PROPOSED RULE 1147.1
WORKING GROUP MEETING #5

MARCH 11, 2021
SOUTH COAST AQMD
DIAMOND BAR, CA

Zoom Meeting:	**https://scaqmd.zoom.us/j/94685907385**
Meeting ID:	**946 8590 7385**
Passcode:	**422016**
Conference Call:	**(669) 900-6833**

Agenda

- Recap of Previous Working Group
- Revision to BARCT Emission Limit
- Implementation Logistics
- Continuous Emission Monitoring
- Rule Language Overview
- Next Steps

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Recap of Working Group Meeting #4

- Discussed inclusion of carbon monoxide limit into Proposed Rule 1147.1
  - Presented source test data and existing regulations from other agencies
  - Proposed limit of 400 ppm CO @ 3% O_2
- Discussed proposed implementation approach for RECLAIM and non-RECLAIM units
  - Two step approach providing every facility at least 6 months to submit permit application and 12 months to comply after permit to construct is issued
- Presented proposal for periodic monitoring requirements based on burner size
  - Including CEMS provisions for units ≥40 MMBtu/hr and ≥90 Billion BTU annually

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REVISION TO BARCT RECOMMENDATIONS

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Background of BARCT Revisions

- The following comments were presented to staff concerning proposed BARCT limit from stakeholders and manufacturers
  - 25 ppm is achievable for new facilities
  - Older equipment would have challenges to comply due to limited excess air
  - Most retrofit applications are capable of meeting 30 ppm NOx
- Following observations were made by staff while studying emission reports from two RECLAIM major sources equipped with ACEMS
  - Concentrations are generally ~20% or more below 25 ppm NOx
  - Occasional peaks observed between 25 to 30 ppm NOx
- Staff also proposes to revise "near limit" criteria to units with a permit limit of <40 ppm NOx with an annual utilization of below 10% total output capacity

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Summary of Proposed BARCT Revision

	Previous Recommendation	Revised Recommendation
Proposed Rule Limit	25 ppm NOx 400 ppm CO	30 ppm NOx 400 ppm CO
Proposed Near Limit	Existing 40 ppm NOx Permit Limit <100 MMSCF Annual Fuel Usage	Existing 40 ppm NOx Permit Limit <10% Total Annual Utilization

- Staff revised BARCT recommendations to 30 ppm NOx and 400 ppm CO
  - Provides compliance buffer for emission fluctuation observed during CEMS assessment
- Revision to "near limit" criteria for units with permit limit of <40 ppm NOx with annual utilization of below 10% total output capacity
  - Based on actual utilization from units assessed during cost-effectiveness analysis
  - Facilities must have existing permit limit of 40 ppm prior to date of rule revision and accept permit limit on annual utilization

Revised Average Universe Cost-Effectiveness: $27,000/Ton Reduced

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Source Test Analysis of Revised BARCT Limit

Table 1 - Source Test Results for Equipment <40 ppm NOx and <400 ppm CO

Test Date (MM/DD/YYYY)	Heat Input (MMBtu/hr)	NOx Results (@ 3% O_2)	CO Results (@ 3% O_2)
09/20/2018	50.0	24.0	151.0
09/19/2018	100.0	26.9	251.0
06/29/2010	66.0	35.0	321.0
01/21/2013	100.0	28.3	41.6
09/19/2018	100.0	26.9	251.0
04/06/2017	100.0	26.5	328.1
06/25/2010	109.9	33.3	116.0
02/27/2013	125.0	26.8	11.9
07/31/2007	125.0	28.7	204.0
03/18/2018	35.0	7.6	204.8
06/20/2017	25.0	26.3	285.0
06/16/2006	95.0	18.5	199.5
02/24/2014	100	29.6	119.3
08/16/2017	94.0	34.2	232.7
12/15/2005	125	30.9	255.0

- Staff re-evaluated source test results for NOx and CO presented in Working Group #4 in relation to revised BARCT limit of 30 ppm NOx
- 11 out of 15 source test results in Table 1 demonstrated emission of <30 ppm NOx and <400 ppm CO
  - Emission of below 30 ppm NOx has been widely achieved in practice
  - Complete list of 26 evaluated source test results can be found in Attachment 1 of this presentation
- Cost-effectiveness is not impacted by BARCT revision

Staff proposes to revise BARCT NOx limit to 30 ppm and maintain CO limit of 400 ppm corrected to 3% O_2

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IMPLEMENTATION LOGISTICS

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Summary of Implementation Approach for RECLAIM and Non-RECLAIM

Applicability	Implementation
All Units (Except Low-Emitting and Near Limit Units)	• Beginning July 1, 2021 and every July thereafter, when a burner reaches 12 years submit a permit application by January 1st of the following calendar year that the burner reaches 12 years • Must meet proposed NOx and CO limit 12 months after Permit to Construct is issued
Low-Emitting Units Units with NOx emission below 1 lb/day Near-Limit Units Units with permit limit at or below 40 ppm and annual utilization of <10% total capacity	• Beginning July 1, 2021 and every July thereafter, when a burner reaches 32 years submit a permit application by January 1st of the following calendar year that the burner reaches 32 years • Must meet proposed NOx and CO limit 12 months after Permit to Construct is issued
All Units	• Regardless of the implementation schedule above, operators must meet proposed NOx limit if there is a combustion system modification, combustion system or burner replacement, unit relocation, or unit replacement • Regardless of the implementation schedule above, operators must meet proposed CO limit at the time of meeting proposed NOx limit

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Equipment Retrofit Schedule

- Staff estimated unit age from dates available on equipment permit application
- For units without age information on file, date of permit issuance is used as initial date of installation
- PR 1147. will affect 42 units at 36 unique facilities
  - Two facilities operating three units are expected to submit permit applications by January 1, 2022
  - 30 facilities have one unit and six facilities have two units
  - Remaining units will have staggered implementation dates based on the burner age and their current NOx limits
  - Number of applications expected per year range between three to seven units
- Annual impacts from PR 1147.1 implementation are not expected to negatively impact permit issuance

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CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)

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Proposed Rule 1147.1 CEMS Provision

Criteria	RECLAIM Rule 2012	Proposed Rule 1147.1
Size	40 MMBtu/hr	40 MMBtu/hr
Heat Input	90 Billion Btu Per Year	90 Billion Btu Per Year
Determination	1 Calendar Year	2 Year Rolling Average

- Stakeholders commented during Working Group #4 of the large burner usage variations facilities experience from year to year
- To account for yearly throughput variations, staff propose to revise CEMS applicability
  - CEMS applicability of ≥90 Billion BTU/year will be determined by a two year rolling average for annual heat input
- Up to five units are expected to meet CEMS applicability from 2018 AER data

Average Universe Cost-Effectiveness (including CEMS): $46,000/Ton Reduced

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PROPOSED RULE 1147.1- NO_X REDUCTIONS FROM AGGREGATE FACILITIES

RULE LANGUAGE OVERVIEW

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Proposed Rule 1147.1

Purpose, Applicability, and Definitions

- The purpose of PR 1147.1 is to reduce NOx and CO emission from facilities dealing with construction aggregate such as concrete and quarried materials
- Other types of dryers that are not applicable to the proposed rule are subject to Rule 1147
- Staff is seeking stakeholder feedback on applicability language as well as definitions for:
  - AGGREGATE DRYER
  - AGGREGATE MATERIALS
  - AGGREGATE FACILITY

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Proposed Rule 1147.1
Emission Requirements and Compliance Schedule

Equipment Category	Emission Limit PPM @ 3% O_2, dry
Any Unit	30 ppm NOx 400 ppm CO

- All new units must demonstrate compliance with NOx and CO limits at the time of permitting
- Burner age is determined by date of installation
- Existing units must submit permit application when burner is either 12 or 32 years old depending on existing permit limit and usage
- Annual cutoff of July 1 to ensure each facility has minimum of 6 months to submit permit application

Equipment Category	Submit Permit Application	Unit Shall Be in Compliance
All Units with burners installed prior to 2009 (Except Low-Emitting and Near Limit Units)	January 1, 2022	Within 12 months after Permit to Construct is issued
All Units with burners installed after 2009 (Except Low-Emitting and Near Limit Units)	January 1 after the year unit is 12 years old	
Low-Emitting Units (Units with NOx emission <1 pound per day)	January 1 of the year after burner is 32 years old	
Near-Limit Units (Units with permit limit ≤40 ppm with annual utilization < 10% total capacity)	January 1 after the year burner is 32 years old	

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Proposed Rule 1147.1
Monitoring and CEMS Provision

Equipment Size	Source Testing Schedule
≥40 MMBtu/hr (Excluding CEMS)	Every 6 Months with option for annually after 2 years of consecutive passes
<40 and ≥10 MMBtu/hr	Every 3 years
<10 MMBtu/hr	Every 5 years

	CEMS Applicability
Size	40 MMBtu/hr
Heat Input	90 Billion Btu Per Year (2 Year Rolling Average)

- All facilities affected by PR 1147.1 will be subject to periodic source testing schedule unless subject to CEMS
  - Facilities subject to CEMS will be required to conduct periodic relative accuracy test audits (RATA) as required by Rule 218.2 and 218.3
- Facilities operating units that exceed CEMS threshold will have six months from the day of exceedance to comply with CEMS requirements
- Existing units that meet CEMS threshold at the date of rule adoption will have until January 1, 2022 to submit applications to comply with CEMS requirements

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Proposed Rule 1147.1
RECLAIM Logistics

- PR 1147.1 to include following definitions for RECLAIM facilities as found in other South Coast AQMD Rules:

*"**RECLAIM FACILITY** means a facility, or any of its successors, that was in the Regional Clean Air Incentives Market as of January 5, 2018, as established in Regulation XX.*

*"**FORMER RECLAIM FACILITY** means a facility, or any of its successors, that was in the Regional Clean Air Incentives Market as of January 5, 2018, as established in Regulation XX, that has received a final determination notification, and is no longer in the RECLAIM program."*

- A RECLAIM FACILITY affected by PR 1147.1 will continue to report under Regulation XX until the facility becomes a FORMER RECLAIM FACILITY

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Next Steps

Release Draft Rule Language and Draft Staff Report

Public workshop in late March 2021

Stationary Source Committee Meeting on April 16, 2021

Public Hearing on June 4, 2021

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CONTACTS

<table>
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