Agenda

- RECLAIM Transition to Command & Control Structure
- Overview - Rule 1146 Series Rules
- RECLAIM Transition Rule 1100
Background

- 2016 AQMP Control Measure CMB-05 to:
  - Achieve five tons per day NOx emission reduction in RECLAIM by 2025
  - Transition the RECLAIM program to a command and control regulatory structure requiring BARCT level controls as soon as practicable
- AB 617 BARCT for Market-Based Compliance System
  - Rule amendments – January 1, 2019
  - Implementation of BARCT – December 31, 2023

RECLAIM Transition

1. Amend Landing Rule
2. Facility Notification
3. If all equipment are subject to landing rules that have been amended for transition, surrenders RTCs and exit
4. If landing rules have not been amended for some of the equipment, Facility stays in RECLAIM
5. Adopt Transition Rule

Facility stays in RECLAIM
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) and Refineries
    - Possibly other industries (to be determined)

<table>
<thead>
<tr>
<th>Rule</th>
<th>Applicability</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1146</td>
<td>Boilers, steam generators, and process heaters</td>
<td>≥ 5 million Btu per hour</td>
</tr>
<tr>
<td>Rule 1146.1</td>
<td>Boilers, steam generators, and process heaters</td>
<td>&gt;2 and &lt;5 million Btu per hour</td>
</tr>
<tr>
<td>Rule 1146.2</td>
<td>Natural gas-fired water heaters, boilers, and process heaters</td>
<td>≤ 2 million Btu per hour</td>
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Rule 1146 Series Rules Emission Limits

<table>
<thead>
<tr>
<th>Rule</th>
<th>NOx Emission Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1146</td>
<td>• 5-12 ppm for natural gas; • 15 ppm for digester gas; • 25 ppm for landfill gas</td>
</tr>
<tr>
<td>Rule 1146.1</td>
<td>• 9-12 ppm for natural gas; • 15 ppm for digester gas; • 25 ppm for landfill gas</td>
</tr>
<tr>
<td>Rule 1146.2</td>
<td>• Manufacturer limit of 20 ppm; • End-user limit of 30 ppm</td>
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</table>
**Rules 1146 and 1146.1 BARCT Assessment**

- Rules 1146 and 1146.1 emission limits already at BARCT
- No changes to emission limits
- 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 mitigation fee
  - EPA concluded in 2014 that Rule 1146 and Rule 1146.1 are as stringent as other California District rules for this category

**Initial Concepts for PARs 1146 and 1146.1**

- Remove the exemption of RECLAIM facilities in the applicability
- Maintain existing NOx concentration limits
- Add a provision that exempts facilities that are transitioning out of RECLAIM from current Rule 1146 and 1146.1 compliance dates
- PAR 1146 and 1146.1 will reference Proposed Rule 1100 which will include the implementation schedule for compliance with all provisions in Rules 1146 and 1146.1
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
- No changes to NOx concentration limit at this time

Initial Concepts for PAR 1146.2

- 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
  - Add a provision that exempts facilities that are transitioning out of RECLAIM from current Rule 1146.2 compliance dates
- Additional information on Rule 1146.2 equipment is needed
  - Inventory of Rule 1146.2 equipment is not complete
  - Non-RECLAIM facilities currently register Rule 1146.2 equipment between 1 and 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 equipment
# Past Compliance Schedule

<table>
<thead>
<tr>
<th>Rule</th>
<th>Type</th>
<th>Implementation Timeframe from Amendment Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1146 (2008 Amendment)</td>
<td>natural gas units ≥ 75 million Btu/hr</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>natural gas units ≥ 20 and &lt; 75 million Btu/hr</td>
<td>3 years: 75% of units by heat input; 5 years remaining units</td>
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<tr>
<td></td>
<td>natural gas units ≥ 5 and &lt; 20 million Btu/hr</td>
<td>4 years: 75% of units by heat input; 6 years remaining units</td>
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<tr>
<td></td>
<td>digester &amp; landfill gas units</td>
<td>6 years</td>
</tr>
<tr>
<td>Rule 1146.1 (2008 Amendment)</td>
<td>natural gas units between 2 and 5 million Btu/hr</td>
<td>3 years: All units (except see below) 5 years: Units at schools &amp; universities</td>
</tr>
<tr>
<td></td>
<td>digester &amp; landfill gas units</td>
<td>6 years</td>
</tr>
<tr>
<td>Rule 1146.2 (2006 Amendment)</td>
<td>units ≤ 0.4 million Btu/hr</td>
<td>5 years</td>
</tr>
<tr>
<td></td>
<td>units &gt; 0.4 and ≤ 2 million Btu/hr</td>
<td>3 years</td>
</tr>
</tbody>
</table>

## Rule 1146 Series RECLAIM Universe (Permitted)*

- Facilities with 1146 Series Equipment: 118 Facilities
- Facilities subject to Rule 1146 series rules only: 36 Facilities
- Facilities subject to Rule 1146 series & other landing rules: 82 Facilities
  - 1146 Only: 32 Facilities
  - 1146 and 1146.1: 2 Facilities
  - 1146.1 only: 1 Facility
  - 1146.2 only: 1 Facility

* Excludes EGFs and refineries. Some equipment may be at BARCT.
Rule 1146 Series RECLAIM Universe (Permitted)*

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Rule 1146 Series RECLAIM Universe (Permitted)*

- Facilities with 1146 Series Equipment
  - 36 Facilities
    - Facilities subject to Rule 1146 series rules only
      - 1146 Only
        - 64 Facilities
      - 1146 and 1146.1
        - 8 Facilities
    - 82 Facilities
      - Facilities subject to Rule 1146 series & other landing rules
        - 1146 and 1146.2
          - 2 Facilities
        - 1146.1 only
          - 3 Facilities
        - 1146.1 and 1146.2
          - 1 Facility
        - 1146.2 only
          - 3 Facilities
      - All three rules
        - 1 Facility

Group I: ≥75 MMBTU/hr
- 8 pieces of equipment

Group II: 20-75 MMBTU/hr
- 90 pieces of equipment

Group III: 5-20 MMBTU/hr
- 120 pieces of equipment

* Excludes EGFs and refineries. Some equipment may be at BARCT.

Proposed Rule 1100 – BARCT 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
  - 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
Initial Concepts for Implementation Timeframes

- Staggering implementation schedule by heat input or other criteria
  - Considering 50% of units by heat input by specific date (2 years?)
  - Focus on larger emission sources having a final implementation sooner (similar to Rule 1146)
- Final implementation dates will be sooner than timeframes allowed in Rule 1146 (Rule 1146 allows 6 years for units between 5 and 20 mm BTU/hr)
- Considering coordination of implementation across various landing rules to ensure greatest emission reductions achieved earlier
- Seek comments from Working Group

Rule Schedule

- Nov 2017 – Feb 2018 Working Group Meetings
- Feb 2018 Public Workshop
- Mar 2, 2018 Set Hearing
- Apr 6, 2018 Public Hearing
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