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# NO<sub>x</sub> RECLAIM WORKING GROUP MEETING

JANUARY 11, 2019  
SCAQMD  
DIAMOND BAR, CA

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## 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

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## Command-and-Control BARCT Rulemaking Status

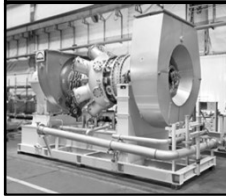
PR 1118.1



### 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

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## 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: 1<sup>st</sup> 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

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## UPDATE ON NEW SOURCE REVIEW

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## 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

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## 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

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## KEY ISSUE #2 REVISITED

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## 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

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## 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)

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## 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

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## 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

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## 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:

$$\text{Post-modification PTE} > \text{Pre-modification PTE}$$

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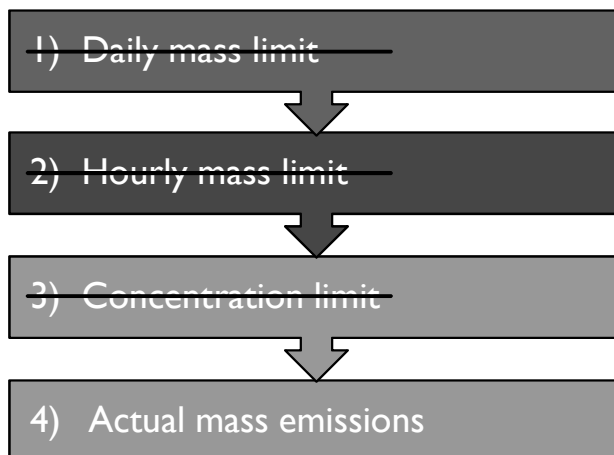
## Framing the Issue *(continued)*

- 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

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## Calculating PTEs Overview

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



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## 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	$5 \frac{\text{lbs}}{\text{hr}} \times 24 \frac{\text{hr}}{\text{day}} = 120 \frac{\text{lbs}}{\text{day}}$
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Use hourly mass rate and multiply by operational limitation	$5 \frac{\text{lbs}}{\text{hr}} \times 8 \frac{\text{hr}}{\text{day}} = 40 \frac{\text{lbs}}{\text{day}}$
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## 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

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## 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	$9 \frac{\text{parts}}{10^6} \times 10 \frac{\text{MMBTU}}{\text{hr}} \times 8710 \frac{\text{dscf}}{\text{MMBTU}} \times \frac{20.9}{20.9-3.0} \times \frac{46 \text{ lbs NOx}}{385 \text{ scf}} = 0.11 \frac{\text{lbs}}{\text{hr}}$
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	$0.11 \frac{\text{lbs}}{\text{hr}} \times 14 \frac{\text{hr}}{\text{day}} = 1.54 \frac{\text{lbs}}{\text{day}}$

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## 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	$11 \frac{\text{parts}}{10^6} \times 10 \frac{\text{MMBTU}}{\text{hr}} \times 8710 \frac{\text{dscf}}{\text{MMBTU}} \times \frac{20.9}{20.9-3.0} \times \frac{46 \text{ lbs NOx}}{385 \text{ scf}} = 0.134 \frac{\text{lbs}}{\text{hr}}$
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	$0.134 \frac{\text{lbs}}{\text{hr}} \times 10 \frac{\text{hr}}{\text{day}} = 1.34 \frac{\text{lbs}}{\text{day}}$

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

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## 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)

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## NSR – Process Moving Forward

### Continuing discussions with USEPA regarding RECLAIM NSR transition

Ensure all NSR, AQMP, and CAA requirements will be met 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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