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# PROPOSED AMENDED RULES 1146, 1146.1, 1146.2 & PROPOSED RULE 1100 PUBLIC WORKSHOP & CEQA SCOPING MEETING

FEBRUARY 14, 2018

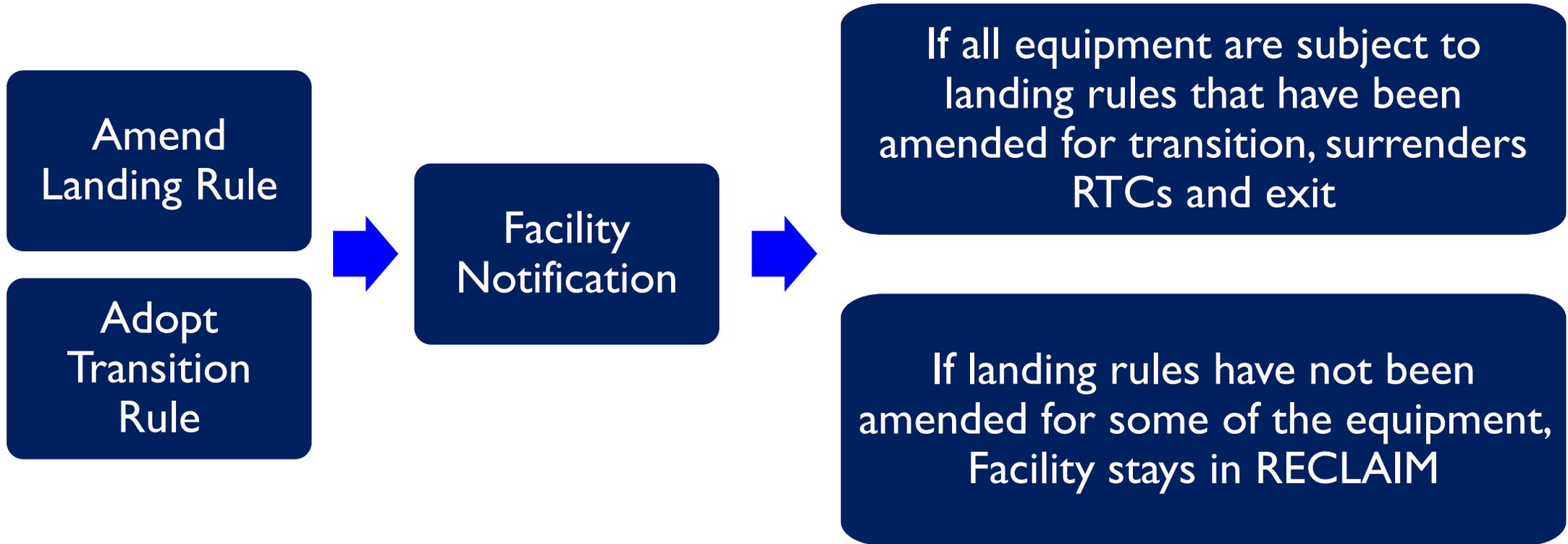
SCAQMD

DIAMOND BAR, CA

# Background

- ❑ 2016 AQMP CMB-05 (Further NO<sub>x</sub> Reductions from RECLAIM Assessment)
  - Achieve 5 tpd of NO<sub>x</sub> emission reductions by 2025
  - Transition NO<sub>x</sub> RECLAIM to a command-and-control regulatory structure requiring Best Available Retrofit Control Technology (BARCT)
- ❑ Assembly Bill (AB) 617
  - Develop a schedule for implementing BARCT by January 1, 2019
  - BARCT implementation by December 31, 2023

# RECLAIM Transition for Facilities Subject to Source-Specific Rules



# Rule 1146 Series Rules

## □ Rule 1146 series rules – the first set of landing rules

- Remove RECLAIM exemptions
- Add provisions for RECLAIM facilities
- Will address facilities that will be transitioned under an industry specific rule separately
  - Electricity Generating Facilities (EGFs), refineries
  - Possibly other industries (to be determined)

Rule	Applicability	Size
<b>Rule 1146</b>	Boilers, steam generators, and process heaters	≥ 5 million Btu per hour
<b>Rule 1146.1</b>	Boilers, steam generators, and process heaters	>2 and <5 million Btu per hour
<b>Rule 1146.2</b>	Natural gas-fired water heaters, boilers, and process heaters	≤ 2 million Btu per hour

# Rule 1146 Series Rules Emission Limits

Rule	Summary of NO <sub>x</sub> Emission Limits (2008 Amendment)
<b>Rule 1146</b>	<ul style="list-style-type: none"><li>• 5 ppm for natural gas units <math>\geq</math> 75 MMBtu/hr;</li><li>• 9 ppm for units burning gaseous fuels <math>\geq</math> 5 and <math>&lt;</math> 75 MMBtu/hr;</li><li>• 12 ppm for atmospheric units;</li><li>• 15 ppm for digester gas;</li><li>• 25 ppm for landfill gas</li></ul>
<b>Rule 1146.1</b>	<ul style="list-style-type: none"><li>• 9 ppm for natural gas units;</li><li>• 12 ppm for atmospheric units;</li><li>• 15 ppm for digester gas;</li><li>• 25 ppm for landfill gas</li></ul>
<b>Rule 1146.2</b>	<ul style="list-style-type: none"><li>• Manufacturer limit of 20 ppm;</li><li>• End-user limit of 30 ppm</li></ul>

# BARCT Assessment

- The California Clean Air Act requires extreme non-attainment areas to use *Best Available Retrofit Control Technology* (BARCT) for existing stationary sources.
- Health & Safety Code §40406 defines BARCT as:  
*“an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source”*

# Rules 1146 and 1146.1 BARCT Assessment

- ❑ Technologies to meet emission limits
  - Selective Catalytic Reduction (SCR)
  - Ultra low-NOx burners
- ❑ Comparative analysis
  - San Joaquin Valley units under Rule 4320 have more stringent limits for a few sub-categories with an option to comply with a mitigation fee
  - EPA concluded in 2014 that Rule 1146 and Rule 1146.1 are as stringent as other California District rules for this category
- ❑ Rules 1146 and 1146.1 emission limits already at BARCT

# Cost Effectiveness

- ❑ 2008 Amendment of Rules 1146 and 1146.1
  - Same emission limits, same control technologies
- ❑ Cost Effectiveness Adjusted to 2017 Dollars
  - SCR
    - \$12,700 - \$34,800, depending on operating capacity
  - Ultra-Low NOx Burners
    - \$10,800 - \$37,800, depending on unit size and operating capacity

# Recommendations for PARs 1146 and 1146.1

- ❑ Maintain existing NO<sub>x</sub> concentration limits (Emission limits still represent BARCT)
- ❑ Remove the exemption of RECLAIM facilities in the applicability
- ❑ PAR 1146 and 1146.1 will reference Proposed Rule 1100 (Implementation Schedule for NO<sub>x</sub> Facilities) which will include the implementation schedule for compliance with BARCT emission limits in Rules 1146 and 1146.1

# Rule 1146 and Rule 1146.1

- ❑ Rules 1146 and 1146.1 include a provision that defers compliance for units meeting 12 ppm (previous BACT level) for natural gas units between 2 and 20 MMBtu/hr.
- ❑ RECLAIM Universe
  - 118 Rule 1146 natural gas units between 5-20 MMBtu/hr
    - 30 units at 12 ppm (2011 RECLAIM BARCT)
  - 29 Rule 1146.1 natural gas units between 2-5 MMBtu/hr
    - 12 units at 12 ppm (2011 RECLAIM BARCT)
  - Minimal incremental emission reductions (12 ppm to 9 ppm) of 0.003 tpd from these 42 units
- ❑ Seeking public comment

# Rule 1146.2 BARCT Assessment

- ❑ NOx concentration limit
  - Manufacturer limit of 20 ppm;
  - End-user limit of 30 ppm
- ❑ NOx concentration emission limit might need to be lowered
- ❑ Amending NOx concentration limit will affect non-RECLAIM sources and requires a more extensive rulemaking process

# Recommendations for PAR 1146.2

- ❑ No changes to NOx concentration limit at this time, will revisit later (post transition)
- ❑ RECLAIM facilities with Rule 1146.2 equipment can exit RECLAIM, but will not be subject to end-user limit of 30 ppm
  - Avoids need to install an intermediate technology that would be obsolete upon future amendment to Rule 1146.2
- ❑ Additional information on Rule 1146.2 equipment is needed
  - Non-RECLAIM facilities currently register Rule 1146.2 equipment from 1 up to and including 2 MM Btu/hr under Rule 222 (RECLAIM facilities exempt from this provision)
  - Add a provision in Rule 1146.2 to require RECLAIM facilities to submit a one-time inventory of Rule 1146.2 Type II units (> 400,000 Btu/hr up to and including 2 MM Btu/hr)

# Proposed Rule 1100 –Implementation Schedule for NOx Facilities

- ❑ Proposed Rule 1100 will:
  - Specify the implementation schedule for facilities
  - Ensure that facilities affected by multiple rules will achieve the greatest emission reductions early
  - Reference emission limits in applicable BARCT rules
- ❑ Staff analyzed the RECLAIM data to evaluate facilities with multiple pieces of Rule 1146 and 1146.1 equipment and those with other RECLAIM equipment to:
  - Better understand the number of units that need to meet the NOx concentration limits
  - Establish the appropriate compliance schedule for facilities

# Recommendations for Proposed Rule 1100

## ❑ Implementation Schedule

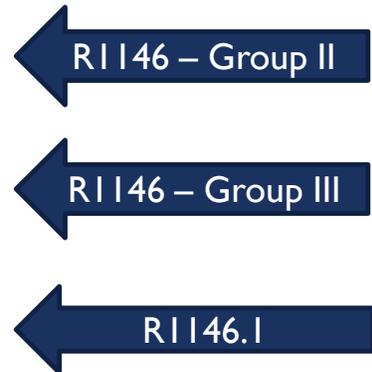
- 75% of units by heat input for Rule 1146 and 1146.1 units (excluding BARCT-compliance equipment) by Jan. 1, 2021; 100% of units by heat input by Jan. 1, 2022
- Submit a complete permit application by August 1, 2018 (leaving 29 months for permit approval, installation & source testing)
  - Received comments that additional time is needed
- About 13 facilities have > 10 pieces of non-Rule 1146 series equipment
  - Could be on a different compliance schedule

❑ Grouping Rules 1146 and 1146.1 equipment together allows for more flexibility while ensuring achievement of greatest emission reductions early

# Example of Compliance Schedule

- Hypothetical Facility A – Rule 1146 and Rule 1146.1 equipment only
  - Total heat input = 100 MMBtu/hr
    - Any combination totaling  $\geq 75$  MMBtu/hr (100 MMBtu/hr X 75%) by Jan. 1, 2021;
    - All units by Jan. 1, 2022

Equipment	Size
1. Boiler	64 MMBtu/hr
2. Boiler	18 MMBtu/hr
3. Boiler	12 MMBtu/hr
4. Boiler	3 MMBtu/hr
5. Boiler	3 MMBtu/hr
<b>TOTAL</b>	<b>100 MMBtu/hr</b>



# Monitoring, Reporting & Recordkeeping Requirements

- ❑ Concerns for RECLAIM specific MRR
  - Some measurements are used for mass emission calculations only
  - More stringent reporting requirements
- ❑ Assessed MRR taking into consideration RECLAIM and MRR in 1146 series
  - Source testing and recordkeeping
    - Good consistency between RECLAIM and Rules 1146 series – minor changes
  - Continuous Emissions Monitoring (CEMS)
    - Applicability threshold is lower in RECLAIM
  - Periodic monitoring requirements
    - More frequent for process units between 2 and 10 MMBtu/hr and units  $\leq 2$  MMBtu/hr, if permitted under Rules 1146 and 1146.1
  - Reporting requirements
    - Less frequent (no electronic reporting and no Quarterly Certification of Emissions Report) under Rules 1146 series
  - Missing data provisions
    - Not applicable under Rules 1146 series

# Recommendations for Monitoring, Reporting & Recordkeeping Requirements

## □ Initial staff recommendations:

### ■ Title V facilities

- NSR public process triggered by modifications on monitoring and recordkeeping
- Maintain RECLAIM MRR approach; possible flexibility in changes to reporting requirements and missing data provisions

### ■ Non-Title V, major sources

- Maintain CEMS but use MRR in Rules 1146 series

### ■ Non-Title V, non-major sources

- Use MRR in Rules 1146 series

# California Environmental Quality Act (CEQA)

- ❑ California State Law adopted 1970
- ❑ Purpose [*CEQA Guidelines Section 15002(a)*]
  - Inform governmental decision-makers and public about potential significant effects of projects
  - Identify ways to avoid or reduce adverse impacts
  - Require feasible alternatives and mitigation measures to prevent significant environmental damage
  - Disclose to the public why a project was approved
- ❑ Applies to projects undertaken by a Public Agency such as SCAQMD adoption of rules [*CEQA Guidelines Section 15002(b)*]
  - Required to comply with CEQA when approving a project [*CEQA Guidelines Section 15002(d)*]
  - Required for discretionary approvals [*CEQA Guidelines Section 15002(i)*]
- ❑ Lead Agency = SCAQMD
  - Oversight and legal responsibility for appropriate CEQA document preparation, circulation, response to comments, and approval/certification

# CEQA (continued)

- ❑ PARs 1146, 1146.1, and 1146.2 (PAR 1146 series) and PR 1100 is a project subject to CEQA
- ❑ PARs 1146 and 1146.1 contain changes that would require RECLAIM facilities with any Rule 1146/1146.1 units to meet applicable NOx emission limits for:
  - 75 percent of the total heat input for all Rule 1146/1146.1 units by January 1, 2021; and
  - 100 percent of the total heat input by January 1, 2022
- ❑ Depending on the NOx limit to be achieved, compliance would involve the installation of selective catalytic reduction (SCR) technology or low NOx burners
- ❑ NOx emissions reductions are projected to be 0.23 tons/day by January 1, 2022
- ❑ Significant air quality and hazards/hazardous materials impacts are expected due to the use of ammonia in SCR technology
- ❑ No CEQA impacts expected from PAR 1146.2 and PR 1100

# CEQA (continued)

- Decision to prepare Subsequent Environmental Assessment (SEA) to the September 2008 Final EAs for Rules 1146 and 1146.1 and May 2006 Final EA for Rule 1146.2
  - CEQA Guidelines Section 15162 (b) allows preparation of a SEA based on project changes or new information available after adoption of the September 2008 Final EAs for Rules 1146 and 1146.1 and May 2006 Final EA for Rule 1146.2
  - New potentially significant adverse effects for air quality and hazards/hazardous materials are expected for the current universe of facilities which were not analyzed in the September 2008 Final EAs for Rules 1146 and 1146.1 and May 2006 Final EA for Rule 1146.2
  - Analysis of alternatives and mitigation measures are required
  - Analysis will focus on significant air quality and hazards/hazardous materials impacts
  - A Draft SEA will be released for 45-day public review and comment period

# CEQA (concluded)

- ❑ Final SEA will include:
  - Comments raised at Public Workshop/CEQA Scoping
  - Responses to Draft SEA comment letters and any necessary modifications to Draft SEA
  - A Mitigation Monitoring and Reporting Plan
  - Findings
  - Statement of Overriding Considerations
  - Governing Board must certify Final SEA

# Rule Schedule

- Nov 2017 – Mar 2018 Working Group Meetings
- Feb 14, 2018 Public Workshop & CEQA Scoping Meeting
- Feb 28, 2018 Close of Public Comments
- Mar 16, 2018 Stationary Source Committee
- Apr 6, 2018 Set Hearing
- May 4, 2018 Public Hearing

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