Agenda

- Landing Rule Updates
  - PR 1118.1
  - PAR 1134
  - PR 1109.1
  - PAR 1110.2
  - PAR 113

- New Source Review
  - Revisit Key Issue #2 – Pre-modification PTE calculations
LANDING RULE UPDATES
Command-and-Control BARCT Rulemaking Status

**Non-Refinery Flares**
- Adopted January 4, 2019

**Gas Turbines**
- Public Workshop held December 18, 2018
- Public Hearing: April 2019

**Refineries**
- Request for Proposal for third party verification of BARCT analysis:
  - Governing Board Approval Release December 7, 2018
  - Next Working Group Meeting scheduled for January 31, 2019
  - Continuing site visits
  - Public Hearing: October 2019
Command-and-Control BARCT Rulemaking Status

**Gaseous- and Liquid-Fueled Engines**
- Sent survey questionnaire
- Staff is conducting site visits, more to be scheduled
- Next Working Group Meeting: end of January
- Public Workshop: 1st Quarter 2019
- Public Hearing: September 2019

**Monitoring, Reporting, and Recordkeeping**
- Integrated MRR requirements for:
  - Former RECLAIM
  - Possibly non-RECLAIM
- Initiated preliminary analysis
- Comparing District and Federal requirements
- Conducted five site visits
UPDATE ON NEW SOURCE REVIEW
Guiding Principles and Areas of General Agreement

- New and modified sources in RECLAIM must comply with Rule 2005 – New Source Review for RECLAIM
- New and modified sources outside of RECLAIM must comply with Regulation XIII – New Source Review
  - BACT is required for all new and for modified sources with an emission increase
  - Regulation XIII will apply to the first modification post-RECLAIM
- The transition of a facility from RECLAIM to command-and-control is not a NSR event
Key Issue #1 Summary
(November 8 Working Group Meeting – Clarifications)

Do ongoing Rule 2005 holding requirements need to be retained?
- Yes, new facilities that were initially permitted after the start of RECLAIM (10/15/93) are required to hold RTCs equal to their PTE year after year
- No future holding requirement for facilities that existed prior to the start of RECLAIM

Should ongoing Rule 2005 requirement be done programmatically or individually by facility?
- Programmatic demonstration to show equivalency to the SIP-approved Rule 2005 requirement

Should an ongoing demonstration of an offsetting requirement be made for sources that were permitted during RECLAIM?
- No, RECLAIM NSR has a holding requirement for facilities that were in RECLAIM, but does not have ongoing offsetting requirements
KEY ISSUE #2 REVISITED
Follow-up Information for Key Issue #2

Key Issue #1
For new sources that are permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

Key Issue #2
When and how will a pre-modification PTE be calculated to determine if an emission increase occurs that triggers NSR requirements after facilities transition out of RECLAIM?

Key Issue #3
How will the SCAQMD ensure that sufficient offsets are available to satisfy NSR requirements?
Follow-up to Key Issue #2

- Last Working Group Meeting
  - Discussed four categories of permits and pre-modification PTEs
  - Requests made to provide sample calculations
- Staff will focus on the two categories for permits where conversion or calculation of pre-modification PTE is needed (See next slide)

### Comparison of Non-RECLAIM and RECLAIM PTEs Over Specific Timeframes

<table>
<thead>
<tr>
<th></th>
<th>PTEs Non-RECLAIM</th>
<th>PTEs RECLAIM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permits issued Pre-1976 (Pre-Regulation XIII NSR)</td>
<td>No PTE</td>
<td>Same</td>
</tr>
<tr>
<td>Permits issued 1976-1993 (Post-NSR to Pre-RECLAIM)</td>
<td>PTE in lbs/day</td>
<td>Same</td>
</tr>
<tr>
<td>Permits issued Post 1993 (During RECLAIM)</td>
<td>PTE lbs/hour</td>
<td></td>
</tr>
<tr>
<td>Permits issued Post 1976 (NOx PTE removed during RECLAIM)</td>
<td>No specified PTE (some cases)</td>
<td></td>
</tr>
</tbody>
</table>
### Various Permit Conditions for Sources in RECLAIM

<table>
<thead>
<tr>
<th>Issuance of Permit</th>
<th>What is the pre-modification PTE?</th>
<th>Is New Methodology Needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permits issued Pre-1976 (Pre-Regulation XIII NSR)</td>
<td>No PTE (Never been subject to NSR)</td>
<td>No, use existing Regulation XIII methodology</td>
</tr>
<tr>
<td>Permits issued 1976-1993 (Post-NSR to Pre-RECLAIM)</td>
<td>PTE in lbs/day</td>
<td>No, PTE already in lbs/day</td>
</tr>
<tr>
<td>Permits issued Post 1993 (During RECLAIM)</td>
<td>PTE in lbs/hr</td>
<td>Need methodology to convert pre-modification PTE to lbs/day</td>
</tr>
<tr>
<td>Permits issued Post 1976 and NOx PTE removed during RECLAIM</td>
<td>No specified NOx PTE (some cases)</td>
<td>Need methodology to calculate pre-modification PTE to lbs/day</td>
</tr>
</tbody>
</table>
Purpose of the PTE*

- PTE is applied to an individual piece of equipment
- Purpose of calculating a pre-modification PTE is to determine if modification results in an emission increase; if so:
  - BACT;
  - Offset amount; and
  - Modeling
- PTEs are generally calculated at the time of permitting
- PTEs do not represent actual emissions
  - If a post-modification PTE is established in a permit, equipment must operate below that post-modification PTE

*PTE refers to NOx PTE unless otherwise specified
Framing the Issue – Key Issue #2

- Regulation XIII is SIP-approved - Applies to the installation of any new source and to the modification of any existing source
- Under Regulation XIII, a source’s existing PTE is evaluated to determine any increase in emissions due to a modification
  - This is the pre-modification PTE
  - New sources have a pre-modification PTE of zero
- New permit PTEs are subtracted from pre-modification PTEs to determine an emission increase:

  \[
  \text{Post-modification PTE} - \text{Pre-modification PTE} = \text{Emission Increase?}
  \]

- An emission increase would occur if:

  \[
  \text{Post-modification PTE} > \text{Pre-modification PTE}
  \]
Framing the Issue (continued)

- Regulation XIII calculates emission increases with PTEs in lbs/day
- Not all sources that exit RECLAIM have pre-modification PTEs in lbs/day
- To apply Regulation XIII at time of modification, pre-modification PTEs need to be in lbs/day
  - There are different permit conditions that do not directly translate into lbs/day
Calculating PTEs Overview

- Hierarchy of methodologies to calculate pre-modification PTE in lbs/day depends on the existing limit on permit:

1) Daily mass limit
2) Hourly mass limit
3) Concentration limit
4) Actual mass emissions
Permit contains hourly mass limit

<table>
<thead>
<tr>
<th>Permit contains hourly mass limit</th>
<th>Hourly mass rate: 5 lbs/hr</th>
<th>Operational limitation: 8 hours/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use hourly mass rate, if no operational limitation, multiply by 24 hours per day</td>
<td>$5 \frac{lbs}{hr} \times 24 \frac{hr}{day} = 120 \frac{lbs}{day}$</td>
<td></td>
</tr>
<tr>
<td>Use hourly mass rate and multiply by operational limitation</td>
<td>$5 \frac{lbs}{hr} \times 8 \frac{hr}{day} = 40 \frac{lbs}{day}$</td>
<td></td>
</tr>
</tbody>
</table>
Permits without PTEs

- Permits that have had their NOx PTE removed may have other conditions that allow a pre-modification PTE to be calculated.
- Large source and process unit permits may only have a NOx concentration limit.
- Major sources may not have a concentration limit but have actual emission rates.
  - Mass rates based on continuous emissions monitoring systems (CEMS) data.
### Permit contains NOx concentration limit

NOx concentration limit: 9 ppmv (Use the most stringent concentration limit)
Operational limitation: 140 MMBTU/day
Unit capacity: 10 MMBTU/hr

| Convert NOx concentration limit to lbs/hr | \[
\frac{9}{10^6} \times 10 \frac{\text{MMBTU}}{\text{hr}} \times \frac{8710}{\text{MMBTU}} \times \frac{20.9}{20.9-3.0} \times \frac{46 \text{ lbs NOx}}{385 \text{ scf}} = 0.11 \frac{\text{lbs}}{\text{hr}}
\] |
| Calculate the maximum number of hours per day from operational limitation | \[
140 \frac{\text{MMBTU}}{\text{day}} \div 10 \frac{\text{MMBTU}}{\text{hr}} = 14 \frac{\text{hr}}{\text{day}}
\] |
| Multiply mass rate by maximum number of hours per day | \[
0.11 \frac{\text{lbs}}{\text{hr}} \times 14 \frac{\text{hr}}{\text{day}} = 1.54 \frac{\text{lbs}}{\text{day}}
\] |
Baseline Calculation Examples (continued)

Permit contains NOx concentration limit

NOx concentration limit: 11 ppmv (Use the most stringent concentration limit)
Operational limitation: 5 lbs/day CO
Throughput limit: 0.5 lbs/hr CO

Convert NOx concentration limit to lbs/hr

\[
\frac{11 \text{ parts}}{10^6} \times 10 \frac{\text{MMBTU}}{\text{hr}} \times 8710 \frac{\text{dscf}}{\text{MMBTU}} \times \frac{20.9}{20.9-3.0} \times \frac{46 \text{ lbs NOx}}{385 \text{ scf}} = 0.134 \frac{\text{lbs}}{\text{hr}}
\]

Calculate the maximum number of hours per day from CO operational limitation

\[
5 \frac{\text{lbs}}{\text{day}} \div 0.5 \frac{\text{lbs}}{\text{hr}} = 10 \frac{\text{hr}}{\text{day}}
\]

Multiply mass rate by maximum number of hours per day

\[
0.134 \frac{\text{lbs}}{\text{hr}} \times 10 \frac{\text{hr}}{\text{day}} = 1.34 \frac{\text{lbs}}{\text{day}}
\]
**Permit does not have a concentration limit for any pollutant**

CEMS data (maximum hourly mass emissions rate at 50% capacity): 3 lbs/hr

Operational limitation: 12 hours/day

<table>
<thead>
<tr>
<th>Maximum hourly PTE</th>
<th>3 ( \frac{lbs}{hr} \times \frac{100%}{50%} = 6 \frac{lbs}{hr} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Prorating to maximum rated capacity)</td>
<td>6 ( \frac{lbs}{hr} \times 12 \frac{hr}{day} = 72 \frac{lbs}{day} )</td>
</tr>
</tbody>
</table>

Multiply maximum hourly emissions rate prorated to maximum rated capacity by hours of operation per day
Regulation XIII will apply to the first modification post-RECLAIM
- The transition of a facility from RECLAIM to command-and-control is not a NSR event

PTE is applied to an individual piece of equipment

Purpose of calculating a pre-modification PTE is to determine if modification results in an emission increase

Pre-modification PTE needs to be calculated in lbs/day
- Hierarchy of methodologies will be used to calculate
- Pre-NSR equipment based on existing Regulation XIII approach (2-year average)
NSR – Process Moving Forward

Continuing discussions with USEPA regarding RECLAIM NSR transition
- Ensure all NSR, AQMP, and CAA requirements will be meet after sunset of RECLAIM program
- Weekly calls with EPA
- Periodic face-to-face meetings for more extensive discussions

Work with RECLAIM Working Group Meeting
- Monthly RECLAIM Working Group Meetings will shift focus towards NSR
- Continued discussions with stakeholders

Updates to Stationary Source Committee (SSC)
- Quarterly presentation with quarterly RECLAIM update
- Monthly written report
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