



South Coast
AQMD

Proposed Amended Rule 1134 (PAR 1134)

Emissions of Oxides of Nitrogen from Stationary Gas Turbines

Working Group Meeting #1
April 21, 2021

Join Zoom Meeting:

<https://scaqmd.zoom.us/j/93043741522>

Meeting ID: 930 4374 1522

Teleconference Dial-In: 1-669-900-6833

Agenda

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- Meeting Format
 - Rule Development Process
 - General Overview of Rule 1134
 - Proposed Revisions
 - Next Steps

Meeting Format

- South Coast AQMD acknowledges the challenges to businesses and stakeholders due to COVID-19
- Consistent with Governor Newsom's Executive Order N-29-20 (March 17, 2020) and to ensure safe social distancing, Working Group Meetings will be held via Zoom and telephone
- Although it is a different format, staff will take the time to listen to all stakeholder comments
- In addition to Working Group Meetings, staff is available for individual meetings



Rule Development Process



Working Group Meetings



Rule 1134 Working Group Meetings:

- Working Group includes stakeholders from industry, environmental groups, community members, and public agencies
- Working Group Meetings are held throughout the rule development process and are open to the public



Objectives:

- Build consensus and work through issues
- Opportunity for early input by stakeholders
- Develop a rule that affected sources can implement

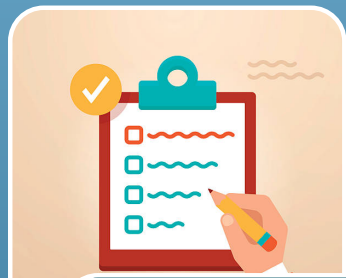


Assists staff in understanding:

- Issues and concerns
- Industry terms, industry practices, etc.
- Applicable technologies and best management practices

Overview of Rule Development Process

Working group and stakeholder meetings continue throughout rule development process



**Information
Gathering
and
Analysis**



**Preliminary
Draft Rule
Language
and Staff
Report**



**Public
Workshop**

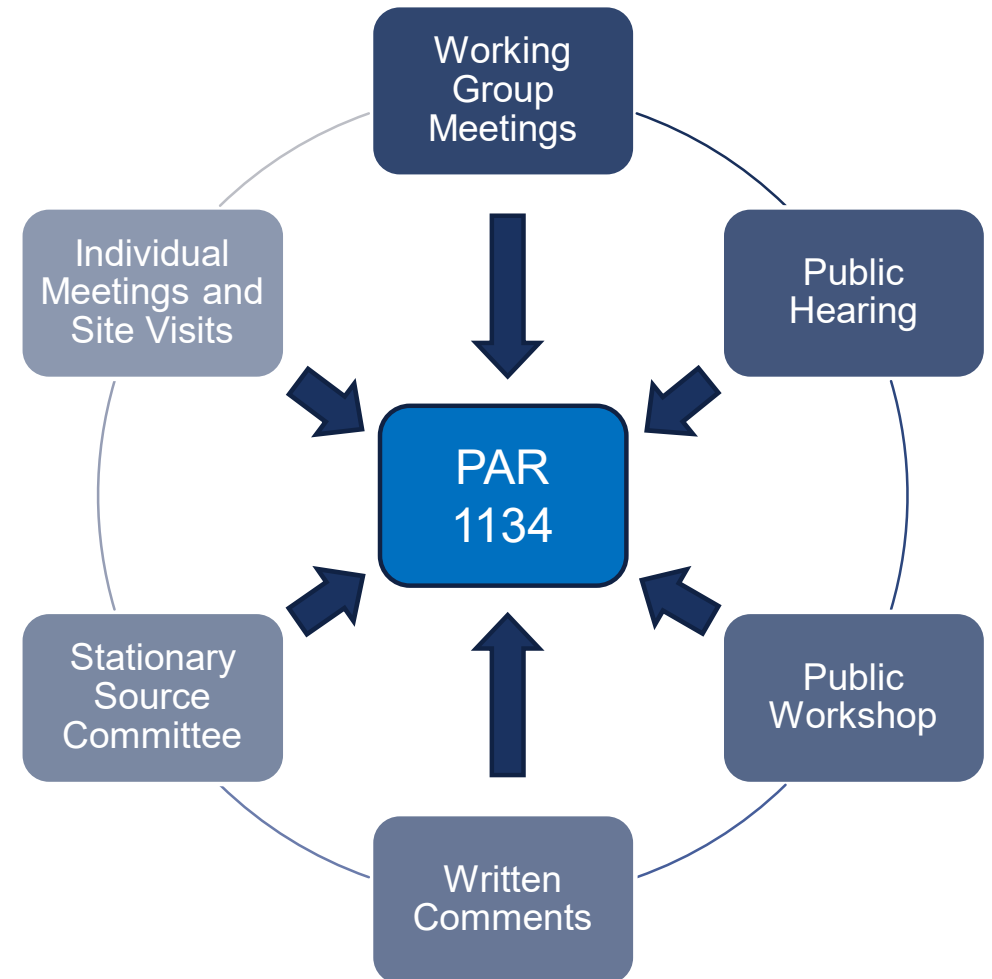


**Draft Rule
Language
and Staff
Report**

**Public
Hearing**

Stakeholder Input

- Stakeholders can provide input throughout the rulemaking process
- Early input is strongly encouraged to help develop proposed rule amendments and to address issues
- Working Group Meetings, Individual Meetings, and Virtual Site Visits allow stakeholders to directly speak to staff regarding individual issues





General Overview of Rule 1134



Rule 1134 Background and Applicability

- Adopted on August 4, 1989
 - Applied only to turbines installed prior to rule adoption
- Amended on April 5, 2019 to update Best Available Retrofit Control Technology (BARCT) limit as part of the RECLAIM transition
- Applies to stationary gas turbines rated ≥ 0.3 MW for RECLAIM and non-RECLAIM facilities
 - Excludes gas turbines subject to source-specific rule
 - Electricity Generating Facilities (Rule 1135)
 - Petroleum Refineries (Rule 1109.1)
 - Publicly Owned Treatment Works (Rule 1179.1)
 - Landfills (Rule 1150.3)



Proposed Revisions



Purpose of Proposed Amendments



- After the April 2019 amendment, U.S. EPA requested that changes be made to Start-up, Shutdown, and Tuning requirements to assure attainment and maintenance of the National Ambient Air Quality Standards (NAAQS)
- Additionally, stakeholders have requested for other updates to Rule 1134

Proposed Amendments

Start-Up,
Shutdown, and
Tuning

Removal of
ammonia slip
limits

CEMS for non-
RECLAIM and
former RECLAIM
facilities

New category for
recuperative gas
turbines

Liquid fuel usage
for critical care
facilities

Source testing
frequency for gas
turbines

Start-Up, Shutdown, and Tuning

- Current Rule 1134 Start-Up, Shutdown, and Tuning provisions require all stationary gas turbines to follow the conditions stated in their permits
 - Permit requirements are tailored to specific equipment
 - Usually includes limits for duration and best management practices
 - Generally more stringent than Rule 429 - Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen
- Rule 429 is also applicable to turbines subject to Rule 1134
 - Includes limits for duration and frequency of scheduled Start-Up and Shutdowns
- Staff is proposing to clarify by reference that the Start-Up and Shutdown provisions in Rule 429 are applicable
- Will retain requirement that permits include conditions specific to Start-Up, Shutdown, and Tuning for each turbine

Start-Up, Shutdown, and Tuning – Rule 429

- Under Rule 429, start-up and shutdown intervals may not last longer than specified in the permit to operate
- If permit conditions do not specify a time limit, then stationary gas turbines are not to exceed:
 - 15 minutes for simple cycle turbines
 - 2 hours for combined cycle turbines
 - The number of scheduled start-up and shutdowns allowed for each unit is a maximum of 10 per year

Removal of Ammonia Slip Limits

- Currently, Rule 1134 has an ammonia slip limit of 5 ppm for new and modified air pollution control equipment with ammonia emissions in the exhaust
- Under Regulation XIII - New Source Review, for Selective Catalytic Reduction (SCR) installations the Best Available Control Technology ammonia emission limit is 5 ppm
- Staff believes it is more appropriate to address the ammonia emission limit for new and modified pollution controls, such as SCR, through Regulation XIII during the permitting process where it can be evaluated in a case-by-case basis
 - Proposing to remove ammonia slip limits under Rule 1134
 - Existing SCR units will follow their permitted limits for ammonia

CEMS for Non-RECLAIM and Former RECLAIM Facilities

- Currently Rule 1134 requires CEMS for stationary gas turbines greater than 2.9 MW
 - Non-RECLAIM facilities comply with Rule 218 – Continuous Emission Monitoring and Rule 218.1 – Continuous Emissions Monitoring Performance Specifications
 - Former RECLAIM facilities comply with Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions
- For RECLAIM transition purposes, staff has amended Rules 218 and 218.1 and developed two new monitoring rules for Non-RECLAIM and former RECLAIM facilities:
 - Rule 218.2 – Continuous Emission Monitoring System: General Provision
 - Rule 218.3 – Continuous Emission Monitoring System: Performance Specification
- Under Rule 1134, staff is proposing to update CEMS provisions for non-RECLAIM and former RECLAIM facilities by referencing Rules 218, 218.1, 218.2, and 218.3

New Category for Recuperative Gas Turbines

- A stakeholder has informed staff that they would like a consideration to be made for their natural gas recuperative turbines currently operating with no SCR
- Gas turbines complying with Rule 1134 include:

Simple Cycle

Combined Cycle

Cogeneration

Compressor

Emergency
Standby

- Rule 1134 does not currently have language to define or categorize recuperative gas turbines
 - A recuperation system increases the efficiency for power generation when it pre-heats the air from the compressor before it enters the combustion chamber, thus reducing fuel consumption
- Staff is proposing to add new class and category for natural gas recuperative turbine
 - Limits for natural gas recuperative turbines will be discussed further at the next Working Group Meeting

Liquid Fuel Usage for Critical Care Facilities

- Currently, Rule 1134 prohibits the use of liquid fuel for stationary turbines
 - Exemption included for turbines located on the Outer Continental Shelf (offshore platforms)
- A stakeholder has informed staff that they would like to provide emergency power for a hospital using a turbine operating on liquid fuel rather than a diesel engine
 - Fewer emissions would be emitted by the turbine than an emergency diesel engine
 - Hospitals are required to have a minimum of two independent power sources with 96 hours of back up power capability for critical care facilities per the 2019 California Electrical Code (Title 24, Part 3, Articles 517.29 - 517.30) and the National Fire Protection Association (Code 110)
- Staff is proposing to add a provision to allow the use of liquid fuel for turbines providing power to hospitals during a natural gas curtailment
 - New limit will be proposed at the next Working Group Meeting

Source Testing Frequency for Gas Turbines



- Currently, clause (e)(2)(C)(ii) states that each stationary gas turbine operating without a CEMS and emitting less than 25 tons is required to perform a source test once every three years to demonstrate NO_x emission limit compliance
- Clarification that each stationary gas turbine emitting less than 25 tons of NO_x per calendar year is needed before complying with source tests requirements

Next steps

Working Group Meeting #2

Mid May

Public Workshop

Late May

Stationary Source Committee

June 18, 2021

Set Hearing

June 4, 2021

Public Hearing

August 6, 2021

Contacts

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For more information, visit:
[PAR 1134 Proposed Rules Page](#)

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Proposed Amended Rule 1134,
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