

# **Requirements for Continuous Emission Monitoring**

## **Proposed Amended Rules (PAR) 218 and 218.1**

**Working Group Meeting #2**

**May 2, 2019  
9:30 am**

**South Coast AQMD Headquarters  
Diamond Bar, California**

# Agenda

- Background
- Approach
- Comparing current requirements for RECLAIM and non-RECLAIM CEMS
- Identifying monitoring requirements for further analysis
- Survey

Background

# Background

- In March 2017, the South Coast AQMD adopted the 2016 AQMP
  - Control measure CMB-05 requires the RECLAIM program to transition to a command-and-control structure
  - Requires a 5 ton per day NOx emission reduction to be achieved with Best Available Retrofit Control Technology (BARCT) as soon as feasible and no later than 2025
- In July 2017, Assembly Bill 617 was signed by the Governor
  - Requires expedited BARCT implementation for facilities in the state greenhouse gas cap and trade program by December 31, 2023
  - Places priority on higher polluting units

# Background – cont.

- Current monitoring, reporting, and recordkeeping (MRR) requirements on CEMS are defined by:
  - Rule 218 and 218.1 for non-RECLAIM facilities
  - Rule 2012 Chapter 2 for RECLAIM facilities
- Landing Rules provide temporary MRR solution on CEMS for facilities exiting RECLAIM
- PAR 218 and 218.1 would apply to
  - Non-RECLAIM facilities; and
  - Facilities that have exited RECLAIM

# Approach

# PAR 218/218.1 Approach

## Rule 2012 MRR Categories of Requirements

CEMS Monitoring

Super Compliant Facilities

Fuel meter/Timer for Fuel Use  
\_ non-Major Source

Source Test and Tuning  
\_ non-Major Source

Reporting - CEMS

Reporting - Others

Recordkeeping - CEMS

Recordkeeping - Others

## PAR 218/218.1 MRR Categories of Requirements

# PAR 218/218.1 Approach

## Rule 2012 MRR Categories of Requirements

- CEMS Monitoring
- Super Compliant Facilities
- Fuel meter/Timer for Fuel Use  
\_ non-Major Source
- Source Test and Tuning  
\_ non-Major Source
- Reporting - CEMS
- Reporting - Others
- Recordkeeping - CEMS
- Recordkeeping - Others


## PAR 218/218.1 MRR Categories of Requirements

- CEMS Monitoring
- Reporting - CEMS
- Recordkeeping - CEMS




# Approach for PAR 218 and 218.1

Compare rule structure, general focus, and each requirement for Rule 2012 and Rule 218/218.1

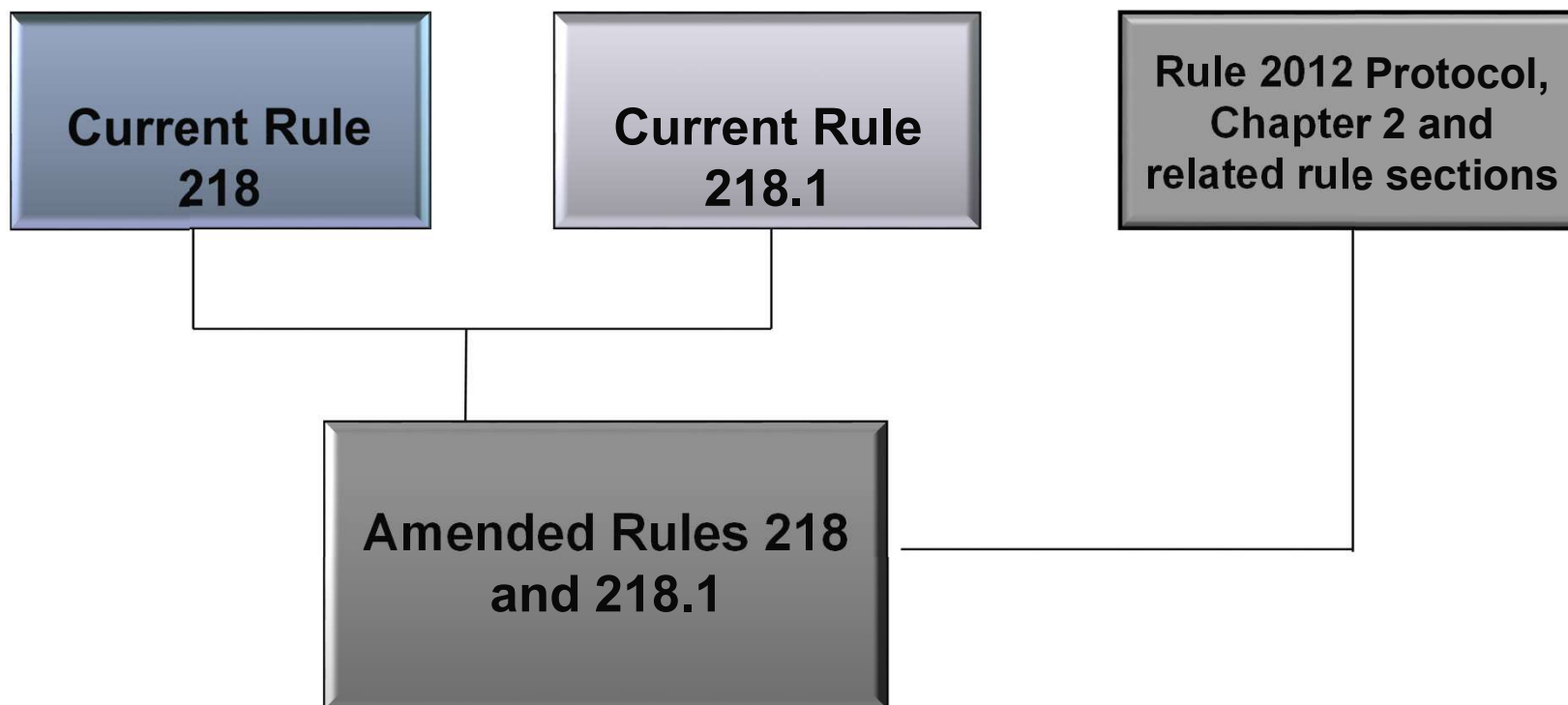


Identify requirements that are not specified by either Rule 2012 or Rule 218/218.1; and requirements that have different requirements by those Rules



Assess, harmonize or revise the requirements for key subjects (Part 60 and Part 75 CEMS would also be referenced)

# PAR 218/218.1 Approach



# Rule Comparisons

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1

Category	2012 Chapter 2	218/218.1
Monitored pollutant	NOx	Any pollutants (common ones are NOx, SOx, CO, and total sulfur)
Semi Continuous Emission Monitoring System (SCEMS) (including time-shared CEMS)	Not specified, except for time-shared CEMS	Specified

## Under Consideration:

- PAR 218/218.1 would continue to apply to all pollutants, but the focus of this amendment will be NOx
- Time-shared CEMS would continue to be included in the SCEMS definition
- SCEMS, other than time-shared CEMS, are for sulfur that are mostly installed in refineries
  - The requirement would be retained in PAR 218/218.1

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
The concept of “new” and “existing” CEMS with different requirements	No	Yes

- The requirement for “existing” CEMS is obsolete and can be removed from PAR 218/218.1

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Emission calculation and data handling (i.e. valid data, data averaging method, Missing Data Procedure, alternative data acquisition at CEMS out of control)	Specified	Not specified

- Missing Data Procedure is not needed for concentration based Command-and-Control Rules
- Valid data, data averaging method (averaging method specified by any landing rule supersedes), and alternative data acquisition should be specified in PAR 218/218.1

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Certified Gas Audit (CGA)	Not specified	Specified

- Rule 218/218.1 Certified Gas Audit requirement is comparable to that in 40 CFR part 60 and Part 75

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
NO <sub>2</sub> to NO conversion efficiency	Not Specified	Specified

- Specified in Rule 218/218.1, but not in Rule 2012
- However, test for NO<sub>2</sub> to NO conversion efficiency is required in CEMS certification guidance document, and it is performed in practice for both Rule 218/218.1 and Rule 2012 sources



# Comparing Rule 2012 Ch. 2 and Rule 218/218.1-cont.

Category	2012 Chapter 2	218/218.1
Calibration gas	<ul style="list-style-type: none"><li>• EPA Certified Gas (Protocol 1 gas)*</li><li>• National Institute of Standards and Technology/EPA approved standard reference materials</li><li>• Certified reference materials</li></ul>	<ul style="list-style-type: none"><li>• EPA Certified Gas (Protocol 1 gas)</li><li>• Alternative certification protocol upon approval</li></ul>

\* Certified according to "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards," September 1997, EPA 600/R-97/121 or any subsequent version published by EPA

- Names and references to documents need to be clarified
  - Requirements between 2012 and 218/218.1 are essentially the same
- South Coast AQMD CEMS certification guidance document
  - Use of National Institute of Standards and Technology/EPA approved certified reference material, standard reference material, or Protocol 1 calibration gases certified by the vendor to be within 2 percent of the label value
- Consolidation of guidance documents is likely needed

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Data availability	Specified	Specified (Different than Rule 2012)

- Current Rule 218/218.1 may need more specifications on valid data and daily availability
- Due to the discretion on interpreting the rule language, Rule 2012 data availability could be over 100%
- 40 CFR 75.32 definition on data availability could be referenced

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Threshold for lowest data availability	No	Yes (may require recertification if below 95%)

- Retain data availability threshold in 218/218.1
- Will re-visit details for corrective actions when below threshold

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Full Span Range (FSR)	<ul style="list-style-type: none"> <li>Set all data points within 10-95% of the range</li> </ul>	<ul style="list-style-type: none"> <li>Set all data points within 10-95% of the range; and</li> <li>Air contaminant Full Span Range between 150% and 200% of the concentration limit, or an approved value but not lower than 120% of the concentration limit</li> </ul>

- With concentration limit being established for facilities exiting RECLAIM, their Full Span Range should be aligned up with Rule 218/218.1 requirements

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Relative Accuracy Test Audit (RATA) frequency	Semi-annual, but may be reduced to annual if all RAs 7.5% or lower	Annual

- Annual or semi-annual for PAR 218/218.1?
- Should PAR 218/218.1 retain the incentive of reducing test frequency at a low Relative Accuracy (RA) value?

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Relative accuracy deminimus for analyzers	<ul style="list-style-type: none"> <li>• NOx 1.0 ppm (if NOx less than 5.0 ppm)</li> <li>• O2/CO2 1.0% (if O2/CO2 less than 5.0%)</li> <li>• Deminimus standard is an alternative to regular relative accuracy standard only when the monitored value is below a threshold</li> </ul>	<ul style="list-style-type: none"> <li>• NOx 1.0 ppm</li> <li>• O2 1.0%</li> <li>• SOx 2.0 ppm</li> <li>• CO 2.0 ppm</li> <li>• Reduced sulfur compounds 4.0 ppm</li> <li>• Deminimus standard is an alternative to regular relative accuracy standard with no threshold on the monitored value</li> </ul>

- Should the deminimus be lowered for low emission limit units (e.g., turbines at 2 or 2.5 ppm NOx)?
- Should a threshold on the monitored value be required to use deminimus standard

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Strip chart recorder (paperless) and Data Acquisition System (DAS)	Both are required	DAS is required and strip chart is an option

- With DAS, Strip chart recorder (paperless) would remain as an option

# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Reporting excess emissions	Required for Title V and not for non-Title V facilities	Yes for both Title V and non-Title V

- RECLAIM facilities report all mass emissions, and thus excess emissions have been counted but reported in a different manner especially by non-Title V facilities
- Under consideration: The requirement for reporting excess emissions would be retained in PAR 218/218.1, and other regulations (e.g., Title V and Part 60) may be referenced if any enhancement is needed



# Comparing Rule 2012 Ch. 2 and Rule 218/218.1- cont.

Category	2012 Chapter 2	218/218.1
Quality assurance test report submittal	Specified	Not Specified

- Test report submittal should be specified in PAR 218/218.1 for all pollutant similar to 2012
- In practice RECLAIM facilities submit test report summary by Electronic Data Reporting (EDR)

# CEMS Survey

# CEMS Survey

- A survey will be sent to every facility owner or operator that potentially operates a CEMS
- Expect to be sent prior to the third PAR 218/218.1 Working Group meeting
- The form would also be posted on the South Coast AQMD webpage
- Collected information would facilitate this rulemaking

# CEMS Survey Questions - Tentative

- Total CEMS in the facilities(at this location and all other South Coast AQMD locations)

For each CEMS at this location:

- Latest CEMS certification date
- Is it Alternative CEMS (a.k.a. ACEMS or PEMS)
- Is it a Semi-continuous Emission Monitoring System (SCEMS)
- CEMS monitored parameters
- CEMS manufacturer & Vendor, contractor
- CEMS preventive maintenance (in-house or by contractor (name of the contractor))
- Other than fixed (clock) hourly average, is the CEMS emission data also averaged in other ways (e.g. rolling average by 1-hour or 3-hour and etc.)

# CEMS Survey Questions - Tentative

Equipment and emissions monitored by this CEMS:

- Equipment (pollution source) (ID and Appl)
- Control Device (ID and Appl)
- Capacity of the equipment
- Fuel
- NOx emission limit in the permit
- Applicable Landing Rule
- NOx emission limit proposed in the landing rule
- Actual NOx emission rate and the source of data
- NOx analyzer span range
- Future plan for equipment change (retrofit/replacement/others) (In order to comply with landing rule emission limit/other reasons)

# Next Steps

- Next Working Group Meeting – May 28, 2019
- Public Workshop – 3<sup>rd</sup> Quarter 2019
- Set Hearing – September 6, 2019
- Public Hearing – October 4, 2019

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