NOx RECLAIM WORKING GROUP MEETING

JANUARY 11, 2019

SCAQMD

DIAMOND BAR, CA

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

PR 1118.1

Non-Refinery Flares

- Adopted January 4,2019

PAR 1134

Gas Turbines

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

PR 1109.1

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

PAR 1110.2

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

PR 113

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

	PTEs Non-RECLAIM	PTEs RECLAIM
Permits issued Pre-1976 (Pre-Regulation XIII NSR)	No PTE	Same
Permits issued 1976-1993 (Post-NSR to Pre-RECLAIM)	PTE in lbs/day	Same
Permits issued Post 1993 (During RECLAIM)		PTE lbs/hour
Permits issued Post 1976 (NOx PTE removed during RECLAIM)		No specified PTE (some cases)

Various Permit Conditions for Sources in RECLAIM

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

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:

Post-modification PTE – Pre-modification PTE = Emission Increase?

- An emission increase would occur if:

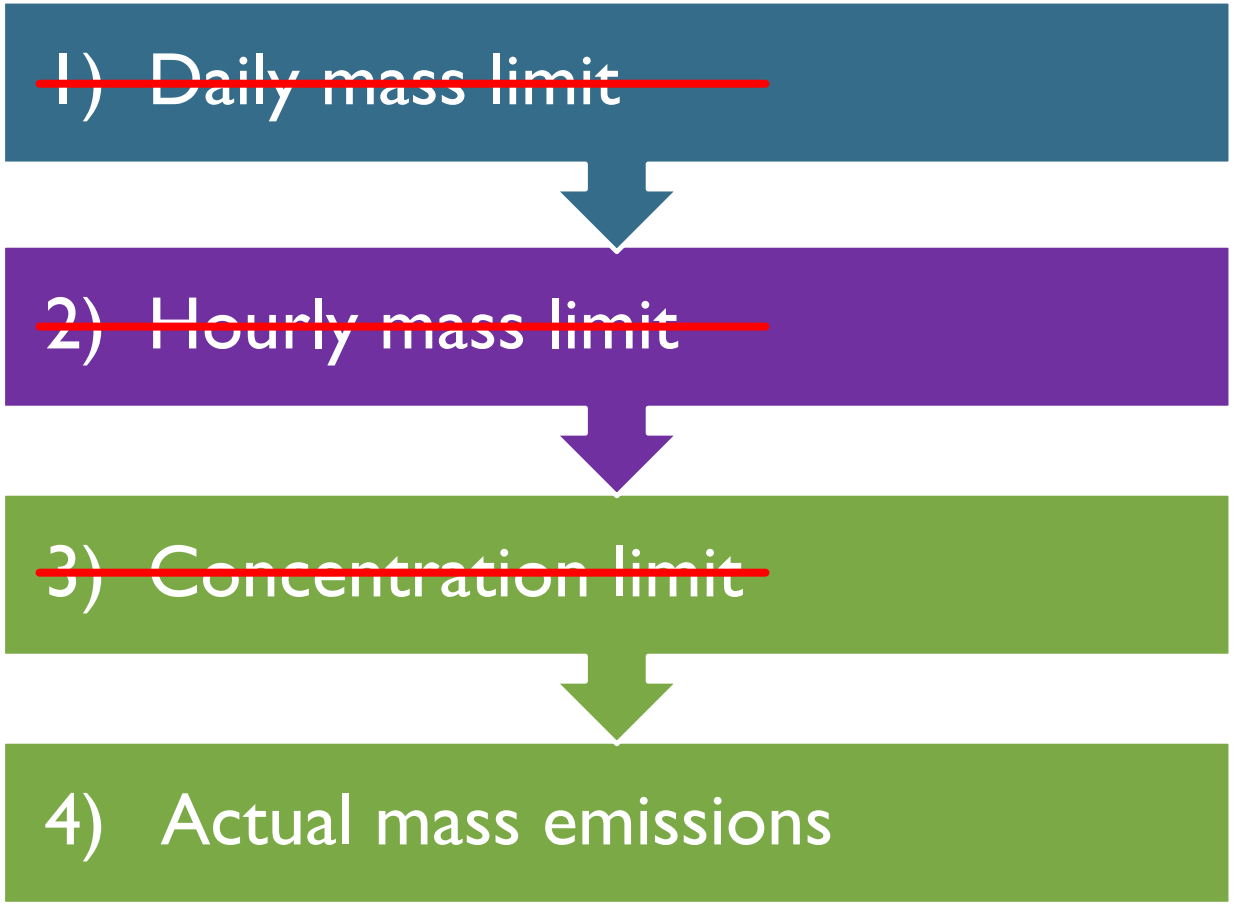
Post-modification PTE > Pre-modification PTE

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



Baseline Calculations *(continued)*

Permit contains hourly mass limit

Hourly mass rate: 5 lbs/hr

Operational limitation: 8 hours/day

Use hourly mass rate, if no operational limitation, multiply by 24 hours per day	$5\ \frac{lbs}{hr} \times 24\ \frac{hr}{day} = 120\ \frac{lbs}{day}$
Use hourly mass rate and multiply by operational limitation	$5\ \frac{lbs}{hr} \times 8\ \frac{hr}{day} = 40\ \frac{lbs}{day}$

Permits without PTEs

No PTE
(post- NSR)

- 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

Baseline Calculation Examples *(continued)*

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	$9\ \frac{parts}{10^6} \times 10\ \frac{MMBTU}{hr} \times 8710\ \frac{dscf}{MMBTU} \times \frac{20.9}{20.9-3.0} \times \frac{46\ lbs\ NOx}{385\ scf} = 0.11\ \frac{lbs}{hr}$
Calculate the maximum number of hours per day from operational limitation	$140\ \frac{MMBTU}{day} \div 10\ \frac{MMBTU}{hr} = 14\ \frac{hr}{day}$
Multiply mass rate by maximum number of hours per day	$0.11\ \frac{lbs}{hr} \times 14\ \frac{hr}{day} = 1.54\ \frac{lbs}{day}$

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	$11\ \frac{parts}{10^6} \times 10\ \frac{MMBTU}{hr} \times 8710\ \frac{dscf}{MMBTU} \times \frac{20.9}{20.9-3.0} \times \frac{46\ lbs\ NOx}{385\ scf} = 0.134\ \frac{lbs}{hr}$
Calculate the maximum number of hours per day from CO operational limitation	$5\ \frac{lbs}{day} \div 0.5\ \frac{lbs}{hr} = 10\ \frac{hr}{day}$
Multiply mass rate by maximum number of hours per day	$0.134\ \frac{lbs}{hr} \times 10\ \frac{hr}{day} = 1.34\ \frac{lbs}{day}$

Baseline Calculation Examples *(continued)*

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

Maximum hourly PTE (Prorating to maximum rated capacity)	$3\ \frac{lbs}{hr} \times \frac{100\%}{50\%} = 6\ \frac{lbs}{hr}$
Multiply maximum hourly emissions rate prorated to maximum rated capacity by hours of operation per day	$6\ \frac{lbs}{hr} \times 12\ \frac{hr}{day} = 72\ \frac{lbs}{day}$

Summary

- 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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