SCAQMD
Working Group Meeting
NOx RECLAIM

Diamond Bar, CA
January 31, 2013
Agenda

- AQMP Control Measure
  - Phase I
  - Phase II
  - Errata Sheet
- Proposed Amendments
  - NOx shave and target source categories
  - Electronic transfer of data
- Open Discussion
NOx RECLAIM

- Amended in 2005
- 7.7 tons per day RTC reduction across the board (22.5% reduction)
- Last year of shave: 2011
- Technologies identified as BARCT
  - Low-NOx burners
  - SCR
NOx RECLAIM

Targeted Source Categories in 2005 Amendments

- Non-refinery boilers and heaters greater than 2 MMBTU/hr
- Refinery boilers and heaters above 110 MMBTU/hr
- Fluid catalytic cracking units
- Metal melting and heating processes
- Miscellaneous combustion equipment
2012 AQMP

Control Measure CMB-01

- Further NOx Reductions from RECLAIM
- Short-term PM$_{2.5}$ control measure (Phase I)
- 8-hour ozone control measure to be implemented by 2020 (Phase II)
Phase I

- Designed as a contingency measure for 24-hr PM$_{2.5}$ standard
- 2 – 3 tons/day reduction
- Shave is based on the amount of excess RTC holdings for recent compliance years
  - Equivalent to command and control
- Implementation beginning in 2015 if 24-hr PM$_{2.5}$ standard is not met
Phase II

- Will focus on a BARCT evaluation
- An additional 1 – 2 tons/day reduction
- To be adopted by 2015 for implementation by 2020
- Cumulative reductions (Phase I + Phase II) will be 3 – 5 tons/day
- To be implemented by 2020 using the BARCT analysis that is developed in 2013 and 2014
- Lower end of reductions committed into the SIP
Scope of Rule Development

Goal: Capture Phase I and Phase II under a single rulemaking

- Address contingency measure
- Address BARCT
- Update data communication system

Bifurcate rulemaking if BARCT assessment cannot be completed in 2013
NOx Emissions and RTC Supply

![Graph showing NOx emissions and RTC supply over time.](image-url)
## NOx Emissions and RTC Supply

<table>
<thead>
<tr>
<th>Compliance Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx RTCs Allocated (tpd)</td>
<td>29.4</td>
<td>28.4</td>
<td>27.5</td>
<td>26.5</td>
</tr>
<tr>
<td>Audited Annual Emissions (tpd)</td>
<td>22.9</td>
<td>20.0</td>
<td>19.5</td>
<td>22.8*</td>
</tr>
<tr>
<td>RTC Holding Excess (tpd)</td>
<td>6.5</td>
<td>8.4</td>
<td>8.0</td>
<td>3.7*</td>
</tr>
</tbody>
</table>

*Based on un-audited figures. Audited figures to be released in the 2013 RECLAIM Annual Audit Report.
RTC Holdings
2011 Compliance Year (as of end of compliance period)

- Refineries: 58%
- Power Plants: 21%
- Others: 13%
- Investors*: 5%
- Glass: 1%
- Cement: 3%

*Based on 2012 Annual RECLAIM Audit Report
Un-audited Emissions
2011 Compliance Year

- Petroleum Manufacturing: 54%
- Utilities: 12%
- Others: 33%
- Glass and Cement: 1%

Total un-audited emissions: 22.8 tons/day
Rule Development Considerations

- Command and Control Equivalency
  - BARCT (technical feasibility & cost effectiveness)
  - Growth assumptions
  - NSR (BACT)

- Compliance margin

- Shave methodology

- Compliance options

- 2007 SIP black box commitment
BARCT Analysis/Technology Review

- Review current technology
- Review existing implementation of control technology
- Available control technology
  - Low-NOx burners
  - Selective catalytic reduction (SCR)
  - Alternate technologies
  - Fuel technology
BARCT Analysis/Technology Review

BARCT evaluation source categories

- Refinery boilers/heaters (40-110 MMBTU/hr)
- Industrial boilers and process heaters above 2 MMBTU/hr to 110 MMBTU/hr
- Glass furnaces
- Cement kilns
- Other source categories to be determined
All Feasible Measures

- Emission levels of other AQMD rules;
  e.g. Rules 1146/1146.1, 1110.2, 1147
- Other agency application (both in state and nationwide)
- Control measures that increase efficiency
- Control measures which include zero and near-zero emission technologies
Shave Methodology

- Past (2005 NOx RECLAIM amendment)
  - Across the board shave

- Past (2010 SOx RECLAIM amendment)
  - Large emitters

- 2013 NOx RECLAIM
  - To be determined
Updates to Communications Systems

Electronic transfer of data

- Presently achieved for major sources, large, and process units by RTUs (Remote Terminal Units)
- IP/Internet based electronic data submittal to AQMD in the future
- Scope system requirements
- Multi-year implementation with phase-in
Tentative Rule Development Schedule

- Working Group: January 2013 (monthly as needed)
- Public Workshop: June 2013
- Board Hearing: October 2013