Proposed Rule (PR) 1480 – Air Toxic Metals Monitoring

WORKING GROUP MEETING #3

South Coast AQMD

November 28, 2018

Meeting Agenda

- Summary of previous Working Group Meetings
- Response to comments from Working Group #2
- Overview of rulemaking process
- Concepts for PR 1480

Summary of Previous Working Group Meetings

1st Working Group Meeting

- Background
- Ambient Air Toxic Metals Monitoring
- Considerations for Rule Development
- PR 1480 Timeline

2nd Working Group Meeting

- Approaches to Identifying Sources
  - Regional Air Monitoring
  - Localized Air Monitoring
  - Other Approaches
- Summary of Ambient Air Monitoring

Key Comments from Working Group #2

Comment #1	Does SCAQMD have a glass plate protocol available?
Comment #2	Did metal emissions reduce after installation of HEPA at Carlton Forge Works?
Comment #3	Why did air monitors detect hexavalent chromium when facilities were not operating?
Comment #4	Can SCAQMD explain the 1.0 ng/m^3 hexavalent chromium threshold used in Orders for Abatement?

Staff Responses to Comments

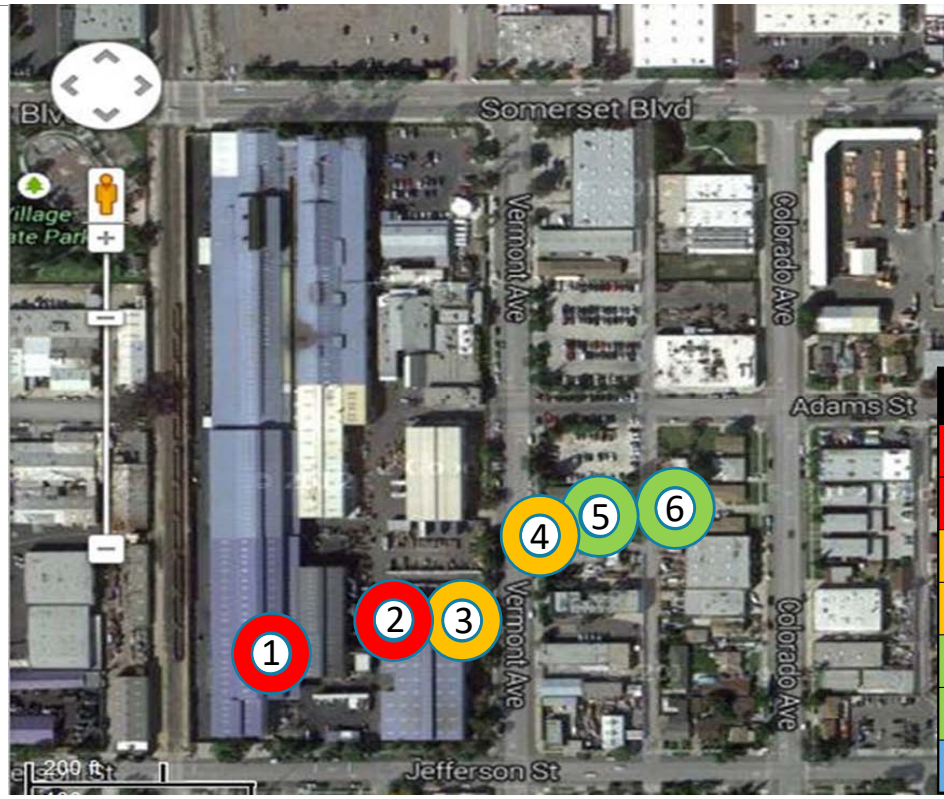
Comment #1: Does SCAQMD have a glass plate protocol available?

- SCAQMD does not have a written protocol for deployment and placement of glass plate sampling
- Glass plate sampling is unique to each situation
- Glass plates are deployed for investigative purposes to determine the presence of pollutants
- Considerations for glass plate deployment:
  - Placement (e.g. upwind and downwind of source)
  - Access to sampling area
  - Security of location to prevent tampering of plates
  - Duration of sampling period
- Established laboratory methods are used to determine type of metal particulate present

Comment #1: Availability of Glass Plate Protocol *(Continued)*

- Glass plates are one of many screening tools that have been deployed by SCAQMD for:
  - Underground natural gas storage facilities
  - Trash transfer stations
  - Auto-body shops
  - Batch plants and cement manufacturing
- Limitations of glass plate sampling:
  - Only shows relative contribution of a pollutant
  - Does not provide an emission rate
- Glass plates can provide useful information that:
  - Confirms the presence of fugitive emissions
  - Identifies the type of pollutants present (e.g. metal particulates)
  - Identifies general location of pollutants (i.e. concentration gradient)

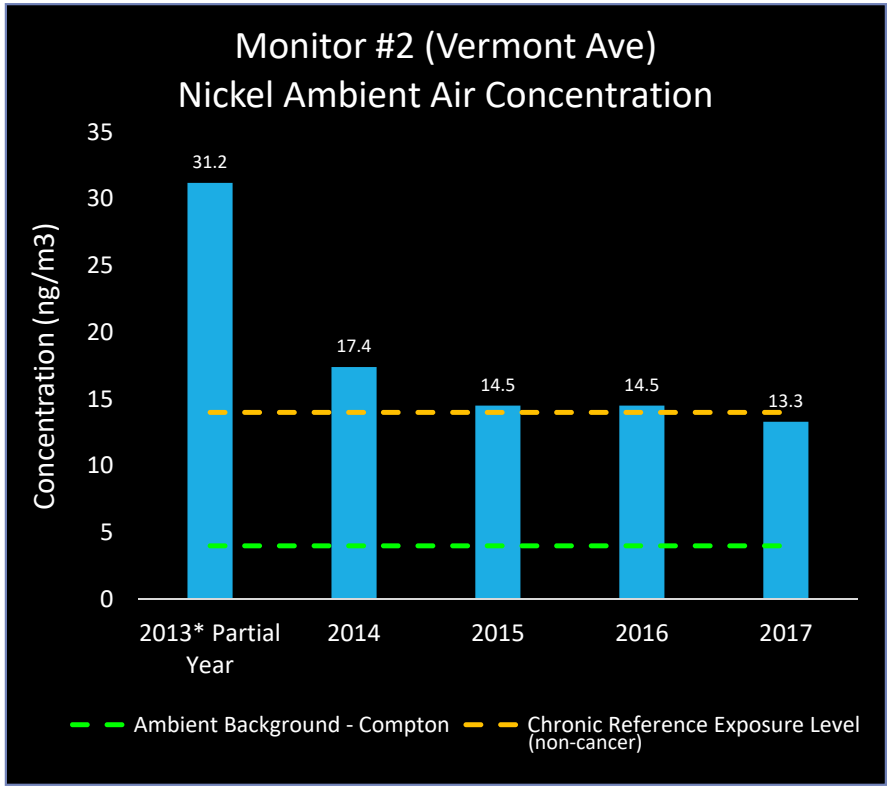
Comment #1: Availability of Glass Plate Protocol *(Continued)*



Location	Nickel (ppm)	Glass Plate Placement
1	3,230	Rooftop of the Grinding Room
2	3,300	Rooftop of the Saw Building - westside
3	2,420	Rooftop of the Saw Building - eastside
4	1,310	Roof of Residence across street from facility
5	800	Roof of Residence across street from facility
6	310	Residential area one block to the east
7	13	Residential area 4 blocks to the east

Comment #2: Did metal emissions reduce after installation of HEPA at Carlton Forge Works?

- Beginning in 2013, Carlton Forge Works implemented voluntary measures to reduce fugitive emissions
  - Building enclosure improvements
  - Enhanced collection efficiency, and
  - Housekeeping activities
- These voluntary measures showed a reduction in ambient nickel concentrations
- Ambient air monitoring detects both point and fugitive emission sources



Comment #2: Did ambient metal emissions reduce after installation of HEPA filters at Carlton Forge Works? *(Continued)*

- In 2015, Carlton Forge Works voluntarily installed HEPA to existing baghouses to further control point source emissions
  - Overall control efficiency (baghouse 99% control efficiency + HEPA 99.97% control efficiency) is 99.9997%
  - Stack emissions were so small, unlikely detected by ambient monitors
- Emissions measured by ambient air monitors were largely attributed to fugitive emission sources

Comment #3: Why did air monitors detect hexavalent chromium when facilities were not operating?

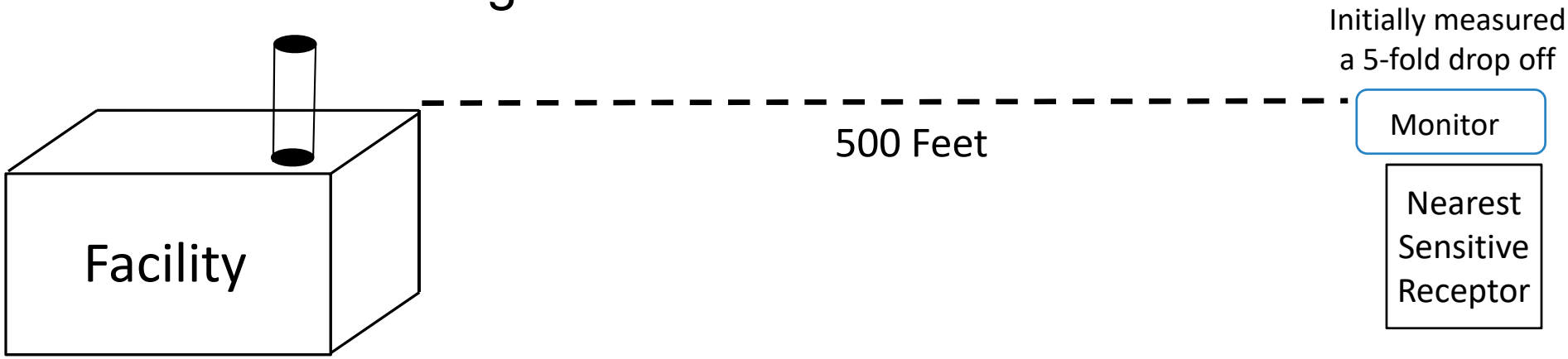
- Ambient air monitors measure all emissions – stack and fugitive emissions
- Metal particulate can accumulate on surfaces over time and can be re-entrained:
  - During non-production activities such as maintenance or housekeeping; and
  - From wind or air currents

Comment #4: Can SCAQMD explain the 1.0 ng/m^3 hexavalent chromium threshold used in Orders for Abatement?

- SCAQMD has utilized a three-sample average of 1.0 ng/m^3 as part of the Stipulated Orders for Abatement; must curtail operations if exceeded
- Refinement of three-sample average is done by subtracting sub-regional backgrounds of hexavalent chromium (lowest monitor in Paramount or the average level found from the nearest MATES IV site)
- 1.0 ng/m^3 hexavalent chromium threshold was based on a 100 in-a-million cancer risk at the nearest sensitive receptor
  - Threshold is facility specific – accounts for location of sensitive receptors (distance and direction)
- 1.0 ng/m^3 threshold provides:
  - Additional assurance that risk to surrounding receptors is less than 100 in-a-million; and
  - Opportunity for corrective actions

Comment #4: Can SCAQMD explain the 1.0 ng/m^3 hexavalent chromium threshold used in Orders for Abatement? *(Continued)*

- Basis for 1.0 ng/m^3 threshold:



  - Hexavalent chromium concentration of ~0.2 ng/m^3 results in a 100 in-a-million cancer risk
  - (5) x (0.2 ng/m^3) = 1.0 ng/m^3

Additional Comment Submitted After Working Group #2

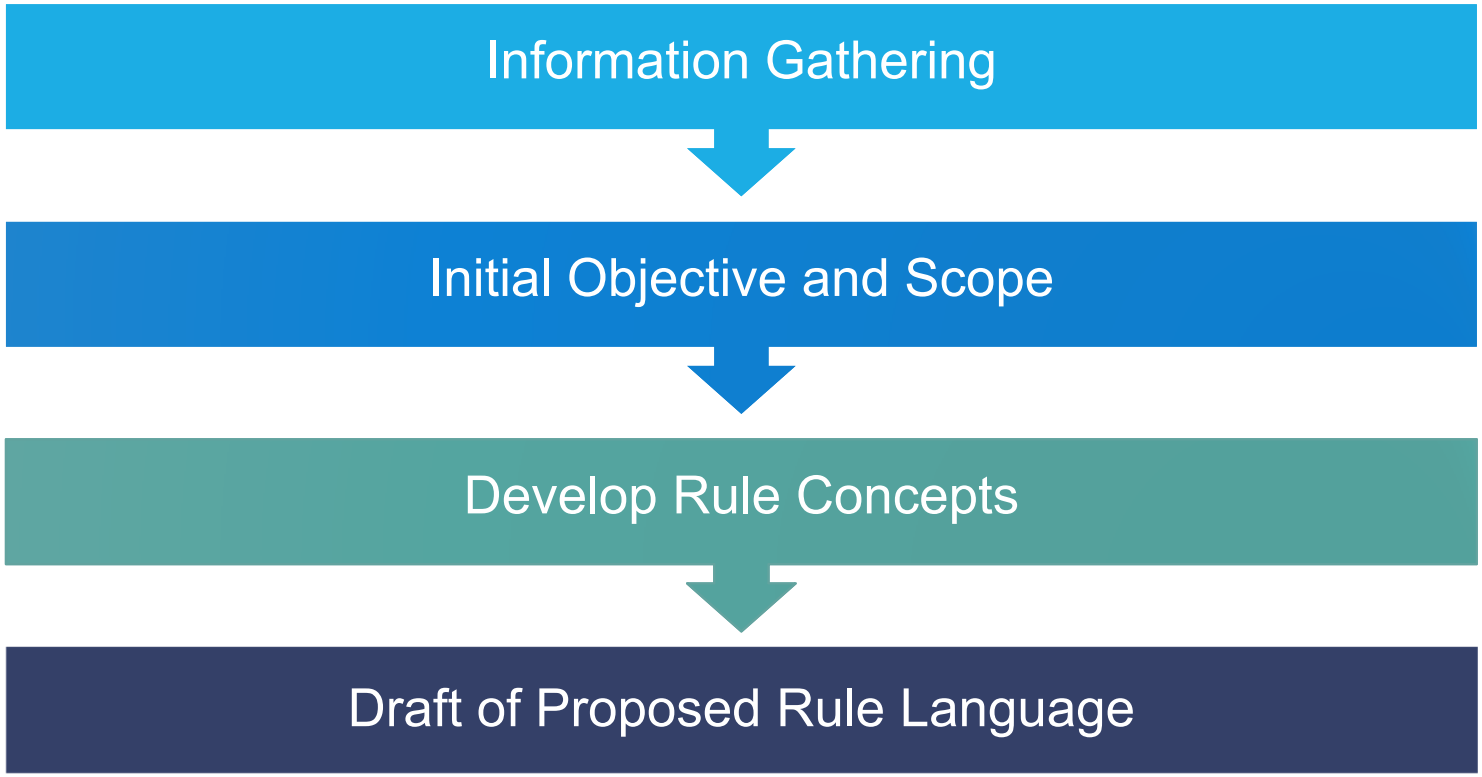
Comment: LA County Public Health recommendations:

- Multilingual website to provide communities with information
- Additional outreach to communities
- Technical guideline document for ambient air monitoring

Response: SCAQMD staff will consider these recommendations during the rule development process and continue to conduct community outreach efforts

Rulemaking for PR 1480

Overview of the Rulemaking Process

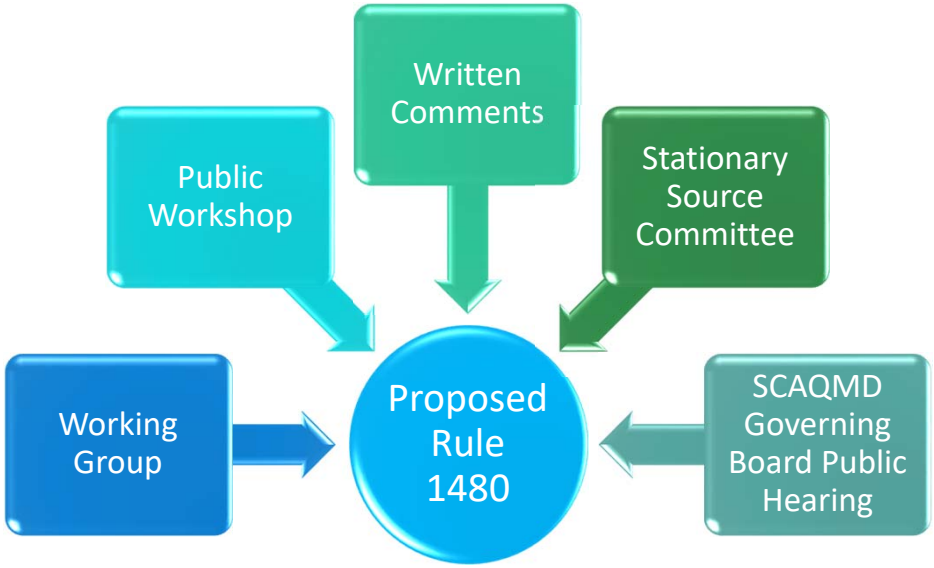


Rule Working Group Approach – Stakeholder Input

- Working Group meetings are held throughout the rule development process and are open to the public
- Working Group is comprised of stakeholders including industry, environmental groups, community members, and agencies
- Provides stakeholders opportunity to discuss elements of the proposed rule and assist staff in understanding:
  - Key issues and concerns
  - Industry terms, industry practices, etc.

Rule Working Group Approach – Stakeholder Input *(Continued)*

- Stakeholders can provide input throughout the rulemaking process
- Early input is strongly encouraged to help develop proposed rule and to address issues
- Objective is to build consensus and to have a workable rule
- Variety of opportunities to provide input

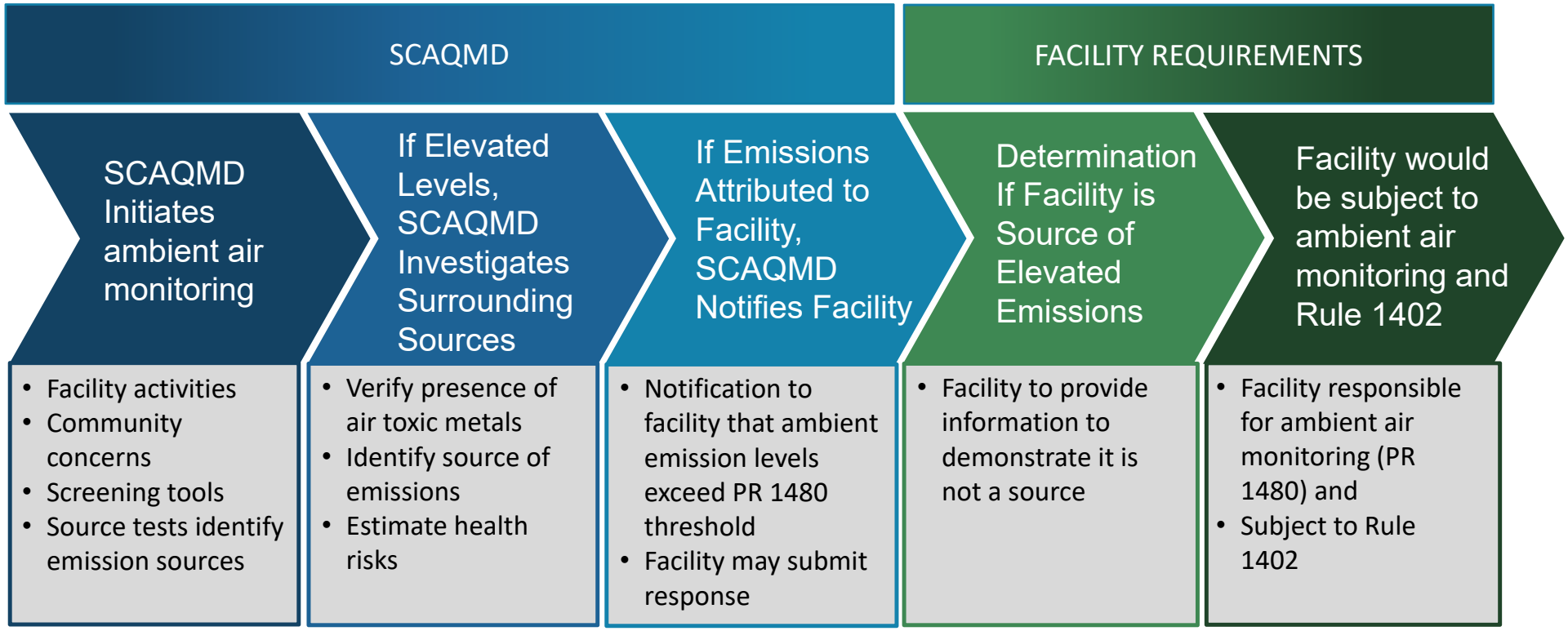


PR 1480 Concepts

General Approach for PR 1480

- SCAQMD will initiate ambient monitoring
- If emission levels are above specified thresholds (to be determined), then SCAQMD will investigate surrounding emission sources
- If SCAQMD can attribute elevated emissions to a facility, then SCAQMD will notify the facility and provide information to the facility
- The operator will have the opportunity to provide information to the SCAQMD to substantiate that emissions should not be attributed to their facility
- If operator cannot substantiate that their operations are not the source, the facility will be required to conduct ambient monitoring (PR 1480) and would be subject to Rule 1402

General Approach for PR 1480 *(Continued)*



General Approach for PR 1480 *(Continued)*

SCAQMD Ambient Air Monitoring Initiated

- Examples of reasons to initiate SCAQMD ambient air monitoring:
  - Facility activities that result in fugitive emissions (e.g. metal grinding)
  - Community concerns (e.g. complaints)
  - Community monitoring (e.g. AB 617 and MATES)
  - Screening tools that show a presence of air toxic metals (e.g. glass plates, bulk samples, wipe samples, and XRF gun)
  - Source test results detect high levels of air toxic metals

General Approach for PR 1480 *(Continued)*

If Elevated Levels, SCAQMD Investigates Surrounding Sources

- Ambient air monitoring can be used to:
  - Identify potential sources at a facility
  - Rule out surrounding sources
  - Track trends in ambient air concentrations
  - Estimate health risks and compare to thresholds
- Risk values are determined based on factors, such as:
  - Toxicity of metal
  - Exposure pathways
  - Distance to sensitive receptor
  - Ambient air concentrations
- PR 1480 would establish a threshold based on cancer and non-cancer chronic risk values

General Approach for PR 1480 *(Continued)*

If Emissions Attributed to the Facility, SCAQMD Notifies the Facility

- If the threshold is exceeded, the facility would be notified that it may be responsible for conducting ambient air monitoring
- The notification would provide information used to substantiate SCAQMD findings, such as ambient monitoring data and wind data
- The facility has the opportunity to respond

General Approach for PR 1480 *(Continued)*

Determination If Facility is Source of Elevated Emissions

- Similar process to Rule 1402's Determination of Potentially High Risk Level facilities
  - Prior to determination, SCAQMD staff will meet with the facility to obtain any information to demonstrate that the facility is not the source of elevated emissions
- The facility is determined to be the source of elevated emissions and PR 1480 requirements apply if:
  - The facility is unable to demonstrate that they are not the source of air toxic emissions; or
  - The facility does not provide a response

General Approach for PR 1480 *(Continued)*

Facility Would Be Subject to Ambient Air Monitoring and Rule 1402

- The facility would be responsible for conducting ambient air monitoring under PR 1480; and
- The facility would also be subject to Rule 1402 requirements, such as:
  - Submit and implement an Early Action Reduction Plan
  - Submit a Health Risk Assessment
  - Submit and implement a Risk Reduction Plan
  - Public Notification of Health Risks

Next Steps

- 4th Working Group Meeting: January 2019 (tentative)
- Stationary Source Committee: April 2019
- Governing Board Meeting: June 2019

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