NOx RECLAIM WORKING GROUP MEETING

MAY 16, 2019
SOUTH COAST AQMD
DIAMOND BAR, CA
CALL-IN # 1-888-450-5996
PASSCODE: 3504968
Agenda

- Rulemaking Status
  - PAR 1110.2
  - PR 1109.1
  - PAR 218/218.1
  - PAR 1117
  - 1147 series
- PAR 2001/2015 (Regulation XX)
- New Source Review
  - Large Source Bank
LANDING RULE UPDATES
**Rulemaking Status**

**PAR 1110.2**
- Gaseous- and Liquid-Fueled Engines
  - Ongoing site visits
  - Discussed initial proposal for NOx emission limits based on BARCT assessment
  - Working Group Meeting #4 April 24, 2019
  - Public Workshop: 2nd Quarter 2019
  - Public Hearing: September 2019

**PR 1109.1**
- Refinery Equipment
  - May 3, 2019 Board approved contracts for two third party consults for review of BARCT assessment
  - Staff reviewing additional CEMS data from refineries
  - Working Group Meeting #7 April 30, 2019
  - Public Hearing: 4th Quarter 2019

**PAR 218 & 218.1**
- Monitoring, Reporting, and Recordkeeping – Continuous Emissions Monitoring Systems
  - Applicable to non-RECLAIM and RECLAIM facilities
  - Specifying CEMS requirements and performance standards
  - Surveys to CEMS operators
  - Working Group Meeting #2 May 2, 2019
  - Public Hearing: 4th Quarter 2019

**PAR 1117**
- Glass Melting Furnaces
  - Staff in data gathering phase
  - Public Hearing: December 2019
Rulemaking Status (Continued)

PAR 1147

Miscellaneous Combustion Sources
- 1st Working Group April 17, 2019
- Facility surveys mailed March 22, 2019
- Public Hearing: 4th Quarter 2019

PR 1147.1

Large Miscellaneous Combustion Sources
- 1st Working Group April 17, 2019
- Facility surveys mailed March 22, 2019
- Public Hearing: 4th Quarter 2019

PR 1147.2

Metal Melting Facilities
- Data gathering and site visits
- Facility surveys mailed March 22, 2019
- 1st Working Group May 16, 2019
- Public Hearing: 1st Quarter 2020

PR 1147.3

Aggregate Facilities
- Staff in data gathering phase
- Facility surveys mailed March 22, 2019
- Public Hearing: 2nd Quarter 2020
PAR 2001/2015 (REG XX)
EPA is recommending that facilities remain in RECLAIM until the following rules related to the RECLAIM transition are approved in the State Implementation Plan:

- Regulation XX-RECLAIM,
- Regulation XIII - New Source Review, and
- Command-and-control rules (landing rules)

Stakeholders have also raised concerns about market impacts from exiting facilities.
In October 2018, Rule 2001 was amended to:
- Revise the criteria for facilities exiting RECLAIM; and
- Add a provision to opt-out of RECLAIM
PAR 2001 would remove the opt-out provision
While in RECLAIM, facilities would be subject to:
- Command-and-control rules
- RECLAIM obligations (12 tons per day shave); and
- RECLAIM New Source Review
Rule 2015 Background

- Contains backstop provisions if actual emissions exceed the allocations by 5% or more
  - Backstop provisions focus on modifications to the RECLAIM program to prevent future exceedances
- Rule 2015 also includes provisions for an annual audit report each March
Proposed Amended Rule 2015

- Proposes an alternative backstop provision that:
  - Allows demonstration that actual NOx emissions will not exceed 14.5 tons per day on or after January 1, 2024 based on implementation of command-and-control rules
  - 14.5 tons per day represents the remaining NOx emissions to achieve the 12 ton per day shave
  - Alternative backstop provision acknowledges development and implementation of command-and-control rules
- Proposes to change annual RECLAIM audit report from March to April
  - Provides staff additional time to compile information
UPDATE ON NEW SOURCE REVIEW
Large Source Bank

- Post-RECLAIM, facilities will need to comply with Regulation XIII – New Source Review
- Insufficient supply of NOx Emission Reduction Credits (ERCs) in the open market (Details in previous Working Group Meetings)
- Staff is proposing to establish a Large Source Bank to ensure NOx offsets are available to facilities post-RECLAIM
- EPA generally agrees with the concept of a large source bank
  - Some initial reservations about the quality of the offsets from the South Coast AQMD’s Internal Bank
  - More details are needed
Overview of Potential Offset Sources Post-RECLAIM

**Open Market (ERCs)**
- Available to all sources
- Cost of ERCs based on market value

**South Coast AQMD Internal Bank (Offsets)**
- Available to facilities with PTE < 4 tons/year and Essential Public Services
- No usage fee

**South Coast AQMD Large Source Bank (Offsets)**
- **PROPOSED**
  - Available to facilities with PTE ≥ 4 tons/year
  - Usage fee to be determined
### Comparison Between Internal Bank Offsets and Emission Reduction Credits (ERCs)

<table>
<thead>
<tr>
<th>Offsets</th>
<th>Emission Reduction Credits (ERCs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Internal Bank</td>
<td>- Open Market</td>
</tr>
<tr>
<td>- Held by South Coast AQMD</td>
<td>- Held by individual owners (facility, company, or broker)</td>
</tr>
<tr>
<td>- Issued pursuant to Rules 1304 and 1309.1</td>
<td>- Issued pursuant Rule 1309</td>
</tr>
<tr>
<td>- Discounted according to Rule 1315</td>
<td>- Discounted according to Rules 1306 and 1309</td>
</tr>
</tbody>
</table>
General Concept of Large Source Bank

1. Offsets Needed Pursuant to Rule 1303
2. Facility Pays Fee to South Coast AQMD
3. South Coast AQMD Confirms Offset Availability
4. South Coast AQMD Issues Offsets

South Coast AQMD Large Source Bank

Future Offsets Generated
Large Source Bank – Overview

Access and Terms of Use
- Eligibility for Bank
- Terms of Use of Offsets

Fee
- Applicability of Fee
- Options for Establishing Fee
- Terms of Fee
- Use of Collected Fee

Offset Generation
- Potential Generation Options
- Generating Offsets

Monitoring
- Monitoring
- Contingencies
Access and Terms of Use

- NOx offsets in the new Large Source Bank would be accessible to:
  - Facilities with a NOx Potential to Emit ≥ 4 tons per year
    - This includes non-RECLAIM and former RECLAIM facilities
  - Former RECLAIM facilities with a NOx Potential to Emit < 4 tons per year would use the South Coast AQMD Internal Bank (original internal bank)
  - Offsets obtained from the bank may not be sold or traded as assets

- South Coast AQMD Internal Bank is available for:
  - All facilities with a NOx Potential to Emit < 4 tons per year (Rule 1304)
  - Essential Public Services (Rule 1309.1)
Fee for Large Source Bank

- Staff is considering a fee based on the amount of offsets needed
  - Offset fee will be per pound per day of NOx
- Collected fees will be used to fund projects to generate additional offsets
- Fee can help discourage facilities from requesting more offsets than needed
**Possible Options for Establishing Fee for Large Source Bank**

<table>
<thead>
<tr>
<th>Cost-effectiveness threshold established by 2016 AQMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• $50,000 per ton of NOx reduced</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average cost-effectiveness of minor source BACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• $30,000 per ton of NOx (4\textsuperscript{th} Quarter value for 2018)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average cost-effectiveness of recently adopted BARCT rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>• $11,000 per ton of NOx reduced (based on the weighted average for Rules 1134, 1135, and 1146 series)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average price of ERCs in the open market</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Average over past 2 years: $88,000 per ton of NOx</td>
</tr>
<tr>
<td>• Price can vary substantially</td>
</tr>
<tr>
<td>• In 2009, $400,000 per ton of NOx</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiered Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tiered structured fee (e.g. Different fees for minor and major sources, sliding scale based on amount)</td>
</tr>
</tbody>
</table>
Use of Collected Fee and Terms of Fee

- **Use of Collected Fee**
  - Fund projects to generate additional offsets for the Large Source Bank

- **Terms of Fee**
  - If a project does not commence construction and/or operation and the Permit to Construct and/or Permit to Operate is cancelled, the offsets can be returned to the South Coast AQMD with a refund
  - Any permitting fees pursuant to Rule 301 will not be refunded
Upon inception, the Large Source Bank will be seeded by offsets from the existing South Coast AQMD Internal Bank.

Emission reductions generated from facilities that obtained offsets from the Large Source Bank would go back to the Large Source Bank.

- Facilities that provide additional offsets, greater than the initial allocation:
  - Could be eligible to access offsets from the Large Source Bank at a discounted fee, or
  - May receive credit for future offsets

Air pollution control projects funded by the offset fees collected.
Generating Offsets

- Emission reductions for generating offsets are based on an actual emissions, not on a potential to emit basis
- Historically, offsets in the existing South Coast AQMD Internal Bank have been generated from orphan shutdowns
- Offsets are discounted upon generation and annually according to SIP approved Rule 1315
  - 20% discount for orphan shutdowns in order for the offsets to be real and based on actual emission reductions
  - Discounted annually to BARCT to meet federal criteria that offsets must be surplus at time of use
Generating Surplus Offsets

- Surplus at time of use for Federal NSR equivalency
  - All credits deposited into the internal bank are discounted to ensure they remain surplus at the time of use
  - Surplus adjustment for the offsets in the internal bank is an annual BARCT discount
    - Entire balance for each specific pollutant is discounted
    - Discount based on the percent reduction in overall permitted emission projected to be achieved as a result of implementation of command-and-control rules that became effective during the previous calendar year

- Offsets in the internal bank are discounted differently than ERCs in the open market
  - The surplus adjustment for emission reductions used to generate ERCs is a discount to current BACT at time of generation
Monitoring and Tracking

- Credits and debits from the Large Source Bank need to be monitored to ensure availability of offsets
- Key areas for monitoring and tracking
  - Amount of offsets in the Large Source Bank
  - Trend of credits and debits
  - Need for additional offsets
Time of Use Mechanisms and External Contingencies

- Considering various tracking and monitoring approaches to ensure availability of offsets
- Time of use mechanisms
  - Mechanisms that are implemented at the time of offset use such as fees or debit thresholds
- External contingencies
  - Corrective measures that are implemented after an annual report shows amount of offsets in the Large Source Bank or debit trends from the Large Source Bank are reaching a specific threshold
Time of Use Mechanisms

- South Coast AQMD Internal Bank contains a threshold for use of offsets, with no access fee
- Staff is evaluating if an emissions threshold for the Large Source Bank is needed
- An emissions threshold for the Large Source Bank may not be needed since a fee will be established at time of offset use
  - Assessing a fee at time of use can discourage overuse of offsets
External Contingencies

- Annual reporting
  - Track cumulative credits and debits from Large Source Bank
  - Track trends for credits and debits
- If annual report shows amount of offsets in the Large Source Bank or debit trends from the Large Source Bank are reaching a specific threshold, implement corrective measures
- Possible corrective measures
  - Increase fee
  - Transfer additional offsets from South Coast AQMD Internal Bank
  - Seek additional generation opportunities
  - Temporary annual threshold to restrict use of offsets
Considerations for Establishing Amount of Offsets for Large Source Bank

- Projected demand for offsets from RECLAIM sources
  - Historical data for RECLAIM as a whole
  - If not all sources access the bank, need to determine demand for subset of sources
- Growth factor to apply to demand
  - The 2016 AQMP and 2015 RECLAIM amendments contain growth factors
  - Other possible calculations for growth factor
- 1.2 factor to satisfy federal offset ratio 1.2-to-1
Due to the lack of ERCs in the open market, staff is proposing to establish a Large Source Bank to ensure NOx offsets are available to facilities post-RECLAIM.

NOx offsets in the new Large Source Bank would be accessible to facilities with a NOx PTE ≥ 4 TPY.

Staff is considering potential options for establishing a fee for the Large Source Bank.

Staff is considering time of use and external contingencies to ensure availability of offsets.
## Contacts

### General RECLAIM Questions

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

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

### New Source Review

- **Michael Morris**  
  Planning and Rules Manager  
  909-396-3282  
  mmorris@aqmd.gov

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

- **Lizbeth Gomez**  
  Air Quality Specialist  
  909-396-3103  
  lgomez@aqmd.gov

- **Melissa Gamoning**  
  Assistant Air Quality Specialist  
  909-396-3115  
  mgamoning@aqmd.gov
## Contacts

### Proposed Rule 1109.1

- **Heather Farr**  
  Program Supervisor  
  909-396-3672  
  hfarr@aqmd.gov

- **Jong Hoon Lee**  
  Air Quality Specialist  
  909-396-3903  
  jhlee@aqmd.gov

- **Sarady Ka**  
  Air Quality Specialist  
  909-396-2331  
  ska@aqmd.gov

### Rule 1134

- **Michael Morris**  
  Planning and Rules Manager  
  909-396-3282  
  mmorris@aqmd.gov

- **Uyen-Uyen Vo**  
  Program Supervisor  
  909-396-2238  
  uvo@aqmd.gov
## Contacts

### Proposed Amended Rules 218/218.1

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

- **Yanrong Zhu**  
  Air Quality Specialist  
  909-396-3289  
  yzhu1@aqmd.gov

### Rule 1135

- **Michael Morris**  
  Planning and Rules Manager  
  909-396-3282  
  mmorris@aqmd.gov

- **Uyen-Uyen Vo**  
  Program Supervisor  
  909-396-2238  
  uvo@aqmd.gov
Contacts

Proposed Amended Rule 1110.2

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

- Rudy Chacon
  Air Quality Specialist
  909-396-2726
  rchacon@aqmd.gov

Rules 1147/1147.1

- Gary Quinn
  Program Supervisor
  909-396-3121
  gquinn@aqmd.gov

- Shawn Wang
  Air Quality Specialist
  909-396-3319
  swang@aqmd.gov

Proposed Rule 1147.2

- Uyen-Uyen Vo
  Program Supervisor
  909-396-2238
  uvo@aqmd.gov

- James McCreary
  Assistant Air Quality Specialist
  909-396-2451
  jmccreary@aqmd.gov
<table>
<thead>
<tr>
<th>Rules 1146, 1146.1, 1146.2</th>
<th>Rule 1118.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gary Quinn, P.E.</td>
<td>• Heather Farr</td>
</tr>
<tr>
<td>Program Supervisor</td>
<td>Program Supervisor</td>
</tr>
<tr>
<td>909-396-3121</td>
<td>909-396-3672</td>
</tr>
<tr>
<td><a href="mailto:gquinn@aqmd.gov">gquinn@aqmd.gov</a></td>
<td><a href="mailto:hfarr@aqmd.gov">hfarr@aqmd.gov</a></td>
</tr>
<tr>
<td>• Kalam Cheung, Ph.D.</td>
<td>• Steve Tsumura</td>
</tr>
<tr>
<td>Program Supervisor</td>
<td>Air Quality Specialist</td>
</tr>
<tr>
<td>909-396-3281</td>
<td>909-396-2549</td>
</tr>
<tr>
<td><a href="mailto:kcheung@aqmd.gov">kcheung@aqmd.gov</a></td>
<td><a href="mailto:stsumura@aqmd.gov">stsumura@aqmd.gov</a></td>
</tr>
<tr>
<td>• Lizabeth Gomez</td>
<td>• Shawn Wang</td>
</tr>
<tr>
<td>Air Quality Specialist</td>
<td>Air Quality Specialist</td>
</tr>
<tr>
<td>909-396-3103</td>
<td>909-396-3319</td>
</tr>
<tr>
<td><a href="mailto:lgomez@aqmd.gov">lgomez@aqmd.gov</a></td>
<td><a href="mailto:swang@aqmd.gov">swang@aqmd.gov</a></td>
</tr>
<tr>
<td>• Shawn Wang</td>
<td></td>
</tr>
</tbody>
</table>