

Proposed Rule 1480 – Ambient Monitoring and Sampling of Metal Toxic Air Contaminants

WORKING GROUP MEETING #10

October 23, 2019

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Status Update on PR 1480

- October 10, 2019 – Call with California Communities Against Toxics and California Safe Schools
 - Connection between AB 617 monitoring and PR 1480 requirements
 - Addressing impacts from clusters of metal working facilities
- October 15, 2019 – Meeting with the Metal Finishing Association of Southern California, California Metals Coalition, and California Small Business Alliance to discuss specific concerns
 - High cost of monitoring required under PR 1480
 - Quick on-ramps to monitoring under PR 1480
 - Mechanisms in PR 1480 to acknowledge installation of controls for rule compliance
 - Clarify that designation is based on facility's emissions causing an exceedance of Significant Risk Level, not just a contribution from the facility
- October 18, 2019 - Stationary Source Committee

Comment: Posting Comment Letters on South Coast AQMD Website

Comment	Response
<ul style="list-style-type: none">Requested that the comments letters received regarding PR 1480 be made available	<ul style="list-style-type: none">Comment letters have been posted on the Proposed Rules webpage under PR 1480 (http://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/PR1480_CommentLetters)

Comment: Procedures the Executive Officer would use for Monitoring and Sampling

Comment	Response
<ul style="list-style-type: none">Requested that the procedures the South Coast AQMD would use when conducting Monitoring and Sampling be made available	<ul style="list-style-type: none">Procedures used by South Coast AQMD would be described in the Alternative Monitoring and Sampling PlansStaff is preparing a Monitoring and Sampling Plan Guidance document which will be provided as part of the 30-day package

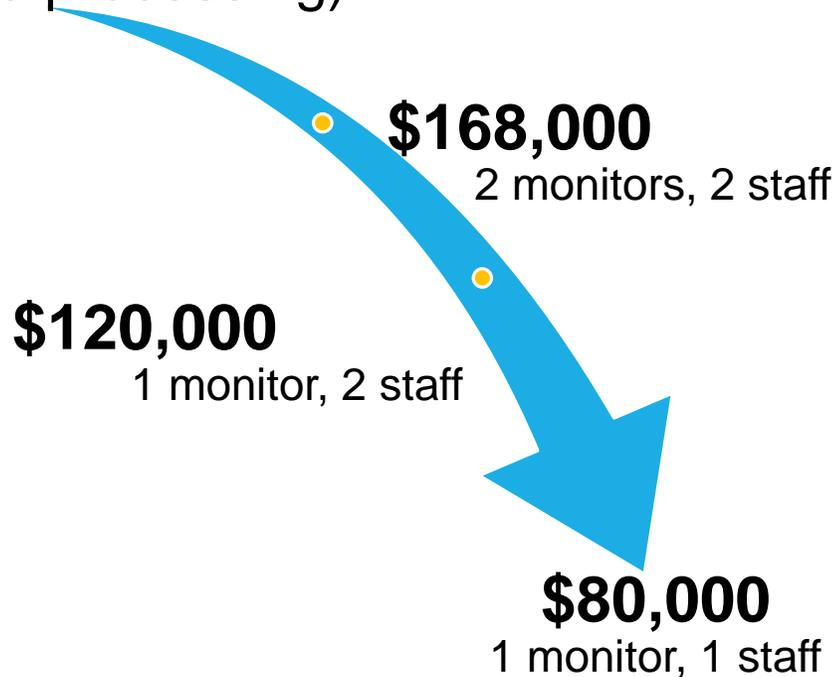
Comment: Availability of Monitoring Samples

Comment	Response
<ul style="list-style-type: none">• Are samples or sample extracts analyzed by South Coast AQMD available for facilities to request	<ul style="list-style-type: none">• If samples or sample extracts are not entirely consumed during required analysis, Metal TAC Monitoring Facility that elects to have Executive Officer conduct monitoring and sampling can request the samples or sample extracts• Other requests would be handled on a case by case basis

Comment: High Cost of Monitoring and Sampling

Standard 1-in-3 day Schedule

\$300,000 Paramount
(expedited processing)



Reduced 1-in-6 day Schedule



Changes to Proposed Rule Language

Definitions – Benchmark Concentration (c)(2)

September Version	October Version
<ul style="list-style-type: none">Benchmark Concentration was defined as the average for the 30 consecutive calendar days preceding the submittal of the draft Reduced Monitoring and Sampling Plan	<ul style="list-style-type: none">Revised definitionMetal TAC concentration at a monitor that is representative of the Reduced Risk Level at the most impacted Sensitive ReceptorMethodology in Appendix 2 (example in upcoming slides)
<ul style="list-style-type: none">Benchmark Concentration is used as reference point for a Reduced Monitoring and Sampling Plan and when an owner or operator must notify the Executive Officer	

Approach for Changing the Benchmark Concentration

- Previous version of PR1480 used the Benchmark Concentration for establishing the concentration when a facility that is on a Reduced Basic Monitoring and Sampling Plan would revert back to a Basic Monitoring and Sampling Plan*
- Previous version of Benchmark Concentration was the average of the 30-consecutive days of ambient monitoring and sampling prior to the submittal of the Draft Reduced Monitoring and Sampling Plan
- Revisions to Benchmark Concentration in PR 1480 will be used for:
 - Reverting from a Reduced Basic to a Basic Monitoring and Sampling Plan*; and
 - Threshold for notification to the Executive Officer

*Includes Alternative Monitoring and Sampling Plan and Reduced Alternative Monitoring and Sampling Plan

Concerns with Previous Approach for Notification Threshold

- Previous version of PR 1480 required the operator to notify the Executive Officer if three consecutive Valid Samples individually exceeded:
 - The concentration specified in the most recent approval letter of a Monitoring and Sampling Plan; or
 - If no concentration is specified, ten times the concentration that corresponds to the Significant Risk Level
- “The concentration specified in the most recent approval letter” was vague on how it would be established – unclear if concentration is based on estimated risk or other method
- “Ten times the concentration...” does not take into account the estimated health risk at the sensitive receptor – this concentration is at the fenceline
 - Ten times may be substantially higher or lower than a Significant Risk Level at the sensitive receptor

Why the Benchmark Concentration was Changed

- Previous Benchmark Concentration was based on the previous 30 consecutive days prior to submittal of a Reduced Monitoring and Sampling Plan*
 - Does not reflect the estimated health risk at the sensitive receptor
 - For a facility that has made substantial progress in reducing Metal TACs, this may result in a very low Benchmark Concentration – even if the level is 10 times higher
- Revised Benchmark Concentration establishes a concentration that represents the Reduced Risk Level at the sensitive receptor
 - Approach reflects the estimated risk at the sensitive receptor
 - Approach does not penalize facilities that implement early risk reduction measures
 - Benchmark Concentration is calculated prior to designating the facility
 - Owner or operator will know the Benchmark Concentration upfront
- Using 4 times the Benchmark Concentration for notification reflects a Significant Risk Level at the sensitive receptor (4 X 25 in a million = 100 in a million)

*Includes Alternative Monitoring and Sampling Plan and Reduced Alternative Monitoring and Sampling Plan

Concept of Benchmark Concentration

- Applies the Ratio of the health risk at the Sensitive Receptor and Reduced Risk Level to develop a Ratio Concentration
- Ratio Concentration is used to establish a concentration at the monitor that will represent the Reduced Risk Level

Highest 30-day
average
concentration



Health Risk at
Sensitive Receptor



$$\frac{\text{Health Risk at Sensitive Receptor}}{\text{Reduced Risk Level}} = \text{Ratio}$$

$$\frac{\text{Highest 30-day Avg. at Monitor}}{\text{Ratio}} = \text{Ratio Concentration}$$

Benchmark Concentration – Calculations

- Ratio Concentration is based on the ratio between the highest health risk at the Sensitive Receptor and the Reduced Risk Level and applying that ratio to the highest 30 consecutive day average concentration of monitoring and sampling prior to designation as a Metal TAC Monitoring Facility
- Estimated Risk Concentration is based on the concentration representing the Reduced Risk Level and adds the basin-wide background concentration from the most recent MATES for the Metal TAC.
- Benchmark Concentration is the higher of the Ratio Concentration or the Estimated Risk Concentration

Determining Highest Consecutive 30-Day Average

Date	Level (ng/m ³)						
5/1	12.0	5/22	11.2	6/12	9.7	7/3	5.5
5/4	8.3	5/25	10.5	6/15	11.4	7/6	4.0
5/7	6.7	5/28	8.9	6/18	8.9	7/9	6.2
5/10	4.2	5/31	10.3	6/21	10.2	7/12	7.1
5/13	9.5	6/3	9.9	6/24	6.0	7/15	4.2
5/16	7.3	6/6	13.2	6/27	5.1	7/18	7.3
5/19	8.6	6/9	11.4	6/30	2.9	7/21	4.7

- Highest consecutive 30-day average is 5/22 to 6/21
- Average over this 30-day period is **10.5 ng/m³**

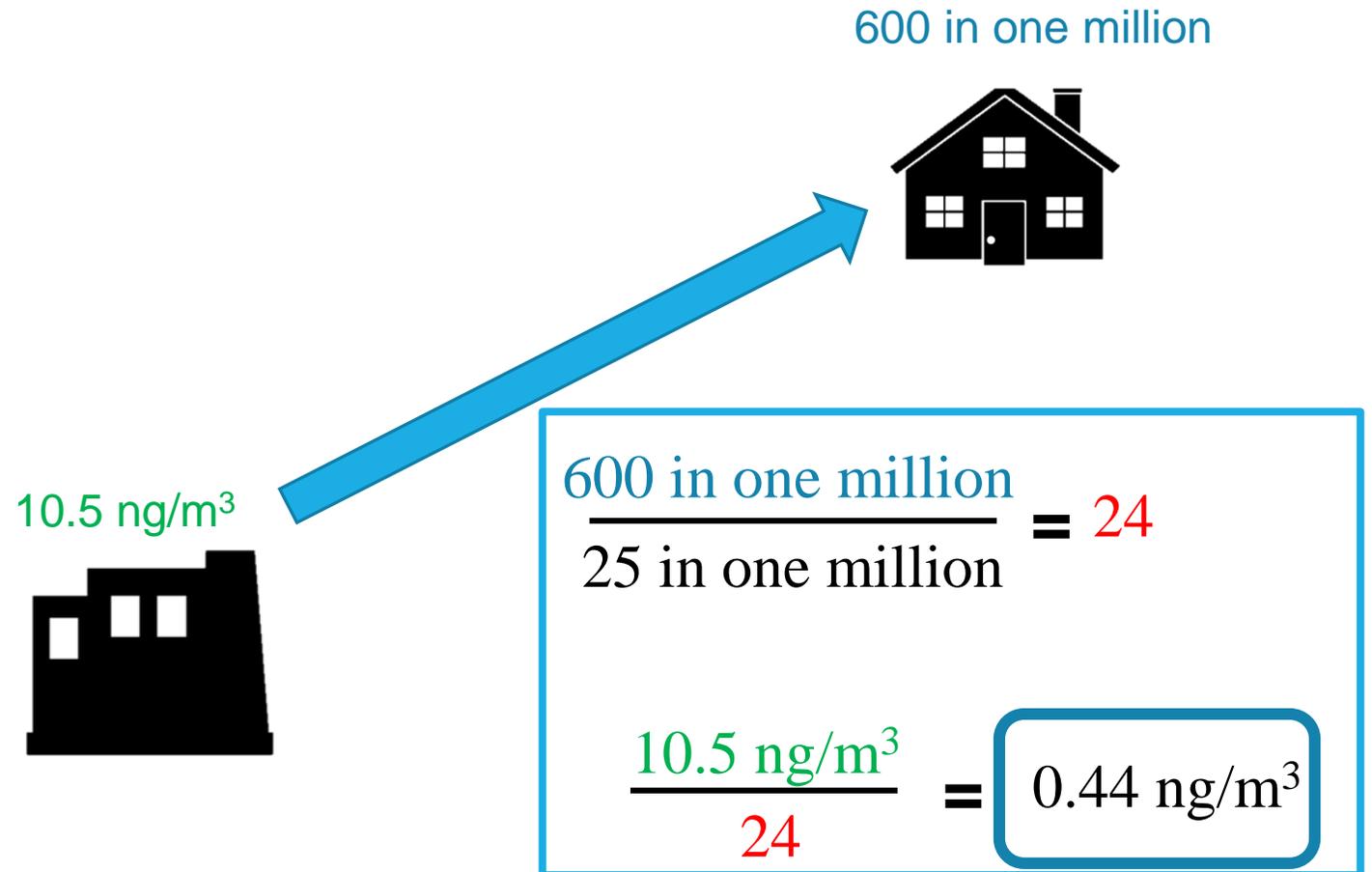
Benchmark Concentration – Calculations

- Ratio Concentration uses:
 - Highest 30-day average concentration before designation as a Metal TAC Monitoring Facility
 - Ratio of the highest health risk value at a Sensitive Receptor that exceeds the Significant Risk Level divided by the Reduced Risk Level
- Estimated Risk Concentration uses:
 - Metal TAC concentration that represents the Reduced Risk Level for a Sensitive Receptor
 - Current MATES basin-wide average for the Metal TAC
- Benchmark Concentration will be included in the designation letter
 - Provides facility-specific value to qualify for a Reduced Monitoring and Sampling Plan

Determining Benchmark Concentration

Step 1 – Ratio Concentration

- Sensitive Receptor with the Highest Health Risk
 - Based on Metal TAC emissions from the facility
 - Can use default emission factors
 - Can use emission factors from source tests of similar sources
 - Using air dispersion modeling and Rule 1401 Risk Assessment Procedures



Determining Benchmark Concentration

Step 2 – Estimated Risk Concentration

Metal TAC	*Reduced Risk Level (ng/m ³)		**MATES IV (ng/m ³)
	Cancer	HIC	Average
Arsenic	0.317	0.511	0.55
Cadmium	2.46	30.3	0.16
Hexavalent Chromium	0.045	246	0.06
Lead	77.0		6.21
Manganese		270	22.4
Mercury		23.3	NA
Nickel	40.6	42	~3.77
Selenium		307	0.82

* Based on Consolidated Table of OEEHA /ARB Approved Risk Assessment Health Values last updated on August 20, 2018

** MATES IV Final Report Appendix X

$$0.045 + 0.06 = 0.11 \text{ ng/m}^3$$

Previous concentration from Step 1



$$0.44 \text{ ng/m}^3$$

Benchmark Concentration – Summary

- Benchmark Concentration is aligned with the Reduced Risk Level at a Sensitive Receptor for the Reduced Monitoring and Sampling Plan and Significant Risk Level for Executive Officer Notification
- Methodology and approach are provided in PR 1480, Appendix 2
- Provided by Executive Officer in letter to facility at time of designation
- Based on the highest 30 consecutive calendar day average concentration prior to designation or the concentration representing a Reduced Risk Level at a Sensitive Receptor, adjusted for background
- To ensure Benchmark Concentration is not too low, use the higher of the Ratio Concentration or Estimated Risk Concentration
- Should be noted that Health Risk Assessment conducted under Rule 1402 may have a different estimated health risk – expected that analysis will be more comprehensive

Use of the Benchmark Concentration

- Benchmark Concentration is used for:
 - Reduced Monitoring and Sampling Plans
 - Reverting from Reduced Monitoring and Sampling Plans, and
 - Notifications to Executive Officer
- For Reduced Monitoring and Sampling Plan
 - Average concentration for the 30 days preceding Reduced Plan submittal does not exceed Benchmark Concentration
- For Reverting from Reduced Plan and Notifications to the Executive Officer
 - 3 consecutive Valid Samples that are 4 times the Benchmark Concentration

Benchmark Concentration 0.44 ng/m^3

4 Times Benchmark Concentration
 $0.44 \text{ ng/m}^3 * 4 = 1.76 \text{ ng/m}^3$

Use of the Benchmark Concentration – cont'd

- 3 consecutive Valid Samples that are 4 times the Benchmark Concentration
- Benchmark Concentration based on facility-specific:
 - Monitoring data (i.e., highest 30 consecutive day average prior to designation)
 - Location of Sensitive Receptor during the Air Dispersion Modeling
- Four times Benchmark Concentration represents the Significant Risk Level (i.e., $25 \times 4 = 100$ for CR)

Benchmark Concentration 0.44 ng/m^3

4 Times Benchmark Concentration
 $0.44 \text{ ng/m}^3 * 4 = 1.76 \text{ ng/m}^3$

Notice of Findings (d)(3)

September Version	October Version
<ul style="list-style-type: none">Findings demonstrate that the facility is contributing to ambient levels of Metal TACs	<ul style="list-style-type: none">Removed references to “contributing”Facility has equipment or processes with Metal TAC emissions and that emissions are capable of being released into ambient air
<ul style="list-style-type: none">Not specific to emissions solely from facility	<ul style="list-style-type: none">Health risk value at Sensitive Receptor that exceeds the Significant Risk Level <u>based on Metal TAC emissions from the facility...</u>
<ul style="list-style-type: none">Stakeholders were concerned that any amount of contribution from a facility could qualify them as a Metal TAC Monitoring FacilityClarified that health risk value would be based on Metal TAC emissions from the facility	

Scheduling of Meetings (d)(4)

September Version	October Version
<ul style="list-style-type: none">Schedule a meeting with the Executive Officer no later than 14 days after receiving a Notice of Findings	<ul style="list-style-type: none">Removed
<ul style="list-style-type: none">Owner or operator may schedule meeting(s) with Executive Officer to discuss the Notice of Findings at any time	

Submitting Additional Information (d)(4)(C) and (d)(6)

September Version	October Version
<ul style="list-style-type: none">Requires that operator notify the Executive Officer if additional information will be submitted no later than 60 days from the date of the Notice of Findings	<ul style="list-style-type: none">Extended the time period from 60 to 90 days for submitting additional information
<ul style="list-style-type: none">Stakeholders commented that 60 days was not enough time if additional information was to be providedAn additional 30 days has been providedNoting that earlier revisions to PR 1480 such as the Initial Notice provided time upfront for an operator to collect information to provide to the Executive Officer	

Submitting Additional Information (d)(5)(C)

September Version	October Version
<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• Added criteria for future Enforceable Measures that will be implemented within 90 days of the Notice of Findings• Future Enforceable Measures must meet the following criteria:<ul style="list-style-type: none">• Permit to Construct has been issued• Installed within 60 days of notice• Routinely operated within 90 days of notice
<ul style="list-style-type: none">• Stakeholders commented that PR 1480 fails to recognize, with regard to facilities subject to Rule 1469, that significant efforts are being made to comply with rule requirements resulting in emission reductions• Added provision to acknowledge control measures near completion that would reduce emissions from facility	

Designation Criteria (d)

September Version	October Version
<ul style="list-style-type: none">• Designation of Metal TAC Monitoring Facility based on health risk values that meet or exceed the Significant Risk Level at a Sensitive Receptor	<ul style="list-style-type: none">• Removed “meet”• Designation of Metal TAC Monitoring Facility based on health risk values that exceed the Significant Risk Level at a Sensitive Receptor
<ul style="list-style-type: none">• Clarified that meeting the Significant Risk Level would not result in designation• Facility’s emissions would need to cause an exceedance of the Significant Risk Level to be designated a Metal TAC Monitoring Facility	

Designation Criteria (d)(7)(C) and (D)

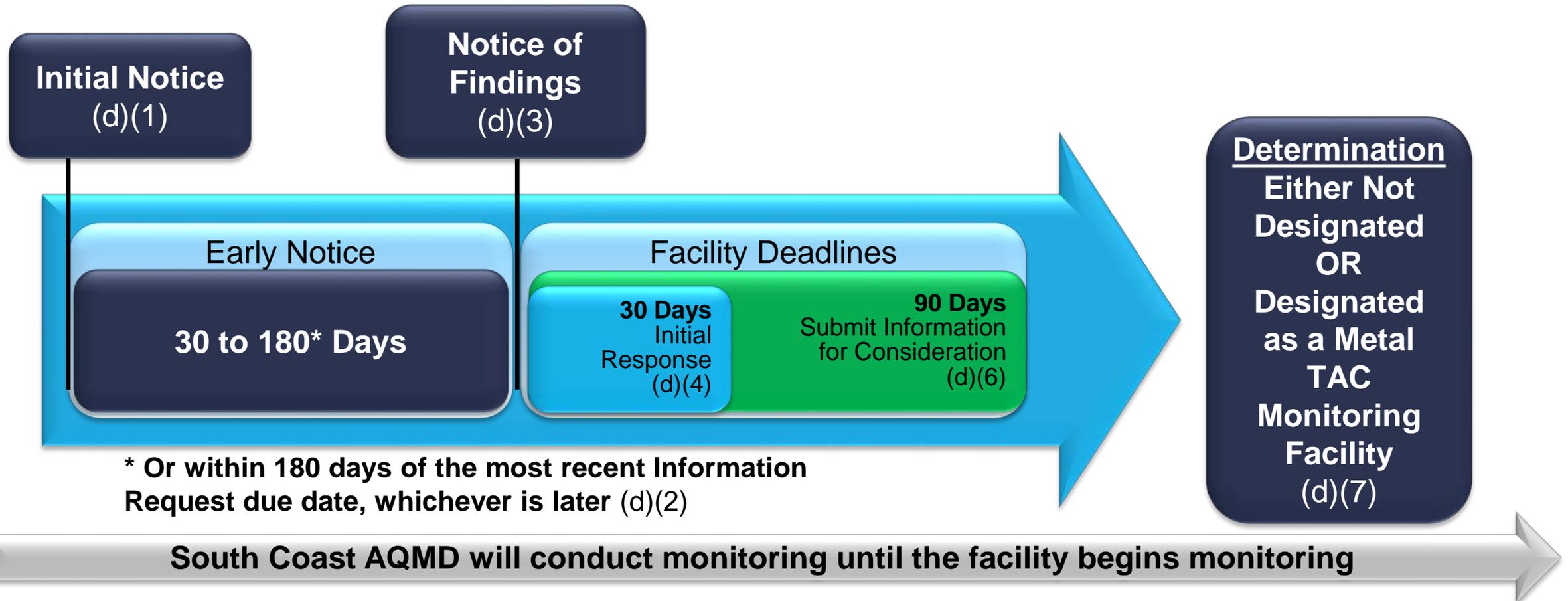
September Version	October Version
<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• The facility has been designated a Potentially High Risk Level Facility under Rule 1402
<ul style="list-style-type: none">• ...the facility's emissions contributed to the Significant Risk Level...	<ul style="list-style-type: none">• Based on the Metal TAC emissions <u>from the facility</u>...
<ul style="list-style-type: none">• Added additional criteria that facility would need to be designated a Potentially High Risk Level Facility in order to be designated a Metal TAC Monitoring Facility• Clarified that health risk value from Metal TAC emissions will be based on facility emissions only	

Designation Information (d)(8)(F)

September Version	October Version
<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• Added that the Benchmark Concentration will be included in designation letter so facility knows up front the concentration that the facility needs to stay under to be eligible for a Reduced Monitoring and Sampling Plan

• By providing the Benchmark Concentration in the designation letter, facility knows up front the concentration needed to be met to qualify for a Reduced Monitoring and Sampling Plan

Timeline for Designating a Facility



Eligibility for Reduced Monitoring and Sampling Plans (e)(5)(A) and (e)(5)(C)

September Version	October Version
<ul style="list-style-type: none">• Estimated health risk below the Reduced Risk Level at any Sensitive Receptor	<ul style="list-style-type: none">• 30 consecutive calendar day average concentration for all Metals of Concern preceding the request did not exceed the Benchmark Concentration
<ul style="list-style-type: none">• Facility did not previously have an approved Reduced Monitoring and Sampling Plan	<ul style="list-style-type: none">• Facility may be approved for a Reduced Monitoring and Sampling Plan a second time, gives one more chance at a Reduced Monitoring and Sampling Plan
<ul style="list-style-type: none">• Based on stakeholder feedback, facility that was required to revert to a Basic or Alternative Plan may submit an additional Reduced Basic or Reduced Alternative Monitoring and Sampling Plan when eligible	

Minimum Number of Monitors (f)(2)

September Version	October Version
<ul style="list-style-type: none">• Required to conduct Monitoring and Sampling at a minimum of two sites	<ul style="list-style-type: none">• Required to conduct Monitoring and Sampling at a minimum of <u>one site</u> that is based on the Maximum Expected Ground Level Concentration of the Metals of Concern.
<ul style="list-style-type: none">• Provision to reduce fees/cost of Monitoring and Sampling• Second upwind monitor may help Metal TAC Monitoring Facility in identifying other possible upwind sources• If facility only has one downwind monitor, it might be difficult for facility to demonstrate that the emissions at monitor are not attributed to facility• Larger facilities with multiple sources may still require more than one downwind monitor	

Valid Sample Retention (f)(6)

September Version	October Version
<ul style="list-style-type: none">• Required samples or rendered solutions to be retained for one year	<ul style="list-style-type: none">• Require samples or rendered solutions to be retained for six months
<ul style="list-style-type: none">• Reduced sample and solution retention from one year to six months to reduce cost	

Exceedance of Benchmark Concentration (h)(2), (h)(5), (i)(3)

September Version	October Version
<ul style="list-style-type: none">• Ten times Benchmark Concentration	<ul style="list-style-type: none">• Four times Benchmark Concentration
<ul style="list-style-type: none">• Benchmark Concentration calculation changed to be based on Reduced Risk Level at Sensitive Receptor• Exceedance also changed to four times as that would represent an exceedance of the Significant Risk Level at a Sensitive Receptor	

Timeframe to Report Third Consecutive Exceedance of Benchmark Concentration (h)(2), (h)(5), (i)(3)

September Version	October Version
<ul style="list-style-type: none">Requires owner or operator of a facility to report the third consecutive exceedance of the Benchmark Concentration within 24 hours	<ul style="list-style-type: none">Maintain provision for 24-hour reportAllow 3 days to provide information that the exceedance are not attributed to the facility:<ul style="list-style-type: none">Reduced Basic Monitoring and Sampling Plan (h)(2)Reduced Alternative Monitoring and Sampling Plans (h)(5)Reporting requirements (i)(3)
<ul style="list-style-type: none">Allows additional time for owner or operator to provide evidence that the emissions are not attributed to the facility	

Approval Criteria to Discontinue Monitoring and Sampling (j)(1)

September Version	October Version
<ul style="list-style-type: none">• Required Monitoring and Sampling to be conducted for more than 180 days	<ul style="list-style-type: none">• Removed
<ul style="list-style-type: none">• Emphasis on implementation of Risk Reduction Plan or approved Health Risk Assessment showing that a Risk Reduction Plan is not required and incorporation of housekeeping measures into a plan• Incentive for facility to implement Risk Reduction Plan as expeditiously as possible	

Next Steps

Set Hearing: November 1, 2019



Governing Board Meeting: December 6, 2019



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