NOx RECLAIM WORKING GROUP MEETING

SEPTEMBER 14, 2017
SCAQMD
DIAMOND BAR, CA

Agenda

- Previous working group meeting highlights
- Initial overview of analysis for types of facilities with 6 or more pieces of RECLAIM source equipment
- Landing rules outside of RECLAIM
- New Source Review (NSR) considerations
- AB 617 and BARCT for Cap and Trade facilities
- Rulemaking Schedule (Short-Term Amendments)
- Next Steps
RECLAIM Facility Analysis

- Small facility analysis
- Overview of approach

  1st Step
  - Analyzed facilities with 0-5 pieces of equipment

  2nd Step
  - Categorized RECLAIM source types and equipment categories device by device

  3rd Step
  - Identified facilities with all RECLAIM source equipment that:
    - 1) Meet corresponding Command & Control rule limits and,
    - 2) Currently have no Command and Control landing rules
  - Identified facilities that would not be a part of this initial transition

Initial Analysis of NOx RECLAIM Facility Equipment Counts

Equipment Counts at RECLAIM Facilities

- Counts are as of September 2017. Facilities with no major/large source, or process unit equipment have either shut down or still operate equipment not requiring a permit.
Industry Category Breakdown Facilities with 0-5 Pieces of Equipment

Industry Category Breakdown Facilities with ≥6 Pieces of Equipment
Summary of ≤5 Pieces of Equipment Facilities

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>135</strong></td>
<td>(0-5 Pieces of Equipment)</td>
</tr>
<tr>
<td><strong>10 Facilities</strong></td>
<td>R219 Equipment Only or No Emissions</td>
</tr>
<tr>
<td><strong>80 Facilities</strong></td>
<td>With Equipment Landing Rule(s)</td>
</tr>
<tr>
<td><strong>14 Facilities</strong></td>
<td>EGPs Largely at BARCT</td>
</tr>
<tr>
<td><strong>11 Facilities</strong></td>
<td>Larger Facilities Subject to 2015 Shave</td>
</tr>
<tr>
<td><strong>20 Facilities</strong></td>
<td>Smaller Facilities with Current Landing Rule</td>
</tr>
</tbody>
</table>

Potential Early Mandatory Exit

Potential Early Mandatory Exit w/time for implementation
Summary of 6-19 Pieces of Equipment Facilities

104 Facilities
(6-19 Pieces of Equipment)

73 Facilities With Equipment Landing Rule(s)
15 Facilities EGFs Largely at BARCT
8 Facilities Larger Facilities Subject to 2015 Shave
8 Facilities Facilities with No Current Landing Rule

- 8 Facilities at BARCT
- 65 Facilities not at BARCT
- Potential Early to Midterm Mandatory Exit w/time for implementation
- Subsequent Exit w/ C&C Rule Amendment
- 1 Refinery Included
- Subsequent Exit w/ C&C Rule Amendment
- Subsequent Exit - New C&C Rules Required

Summary of ≥20 Pieces of Equipment Facilities

28 Facilities
(>20 Pieces of Equipment)

- 1 Facility R219 Equipment Only or No Emissions
- 17 Facilities With Equipment Landing Rule(s)
- 10 Facilities Larger Facilities Subject to 2015 Shave

- Potential Early Mandatory Exit
- 17 Facilities not at BARCT
- Potential Midterm Mandatory Exit w/time for implementation
- 6 Refineries Included
- Subsequent Exit w/ C&C Rule Amendment
Evaluation of Existing Landing Rules

- Must ensure as facilities transition out of RECLAIM, there is a corresponding command and control “landing rule” with up-to-date BARCT requirements
- Amendments to corresponding command and control landing rules may be needed to account for:
  - Implementation timeframe to achieve BARCT compliance limits
  - Monitoring and recordkeeping requirements
- Up to 27 amendments to existing BARCT command and control rules will be needed
- About 5 new BARCT command and control rules will be needed

Subsequent Rulemaking

- To arrive at the projected 5 new and 27 amended rules, staff reviewed existing rules for:
  - Basic equipment applicability
  - BARCT levels (concentration limits)
  - Implementation timelines for compliance dates
  - References to RECLAIM
- A new rule for Monitoring, Reporting, and Recordkeeping would be required and be based on the current Rule 2011 and 2012 Protocols
- Other new rules may be required for specific industry categories (e.g., Refineries, EGFs)
- Rescindment of existing rules that are outdated and/or were subsumed by RECLAIM at the beginning of the program may be required
Landing Rules Outside of RECLAIM

- Equipment counts of applicable landing rules were collected and are color-coded on the following two slides based on the following criteria:
  - **RED** – Landing rule not representative of BARCT
  - **YELLOW** – Further analysis of BARCT needed and other requirements
  - **GREEN** – Landing rule reflects current BARCT, but need to assess compliance dates and other requirements

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<table>
<thead>
<tr>
<th>Equipment Count of Potential Landing Rules</th>
<th>1109</th>
<th>1110.2</th>
<th>1117</th>
<th>PR</th>
<th>1118.1</th>
<th>1134</th>
<th>1135</th>
<th>1146</th>
<th>1146.1</th>
<th>1146.2</th>
<th>1147</th>
<th>1470</th>
<th>No Rule</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>52</td>
<td>2</td>
<td>7</td>
<td>30</td>
<td>99</td>
<td>112</td>
<td>26</td>
<td>3</td>
<td>457</td>
<td>225</td>
<td>4</td>
<td></td>
<td>1027</td>
<td></td>
</tr>
</tbody>
</table>

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The table above shows the count of potential landing rules under different equipment categories. The chart represents the distribution of these rules, with color-coding reflecting the criteria described above.
Landing Rules Outside of RECLAIM (≥20 eq.)

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<tbody>
<tr>
<td>169</td>
<td>36</td>
<td>3</td>
<td>35</td>
<td>60</td>
<td>17</td>
<td>16</td>
<td>403</td>
<td>285</td>
<td>65</td>
<td>1089</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Existing Command and Control Rules Evaluated

- Existing rules were evaluated based on the categories of RECLAIM equipment
- The following command and control rules as potential landing rules were evaluated:
  - Rule 1110.2 (Internal Combustion Engines)
  - Rule 1146 (Boilers and Process Heaters)
  - Rule 1146.1 (Boilers and Process Heaters)
  - Rule 1146.2 (Small Boilers and Process Heaters)
  - Rule 1147 (Miscellaneous NOx Sources)
  - Rule 1470 (Diesel Internal Combustion Engines)
  - Rule 1134 (Stationary Gas Turbines)
  - Rule 1135 (Electricity Generating Facilities)
  - Rule 1109 (Refinery Boilers and Heaters)
  - Rule 1117 (Glass Melting Furnaces)
### Command and Control vs. RECLAIM Rule 2002 Limits

<table>
<thead>
<tr>
<th>Command and Control Rule</th>
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<th>RECLAIM Rule 2002 NOx Limit</th>
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<tbody>
<tr>
<td>Rule 1110.2</td>
<td>11 ppm @15%O2</td>
<td>11 ppm @15%O2</td>
</tr>
<tr>
<td>Rule 1146</td>
<td>12 ppm @3%O2 for atmospheric units</td>
<td>12 ppm @3%O2 for units 2-20 MMBTU/hr</td>
</tr>
<tr>
<td></td>
<td>9 ppm @3%O2 for units 5-575 MMBTU/hr</td>
<td>9 ppm @3%O2 for units &gt;20 MMBTU/hr</td>
</tr>
<tr>
<td></td>
<td>5 ppm @3%O2 for units 75 MMBTU/hr and above</td>
<td>5 ppm @3%O2 for units &gt;110 MMBTU/hr</td>
</tr>
<tr>
<td>Rule 1146.1</td>
<td>12 ppm @3%O2 for atmospheric units</td>
<td>12 ppm @3%O2 for units 2-20 MMBTU/hr</td>
</tr>
<tr>
<td></td>
<td>9 ppm @3%O2 for units &gt;2 and ≤5 MMBTU/hr</td>
<td></td>
</tr>
<tr>
<td>Rule 1146.2</td>
<td>20 ppm @3%O2 for units ≤2 MMBTU/hr</td>
<td>102 ppm @3%O2 for unpermitted process units</td>
</tr>
<tr>
<td>Rule 1147</td>
<td>30-60 ppm @3%O2, depending on equipment type and process temperature</td>
<td>30-45 ppm @3%O2, depending on equipment type</td>
</tr>
<tr>
<td>Rule 1470</td>
<td>Varies, depending on Tier at time of permitting</td>
<td>Varies, depending on Tier at time of permitting</td>
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### Command and Control vs. RECLAIM Rule 2002 Limits (con’t)

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<tr>
<td>Rule 1134</td>
<td>9-25 ppm @15%O2, depending on size</td>
<td>2 ppm @15%O2</td>
</tr>
<tr>
<td>Rule 1135</td>
<td>Varies, depending on plant-wide emissions rate and emissions cap</td>
<td>2 ppm @15%O2 for turbines, 7 ppm @3%O2 for utility boilers</td>
</tr>
<tr>
<td>Rule 1109</td>
<td>25 ppm @3%O2</td>
<td>2 ppm @3%O2</td>
</tr>
<tr>
<td>Rule 1117</td>
<td>4.0 lbs/ton of glass pulled</td>
<td>0.24 lbs/ton of glass pulled</td>
</tr>
</tbody>
</table>
Other Rules to be Amended/Adopted

- Regulation XIII
- Regulation III
- Regulation IV
- Rule 1112
  - No cements plants currently in operation, but a rule is required for this source category if any new sources commence operation
- Rule 1118.1 (Non-Refinery Flares)
- Other refinery equipment rules

New Source Review

- Staff is considering potential NSR issues and options as facilities transition out of RECLAIM
- Staff has discussed SB-288 with CARB to ensure compliance
  - SB-288 (The Protect California Act) is a “no backsliding” statute
  - NSR rule revisions can be made as long as program equivalency is still met and there is no relaxation of existing State Health and Safety Code NSR provisions as of December 30, 2002
New Source Review (con’t)

- A separate meeting with interested stakeholders will be convened to discuss:
  - Background information to frame potential NSR issues
  - Facilities that converted ERCs to RTCs
  - New equipment permitted after RECLAIM adoption
  - Assurance of proper tracking (R1315)
  - Generation of ERCs post-RECLAIM
  - State and Federal approval
  - Other?

AB-617

- Companion bill to Cap & Trade signed by the Governor on July 26, 2017
- RECLAIM facilities that are in the California GHG Cap and Trade program are affected and would be required to install BARCT
- An expedited schedule for implementing BARCT is required to be developed by January 1, 2019, with full implementation no later than December 31, 2023
- Highest priority to be placed on units that have not modified emissions-related permit conditions for the greatest period of time
AB-617 (con’t)

- Staff continues to assess impact to RECLAIM transition planning
  - Increased urgency for larger facilities
  - Need to establish BARCT levels sooner to allow time for implementation
  - Resources needed to complete rulemaking by January 2019

Update on Proposed Amended Rule 2001

- Key elements of amendment:
  - No new facilities would be added to RECLAIM
  - No facilities can elect to enter RECLAIM
  - Concepts for which provisions are being developed
    - Mandatory exit provisions
    - Opt-out provisions – reassess existing provisions (i.e., EGFs) and establish additional provisions
    - Provisions for “Structural Buyer” (i.e., those without an initial allocation)

- Schedule: 1st Quarter 2018
Next Steps

- Begin development of high priority rules
  - AB 617 BARCT rule development/adoption by January 1, 2019
  - Reg XX, refineries, power plants, other…
  - Provide regulatory certainty as soon as possible (i.e., BARCT effective dates)
- Sub-topic working group meetings will be convened for:
  - New Source Review
  - Permitting
  - Possibly other topics
- Continue with the development of the RECLAIM Transition Plan
- Work with facilities to identify any new issues

Next Steps (con’t)

- Working Group Meetings (monthly)
  - October 12, 2017
  - November 8, 2017 @ 1:30 p.m.
    (Regular meeting date & time change due to rescheduling of Administrative Committee meeting to accommodate the Veteran’s Day Holiday)
  - December 14, 2017
Contacts

Gary Quinn, P.E.
Program Supervisor
(909)396-3121
gquinn@aqmd.gov

Kevin Orellana
Program Supervisor
(909)396-3492
korellana@aqmd.gov