

Requirements for Continuous Emission Monitoring

Proposed Amended Rules (PAR) 218 and 218.1 (Formerly Rulemaking for Proposed Rule 113)

Working Group Meeting #1

March 13, 2019

SCAQMD Headquarters
Diamond Bar, California

1

Agenda



- Background
- General Overview for RECLAIM Major Source CEMS and Non-RECLAIM CEMS
- The Scope of PAR 218/218.1
- Stakeholders' concerns

2

Background

- In March 2017, the SCAQMD 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 NO_x 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

3

NO_x RECLAIM

- Adopted in October 1993
- 258 NO_x RECLAIM facilities active as of the end of compliance year 2017 (June 30, 2018)
- NO_x mass emissions monitored and reported to comply with RECLAIM Trading Credit (RTC) allocation and ensure accuracy in the RTC trading
- RECLAIM MRR requirements vary depending on the source categories (i.e., Major Source, Large Source, Process Unit, and Rule 219 source)
- For NO_x Major Source, CEMS is required and emission reporting is on a daily basis
- For Large Source and Process Unit,
 - Fuel meter/time meter, Source test, and tune-up may satisfy the monitoring requirement
 - Emission Reporting is on a monthly basis for Large Source and quarterly for Process Unit

4

Snapshot of Current NO_x RECLAIM Major Source MRR Requirements

	Monitoring	Reporting	Recordkeeping
Major Source*	<ul style="list-style-type: none"> • CEMS • CEMS QAQC (e.g., Daily calibration, Semi-annual or annual Relative Accuracy Test Audit (RATA), fuel meter Relative Accuracy Audit (RAA)) 	<ul style="list-style-type: none"> • Daily, monthly, quarterly, and annual emissions • RATA report • Breakdown and emergency • CEMS being non-operational > 24 hours 	<ul style="list-style-type: none"> • Maintain <15-minute data for at least 48 hours • Maintain all other data for at least three years

* Major Source, as defined in Rule 2012 (c)(1), means (1) any boiler, furnace, oven, dryer, heater, incinerator, test cell rated ≥ 40 MMBtu/hour with annual heat input $> 90 \times 10^9$ Btu/year, or rated ≥ 500 MMBtu/hour; (2) any ICE $\geq 1,000$ bhp and operating $> 2,190$ hours/year; (3) any turbine ≥ 2.9 megawatts excluding emergency standby equipment or peaking unit; and (4) others defined in the paragraph.

5

General Overview of Rule 218 and 218.1

- Applies to non-RECLAIM facilities
- Rule 218 provides general CEMS requirements on applicability, certification, modification, operation, recordkeeping, and reporting
- Rule 218.1 specifies system installation, certification tests, QAQC tests, and the standards
- Requirements for “Existing CEMS” (i.e., prior to May 14, 1999) are obsolete
- Facilities requested to improve the rule by specifying the requirements

6

General Approach

■ Background

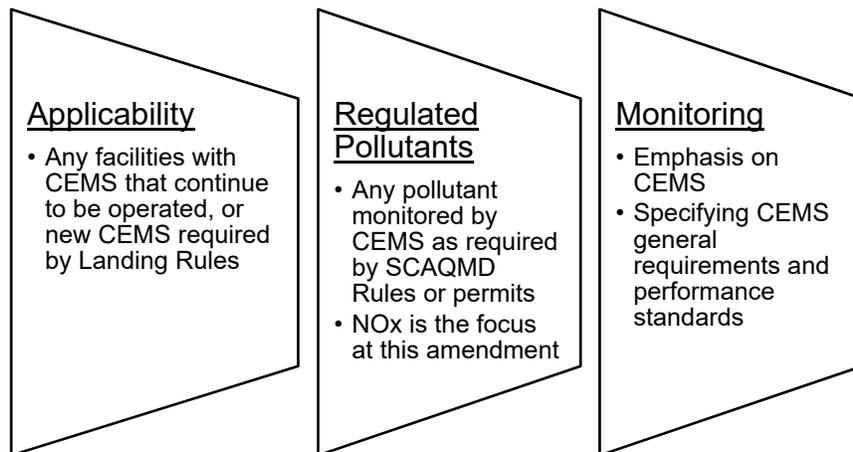
- MRR requirements for NOx RECLAIM facilities are currently regulated in Regulation XX
- MRR in Landing Rules provide temporary solution for RECLAIM CEMS
- Rules 218 and 218.1 provide specifications for CEMS at non-RECLAIM facilities

■ Staff Proposed Approach

- Landing Rules will define applicability to install a CEMS
- PAR 218/218.1 would harmonize the requirements for RECLAIM and non-RECLAIM CEMS
- Other MRR requirements (fuel meter/timer, source test, tune up, etc.) specified in Landing Rules or permit conditions

7

The Scope of PAR 218/218.1



8

CEMS Universe

- RECLAIM NO_x CEMS (2016-2017 Data)
 - 501 devices with NO_x CEMS in 84 RECLAIM facilities
- Non-RECLAIM NO_x CEMS (CEMS Application Data)
 - 192 active facilities that previously submitted a CEMS application
 - Some of the CEMS may not be in operation
- CEMS universe may change when RECLAIM transitions to Landing Rules

9

Comparison Between CEMS Applicability for Rule 2012 and Landing Rules

	Rule 2012 CEMS Applicability	Landing Rule CEMS Applicability	Changes When Transitioning to Landing Rules
Industrial Boilers	<ul style="list-style-type: none"> • Heat input ≥ 40 MMBtu/hour but < 500 MMBtu/hour and annual heat input $> 90 \times 10^9$ Btu/year; or • Heat input ≥ 500 MMBtu/hour 	<ul style="list-style-type: none"> • <u>Rule 1146</u> • Heat input ≥ 40 MMBtu/hour and annual heat input $> 200 \times 10^9$ Btu/year • <u>PR 1109.1</u> • Under evaluation 	<ul style="list-style-type: none"> • Some CEMS in non-refinery may no longer be required when the heat input is no more than 200×10^9 Btu/year
Internal Combustion Engine	<ul style="list-style-type: none"> • $\geq 1,000$ bhp and operating $> 2,190$ hours/year 	<ul style="list-style-type: none"> • <u>Rule 1110.2</u> • $\geq 1,000$ bhp; or • Multiple units (each ≥ 500 bhp) with combined rating $\geq 1,500$ bhp and combined fuel usage $\geq 16 \times 10^9$ Btu/year • <u>Rule 1135</u> • Applicability remains the same for NO_x source for ICE in EGF former RECLAIM facilities 	<ul style="list-style-type: none"> • Some RECLAIM facilities with an on-site aggregate horsepower rating ≥ 1500 hp would require CEMS under Rule 1110.2

10

Comparison Between CEMS Applicability for Rule 2012 and Landing Rules – cont.

	Rule 2012 CEMS Applicability	Landing Rule CEMS Applicability	Changes When Transitioning to Landing Rules
Gas Turbine	<ul style="list-style-type: none"> ≥2.9 megawatts excluding emergency standby equipment or peaking unit 	<u>Rule 1135</u> <ul style="list-style-type: none"> Applicability remains the same for former RECLAIM NOx source <u>Rule 1134</u> <ul style="list-style-type: none"> ≥2.9 megawatts for non-RECLAIM Applicability remains the same for former RECLAIM NOx source 	<ul style="list-style-type: none"> No change

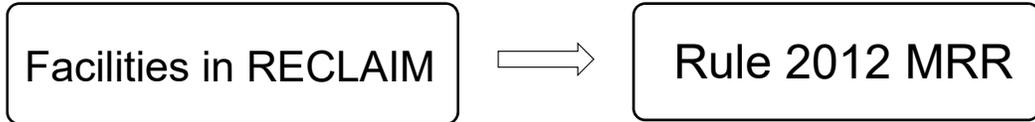
11

Comparison Between CEMS Applicability for Rule 2012 and Landing Rules – cont.

	Rule 2012 CEMS Applicability	Landing Rule CEMS Applicability	Changes When Transitioning to Landing Rules
Furnace, oven, dryer, heater, incinerator, test cell and any solid, liquid or gaseous fueled equipment	<ul style="list-style-type: none"> Heat input ≥40 MMBtu/hour but <500 MMBtu/hour and annual heat input >90 x 10⁹ Btu/year; or Heat input ≥500 MMBtu/hour 	<ul style="list-style-type: none"> Will re-assess the CEMS applicability in Proposed Rules 1109.1, 1147.1, and other new or proposed amended Rules 	<ul style="list-style-type: none"> To be determined
Refinery FCCU, refinery tail gas unit	<ul style="list-style-type: none"> Any 		
Kiln or Calciner	<ul style="list-style-type: none"> Process ≥10 tons/hour and >21,9000 tons/year, except brick kilns 		
Other equipment as defined in Rule 2012 such as equipment burning, incinerating solid fuels or materials, existing Nox CEMS, etc.)	<ul style="list-style-type: none"> Any 		

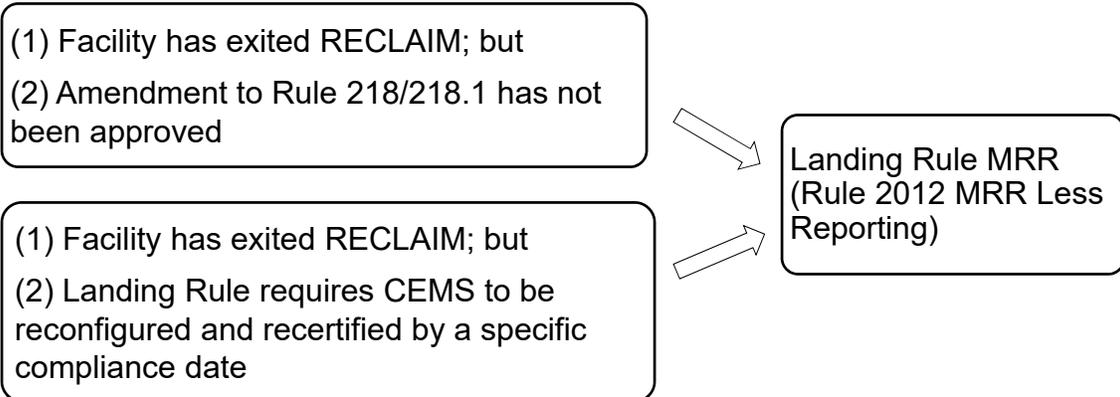
12

Approach for NOx CEMS MRR Requirements for Facilities in RECLAIM



13

Approach for NOx CEMS MRR Requirements for Facilities that Exited RECLAIM



14

Approach for NOx CEMS MRR Requirements for Facilities that Exited RECLAIM – cont.

(1) Facility has exited RECLAIM;
 (2) Amendment to Rule 218/218.1 has been approved; and
 (3) CEMS does not need to be recertified

(1) Facility has exited RECLAIM;
 (2) Amendment to Rule 218/218.1 has been approved; and
 (3) CEMS is ready to be recertified upon completion of all the changes to the source and CEMS

PAR 218/218.1

15

Key Concerns

EPA

- Excess emission should be reported (currently not by RECLAIM and non-Title V facilities)

Stakeholders

Monitoring:

- Should there be changes and new requirements for data availability and partial hours
- There are divided opinions on what averaging method to use in PR 113 (i.e., Rolling Hourly Average vs. fixed hourly average)
- What triggers CEMS recertification, and if CEMS recertification required for data averaging method change
- Suggest to allow off-line QAQC testing during non-operation period
- Suggest to allow 1-2 days for Ammonia Injection Grid (AIG) annual tuning without variance (the unit at tuning has to be on-line for NOx measurement)

16

Key Concerns– cont.

Stakeholders

Recordkeeping and Reporting:

- Will RTU and Strip Charts still be required
- What will be the changes to recordkeeping and reporting requirements
- Suggest to use Part 60 type of reporting: Report breakdown and deviation when it happens, then semiannually report summary of the deviation and emission data and tests; Provide an exemplary report form

Other Concerns:

- What would be the requirements for startup and shut down emissions
- Former RECLAIM facilities should be exempted from any violation involved in CEMS mass calculation before PR 113 is adopted
- Others??

17

Next Step

- Next Working Group Meeting – April, 2019

18

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19

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Rules 1146, 1146.1, 1146.2

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20

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