

# **Requirements for Continuous Emission Monitoring Systems**

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

**Proposed Rules (PR) 218.2 and 218.3**

**Working Group Meeting #8**

**June 26, 2020 10:00 am**

**Join Zoom Meeting**

**<https://scaqmd.zoom.us/j/95325396322>**

**Meeting ID: 953 2539 6322**

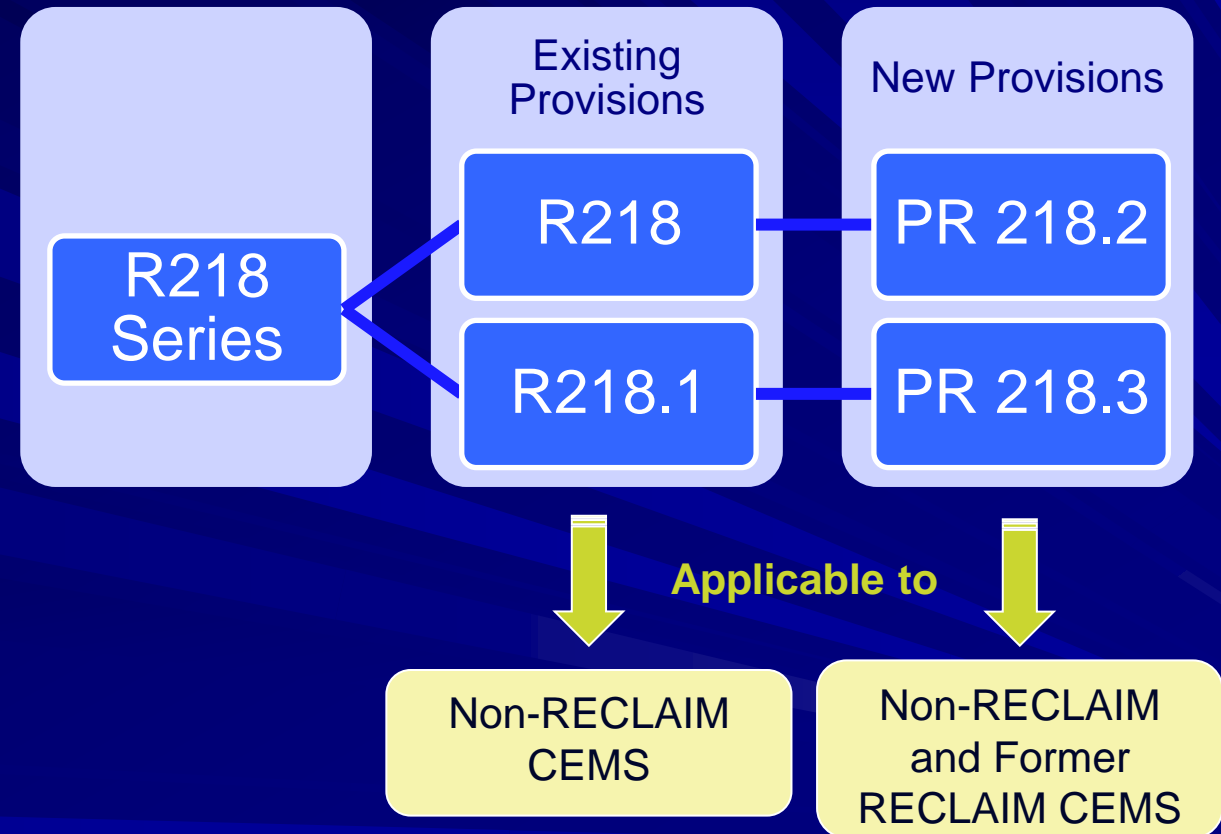
# Agenda

- Rule Approach
- Transition to PR 218.2 and 218.3
- PR 218.2 and 218.3 Rule Structures
- PR 218.2 Preliminary Draft Rule Overview for Provisions (a) through (e)
- Next Steps

# Rule Approach

# Rule Approach

- Retain the existing provisions in Rules 218 and 218.1
- Introduce Proposed Rules 218.2 and 218.3
  - Transfer provisions from Rules 218/218.1
  - Include new provisions based on Working Group meeting discussions
  - Incorporate implementation schedule



# Transition to PR 218.2/218.3

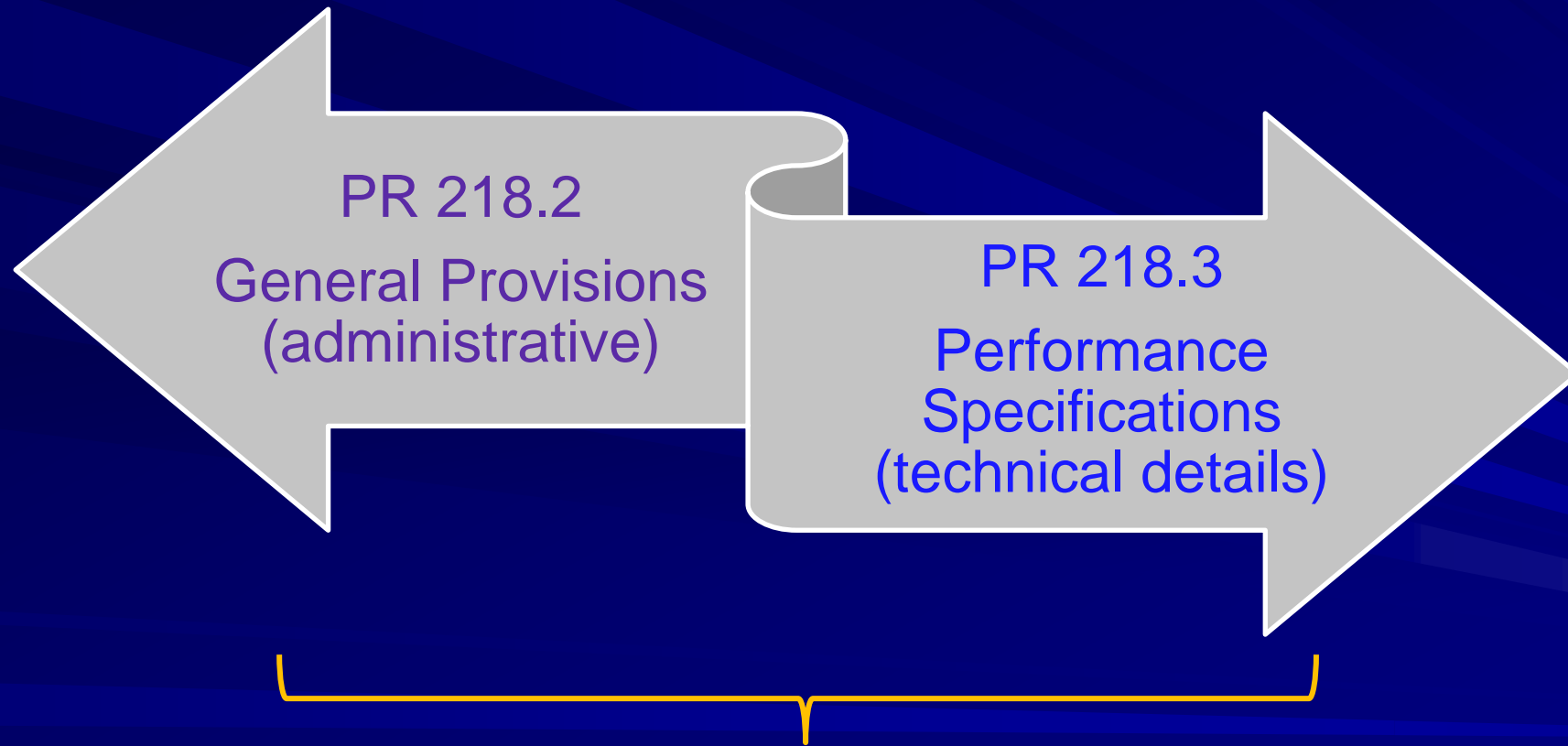
# Transition to PR 218.2 and 218.3

- Landing rules currently reference the following for CEMS specifications
  - Rule 2012 for NO<sub>x</sub> RECLAIM CEMS\*; or
  - Rules 218 and 218.1 for non-RECLAIM CEMS
- Rules 218 and 218.1 (and 2012 if needed) will be amended to add a provision to transition facilities to PR 218.2 and 218.3
- Implementation approach is being proposed for PR 218.2 and 218.3
- PAR 218 and 218.1 transition condition will correlate with PR 218.2 and 218.3 implementation approach

\* Rule 2011 applies to SO<sub>x</sub> RECLAIM CEMS. If SO<sub>x</sub> RECLAIM transitions to a command and control rule structure then PR218.2 and 218.3 would apply to the facilities currently subject to Rule 2011.

# PR 218.2 and 218.3 Rule Structures

# How are PR 218.2 and PR 218.3 related?



Both rules reference each other



# Rule Structure - PR 218.2

(a) Purpose

(b) Applicability

(c) Definitions

(d) Implementation Schedule

(e) Monitoring Requirements

(f) Certification

(g) Quality Assurance

(h) Recordkeeping Requirements

(i) Reporting Requirements

(j) Certification Posting

- Continuous monitoring
- CEMS failure
- Scheduled CEMS shutdown

- Certification application and approval requirements
- Certification tests
- QAQC plan

# Rule Structure - PR 218.3

(a) Purpose

(b) Applicability

(c) Definitions

(d) Implementation Schedule

(e) Pre-Certification Requirements

(f) Certification Requirements and Performance Specifications

(g) Quality Assurance Testing Requirements and Specifications

(h) Calibration Gas and Zero Gas

(i) Data Handling

Tables and Attachments (e.g., Equations)

- CEMS location
- Sampling location
- Full Span Range
- Data Acquisition and Handling System (DAHS)

- Data points below 10% of span
- Data points above 95% of span
- Emission data averaging
- Data availability
- Out-of-control period and alternative data acquisition
- Semi Continuous Emission Monitoring System (SCEMS)

PR 218.2- CEMS  
General Provisions

# Purpose and Applicability

PR 218.2

- PR 218.2(a) – Purpose
- PR 218.2(b) – Applicability

- ✓ Clarifies the purpose and applicability in Rule 218
- ✓ Applies to Former RECLAIM CEMS and non-RECLAIM CEM(See next slide)

- (a) **Purpose**
- The purpose of this rule is to specify general requirements for Continuous Emission Monitoring Systems (CEMS), Alternative Continuous Emission Monitoring System (ACEMS), and Semi-Continuous Emission Monitoring System (SCEMS). This rule refers to Rule 218.3 for performance specifications on certification and quality assurance of CEMS, ACEMS, and SCEMS. Unless otherwise specified, the owner or operator of the CEMS, ACEMS, or SCEMS is responsible for compliance with the requirements specified in this rule.
- (b) **Applicability**
- (1) This rule shall apply to the owner or operator of a CEMS, ACEMS, or SCEMS that are required by a South Coast AQMD rule, regulation or permit condition.
  - (2) This rule shall not apply to the owner or operator of a CEMS, ACEMS, or SCEMS that monitors:
    - (A) Performance of the basic and/or control equipment and not to determine compliance with any rule emission limit or emission standard; or
    - (B) NO<sub>x</sub> or SO<sub>x</sub> emissions subject to Regulation XX - Regional Clean Air Incentives Market (RECLAIM).
  - (3) A CEMS, ACEMS, or SCEMS requirement defined by any other South Coast AQMD rule, regulation or a permit condition will supersede the equivalent requirement of Rule 218.2 with the Executive Officer's written determination of equivalence.
  - (4) All requirements specified for CEMS in this rule shall be applicable for ACEMS and SCEMS, unless otherwise specified.

# PR 218.2(c) - Definitions

PR 218.2

**Table 1: Changes to definitions as compared to Rule 218**

	Definitions	Notes
Removing Existing Definitions	<ul style="list-style-type: none"><li>• CERTIFIED GAS MIXTURE</li><li>• MODIFICATION REQUIRING RECERTIFICATION</li><li>• WORKING DAY</li><li>• ZERO CHECK</li><li>• ZERO GAS</li></ul>	Those definitions are removed because: <ul style="list-style-type: none"><li>• They are no longer used in the rule; or</li><li>• The meanings are now integrated in the rule language</li></ul>
Adding New Definitions	<ul style="list-style-type: none"><li>• ACEMS</li><li>• CEMS FAILURE</li><li>• CEMS FINAL CERTIFICATION LETTER</li><li>• CEMS MODIFICATION</li><li>• RECLAIM</li><li>• RECLAIM FACILITY</li><li>• FORMER RECLAIM FACILITY</li><li>• UNIT</li></ul>	The new definitions are added because: <ul style="list-style-type: none"><li>• New terminologies are used in the rule; or</li><li>• Clarification for the terminologies are needed</li></ul>
Revising Existing Definitions	A number of definitions; one example is DILUENT GAS	The revisions are to ensure a clear definition for each

## PR 218.2(c)(1)

## Definition for “Alternative Continuous Emission Monitoring System (ACEMS)”

- (1) ALTERNATIVE CONTINUOUS EMISSION MONITORING SYSTEM (ACEMS) means a system that uses process or control device operating parameter measurements and a conversion equation, a graph, or computer program to produce results in units of the applicable emission limitation or standard on a continuous monitoring basis, which is demonstrated to the Executive Officer as having the same precision, reliability, accessibility, and timeliness as the data provided by a certified CEMS or certified CEMS component in accordance with Rule 218.2 and Rule 218.3.

- Not in Rule 218
- Existing in Rule 2012

## PR 218.2(c)(5) Definition for “CEMS Failure”

(5) CEMS FAILURE means the CEMS or a component of the CEMS ceases normal operation, and thus is incapable of providing the required data to demonstrate compliance with the applicable limit or standard for which this CEMS is dedicated.

- Provisions proposed for a CEMS failure due to CEMS maintenance or damage

## PR 218.2(c)(6)

## Definition for “CEMS Final Certification Letter”

- (6) CEMS FINAL CERTIFICATION LETTER means the final approval of CEMS certification or recertification, which at a minimum includes:
- (A) Unit (emission source) and control equipment (if applicable) description.
  - (B) Stack description.
  - (C) Probe configuration and conditions.
  - (D) Instrument type, manufacturer, model number, and serial number for:
    - (i) Each of the contaminant analyzer (s), diluent analyzer, and fuel flowmeter (if applicable);
    - (ii) Sample condition and calibration system; and
    - (iii) Data acquisition and handling system and programmable logic controller.
  - (E) Certified full span range(s) for each of the contaminant analyzer(s), diluent analyzer, and fuel or stack flowmeter (if applicable).

- Used in the requirements for determining the application process for a CEMS modification



## PR 218.2(c)(7) Definition for “CEMS Modification”

- (7) CEMS MODIFICATION means a modification to a CEMS component that is identified on the CEMS final certification letter, or a modification to the CEMS sampling interface, analyzer, or data acquisition and handling system that has a potential for adversely affecting the ability of the CEMS to provide accurate, precise and timely data representative of emissions for the unit being monitored.

- Used in the CEMS recertification application requirements

## PR 218.2(c)(21) Definition for “Unit”

(21) UNIT for the purposes of this rule means the combustion source for which the certified continuous emission monitoring system, or alternative continuous emission monitoring system, monitors the combustion source’s emissions.

- In PR 218.2 and PR 218.3, a unit would be the combustion source (equipment) that the CEMS monitors

# Subdivision (d) Transition Dates to 218.2 and 218.3

**(d)(1)**

**Existing  
CEMS  
Provisions**

**(d)(2)**

**Transition Dates  
for non-  
RECLAIM CEMS**

**(d)(3)**

**Transition Dates  
for RECLAIM  
CEMS**

**(d)(4)**

**Transition Dates When a  
non-RECLAIM and a  
RECLAIM CEMS share a  
sampling interface or  
other component(s)**

# Paragraph (d)(1)

## Applicability Prior to the Implementation of PR 218.2 and PR 218.3

### **PR 218.2 (d)(1) and 218.3 (d)(1) Existing CEMS Provisions**

Comply with the existing CEMS provisions prior to the implementation dates specified in (d)(2) or (d)(3)

#### **(d)(1)(A):**

For non-RECLAIM CEMS, continue compliance with Rules 218 and 218.1 until transition to Rules 218.2 and 218.3 under (d)(2)

#### **(d)(1)(B):**

For RECLAIM CEMS, continue compliance with Rule 2012 until transition to Rules 218.2 and 218.3 under (d)(3)

# Paragraph (d)(2) Transition Dates for Non-Reclaim CEMS

## PR 218.2 (d)(2) and 218.3 (d)(2) Transition Dates for Non-RECLAIM CEMS

(d)(2)(A):

At certification or  
recertification on and after 1/1/2022

or

(d)(2)(B):

No later than 1/1/2025, if the CEMS is not recertified  
between 1/1/2022 and 1/1/2025

or

(d)(2)(C):

Implementation date of a source-specific rule when  
the CEMS shall be certified or recertified

- ❖ Paragraph (d)(2) establishes the implementation schedule to transition CEMS requirements to PR 218.2 and 218.3 for an owner or operator of a non-RECLAIM facility
- ❖ Transition schedule is based on three scenarios

# Paragraph (d)(3) Transition Dates for RECLAIM CEMS

## PR 218.2 (d)(3) and 218.3 (d)(3) Transition Dates for RECLAIM Facilities

(d)(3)(A):

At certification or recertification  
on and after exiting RECLAIM

or

(d)(3)(B):

No later than 24 months after exiting RECLAIM, if  
the CEMS is not recertified during the 24-month  
period after exiting RECLAIM

or

(d)(3)(C):

Implementation date of a source-specific rule  
when the CEMS shall be certified or recertified

- ❖ Paragraph (d)(3) establishes the implementation schedule to transition CEMS requirements to PR 218.2 and 218.3 for an owner or operator of a RECLAIM facility
- ❖ Transition schedule is based on three scenarios
- ❖ Implementation would occur after the facility exits RECLAIM

# Paragraph (d)(4) Transition Dates for two or more RECLAIM and non- RECLAIM CEMS are Sharing a Sampling Interface or Other Component (s)

**PR 218.2 (d)(4) and PR 218.3 (d)(4)**

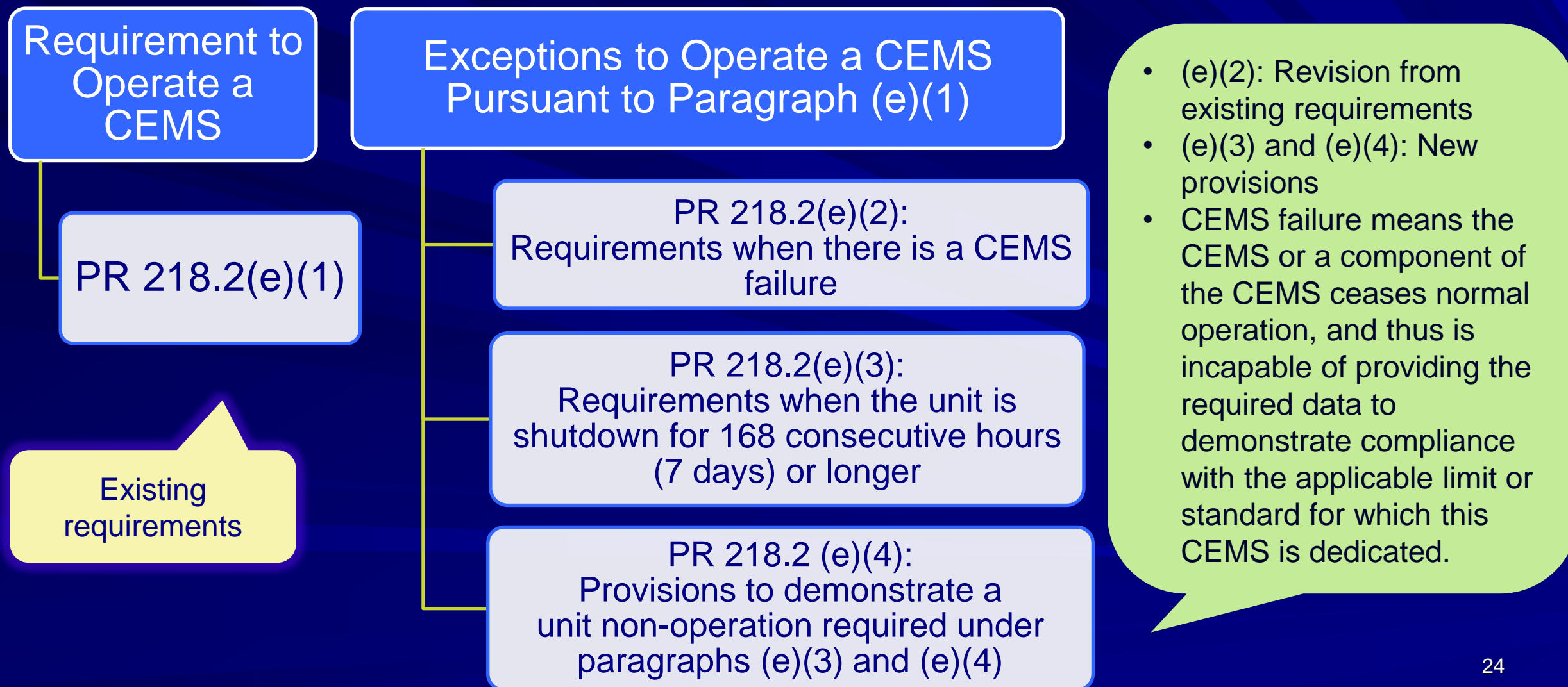
**Transition Dates When a non-RECLAIM and a  
RECLAIM CEMS share a sampling interface or  
other component(s)**

❖ Sampling interface is the part of CEMS that performs sample acquisition, transportation and processing

The later implementation date  
determined by paragraphs (d)(2)  
(non-RECLAIM) and (d)(3)  
(RECLAIM)

## PR 218.2 (e)

## CEMS Operational and Non-Operational Requirements





# PR 218.2 (e)(1)

## Requirement to Operate a CEMS

(e) Monitoring Requirements

- (1) The owner or operator of a CEMS subject to this rule shall install, maintain and operate the CEMS for continuous measurement according to all applicable requirements set forth in Rules 218.2 and 218.3.

Requires owner or operator of a CEMS to meet all applicable requirements in Rules 218.2 and 218.3

## PR 218.2 (e)(2)

# CEMS Failure due to CEMS Maintenance and Damage

### (e) Monitoring Requirements

- (1) The owner or operator of a CEMS shall install, maintain and operate the CEMS for continuous measurement according to all applicable requirements in Rules 218.2 and 218.3.
- (2) If there is a CEMS failure, the owner or operator of the CEMS shall:
  - (A) Maintain operation of the CEMS and meet the requirements of paragraph (e)(1), unless the CEMS failure occurs for up to 96 hours and the CEMS is:
    - (i) Undergoing maintenance pursuant to the Quality Assurance and Quality Control Program for the CEMS; or
    - (ii) Damaged as a result of circumstances beyond the control of the owner or operator;
  - (B) Submit a report pursuant to paragraph (h)(3), if the CEMS failure or shut down has occurred for more than 24 hours; and
  - (C) Submit a request to the Executive officer for time extension beyond the time period specified in subparagraph (e)(2)(A) for an additional 96 hours, if the CEMS unit is not operating or generating emissions, as demonstrated pursuant to paragraph (e)(4).

- Allows CEMS non-operation for up to 96 hours for each occurrence
- Additional 96 hours if the unit is off (vs. a interim variance required by Rule 218)

# PR 218.2 (e)(3)

## CEMS Non-Operation During a Long-Term Unit Shutdown (More than 7 days)

- (3) If there is a scheduled shutdown for the unit and no emissions have been generated for a minimum of 168 consecutive hours, as demonstrated pursuant to paragraph (e)(4), the owner or operator of the CEMS shall:
- (A) Maintain operation of the CEMS and meet the requirements of paragraph (e)(1), unless the CEMS has been recording zero emission for a minimum of 4 hours after the unit being monitored becomes non-operational at which time the requirements of paragraph (e)(1) shall not apply;
  - (B) Submit the notifications and report in accordance with paragraph (h)(4);
  - (C) Resume CEMS operation and meet the requirements of paragraph (e)(1) for a minimum of 4 hours before the unit resumes operation or at which time any emissions are generated; and
  - (D) Conduct a calibration of all analyzers of the CEMS before any emissions are detected.

- New requirement
- **“Unit” defined as the combustion source**
- Allowed only when the unit is scheduled to be non-operational for 168 consecutive hours (7 days) or longer
- Notification and reporting required
- Timeline established for when to the CEMS can be shutdown and restarted
- CEMS calibrated prior to unit restart

# PR 218.2 (e)(4) For Demonstrating Unit Non-Operation

- (4) For the purpose of demonstrating a unit is not operating or generating emissions under paragraphs (e)(2) and (e)(3), the owner or operator shall meet one or more of the following provisions for the entire duration that the unit is not operating:
- (A) Disconnect the fuel line to the unit and place flanges at both ends of the fuel line;
  - (B) Demonstrate there is no fuel flow to the unit based on a dedicated fuel flow meter that is quality assured according to manufacturer's recommendation;
  - (C) Provide one or more gas bills indicating zero fuel consumption for the unit or the fuel line associated with the unit that is not operating;  
or
  - (D) Demonstrate the unit is not operational based on a stack flow monitoring system or any other monitoring system that is certified by the Executive Officer according to subdivision (f).

- New requirement
- **“Unit” defined as the combustion source**
- Demonstrating the unit is non-operational is a critical to allowing relief of CEMS operation
- Options to demonstrate unit is non-operational

# Next Steps – Rulemaking Process

- Next Working Group Meeting – July, 2020
  - PR 218.2 Preliminary Draft Rule Overview by Provisions (f) through (j)
- Public Workshop – 3<sup>rd</sup> quarter 2020
- Public Hearing – 4<sup>th</sup> quarter 2020

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