PROPOSED AMENDED RULES 1146, 1146.1, 1146.2 & PROPOSED RULE 1100
WORKING GROUP MEETING #1

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

Amend Landing Rule

Facility Notification

- If all equipment are subject to landing rules that have been amended for transition, surrenders RTCs and exit
- If landing rules have not been amended for some of the equipment, Facility stays in RECLAIM

Adopt Transition Rule
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 ≤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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</tbody>
</table>

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;</td>
</tr>
<tr>
<td></td>
<td>• 15 ppm for digester gas;</td>
</tr>
<tr>
<td></td>
<td>• 25 ppm for landfill gas</td>
</tr>
<tr>
<td>Rule 1146.1</td>
<td>• 9-12 ppm for natural gas;</td>
</tr>
<tr>
<td></td>
<td>• 15 ppm for digester gas;</td>
</tr>
<tr>
<td></td>
<td>• 25 ppm for landfill gas</td>
</tr>
<tr>
<td>Rule 1146.2</td>
<td>• Manufacturer limit of 20 ppm;</td>
</tr>
<tr>
<td></td>
<td>• End-user limit of 30 ppm</td>
</tr>
</tbody>
</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>
</tr>
<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>
</tr>
<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
  - **1146 Only**
    - 32 Facilities
  - **1146 and 1146.1**
    - 2 Facilities
  - **1146.1 only**
    - 1 Facility
- **Facilities subject to Rule 1146 series & other landing rules**
  - 82 Facilities
  - **1146.2 only**
    - 1 Facility

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

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

Facilities with 1146 Series Equipment
- 78 Facilities

Facilities subject to Rule 1146 series rules only
- 36 Facilities

Facilities subject to Rule 1146 series & other landing rules
- 82 Facilities

1146 Only
- 64 Facilities

1146 and 1146.1
- 8 Facilities

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
- 96 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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