
PROPOSED AMENDED RULE 1147 WORKING GROUP MEETING #11

01/05/2022

SOUTH COAST AQMD

DIAMOND BAR, CA

Zoom Meeting:

Webinar ID:

Conference Call:

<https://scaqmd.zoom.us/j/93738333065>

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AGENDA

- ❑ Summary of BARCT Assessment
- ❑ Updates to Rule Structure
- ❑ Summary of Rule Language Proposals
- ❑ Next Steps





BARCT ASSESSMENT RECAP

Technology Assessment and Cost Effectiveness

PAR 1147 BARCT ASSESSMENT RECAP



- ❑ Staff evaluated existing South Coast AQMD requirements for equipment subject to Rule 1147 and RECLAIM
- ❑ BARCT assessment was conducted for each category identified in Rule 1147 as well as new categories for Proposed Amended Rule (PAR) 1147
- ❑ Proposed BARCT limits for PAR 1147 are determined with existing permit limits and South Coast AQMD approved source test results

SUMMARY OF PROPOSED BARCT LIMITS

Equipment Category	Operating Temperature	Current Rule Limit [^]	Cost-Effectiveness	Proposed BARCT Limit
Oven, Dehydrator, Dryer, Heater, Kiln, Calciner, Cooker, Roaster, Furnace, or Heated Storage Tank	<1,200°F	30 ppm	\$12,700/Ton	20 ppmv (0.024 lb/mmBtu)
	≥1,200°F	60 ppm	\$5,600/Ton	30 ppmv (0.036 lb/mmBtu)
Tunnel Dryers	<1,200°F	30 ppm	\$49,200/Ton	30 ppmv (0.036 lb/mmBtu)
	≥1,200°F	60 ppm	No Additional Cost	60 ppmv (0.073 lb/mmBtu)
Afterburner, Degassing Unit, Remediation Unit, Thermal Oxidizer, Catalytic Oxidizer or Vapor Incinerator	All	60 ppm	\$12,300/Ton	20 ppmv (0.024 lb/mmBtu)
Evaporator, Fryer, Heated Process Tank, and Parts Washer	All	60 ppm	\$31,300/Ton	60 ppmv (0.073 lb/mmBtu)
Burn-off Furnace, Burnout Oven, Incinerator, Crematory with or without Integrated Afterburner	All	60 ppm	\$25,800/Ton	30 ppmv (0.036 lb/mmBtu)
Tenter Frame, Fabric or Carpet Dryer	All	30 ppm	\$23,600/Ton	20 ppmv (0.024 lb/mmBtu)
Other Unit and Process Temperature	<1,200°F	30 ppm	No Additional Cost	30 ppmv (0.036 lb/mmBtu)
	≥1,200°F	60 ppm		60 ppmv (0.073 lb/mmBtu)

[^] NOx concentrations are corrected to 3% O₂ dry

SUMMARY OF PROPOSED BARCT LIMITS (CONT'D)

Equipment Category	Operating Temperature	Current Rule Limit [^]	Cost-Effectiveness	Proposed BARCT Limit [^]
Absorption Chillers	All	30 ppm	No Additional Costs ¹	20 ppmv (0.024 lb/mmBtu)
Micro-Turbines (All Other)	All	N/A	No Additional Costs ¹	9 ppmv* (0.011 lb/mmBtu)
Micro-Turbines (In-Use Distillate Fuel)	All	40 ppm	No Additional Costs ¹	77 ppmv* ³ (0.094 lb/mmBtu)
Auto-Claves	All	30 ppm	\$49,000	30 ppmv (0.036 lb/mmBtu)
All Liquid Fuel-Fired Units	<1,200°F	40 ppm	No Additional Costs ²	40 ppmv (0.053 lb/mmBtu)
	≥1,200°F	60 ppm	No Additional Costs ²	60 ppmv (0.073 lb/mmBtu)

All equipment subject to PAR 1147 to be subject to CO emission limit of 1,000 ppmv^{^*}

[^] NOx concentrations are corrected to 3% O₂ dry

* NOx concentrations for micro-turbines are corrected to 15% O₂ dry

¹ Proposed BARCT limit is at existing equipment permit limit, no further action required

² Evaluated equipment is low use and not subject to proposed rule limits. Assessment resulted in no change to existing rule limits

³ Proposed emission limit applies for in-use equipment with annual fuel usage of less than 13,800 gal/year



UPDATES TO RULE STRUCTURE

From Rule 1147 to PAR 1147

IMPLEMENTATION APPROACH SUMMARY

- ❑ Structure of PAR 1147 language to be updated for improved clarity
 - Goal is for conformity of structure of all Rule 1147 series rules
- ❑ Changes include:
 - Removing rule language with outdated language
 - Restructuring existing paragraphs into more defined subdivisions
 - Adding additional rule language to implement BARCT and RECLAIM sunset

OVERVIEW OF RULE STRUCTURE UPDATE

Current Rule 1147

Subdivision	Title
(a)	Purpose and Applicability
(b)	Definitions
(c)	Requirements
(d)	Compliance Determination
(e)	Certification
(f)	Enforcement
(g)	Exemptions
(h)	Technology Assessment
(i)	Mitigation Fee Compliance Option



Proposed Amended Rule 1147

Subdivision	Title
(a)	Purpose
(b)	Applicability
(c)	Definitions
(d)	Emission Requirements
(e)	Compliance Schedule
(f)	Burner Age
(g)	Determination of Less than One Pound of NOx Per Day
(h)	Monitoring and Source Testing
(i)	Labeling Requirements
(j)	Reporting and Recordkeeping
(k)	Certifications
(l)	Maintenance
(m)	Exemptions



SUMMARY OF PROPOSED RULE CONCEPTS

RULE LANGUAGE CONCEPTS IMPLEMENTATION SCHEDULE

- ❑ Two implementation schedules
 - All units, except units complying with existing Rule 1147 limits, must submit permit applications to meet the proposed NOx and CO limits when the burner reaches 12 years
 - Units complying with existing Rule 1147 limits must submit permit applications to meet the proposed NOx and CO limits when the burner reaches 32 years
- ❑ For equipment already past the 12 or 32 year age, as of January, Submit permit by July (starting in 2023)
- ❑ Proposed NOx and CO limits must be met if there is a combustion system modification or replacement, burner replacement, unit relocation, or unit replacement
- ❑ Units that meet the proposed NOx and CO limits through a source test will need to modify their permit to reflect the proposed BARCT limit

RULE LANGUAGE CONCEPTS COMPLIANCE FOR FACILITIES WITH MULTIPLE UNITS

- ❑ Concerns have been raised that some facilities who operate multiple units of similar age will be required to submit permit applications at the same time
- ❑ To address this concern, staff is proposing a staggered permit submittal approach
- ❑ Staggered permitting schedule will be based on the total number of applicable equipment and total heat input located at the facility
 - Equipment that will be permanently shut down can be used to meet implementation schedule quota

RULE LANGUAGE CONCEPTS SCHEDULE FOR MULTIPLE UNITS

- ❑ Implementation schedule for multiple units apply for facilities with 5 or more pieces of equipment with the permit application submittal date of July 1, 2023
 - Implementation schedule based on % of total heat input of applicable units
- ❑ Owner or operator would need to submit applications in accordance to application submittal dates in the table below:
(percentages rounded up to nearest whole number of unit(s))

Application Submittal Date	5 to 9 units (% of Total Heat Input)	10 to 19 units (% of Total Heat Input)	20+ units (% of Total Heat Input)
January 1, 2023	50%		
January 1, 2024	100%	50%	33%
January 1, 2025	Not Applicable		
January 1, 2026		100%	67%
January 1, 2027			
January 1, 2028		Not Applicable	100%

RULE LANGUAGE CONCEPTS

SOURCE TESTING REQUIREMENT – TEST CONDITION

- ❑ Source test provision in PAR 1147 has been modified for better clarity at operations with varying heating profiles
- ❑ Source testing to be conducted during “firing rate under normal operating conditions”
 - Compliance determinations shall be made at the maximum input range during normal operation
- ❑ Pounds per million btu compliance option to be retained from Rule 1147

RULE LANGUAGE CONCEPTS

SOURCE TESTING REQUIREMENT - PERIODIC

- ❑ PAR 1147 to introduce periodic source testing requirements based on equipment size:
 - Every 5 Years: Units <10 MMBtu/hr
 - Every 3 Years: Units ≥ 10 MMBtu/hr and <40 MMBtu/hr
 - Every Year: Units ≥ 40 MMBtu/hr
- ❑ Will not apply until unit is subject to an emission limit in PAR 1147
- ❑ Certified Equipment <2 MMBtu/hr would not be subject to periodic source testing

RULE LANGUAGE CONCEPTS

EQUIPMENT EMITTING LESS THAN ONE POUND PER DAY

- ❑ PAR 1147 will contain revisions to compliance requirements for equipment emitting less than one pound per day of NO_x as well as determination of less than one pound per day
- ❑ Less than one pound determinations simplified to two methods:
 1. Calculation of usage based on unit specific non-resettable time meter
 2. Calculation of usage based on unit specific non-resettable fuel meter
- ❑ Equipment maintaining records to demonstrate emissions of less than one pound NO_x will be exempt from emission limits of PAR 1147 as long as records are maintained
 - Permit condition of <1lb/day NO_x will be required to qualify for exemption
 - Records to be maintained for at least 5 years

NEXT STEPS

- Release Preliminary Draft Staff Report and Preliminary Draft Rule Language
- Continue to hold stakeholder meetings
- Public Workshop – Early February 2022
- Stationary Source Committee – February 18, 2022
- Public Hearing – April 1, 2022

CONTACTS

General RECLAIM Questions	Proposed Amended Rule 1147	Proposed Rule 1147.2
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