

PROPOSED RULE 1147.1 PUBLIC WORKSHOP

MAY 26, 2021
SOUTH COAST AQMD
DIAMOND BAR, CA

Zoom Meeting: <https://scaqmd.zoom.us/j/97447701978>
Zoom Webinar ID: 974 4770 1978
Conference Call: (669) 900-6833

Agenda

- Rule 1147.1 Background
 - Rule Applicability
 - Impacted Equipment Universe
- Proposed Rule Language Overview
- Scope of Socioeconomic Impact
- California Environmental Quality Act (CEQA)
- Next Steps

RULE 1147.1 BACKGROUND

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Background

- In March 2017, the South Coast AQMD adopted the 2016 AQMP
 - Control measure CMB-05 requires the RECLAIM program to transition to a command-and-control structure
 - Requires a 5 ton per day NOx emission reduction to be achieved with Best Available Retrofit Control Technology (BARCT) as soon as feasible and no later than 2025
- In July 2017, Assembly Bill 617 was signed by the Governor
 - Requires expedited BARCT implementation for facilities in the state greenhouse gas cap and trade program by December 31, 2023

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Background

Proposed Rule Applicability

- ❑ Aggregate dryers are currently regulated under Rule 1147 – NO_x Reductions from Miscellaneous Combustion
- ❑ Proposed Rule 1147.1 will separate aggregate dryers from Rule 1147 and establish new BARCT emission limits with a compliance schedule
- ❑ PR 1147.1 will apply to gaseous fuel-fired aggregate dryers with heat input greater than 2,000,000 btu/hr located at non-RECLAIM, RECLAIM, and former RECLAIM facilities

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Background

Impacted Equipment



- ❑ Proposed Rule 1147.1 will impact 43 pieces of equipment located at 37 facilities
 - 24 non-RECLAIM facilities
 - 13 RECLAIM facilities
- ❑ Industries impacted are construction and manufacturing
- ❑ Staff conducted virtual site visits to six potentially impacted facilities

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PROPOSED RULE 1147.1- NO_x REDUCTIONS FROM AGGREGATE DRYERS

RULE LANGUAGE OVERVIEW

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Proposed Rule 1147.1 Subdivision (a) and (b) – Purpose and Applicability

Purpose

“The purpose of this rule is to reduce emissions of oxides of nitrogen (NO_x) while limiting carbon monoxide (CO) from gaseous fuel-fired aggregate dryers.”

Applicability

“This rule applies to owners or operators of gaseous fuel-fired aggregate dryers with NO_x emissions greater than or equal to one pound per day with a rated heat input greater than 2,000,000 BTU per hour.”

- Proposed Rule 1147.1 will apply to aggregate drying equipment with heat input rated greater than 2,000,000 Btu/hr
- Aggregate dryers will be subject to Rule 1147 if:
 - Rated heat input is below 2,000,000 Btu/hr
 - Daily NO_x emissions is below one pound per day

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Proposed Rule 1147.1

Subdivision (c) - Definitions

Key
Definitions

AGGREGATE MATERIAL

“means particulate materials used in construction and industrial manufacturing, including recycled concrete, recycled asphalt, and quarried materials such as sand, gravel, and crushed stone.”

AGGREGATE DRYER

“means any combustion equipment fired with gaseous fuel used to reduce or minimize the moisture content of aggregate material, including dryers, rotary dryers, fluidized bed dryers and rotary kilns.”

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Proposed Rule 1147.1

Subdivision (d) – Emission Requirements

Category	Prior to Meeting Proposed NOx and CO Limits	Proposed NOx and CO Emission Limits	
	Emission Limit (@ 3% O ₂ , dry)	Emission Limit (@ 3% O ₂ , dry)	
	NOx	NOx	CO
Non-RECLAIM Facilities	40 ppm	30 ppm	1,000 ppm
Former RECLAIM Facilities	102 ppm		

- ❑ Interim limits for aggregate dryers located at non-RECLAIM and former RECLAIM facilities until required to meet proposed NOx and CO emission limits
- ❑ Non-RECLAIM units
 - 40 ppm based on existing Rule 1147 requirements
- ❑ Former RECLAIM units
 - 102 ppm NOx based on RECLAIM default of 130 lb/mm scf
 - Effective after the facility exits RECLAIM – when the facility is a “former RECLAIM facility”

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Proposed Rule 1147.1 Subdivision (d) – Emission Requirements

Paragraph (d)(3):

- ❑ Applies to Aggregate Dryers **without** permit limits ≤ 40 ppm NOx at 3% O₂ established by July 1, 2022
- ❑ Trigger for compliance determined annually on January 1 for units that turn 12 years of age during the 12 months prior
- ❑ Burner age to be determined by date of installation
 - Methods specified in subdivision (e)

Proposed Rule 1147.1 - Table 1
Compliance Schedule for Aggregate Dryers at Greater than 40 ppm

Equipment Category	Submit Permit Application	Compliance Date
Aggregate Dryer with burners installed prior to January 1, 2010	July 1, 2022	Within 18 months after Permit to Construct is issued
Aggregate Dryer with burners installed on or after January 1, 2010	July 1 after the year burner is 12 years old	Within 18 months after Permit to Construct is issued

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Proposed Rule 1147.1 Emission Requirements (d) - Compliance Schedule

Proposed Rule 1147.1 - Table 2
Compliance Schedule for Aggregate Dryers at 40 ppm or less

Equipment Category	Submit Permit Application	Compliance Date
Aggregate Dryer with permit limit at or below 40 ppm by July 1, 2022	July 1 after the year burner is 32 years old	Within 18 months after Permit to Construct is issued

Paragraph (d)(4):

- ❑ Applies to Aggregate Dryers **with** permit limits ≤ 40 ppm NOx at 3% O₂ established by July 1, 2022
 - Beginning July 1, 2023
- ❑ Aggregate dryers complying with this paragraph must conduct periodic source testing once equipment becomes 15 years of age
- ❑ Trigger for compliance determined annually on January 1 for units that turn 32 during the 12 months prior
- ❑ Burner age to be determined by date of installation
 - Methods specified in subdivision (e)

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Proposed Rule 1147.1

Emission Requirements (d) - Shutdown Provision

Shut Down
Provision
Part 1 of 2

Paragraph (d)(5):

An owner or operator that elects to permanently shutdown an aggregate dryer no later than 36 months after the date a permit application submittal date pursuant to subparagraph (d)(3)(A) or (d)(4)(A) shall not be required to submit a permit application pursuant to paragraph (d)(3) or (d)(4) provided:

- A. *On or before the permit application for the aggregate dryer is required to be submitted pursuant to paragraph (d)(3) or (d)(4), notify the Executive Officer in writing that the aggregate dryer will be shutdown no later than 36 months after the date a permit application is due pursuant to paragraph (d)(3) or (d)(4); and*
- B. *On or before 36 months after the date a permit application is due pursuant to paragraph (d)(3) or (d)(4), the owner or operator shall:*
 - i. *Surrender the South Coast AQMD permit to operate for the aggregate dryer; and*
 - ii. *Disconnect and blind the fuel line for the unit.*

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Proposed Rule 1147.1

Emission Requirements (d) - Shut Down Provision cont'd

Shut Down
Provision
Part 2 of 2

Paragraph (d)(6):

An owner or operator that submitted a notification pursuant to subparagraph (d)(5)(A) determines that the aggregate dryer will not be shutdown, the owner or operator shall:

- A. *Submit permit application to the Executive Officer no later than 12 months after the date a permit application is due pursuant to paragraph (d)(3) or (d)(4); and*
- B. *No later than 12 months after the Permit to Construct is issued, meet the NOx and CO emission limits specified in subparagraph (d)(3)(B) or (d)(4)(B).*

- Paragraph (d)(5) provides a compliance pathway for aggregate dryers that will be shutting down
- Paragraph (d)(6) provides an onramp for owners or operators that determine the unit will continue to operate after providing notification specified in paragraph (d)(5)

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Proposed Rule 1147.1

Subdivision (e) – Burner Age Determination

- ❑ Burner age for aggregate dryers shall be determined by:
 1. Invoice from manufacturer for purchase and install of the burner;
 2. Original manufacturer's identification or rating plate permanently fixed to the equipment; or
 3. Information submitted to the South Coast AQMD with prior permit applications for the specific burner
- ❑ Aggregate dryers without the aforementioned documents will be deemed 32 years old as of January 1, 2022

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Proposed Rule 1147.1

Subdivision (f) – Monitoring

- ❑ Source test must follow approved protocol approved by South Coast AQMD
 - Protocol must be submitted no later than 90 days prior to the date of scheduled source test
 - Source test must be conducted within 90 days after protocol approval
- ❑ Not required to resubmit protocol for subsequent source tests assuming burner was not modified
- ❑ Compliance determination must be determined using a South Coast AQMD approved contractor under the Laboratory Approval Program and approved methods specified in paragraph (f)(3)

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Proposed Rule 1147.1

Subdivision (f) – Monitoring

Equipment Size	Source Testing Schedule	Elapsed Time Prior to Previous Source Test
<10 MMBtu/hr	Every 5 Calendar Years	54 calendar months
<40 and ≥10 MMBtu/hr	Every 3 Calendar Years	30 calendar months
≥40 MMBtu/hr	Every Calendar Year	6 calendar months

- ❑ Aggregate dryers meeting proposed emission limits of PR 1147.1 must conduct periodic source testing pursuant to this schedule
- ❑ Owners or operators of aggregate dryers complying with paragraph (d)(4) must conduct source testing according to this schedule when unit becomes 15 years old

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Proposed Rule 1147.1

Subdivision (g) – Recordkeeping and Reporting

CEMS Provision	Existing CEMS	<u>Paragraph (g)(1):</u> <i>The owner or operator of existing the continuous in-stack emissions monitor or equivalent verification system located at a non-RECLAIM or former RECLAIM facility prior to [Date of Adoption] shall retain the system and comply with the requirements specified in Rules 218.2 and 218.3.</i>
	CEMS Averaging Times	<u>Paragraph (g)(2):</u> <i>The owner or operator of any facility subject to paragraph (g)(1) shall use a rolling averaging time of 60 minutes corrected to 3% oxygen, dry, to demonstrate compliance with the NOx emission limits specified in paragraphs (d)(1), (d)(2), (d)(3), or (d)(4).</i>

- ❑ PR 1147.1 will not include provision to require new CEMS installations
- ❑ Existing units with CEMS or equivalent prior to rule adoption will be required to retain the monitoring system for the life of the equipment
 - Facilities subject to CEMS or equivalent will be required to conduct periodic relative accuracy test audits (RATA) as required by Rule 218.2 and 218.3

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PROPOSED RULE 1147.1- NO_x REDUCTIONS FROM AGGREGATE DRYERS

EMISSION REDUCTIONS AND COST-EFFECTIVENESS AND INCREMENTAL COST-EFFECTIVENESS

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Emission Reductions

- Emission reductions were calculated on per unit basis using:
 - Annual Reported Fuel Usage;
 - Current Permit Limit or Emission Factor;
 - Source Test Results (if available); and
 - Staff Proposal
- Proposed Rule 1147.1 will reduce NO_x emissions from Aggregate Dryers by:
 - 0.01 tons per day (tpd) by January 1, 2024; and
 - 0.04 tpd by full implementation date estimate of January 1, 2055

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Cost-Effectiveness and Incremental Cost-Effectiveness

- ❑ Cost-effectiveness is calculated using Discounted Cash Flow Method (DCF)
- ❑ Costs were obtained from:
 - Vendor discussions (Equipment and Installation)
 - Staff report for the December 2018 amendments to the Rule 1146 series (Installation Only)
 - Facility provided quotations
- ❑ Cost-effectiveness is calculated using emission reductions from existing permit limit, source test results (if available) and staff proposal of 30 ppm
- ❑ Since no control option was identified that is less stringent than 30 ppm, incremental cost-effectiveness was not calculated

Average Category Cost-Effectiveness: \$46,000/ton of NO_x reduced

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PROPOSED RULE 1147.1- NO_x REDUCTIONS FROM AGGREGATE DRYERS

SOCIOECONOMIC IMPACT ASSESSMENT AND CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

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SCOPE OF SOCIOECONOMIC IMPACT ASSESSMENT

- ❑ California Health and Safety Code Section 40440.8
 - Requires socioeconomic impact assessment for proposed rule or rule amendment which “will significantly affect air quality or emissions limitations”
 - Socioeconomic impact assessment shall consider:
 1. Type of affected industries, including small businesses
 2. Range of probable costs, including costs to industry or business
 3. Impact on employment and regional economy

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CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

- ❑ PR 1147.1 is not expected to require substantial physical modifications that would cause a significant adverse effect on the environment
- ❑ PR 1147.1 is exempt pursuant to CEQA Guidelines Section 15061 (b)(3) since it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment
- ❑ A Notice of Exemption will be prepared

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Next Steps

Set Hearing on June 4, 2021

End of Comment Period on June 18, 2021

Stationary Source Committee Meeting on June 18, 2021

Public Hearing on August 4, 2021

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CONTACTS

General RECLAIM Questions	Proposed Amended Rules 1147 and 1100	Proposed Rule 1147.1	Proposed Amended Rules 1147, 1100 and Proposed Rule 1147.2
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