor for PAHs

Facilities Subject to Rules 1180 and 1180.1

12 facilities subject to Rule 1180:
- 7 refineries
- 5 refinery related facilities

3 facilities subject to Rule 1180.1
- Three smaller refineries
  - Two asphalt refineries
  - One refinery that processes alternative feedstocks

★ Current 10 fully-equipped and 2 partially-equipped community monitoring stations (Note: this map does not show new stations)

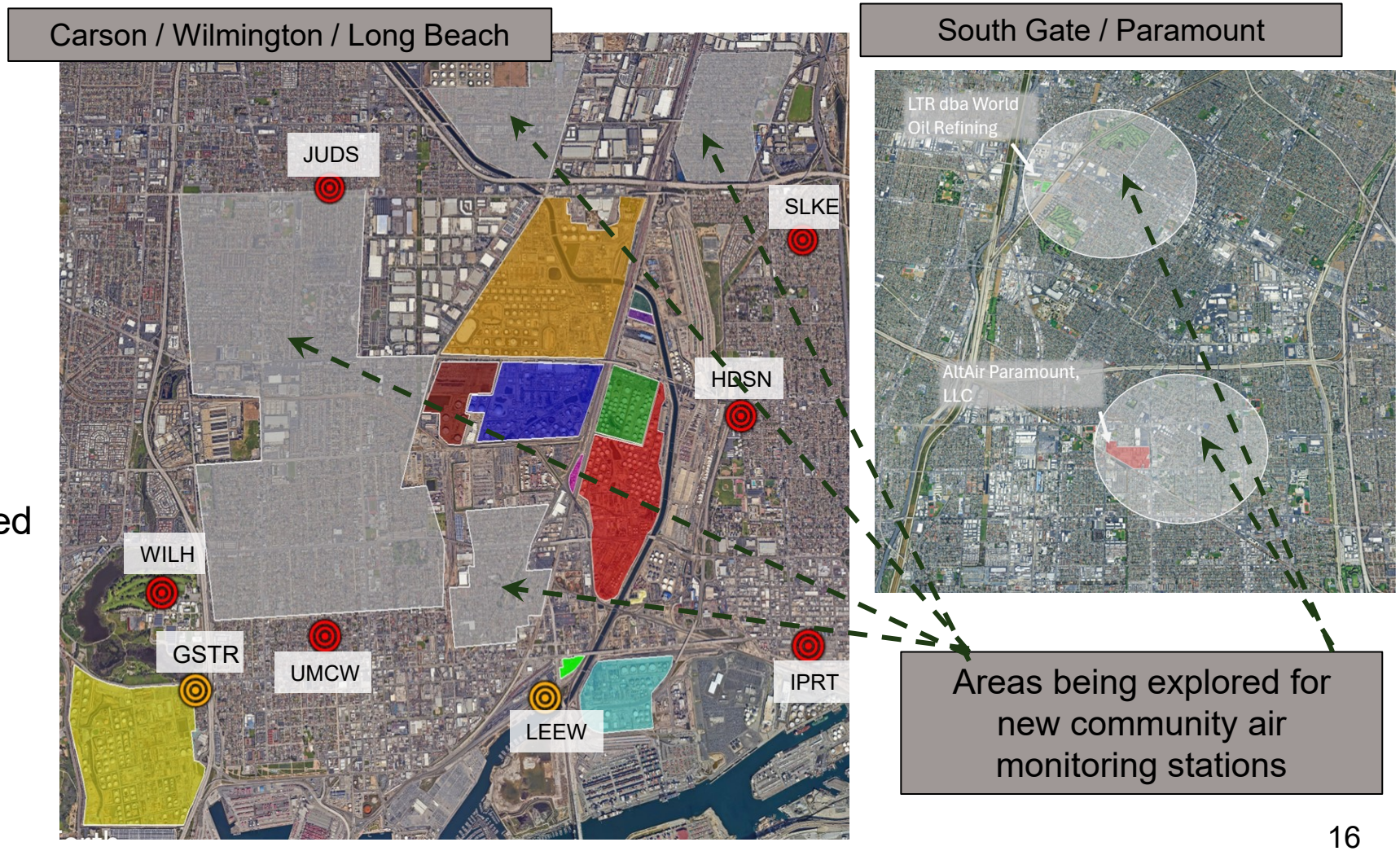


Fenceline Monitoring Systems Timeline

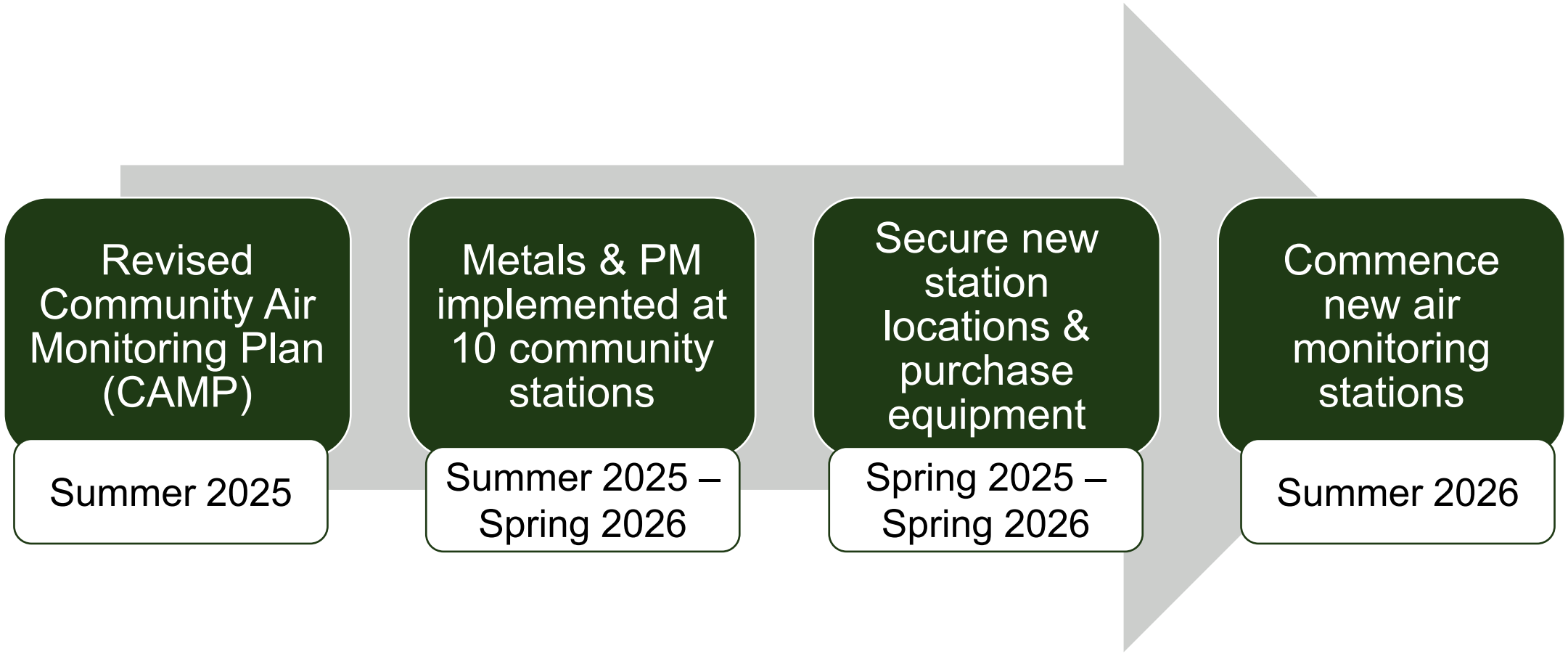
- All revised and new fenceline air monitoring plans (FAMPs) for Rules 1180 and 1180.1 have been submitted by facilities
- Revised FAMPs for refineries originally subject to 1180
  - Submitted FAMPs can be found at *https://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans/rule-1180-rule-1180-1-latest-updates*
  - Public comment period for FAMPs ended March 9, 2026
  - Approval or partial approval will be considered at the conclusion of the review
- Fenceline Implementation Timeline
  - 6 months after revised FAMP approval for original 1180 refineries
  - 15 months after new FAMP approval for 1180 facilities
  - 24 months after FAMP approval for 1180.1 facilities

Community Air Monitoring Implementation

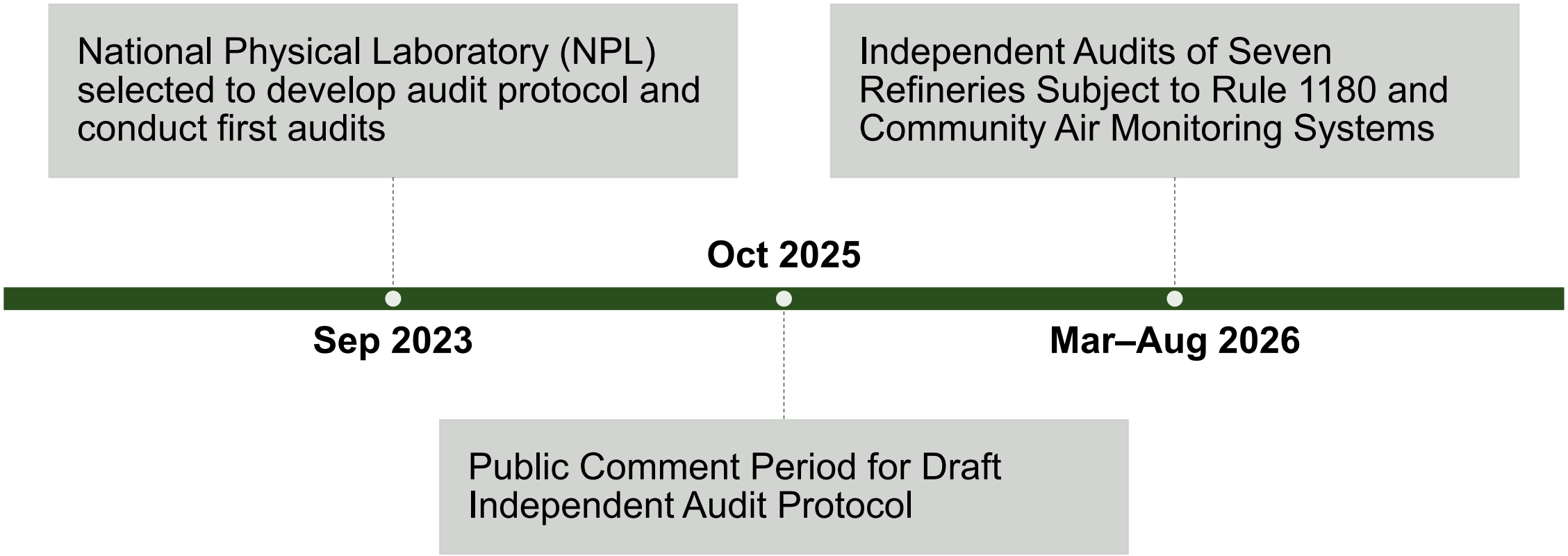
- Revised Community Air Monitoring Plan (CAMP) and Quality Assurance Project Plan (QAPP) is available at *www.aqmd.gov/rule1180*
- Air Monitoring for metals and PM commissioned at 10 existing Rule 1180 community air monitoring stations
- Additional community air monitoring for Rules 1180 and 1180.1 is expected to commence in summer/fall 2026
  - 2 new stations for 1180 related facilities
  - 3 new stations for 1180.1 refineries (one each)



Community Air Monitoring Implementation Timeline



Independent Audits



Need for Amendment

Currently, rules do not include provisions for facilities that idle or cease operations

Phillips 66 announced plans to cease operations at LA facilities in October 2024

Phillips 66 Carson and Wilmington have idled and ceased crude refining since Q4 2025

Need provision(s) to provide off-ramp for idling or ceasing operations

Phillips 66 Fenceline Air Monitoring System

- Phillips 66 has two facilities subject to Rule 1180 located in Carson (Facility ID: 171109) and Wilmington (Facility ID: 171107)
- Both facilities comprised of Fencelines Monitoring System with point monitors, open-path FT-IRs, open-path UV-DOAS
  - Wilmington location has UCLA Optical Tent UV-DOAS system
- Both facilities have idled and ceased crude refining since Q4 2025

Figure 1. Fenceline monitoring sampling locations for the P66 Carson Refinery.

Phillips 66 Carson current monitoring locations outlined in FAMP

Philip 66 Update/Site Visit

- Staff visited Philips 66 Wilmington to understand their current operations, current monitoring system, and future plans
- Phillips 66 revised FAMPs outline metals and PM monitoring, but no equipment to be installed due to scheduled idling by the end of 2025
  - Those monitors would be installed and operational if/when operations restart
- Remaining operation: Wilmington domed tankage (circled in orange, right) being used to move products from marine terminal to distribution network
  - Approximately 2-3 years to fully decommission
- Phillips 66 plans to keep permits for both facilities at this time

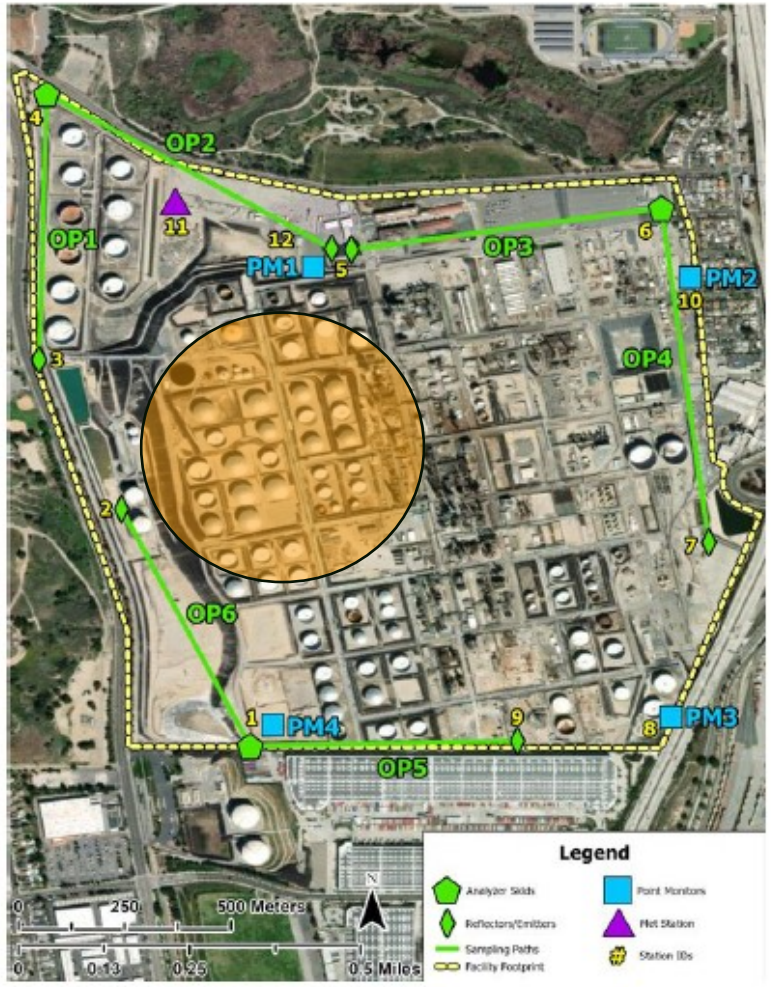


Figure 1. Fenceline monitoring sampling locations for the P66 Wilmington Refinery.

Rule Concepts for Amendment

- Rule options under consideration:
  - Require fenceline air monitoring as long as facilities have permits to operate refinery equipment
  - Continue fenceline air monitoring of selected pollutants after operations have ceased
    - Evaluate emission sources and establish criteria for what pollutants would be exempted
    - Resume all applicable monitoring before restarting operations
  - Specify the criteria for discontinuing all fenceline air monitoring
  - Provide specification on dismantling/equipment removal/remediation at permanent cease of operation
- Concerns
  - Need and cost to operate fenceline air monitoring system for equipment that is idle
  - Need to address community monitoring stations

Next Steps

Continue stakeholder meetings and working group meetings

Public Workshop – Q3 2026

- Release of Preliminary Draft Rules and Staff Report

Public Hearing – Q4 2026

- Release of Draft Rules and Staff Report 30 days before the Hearing

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