PROPOSED AMENDED RULES 1147, 1100, & PROPOSED RULE 1147.1
WORKING GROUP MEETING #1

FEBRUARY 28, 2019
SCAQMD
DIAMOND BAR, CA
AGENDA

- Background
- Initial Concepts of PAR 1147, 1100 and PR 1147.1
- Approach for BARCT Determination
- Potential impacted Universe for PAR 1147 and PR 1147.1
- Facility Equipment Survey
- Other Rule 1147 Activities
- Next Steps
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 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
BACKGROUND – RULE DEVELOPMENT

Information Gathering

Initial Objective and Scope

Develop Rule Concepts

Develop Rule Language for Proposed Amended Rule
Stakeholder input is a key element throughout the rule development process.

Staff encourages early input from all stakeholders – opportunities for input provided throughout the rulemaking process.

Goal is a proposal that all facilities can comply with and that meets the objectives of the proposed amended rule.

Staff encourages facilities to meet with staff to discuss any concerns – unique situations, clarification of provisions, etc.

- Stakeholders with unique equipment are encouraged to schedule site visits with staff.
Rule 1147 Series

- Proposed Amended Rule 1147
- Proposed Rule 1147.1*
- Proposed Rule 1147.2*
- Proposed Rule 1147.3*

*Rulemaking in progress, universe of impacted facilities to be determined at a later date
Affects a wide variety of gaseous and liquid fuel fired processes ranging from heated automotive spray booths to heavy manufacturing

Incorporates two control measures of 2007 Air Quality Management Plan (AQMP):

1. CMB-01: NOx Reductions from Non-RECLAIM Ovens, Dryers and Furnaces
2. MCS-01: Facility Modernization

Rule 1147 technology assessment for small and low emission sources was released in February 2017 and independently reviewed by a third party consultant.
• Miscellaneous combustion equipment with NOx emissions that **require a District permit and are not affected by other District Regulation XI rules**
• No minimum or maximum equipment size

**Emission Limits**
• Emission limits vary dependent on equipment type, fuel type, and process temperature
• Units <325,000 BTU/hr are exempt from rule limits
## BACKGROUND – RULE 1147 LIMITS (3% O\(_2\), DRY)

<table>
<thead>
<tr>
<th>Gaseous Fuel-Fired Equipment</th>
<th>Process Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 800°F</td>
</tr>
<tr>
<td>Asphalt Manufacturing Operation</td>
<td>40 ppm</td>
</tr>
<tr>
<td>Afterburner, Degassing Unit, Remediation Unit, Thermal Oxidizer, Catalytic Oxidizer or Vapor Incinerator</td>
<td>60 ppm</td>
</tr>
<tr>
<td>Burn-off Furnace, Burnout Oven, Incinerator or Crematory with or without Integrated Afterburner</td>
<td>60 ppm</td>
</tr>
<tr>
<td>Evaporator, Fryer, Heated Process Tank, or Parts Washer</td>
<td>60 ppm</td>
</tr>
<tr>
<td>Metal Heat Treating, Metal Melting Furnace, Metal Pot, or Tar Pot</td>
<td>60 ppm</td>
</tr>
<tr>
<td>Oven, Dehydrator, Dryer, Heater, Kiln, Calciner, Cooker, Roaster, Furnace, or Heated Storage Tank</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Make-Up Air Heater or other Air Heater located outside of building with temperature controlled zone inside building</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Tenter Frame or Fabric or Carpet Dryer</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Other Unit or Process Temperature</td>
<td>30 ppm</td>
</tr>
</tbody>
</table>

### Liquid Fuel-Fired Equipment

| All liquid fuel-fired Units                                                                | 40 ppm  | 60 ppm  |
BARCT in the RECLAIM program is used to determine RTC allocations

Current RECLAIM BARCT emission factors are outlined in Rule 2002

RECLAIM BARCT can be more stringent than command and control limits

- RECLAIM equipment is not required to meet RECLAIM BARCT as long as facility emissions are offset by RTC

Staff will be conducting a more detailed BARCT assessment
## BACKGROUND – RECLAIM BARCT FOR MISC. COMBUSTION EQUIPMENT

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>BARCT Emission Factor</th>
<th>Command and Control Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>≤ 800° F</td>
</tr>
<tr>
<td>Asphalt Heater, Concrete</td>
<td>0.036 lb/mmbtu</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Delacquering Furnace</td>
<td>0.036 lb/mmbtu</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Iron/Steel Foundry</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
<tr>
<td>Metal Heat Treating Furnace</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
<tr>
<td>Metal Forging Furnace (Preheated Combustion Air)</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
<tr>
<td>Metal Melting Furnaces</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
<tr>
<td>Other Heater (24F-1)</td>
<td>0.036 lb/mmbtu</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Ovens, Kilns, Calciners, Dryers, Furnaces</td>
<td>0.036 lb/mmbtu</td>
<td>30 ppm</td>
</tr>
<tr>
<td>Steel Hot Plate Furnace</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
<tr>
<td>Sec. Aluminum</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
<tr>
<td>Sec. Lead</td>
<td>0.055 lb/mmbtu</td>
<td>45 ppm</td>
</tr>
</tbody>
</table>
RECLAIM BARCT emission factors (in general) are lower or equal to current limits in Rule 1147.

Categories listed under RECLAIM BARCT do not match with categories of Rule 1147.

RECLAIM equipment which does not meet specific Rule 1147 categories will be subject to limits of the “Other Unit or Process Temperature” category.
INITIAL CONCEPTS – PAR 1147/PR 1147.1

Rule 1147

• Previously amended in July 2017
• Regulates NOx equipment at various temperatures not regulated under other Regulation XI rules
• Proposing to include references to former RECLAIM facilities and make any changes that will help clarify existing rule implementation

Proposed Rule 1147.1

• To reduce nitrogen oxide emissions from large gaseous and liquid fuel fired combustion equipment
• Applies to units at RECLAIM and non-RECLAIM facilities
Proposed Amended Rule 1100 will:

- Include compliance schedule for facilities impacted by PAR 1147 and PR 1147.1
- Coordinate implementation schedules for multiple rules
- Reference emission limits in applicable BARCT rules

Compliance schedule under consideration

- Schedule staggered based on applicable landing rules, number of equipment, mass emissions or other applicable criteria
California Health and Safety Code Section 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.”

Health and Safety Code Section 40920.6:

Requires evaluation of BARCT prior to adopting rules or regulations
*BARCT analysis is conducted for each equipment category and fuel type
BARCT ASSESSMENT APPROACH

- BARCT analysis includes a technology assessment
  - Equipment-specific
  - Fuel-specific
  - Application and usage of unit (capacity, types of uses, etc.)

- Cost effectiveness will consider
  - Incremental cost effectiveness
  - Stranded assets
  - Outliers
  - Recent installation to meet prior NOx reduction commitments
Total impacted RECLAIM units: 373
- Located at 86 facilities

Top 5 Impacted industries:
1. Manufacturing (67%)
2. Service (8%)
3. Retail Trade (6%)
4. Public Administration (5%)
5. Public Transportation (5%)
## Impacted Reclaim Equipment

<table>
<thead>
<tr>
<th>Size Range (MMBtu/hr)</th>
<th># of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2</td>
<td>106</td>
</tr>
<tr>
<td>2 to &lt;5</td>
<td>96</td>
</tr>
<tr>
<td>5 to &lt;40</td>
<td>166</td>
</tr>
<tr>
<td>40 to &lt;100</td>
<td>4</td>
</tr>
<tr>
<td>100+</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>373</strong></td>
</tr>
</tbody>
</table>

Meet Rule 1147 Limit: 113 Units
Does Not Meet Rule 1147 Limit: 260 Units
Meet Reclaim BARCT: 100 Units
Does Not Meet Reclaim BARCT: 13 Units
Objective: To identify permit limits and annual usage for existing equipment located in SCAQMD

Both physical and digital copies will be available for mail-in and email submissions.

Physical copies scheduled to be mailed out to both RECLAIM and non-RECLAIM facilities within one month.

- Digital version will be available on aqmd.gov for email submissions.
OTHER RULE 1147 ACTIVITIES

- Certification of additional low-NOx burners for various applications
- Explore possible alternatives to biennial source testing demonstrations for low use (<1 LB/Day NOx) units over 35 years old
- Development of outreach materials:
  - Phase I: Compliance Pamphlets
  - Phase II: Guidance Document
RULE DEVELOPMENT SCHEDULE

Working Group #2
March 2019

Working Group #3
Early May 2019

Working Group #4
Late May 2019

Public Workshop
June 2019

Public Hearing
September 2019
## CONTACTS

### General RECLAIM Questions

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### Proposed Amended Rules 1147, 1100 and Proposed Rule 1147.1

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