NOx RECLAIM WORKING GROUP MEETING

NOVEMBER 14, 2019
SOUTH COAST AQMD
DIAMOND BAR, CA
CALL-IN #
PASSCODE:

Agenda

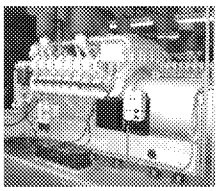
- Rulemaking Status on Landing Rules
- Update on Discussion with U.S. EPA on RECLAIM Transition

RULEMAKING STATUS

[redacted]

Rulemaking Status

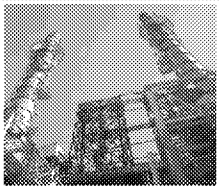
PAR 1110.2



Gaseous- and Liquid-Fueled Engines

- Amended Nov 1, 2019

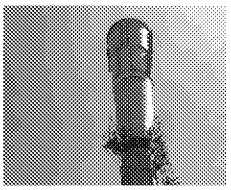
PR 1109.1



Refinery Equipment

- May 3, 2019 Board approved contracts for two third party consults for review of BARCT assessment
- Staff is close to completing BARCT assessment
- Public Hearing: 2nd Quarter 2020

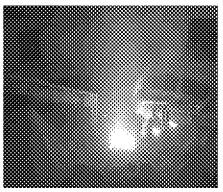
PAR 218 & 218.1



Monitoring, Reporting, and Recordkeeping – Continuous Emissions Monitoring Systems

- Applicable to non-RECLAIM and RECLAIM facilities
- Specifying CEMS requirements and performance standards
- Public Hearing: 1st Quarter 2020

PAR 1117

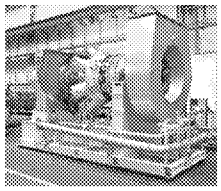


Glass Melting Furnaces

- Affects 2 facilities
- Both using new NOx control equipment
- Public Hearing: 1st Quarter 2020

Rulemaking Status *(Continued)*

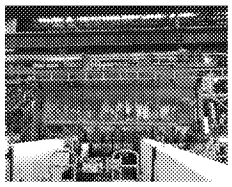
PAR 1147



Miscellaneous Combustion Sources

- Conducting BARCT analysis – coordinate with PR 1147.1, 1147.2, and 1147.3
- Public Hearing: 1st Quarter 2020

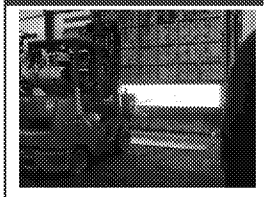
PR 1147.1



Large Miscellaneous Combustion Sources

- Conducting BARCT analysis
- Public Hearing: 1nd Quarter 2020

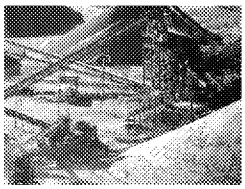
PR 1147.2



Metal Melting Facilities

- Conducting BARCT analysis
- Public Hearing: 1st Quarter 2020

PR 1147.3



Aggregate Facilities

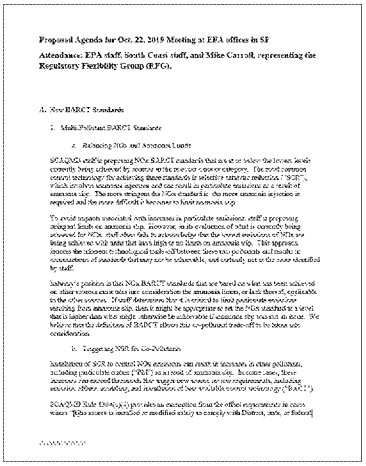
- Staff in data gathering phase
- Public Hearing: 3rd Quarter 2020

MEETING AT U.S. EPA REGION 9

[redacted]

Meeting at U.S. EPA Region 9

- U.S. EPA and the Regulatory Flexibility Group met in person on October 22, 2019 to discuss issues regarding the RECLAIM transition
- U.S. EPA primarily in listening mode – provided some comments
- Other industry representatives and South Coast AQMD listened by teleconference
- Written comments by Regulatory Flexibility Group posted on South Coast AQMD's Proposed Rules Page site



Proposed Agenda for Oct. 22, 2019 Meeting at EPA offices in SF

Attendees: EPA staff, South Coast staff, and Mike Carroll, representing the Regulatory Flexibility Group (RFG).

A. New BARCT Standards

1. Multi-Pollutant BARCT Standards

a. Balancing NOx and Ammonia Limits

SCAQMD staff is proposing NOx BARCT standards that are at or below the lowest levels currently being achieved by sources within each source category. The most common control technology for achieving these standards is selective catalytic reduction ("SCR"), which involves ammonia injection and can result in particulate emissions as a result of ammonia slip. The more stringent the NOx standard is, the more ammonia injection is required and the more difficult it becomes to limit ammonia slip.

To avoid impacts associated with increases in particulate emissions, staff is proposing stringent limits on ammonia slip. However, as the evaluation of what is currently being achieved for NOx, staff often fails to acknowledge that the lowest emissions of NOx are being achieved with slip limits higher than 10 ppm in ammonia slip. This approach ignores the inherent technological trade-off between low NOx emissions and limits on ammonia slip. Consideration of measures that may be achievable, and actually are in the cases identified by staff.

Industry's position is that NOx BARCT standards that are based on what has been achieved at other sources must take into consideration the ammonia limits, or lack thereof, applicable in the other sources. If staff determines that it is critical to limit particulate emissions resulting from ammonia slip, then it might be appropriate to set the NOx standard at a level that is higher than what it might otherwise be achievable if ammonia slip was not at issue. We believe that the deduction of BARCT allows for a rational trade-off to be taken into consideration.

b. Triggering NSR for Co-Pollutants

Installation of SCR to control NOx emissions can result in increases in other pollutants, including particulate matter ("PM") as a result of ammonia slip. In some cases, these increases can exceed thresholds that trigger new source, or new requirements, including offsets, offset accounting, and installation of best available control technology ("BARCT").

SCAQMD Rule 1304(a)(1) provides an exception from the offset requirements in cases where "[the source is modified or modified solely to comply with District, state, or federal]

Discussion Topics by Regulatory Flexibility Group Regarding RECLAIM Transition

New BARCT Standards

- Balancing NOx BARCT Limits with New Ammonia Limits
- Triggering NSR for Co-Pollutants
- Availability of Alternative Emission Control Plans

New Source Review and Anti-Backsliding Concerns

- Viability of Retaining RECLAIM NSR
- Requiring to Demonstrate that Emissions Remain Below Final Cap
- NSR Holding Requirement
- NSR Applicability Trigger
- Methodology for Calculating Required Offsets
- Use of South Coast AQMD Internal Bank to Satisfy NSR Offsets

Industry Comment: Balancing NOx BARCT Limits with New Ammonia Limits

- Use of SCR to achieve proposed NOx BARCT can result in an increase in particulate matter emissions as a result of ammonia slip
- South Coast AQMD has proposed limits on ammonia slip to minimize particulate matter emissions
  - More challenging to achieve a more stringent the NOx standard with a lower ammonia slip

Industry Recommendation:	Proposed NOx BARCT standards that are based on what has been achieved by other sources must consider the ammonia limits, or lack thereof, applicable to these sources
	If proposed combination of NOx and ammonia limits have not been achieved, then a higher NOx limit needs to be considered if critical to limit ammonia slip
	Co-pollutant trade-off should be taken into consideration when establishing BARCT

Agency Responses: Balancing NOx BARCT Limits with New Ammonia Limits

U.S. EPA Response:	It is South Coast AQMD's responsibility to establish Best Available Retrofit Control Technology (BARCT) emission limits
	U.S. EPA's will review South Coast AQMD's SIP submittal in regards to meeting Reasonably Available Control Technology (RACT)
South Coast AQMD Response:	Ammonia limits are specified in three BARCT rules (1134, 1135, 1146)
	Ammonia limit was not specified in Rule 1110.2 – ammonia limit will be based on BACT on a case-by-case basis during permitting
	Additional control technologies available, such as ammonia catalyst and feed forwards controls, can reduce ammonia emissions

Industry Comment: Triggering NSR for Co-Pollutants

- Installation of SCR to control NOx emissions can result in increases of other pollutants (e.g. particulate matter emissions due to ammonia slip)
- Emission increases exceeding NSR threshold would require BACT, modeling, and offsetting
- Rule 1304 provides an offsetting exemption when complying with a BARCT rule provided there is no increase in maximum capacity – no exemption for BACT

Industry Recommendation:	Need relief from BACT for co-pollutants with emission increases associated with achieving BARCT for NOx because costs with meeting BACT for co-pollutants can exceed the cost of achieving NOx BARCT
	If no BACT exemption, then the cost associated with meeting BACT for co-pollutants must be factored into the cost-effectiveness for the proposed NOx BARCT

Agency Responses: Triggering NSR for Co-Pollutants

U.S. EPA Response:	No exemptions for BACT
	Federal major source thresholds for certain pollutants are different from Regulation XIII thresholds
	More stringent BACT thresholds potentially required under state law
South Coast AQMD Response:	Further analysis and consideration needed to address concerns with BACT for co-pollutants
	Considering need to address SOx RECLAIM

Industry Comment: Availability of Alternative Emission Control Plans

- BARCT for command-and-control is based on concentration limits for individual pieces of equipment
- As a substitute to equipment-by-equipment BARCT standards for the RECLAIM transition, industry recommends development of alternative emission compliance plans (AECPs)

Industry Recommendation:	Consider facilities under the same ownership as one entity for compliance purposes
	Allow facilities to propose the best form of AECP for their specific operations
	AECPs should include emission reduction targets based on the BARCT concentration requirements and timeline promulgated in the underlying landing rule

Agency Responses: Availability of Alternative Emission Control Plans

U.S. EPA Response:	Clean Air Act does not prohibit the use of some form of AECPs
	However, use of common ownership to combine multiple facilities under one cap is not allowed
South Coast AQMD Response:	Alternative approaches have been incorporated in recently amended landing rules (e.g. an extended compliance schedule for full equipment replacements/facility modernization with near-zero technology)
	Staff will look for opportunities for flexibilities so that overall reduction of mass emissions is achieved

Industry Comment: Viability of Retaining RECLAIM NSR

- Primary focus for RECLAIM transition was to revise the BARCT component of the RECLAIM program – regulatory and statutory drivers did not mandate replacement of the RECLAIM NSR
- Transitioning RECLAIM facilities to a new NSR program or to Regulation XIII poses numerous challenges

Industry Recommendation:	Retain RECLAIM NSR (Rule 2005) post-RECLAIM
	Overlay command-and-control BARCT
	Support programmatic demonstrations if needed to retain RECLAIM NSR

Agency Responses: Viability of Retaining RECLAIM NSR

U.S. EPA Response:	RECLAIM NSR by itself does not meet federal requirements and could not be approved by itself post-RECLAIM
	RECLAIM NSR was approved with the entire RECLAIM program and with special consideration of a declining cap
South Coast AQMD Response:	Based on discussions with U.S. EPA, facilities cannot exit RECLAIM until all aspects of the RECLAIM transition (e.g. landing rules, Regulation XIII – New Source Review, and Regulation XX - RECLAIM) are completed and SIP approved

Industry Comment: Requiring to Demonstrate that Emissions Remain Below Final Cap

- U.S. EPA suggested an anti-backsliding demonstration showing that total actual emissions are below the aggregate supply of RTCs
  - Actual emission less than 14.5 tpd at the end of the RECLAIM program
  - Fulfills Federal Clean Air Act (CAA) Section 110(l) obligation
- U.S. EPA indicated that eliminating the cap is one reason why RECLAIM NSR could not be retained post-RECLAIM

Industry Recommendation:	Support programmatic annual demonstration by South Coast AQMD showing that actual emissions remain below the cap, if needed to retain RECLAIM NSR

Agency Responses: Requiring to Demonstrate that Emissions Remain Below Final Cap

U.S. EPA Response:	Federal CAA 110(l) requires U.S. EPA to conduct a holistic review of the RECLAIM transition to ensure no interference with progress towards attainment
	An ongoing demonstration is not the only option to meet the anti-backsliding requirement under Federal CAA 110(l)
South Coast AQMD Response:	Proposing one-time programmatic demonstration as part of the SIP package submitted for RECLAIM transition (Late 2021/Early 2022)
	Demonstration will show actual emissions below 14.5 tpd – can use future implementation dates of command-and-control rules, if needed

Industry Comment: NSR Holding Requirement

- Pursuant to Rule 2005, facilities that were permitted after the inception of RECLAIM are required to hold RTCs equal to their PTE before the start of operation and at the beginning of each compliance year thereafter

Industry Recommendation:	NSR holding requirement, on an individual facility basis or programmatically by South Coast AQMD, should be eliminated if RECLAIM NSR is not retained
	Industry might support retaining the NSR holding requirement if EPA felt it was necessary to retain RECLAIM NSR

Agency Responses: NSR Holding Requirement

U.S. EPA Response:	Ongoing Rule 2005 holding requirement would be satisfied by retiring the total RTCs that were needed for the holding requirement
South Coast AQMD Response:	Proposing to satisfy the ongoing Rule 2005 holding requirement with a one-time programmatic demonstration as part of the SIP package submitted for RECLAIM transition (Late 2021/Early 2022)
	Remaining RTCs will be evaluated

Industry Comment: NSR Applicability Trigger

- Currently, South Coast AQMD's NSR applicability test is based on the difference between the pre-modification and post-modification PTE
- U.S. EPA indicated that any revised NSR program must be equivalent to federal NSR, which does not allow the use of PTE-to-PTE for NSR applicability
  - Federal NSR applicability for major modifications is based on a Baseline Actual Emissions-to-Projected Actual Emissions test or an Actual Emissions-to-PTE test
  - South Coast AQMD is proposing to adopt an Actual emissions-to-PTE applicability test for modifications at major sources
  - Actual Emissions-to-PTE test will result in more modifications triggering NSR requirements

Industry Recommendation:	Baseline Actual Emissions-to-Projected Actuals Emissions may not be less stringent than PTE-to-PTE, and could sometimes be more stringent
	Use of a Baseline Actual Emissions-to-Projected Actuals Emissions test would not result in backsliding
	Retain existing RECLAIM NSR, making concerns with NSR changes moot

Agency Responses: NSR Applicability Trigger

U.S. EPA Response:

South Coast AQMD may choose how to meet federal NSR requirements and comply with SB288

However, retaining RECLAIM NSR without a RECLAIM cap and other components of the RECLAIM program is not an option for federal NSR

South Coast AQMD Response:

Proposing to use an Actual Emissions-to-PTE NSR applicability test for modifications at major sources

An Actual Emissions-to-PTE test **will always be** as stringent as PTE-to-PTE as required by SB288, as well as meet federal NSR requirements

Baseline Actual Emissions-to-Projected Actuals Emissions **may not always be** as stringent as PTE-to-PTE

Many challenges with adopting a Baseline Actual Emissions-to-Projected Actuals Emissions test:

- -Difficult to calculate and verify excludable demand growth emissions
- -Maximum projected emissions are not enforceable

Industry Comment: Methodology for Calculating Required Offsets

- Currently the amount of offsets required are determined according to the difference between the pre-modification and post-modification potential to emit (PTE)
- U.S. EPA indicated that the offsetting requirement for major sources under any revised NSR program will need to based on the difference between pre-modification actual emissions and post-modification PTE

Industry Recommendation:	Retain existing RECLAIM NSR since changing offsetting calculation would increase the amount of offsets needed

Agency Responses: Methodology for Calculating Required Offsets

U.S. EPA Response:	Reaffirmed that offsetting for federal major sources must be determined according to the difference between pre-modification actual emissions and post-modification PTE
South Coast AQMD Response:	Still working with U.S. EPA on potential options and initial proposals
	Proposing a two tier approach to calculate the amount of offsets required: -PTE-to-PTE if certain conditions are met; or -Actual-to-PTE for all other situations
	Use of hierarchy to determine the amount of offsets required is still pending confirmation from U.S. EPA

Industry Comment: Use of South Coast AQMD Internal Bank to Satisfy NSR Offsets

- South Coast AQMD proposed to allow former RECLAIM facilities to pay a fee to access the offsets in the internal bank
- U.S. EPA has some initial reservations about the quality of the bank offsets in the internal bank
  - Although, the offsets are tracked and accounted based on SIP approved Regulation XIII

Industry Recommendation:	If RECLAIM NSR program is replaced, former RECLAIM facilities should have access to the internal bank at a reasonable fee
	Need to explore other options to generate offsets, such as mobile source credits

Agency Responses: Use of South Coast AQMD Internal Bank to Satisfy NSR Offsets

U.S. EPA Response:	Use of offsets from South Coast AQMD's internal bank could require an additional review of the source of offsets
	Challenging to use mobile source credits to offset stationary sources – problem satisfying the permanency criteria
South Coast AQMD Response:	A variety of options to reduce the demand and increase the supply of offsets are being considered to address concerns with availability of offsets
	Exploring potential use of offsets from the existing South Coast AQMD Internal Bank to establish a new Large Source Bank

On-Going Efforts and Next Steps

- Monthly RECLAIM Working Group and Regulation XIII New Source Review Working Group meetings
- Continue rulemaking activities
- Continue working with U.S. EPA, CARB, and stakeholders on addressing NSR issues
- Update RECLAIM Transition Plan

Contacts

General RECLAIM Questions	New Source Review	
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Rule Contacts – Proposed Amended/Adopted

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Proposed Amended Rule 1117	Kevin Orellana	Program Supervisor	909-396-3492	korellana@aqmd.gov
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Rule Contacts – Amended/Adopted

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