

BOARD MEETING DATE: February 4, 2022

AGENDA NO. 25

PROPOSAL: Determine That Proposed Amendments to Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines, Are Exempt from CEQA; and Amend Rule 1134

SYNOPSIS: Proposed Amended Rule 1134 will remove ammonia limits for selective catalytic reduction systems that will be addressed during permitting, clarify applicable NOx concentration limits for recuperative gas turbines, and incorporate a narrow exemption for use of liquid fuel for turbines used at health facilities during natural gas curtailments. Other amendments are included to update provisions for Continuous Emission Monitoring Systems, remove startup and shutdown requirements which will be addressed in Rule 429 – Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen, and provide other clarifications.

COMMITTEE: Stationary Source, October 15, 2021, Reviewed

RECOMMENDED ACTION:

Adopt the attached Resolution:

1. Determining that the proposed amendments to Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines are exempt from the requirements of the California Environmental Quality Act; and
2. Amending Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines.

Wayne Natri
Executive Officer

SR:SN:MM:UV:LW

Background

Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines, was adopted in 1989 and was applicable to stationary gas turbines rated at 0.3 MW and larger that were issued a Permit to Operate by South Coast AQMD prior to August 4, 1989. Rule 1134 was most recently amended in April 2019 to expand the applicability

to include gas turbines installed after 1989 and gas turbines located at RECLAIM facilities, establish NO_x concentration limits for gas turbines based on a BARCT assessment, and establish ammonia slip limits.

Since the adoption of amendments in 2019, staff recommends that it is more appropriate to address ammonia limits during permitting instead of in source-specific rules and to have all provisions that exempt an operator from the NO_x concentration limits when a unit is starting up or shutting down in a separate rule. Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (PAR 1134) will address these two issues as well as provide interim NO_x emission limits for facilities that transition out of RECLAIM prior to meeting the NO_x limit under Rule 1134 and address other issues that were identified after the 2019 amendments.

Public Process

Development of PAR 1134 was conducted through a public process. Staff held two working group meetings, which included environmental and community groups, industry representatives, equipment vendors, and other agencies, on April 21, 2021 and July 8, 2021. A Public Workshop was held on September 23, 2021.

Proposed Amendments

PAR 1134 will remove the ammonia emission limits for units that are installing new selective catalytic reduction systems, which will be addressed during permitting, and removes startup and shutdown requirements which will be addressed in Rule 429 – Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen. PAR 1134 clarifies that recuperative gas turbines are included in a category referred to as “other,” and includes a new provision for liquid fuel usage at health facilities consistent with state law provisions for use of liquid fuel in certain situations at these facilities. To ensure there is no backsliding of emissions as required under the federal Clean Air Act Section 110(l), PAR 1134 will establish an interim NO_x limit of 68 ppmv at 15 percent oxygen on a dry basis for compressor gas turbines that will apply to former RECLAIM facilities until the unit meets the final NO_x limit under Rule 1134. PAR 1134 aligns monitoring, recordkeeping, and reporting provisions with recently adopted and amended Rule 218-series.

Emission Reductions

PAR 1134 will not impact the NO_x concentration limits or the implementation schedule, so there are no additional emission reductions.

Key Issues

Through the rulemaking process, staff has worked with stakeholders to address and resolve all issues. Staff is not aware of any remaining key issues.

California Environmental Quality Act

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, PAR 1134 is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062 and is included as Attachment H to this Board letter. If PAR 1134 is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal, which may be accessed via the following weblink:

<https://ceqanet.opr.ca.gov/search/recent>. In addition, the Notice of Exemption will be electronically posted on South Coast AQMD's webpage which can be accessed via the following weblink: <http://www.aqmd.gov/nav/about/public-notice/ceqa-notice/notice-of-exemption/noe---year-2022>.

Socioeconomic Analysis

There are 72 turbines located at 37 facilities that are potentially impacted by PAR 1134. PAR 1134 does not impose any additional costs to facilities and does not result in any adverse socioeconomic impacts.

AQMP and Legal Mandates

PAR 1134 will partially implement CMB-05 – Further NO_x Reductions from RECLAIM Assessment in the 2016 AQMP and to facilitate the transition of facilities in the NO_x RECLAIM program to a command-and-control regulatory structure. PAR 1134 implements Sections 110, 172, 173, and 182(e) of the Clean Air Act and will be submitted to CARB and U.S. EPA for inclusion into the State Implementation Plan. PAR 1134 also implements AB 617 BARCT requirements.

Implementation and Resource Impacts

Existing staff resources are adequate to implement the proposed amendments.

Attachments

- A. Summary of Proposal
- B. Key Issues and Responses
- C. Rule Development Process
- D. Key Contacts List
- E. Resolution
- F. Proposed Amended Rule 1134
- G. Final Staff Report with Socioeconomic Impact Assessment
- H. Notice of Exemption from CEQA
- I. Board Meeting Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 1134 Emissions of Oxides of Nitrogen from Stationary Gas Turbines

Emissions Limits

- Removes ammonia emission limits (addressed during permitting)
- Removes startup and shutdown provisions and clarifies startup and shutdown periods are pursuant to Rule 429 – Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen
- Establishes an interim NO_x concentration limit for compressor gas turbines
- Clarifies that recuperative gas turbines are under “Other” turbines category

Monitoring, Recordkeeping, and Reporting

- Remove references to Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions for former RECLAIM facilities
- Adds Rules 218.2 – Continuous Emission Monitoring System: General Provisions and 218.3 – Continuous Emission Monitoring System: Performance Specification for former RECLAIM and non-RECLAIM facilities

Liquid Fuel Usage for Health Facilities

- Incorporates a narrow liquid fuel usage exemption for turbines located at health facilities during emergencies

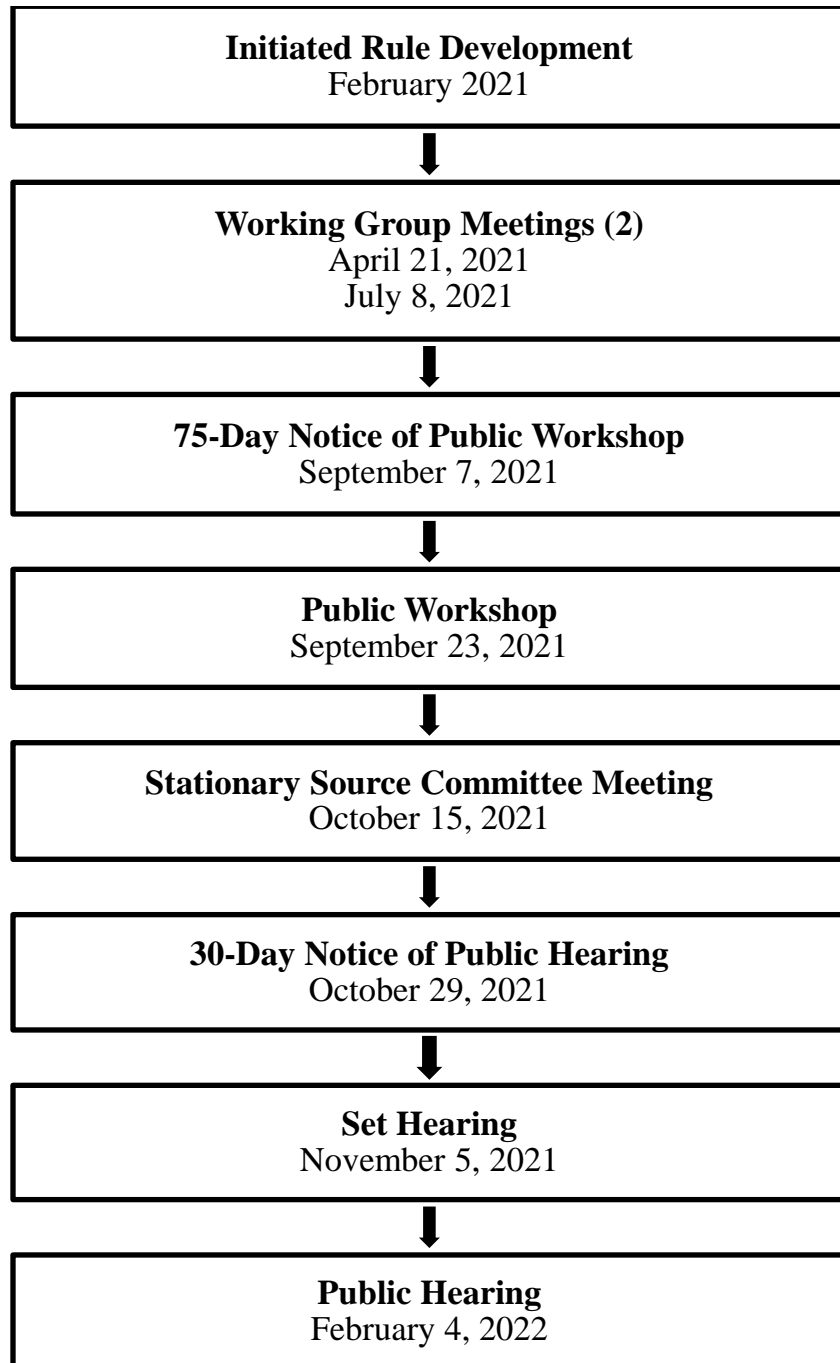
ATTACHMENT B

KEY ISSUES AND RESPONSES

<p>Proposed Amended Rule 1134 Emissions of Oxides of Nitrogen from Stationary Gas Turbines</p>
<p>Through the rulemaking process, staff worked with stakeholders to resolve issues and is not aware of any remaining key issues.</p>

ATTACHMENT C
RULE DEVELOPMENT PROCESS

Proposed Amended Rule 1134
Emissions of Oxides of Nitrogen from Stationary Gas Turbines



Twelve (12) months spent in rule development
One (1) Public Workshop
One (1) Stationary Source Committee Meeting
Two (2) Working Group Meetings

ATTACHMENT D
KEY CONTACTS LIST

Proposed Amended Rule 1134
Emissions of Oxides of Nitrogen from Stationary Gas Turbines

Andeavor	Marathon Petroleum
Ashworth Leininger Group	Montrose Environmental
Beta Offshore	National Resources Defense Council
California Air Resources Board	Orange County Sanitation District
California Council for Environmental and Economic Balance	Phillips66 Refinery
California Resources Corporation	Public Solar Power Coalition
California State University, Fullerton	Ramboll
City of Anaheim	Riverside Public Utilities
City of Riverside	Sanitation Districts of Los Angeles County
Chevron	Signal Hill Petroleum
Community Environmental Services	Southern California Air Quality Alliance
Earth Justice	Southern California Edison
Ecotek	Southern California Gas Company
Elements Market LLC	Southport Equipment Corporation
Environmental Management Professionals	Torrance Refinery
ES Engineering Services	U.S. Environmental Protection Agency
Flex Energy	University of California at Irvine
Goss Engineering, Inc.	University of California at Los Angeles
Loma Linda University	VIM Technologies
Los Angeles World Airports	Western States Petroleum Association
Los Angeles Department of Water & Power	World Oil Corporation
	Yorke Engineering

ATTACHMENT E

RESOLUTION NO. 22-____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) determining that Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (Proposed Amended Rule 1134) is exempt from the requirements of the California Environmental Quality Act (CEQA).

A Resolution of the South Coast AQMD Governing Board amending Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines.

WHEREAS, the South Coast AQMD Governing Board finds and determines that Proposed Amended Rule 1134 is considered a “project” as defined by CEQA; and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l), and has conducted a CEQA review and analysis of Proposed Amended Rule 1134 pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board finds and determines after conducting a review of the proposed project in accordance with CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA, and CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA, that Proposed Amended Rule 1134 is exempt from CEQA; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that, since no physical modifications are expected to occur as a result of the proposed project, it can be seen with certainty that there is no possibility that Proposed Amended Rule 1134 may have any significant effects on the environment, and is therefore, exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption; and

WHEREAS, the South Coast AQMD staff has prepared a Notice of Exemption for Proposed Amended Rule 1134 that is completed in compliance with CEQA Guidelines Section 15062 – Notice of Exemption; and

WHEREAS, Proposed Amended Rule 1134 and supporting documentation, including but not limited to, the Notice of Exemption and the Final Staff Report, were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and

considered staff testimony and public comment prior to approving the proposed project; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (Section 30.5(4)(D)(i) of the Administrative Code), that there were no modifications to Proposed Amended Rule 1134 since the Notice of Public Hearing was published; and

WHEREAS, Proposed Amended Rule 1134 will be submitted for inclusion into the State Implementation Plan; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to amend Rule 1134 to remove the ammonia concentration limit for new and modified pollution controls to prevent conflicts with implementing Regulation XIII – New Source Review and other provisions to improve the clarity of Rule 1134; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, and 41700; and

WHEREAS, the South Coast AQMD Governing Board finds that there is an ozone problem that Proposed Amended Rule 1134 will alleviate and that the proposed amended rule will promote the attainment or maintenance of state or federal ambient quality standards; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1134 is written and displayed so that the meaning can be easily understood by the persons directly affected by it; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1134 is in harmony with and not in conflict with, or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1134 will not impose the same requirements as any existing state or federal regulations, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in amending Rule 1134, references the following statutes which the South Coast AQMD hereby implements,

interprets, or makes specific: Assembly Bill 617 and Health and Safety Code Sections 39002, 40000, 40001, 40702, 40406 (BARCT), 40440(a), and 40725 through 40728.5, and Clean Air Act Section 172 (c)(1) (reasonably available control technology); and

WHEREAS, Health and Safety Code Section 40727.2 requires that South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts or amends a rule, and that the South Coast AQMD's comparative analysis of Proposed Amended Rule 1134 is included in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Socioeconomic Impact Assessment is not required, pursuant to Health and Safety Code Section 40440.8 or 40728.5, because Proposed Amended Rule 1134 will not have a significant impact on air quality or emissions limitations; and

WHEREAS, the South Coast AQMD staff conducted a Public Workshop regarding Proposed Amended Rule 1134 on September 23, 2021; and

WHEREAS, a public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a public hearing in accordance with all applicable provisions of state and federal law; and

WHEREAS, the South Coast AQMD specifies that the Planning and Rules Manager of Proposed Amended Rule 1134 is the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of these proposed amendments is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE BE IT RESOLVED, that the South Coast AQMD Governing Board does hereby determine, pursuant to the authority granted by law, that Proposed Amended Rule 1134 is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. This information has been presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 1134; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1134 as set forth in the attached, and incorporated herein by reference; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board requests that Proposed Amended Rule 1134 be submitted into the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to forward a copy of this Resolution and Proposed Amended Rule 1134 to the

California Air Resources Board for approval and subsequent submittal to the U.S. Environmental Protection Agency for inclusion into the State Implementation Plan.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT F

(Adopted August 4, 1989)(Amended December 7, 1995)
(Amended April 11, 1997)(Amended August 8, 1997)
(Amended April 5, 2019)(Amended February 4, 2022)

PROPOSED
AMENDED
RULE 1134.

**EMISSIONS OF OXIDES OF NITROGEN FROM
STATIONARY GAS TURBINES**

[Rule Index to be included after adoption]

(a) Purpose

The purpose of this rule is to reduce emissions of oxides of nitrogen (NO_x) from stationary gas turbines.

(b) Applicability

The provisions of this rule shall apply to all stationary gas turbines, 0.3 megawatt (MW) and larger. ~~This rule does not apply to stationary gas turbines: subject to Rule 1135—Emissions of Oxides of Nitrogen from Electricity Generating Facilities; located at petroleum refineries, landfills, or publicly owned treatment works; or fueled by landfill gas.~~

(c) Definitions

- (1) ANNUAL CAPACITY FACTOR is the ratio between the measured heat input (in MMBTU) from fuel consumption to a stationary gas turbine during a calendar year and the potential heat input (in MMBTU) to the stationary gas turbine had it been operated for 8,760 hours during a calendar year at the permitted heat input rating, expressed as a percent.
- ~~(2) COGENERATION GAS TURBINE is a gas turbine which is designed to generate electricity and useful heat energy at the same time (combined heat and power).~~
- ~~(32) COMBINED CYCLE/COGENERATION GAS TURBINE is a gas turbine, including cogeneration gas turbines, that recovers heat from the gas turbine exhaust gases.~~
- (43) COMPRESSOR GAS TURBINE is a stationary gas turbine used to transport gases or liquids in a pipeline.
- (54) DUCT BURNER is a device located in the heat recovery steam generator of a gas turbine that combusts fuel and adds heat energy to the turbine exhaust to increase the output of the heat recovery steam generator.

- (65) EMERGENCY STANDBY GAS TURBINE is a gas turbine that operates only as a power source for a facility when the primary power source has been rendered inoperable, except it may not be used for power interruption pursuant to an interruptible power supply agreement.
- (76) EXHAUST AFTER-TREATMENT is a control method for the post-combustion reduction of NO_x emissions, such as selective catalytic reduction (SCR).
- (87) EXISTING GAS TURBINE is a stationary gas turbine that is located at a non-RECLAIM NO_x facility and ~~met the following criteria~~ was operating prior to August 4, 1989:
 - (A) ~~Had been issued a valid permit to construct or operate by the SCAQMD, or~~
 - (B) ~~Was in operation pursuant to the provisions of SCAQMD Rule 219(b)(1).~~
- (8) FORCE MAJEURE NATURAL GAS CURTAILMENT is an interruption in natural gas service due to unavoidable or unforeseeable failure, malfunction, or natural disaster (not resulting from an intentional or negligent act or omission on the part of the owner or operator of a stationary gas turbine), or during an emergency when natural gas is not available, such that the fuel needs of a stationary gas turbine cannot be met with the natural gas available.
- (9) FORMER RECLAIM NO_x FACILITY is a facility, or any of its successors, that was in the NO_x Regional Clean Air Incentives Market (RECLAIM) as of January 5, 2018, as established in Regulation XX, that has received a final determination notification from the Executive Officer ~~or the owner or operator opts out of RECLAIM~~, and is no longer in the RECLAIM program.
- (10) ~~LANDFILL is an entire disposal facility in a contiguous geographical space where solid waste is placed in or on land. A landfill may be active, inactive, or closed.~~
- (10) HEALTH FACILITY has the same meaning as defined in Section 1250 of the California Health and Safety Code.
- (11) NATURAL GAS is a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the California Public Utilities Commission.

- (12) NON-RECLAIM NO_x FACILITY is a facility, or any of its successors, that was not in the NO_x Regional Clean Air Incentives Market RECLAIM as of January 5, 2018, as established in Regulation XX.
- (13) OXIDES OF NITROGEN (NO_x) EMISSIONS is the sum of nitric oxides and nitrogen dioxides emitted, collectively expressed as nitrogen dioxide emissions.
- (14) OUTER CONTINENTAL SHELF is as defined in 40 CFR, Part 55 – Outer Continental Shelf Air Regulations.
- (15) ~~PETROLEUM REFINERY is a facility identified by the North American Industry Classification System Code 324110, Petroleum Refineries.~~
- (16) POWER AUGMENTATION is the increase in the gas turbine shaft output and/or the decrease in gas turbine fuel consumption by the addition of energy recovered from exhaust heat.
- (17) ~~PUBLICLY OWNED TREATMENT WORKS are wastewater treatment or reclamation plants owned and operated by a public entity, including all operations within the boundaries of the wastewater and sludge treatment plant.~~
- (18) PRODUCED GAS is made up of organic compounds that are gaseous at standard temperature and pressure and are associated with the production, gathering, separation, or processing of crude oil.
- (19) RATING OF A GAS TURBINE is the continuous MW (~~megawatt~~)-rating or mechanical equivalent by a manufacturer for a gas turbine without power augmentation.
- (20) RECLAIM NO_x FACILITY is a facility or its successor that was in the Regional Clean Air Incentives Market as of January 5, 2018, as established in Regulation XX and is still in RECLAIM on the relevant date.
- (21) RECUPERATIVE GAS TURBINE is any combustion turbine that recovers combustion heat from the exhaust with an integrated heat exchanger (recuperator) to preheat the compressor discharge air prior to combustion.
- (22) SEWAGE DIGESTER GAS is any gas derived from anaerobic decomposition of organic sewage.
- (23) SHUTDOWN is ~~the time period that begins when a stationary gas turbine reduces load and which ends in a period of zero fuel flow, or as otherwise defined in the SCAQMD permit to operate~~ as defined in Rule 429.

- (23) SIMPLE CYCLE GAS TURBINE is any stationary combustion turbine
(22) that does not recover heat from the combustion turbine exhaust gases to heat water or generate steam.
- (24) ~~START UP~~STARTUP is the time period that begins when a stationary gas
(23) turbine combusts fuel after a period of zero fuel flow and which ends when the stationary gas turbine generates electricity for sale or for any other purpose including on-site use, or as otherwise defined in the SCAQMD permit to operate as defined in Rule 429.
- (25) STATIONARY GAS TURBINE is any gas turbine that is gas and/or liquid
(24) fueled with or without power augmentation. This gas turbine is either attached to a foundation at a facility or is portable equipment that will reside at the same location for more than 12 consecutive months. Two or more gas turbines powering one shaft shall be treated as one gas turbine.
- (26) THERMAL STABILIZATION PERIOD is the two-hour start up time
(25) necessary for NO_x control purposes in ~~co~~generation cycle, combined cycle/cogeneration, recuperative, or any other applicable stationary gas turbines.
- (27) TUNING is adjusting, optimizing, rebalancing, or other similar operations
(26) to a stationary gas turbine or an associated control device or otherwise as defined in the South Coast AQMD Permit to Construct or permit-Permit to operateOperate. Tuning does not include normal operations to meet load fluctuations.

(d) Emissions Limitations

- (1) Until the existing gas turbine operates in compliance with subparagraph (d)(3), but no later than December 31, 2023, the owner or operator of any existing gas turbine shall not operate such unit under load conditions, excluding the thermal stabilization period or other time period specified in the Permit to Construct or the Permit to Operate issued prior to August 4, 1989, which result in the discharge of oxides of nitrogen (NO_x) emissions, directly or indirectly, into the atmosphere at concentrations in excess of the following as measured pursuant to subdivision (f):

$$\text{Compliance Limit} = \text{Reference Limit} \times \frac{EFF}{25\%}$$

Where:

Compliance Limit = allowable NO_x emissions (ppm by volume).

Reference Limit = the NO_x emission limit (ppm by volume) is corrected to 15 percent oxygen on a dry basis, and averaged over 15 consecutive minutes. These limits for various megawatt ratings (continuous rating by the manufacturer without power augmentation) are as follows:

REFERENCE NO_x LIMITS, PPM

Stationary Gas Turbine Size Megawatt (MW) Rating	Effective 12-31-95
0.3 to Less Than 2.9 MW	25
2.9 to Less Than 10.0 MW	9
2.9 to Less Than 10.0 MW No SCR	15
10.0 MW and Over	9
10.0 MW and Over No SCR	12
60 MW and Over Combined Cycle No SCR	15
60 MW and Over Combined Cycle	9
	Effective 4/11/97
2.9 to Less Than 10.0 MW Utilizing Fuel Containing a Minimum of 60% Sewage Digester Gas by Volume on a Daily Average	25

And,

$$EFF = \frac{3413 \times 100\%}{\text{Actual Heat Rate at Higher Heat Value (HHV) of Fuel (BTU/KW-HR)}}$$

or,

$$EFF = \frac{(\text{Manufacturer's Rated Efficiency at Lower Heating Value (LHV)}) \times \frac{LHV}{HHV}}{1}$$

or,

EFF = the demonstrated percent efficiency of the gas turbine only as calculated without consideration of any downstream energy recovery from the actual heat rate, (BTU/KW HR) or 1.34 BTU/HP; corrected to the HHV (higher heating value) of the fuel, as measured at peak load for that facility; or the manufacturer's continuous rated percent efficiency (manufacturer's rated efficiency) of the gas turbine after correction from LHV (lower heating value) to the HHV of the fuel, whichever efficiency is higher. The value of EFF shall not be less than 25 percent. Gas turbines with lower efficiencies will be assigned a 25 percent efficiency for this calculation.

- (2) The operator of any existing gas turbine subject to this rule shall also be subject to Regulation XIII – New Source Review if carbon monoxide (~~CO~~) emissions increase as a result of the application of NO_x controls.
- (3) ~~Notwithstanding the exemptions contained in Rule 2001—Applicability, Table I Rules Not Applicable to RECLAIM Facilities for Requirements Pertaining to NO_x Emissions, or~~ On and after January 1, 2024, or when required by a Permit to Construct or permit-Permit to operate~~Operate~~, whichever occurs first, the owner or operator of any stationary gas turbine, excluding compressor gas turbines, shall not operate such unit ~~under load conditions, excluding start-up, shutdown, and tuning periods, which result in the discharge of NO_x and ammonia emissions, directly or indirectly, into the atmosphere at concentrations in excess of~~ in a manner that exceeds the following emissions limits listed in Table I. The NO_x emission limits in Table I shall not apply during tuning periods, or startup and shutdown periods pursuant to Rule 429.

Table I: Emissions Limits for Stationary Gas Turbines
(Corrected to 15% oxygen on a dry basis)

Fuel Type	NO _x (ppmv)	Ammonia (ppmv)
Liquid Fuel – Turbines Located on Outer Continental Shelf	30	5
Natural Gas – Combined Cycle/ <u>Cogeneration</u> Turbine	2	5
Natural Gas – Simple Cycle Turbine	2.5	5
Produced Gas	9	5
Produced Gas – Turbines Located on Outer Continental Shelf	15	5
Other ¹	12.5	5

¹Includes recuperative gas turbines

- (A) Until an existing or replacement compressor gas turbine located at a former RECLAIM NO_x facility meets the NO_x limit specified in subparagraph (d)(3)(B), the owner or operator shall not operate this existing compressor gas turbine in a manner that exceeds 68 ppmv NO_x, corrected to 15 percent oxygen on a dry basis.
- (4) (B) ~~Notwithstanding the exemptions contained in Rule 2001—Applicability, Table I—Rules Not Applicable to RECLAIM Facilities for Requirements Pertaining to NO_x Emissions, 24~~
Twenty-four months after a permit-Permit to construct-Construct is issued by the Executive Officer, or 36 months after a permit-Permit to construct-Construct is issued by the Executive Officer if the application was submitted by July 1, 2021, the owner or operator of a compressor gas turbine, shall not operate such the unit under load conditions, excluding startup, shutdown, and tuning periods, which result in the discharge of NO_x and ammonia emissions, directly or indirectly, into the atmosphere at concentrations in excess of the NO_x following emissions limits listed in Table II.

Table II: Emissions Limits for Compressor Gas Turbines
(Corrected to 15% oxygen on a dry basis)

Fuel Type	NO _x (ppmv)	Ammonia (ppmv)
Natural Gas – Compressor Gas Turbine	3.5	10

- (5) ~~Start-Up, Shutdown, and Tuning~~
~~The owner or operator of a stationary gas turbine shall meet start-up, shutdown, and tuning requirements in the SCAQMD permit to operate. On and after January 1, 2024, the SCAQMD permit to operate shall include limitations for duration, mass emissions, and number of start-ups, shutdowns, and tunings.~~
- (46) Averaging Time
- (A) Stationary gas turbines installed prior to April 5, 2019 shall comply with the averaging time requirements specified on the South Coast AQMD permit-Permit to operate-Operate as of April 5, 2019, not to exceed 3 hours.
- (B) Stationary gas turbines installed on and after April 5, 2019 shall average the NO_x, ~~and ammonia~~ emissions limits in Table I over a 60-minute rolling average.
- (C) Stationary compressor gas turbines installed after April 5, 2019 shall average the NO_x ~~and ammonia~~ emissions limits in Table II over a three-hour rolling average.
- (57) ~~Use Prohibition~~ of Liquid Fuel
 An owner or operator of a stationary gas turbine shall not burn liquid fuel in a stationary gas turbine except for:
- (A) Those located in the Outer Continental Shelf; or
- (B) Those providing power for a health facility during a force majeure natural gas curtailment pursuant to paragraph (d)(8).
- (68) On or before July 1, 2022, the owner or operator of a stationary gas turbine shall submit an application for a permit-Permit to construct-Construct or change of permit conditions to reconcile the permit-Permit to operate-Operate with Rule 1134.
- (79) The owner or operator of a compressor gas turbine may submit a request to the Executive Officer for approval of an extension of up to 12 months to

meet the NO_x limits specified in ~~paragraph (d)(4)~~ Table II and up to an additional 36 months to meet the ammonia emission limits specified in the Permit to Construct or Permit to Operate (such request shall be considered a plan for purposes of Rules 216 – Appeals and Rule 221 – Plans).

- (A) The owner or operator that elects to submit a request for a time extension shall submit the request at least 30 days before the compliance deadline specified in ~~paragraph (d)(4)~~ Table II or in the Permit to Construct or Permit to Operate.
- (B) The owner or operator that submits a request for a time extension request shall provide the following information to the Executive Officer:
 - (i) Identification of the units for which a time extension is needed;
 - (ii) The reason(s) a time extension is needed;
 - (iii) Progress of replacing or retrofitting the compressor gas turbine(s);
 - (iv) The length of time requested;
 - (v) A demonstration that actual facility NO_x emissions will decrease by at least an average of 25 ~~percent~~% in the two years prior to the extension request in comparison to 2017 facility NO_x emissions:-
 - (vi) Installation of an ammonia continuous emission monitoring system (CEMS) certified under an approved South Coast AQMD protocol, if an extension is requested beyond 12 months to comply with the ammonia emission limits in ~~paragraph (d)(4)~~ the Permit to Construct or Permit to Operate:- and
 - (vii) A demonstration that use of ~~a~~ the turbine being replaced or retrofitted is less than 1,000 hours annually if an extension is requested beyond 24 months to comply with the ammonia emission limits in ~~paragraph (d)(4)~~ the Permit to Construct or Permit to Operate.
- (C) The Executive Officer will approve or disapprove the request for a time extension. Approval or disapproval will be based on the following criteria:

- (i) The owner or operator prepared the request for a time extension in compliance with subparagraphs ~~(d)(9)(A) and (d)(9)(B)~~ (d)(7)(A) and (d)(7)(B); and
 - (ii) The owner or operator provided sufficient details identifying the reason(s) a time extension is needed that demonstrates to the Executive Officer that there are extenuating circumstances that necessitate additional time to complete implementation. Such a demonstration may include, but is not limited to, providing detailed schedules, engineering designs, construction plans, land acquisition contracts, permit applications, test results, and purchase orders.
- (D) The owner or operator may appeal the rejection of the extension to the Hearing Board under Rule 216—~~Appeals~~. If the Hearing Board denies the appeal, the emissions limits must be complied with by the compliance deadline specified in ~~paragraph (d)(4)~~ subparagraph (d)(3)(B) or 30 days after the Hearing Board denial, whichever is later.

(8) Force Majeure Natural Gas Curtailment for Health Facilities

An owner or operator of a stationary gas turbine at a health facility shall not be subject to the NO_x emission limits specified in paragraph (d)(3) during force majeure natural gas curtailment when the use of liquid fuel is required, provided that:

- (A) The health facility is required by the 2019 California Code of Regulations, Title 24, Part 3, Articles 517.29 and 517.30 to have a minimum of two independent power sources;
- (B) For each occurrence, a corporate officer shall sign an affidavit, which shall be maintained at the facility for a period of five years, affirming that liquid petroleum fuel was burned due to force majeure natural gas curtailment;
- (C) The Permit to Construct or Permit to Operate for the stationary gas turbine specifies a NO_x emission limit when the stationary gas turbine burns liquid fuel; and
- (D) The stationary gas turbine meets the NO_x emission limit specified in paragraph (d)(3) upon completion of the force majeure natural gas curtailment.

(9) Fuel Readiness Testing

An owner or operator of a stationary gas turbine shall not be subject to the NO_x emissions limits specified in paragraph (d)(3) during fuel oil readiness testing, provided that:

- (A) The Permit to Construct or Permit to Operate for the stationary gas turbine specifies a NO_x emission limit and duration limits when the stationary gas turbine burns liquid fuel;**
- (B) Fuel oil readiness testing only occurs after the equipment has reached the emission limits specified in paragraph (d)(3) while firing on natural gas and shall commence no later than 60 minutes after achieving the emission limits specified in paragraph (d)(3) while firing on natural gas; and**
- (C) Each fuel oil readiness test shall commence when the stationary gas turbine switches from natural gas to liquid fuel and conclude when the stationary gas turbine switches from liquid fuel to natural gas.**

(e) Monitoring and Source Testing

The owner or operator of any stationary gas turbine subject to the provisions of this rule shall perform the following actions:

- (1) For Stationary gas turbines 2.9 MW and larger (continuous rating by the manufacturer without power augmentation) located at a non-RECLAIM NO_x facility or a former RECLAIM NO_x facility, shall install, operate, and maintain in calibration a continuous in-stack NO_x and oxygen monitoring system which meets the requirements of South Coast AQMD Rules 218 – Continuous Emission Monitoring, 218.1 – Continuous Emission Monitoring Performance Specifications, 218.2 – Continuous Emission Monitoring System: General Provisions, and 218.3 – Continuous Emission Monitoring System: Performance Specifications to demonstrate compliance with the emission limits of this rule. This system shall include equipment that measures and records the following:**
 - (A) Flow rate of liquids or gases and the ratio of water or steam to fuel added to the combustion chamber or to the exhaust for the reduction of NO_x emissions, as applicable;**
 - (B) Elapsed time of operation; and**
 - (C) Turbine output in MW.**

(2) Source Testing

- (A) The owner or operator of any existing gas turbine located at a non-RECLAIM NO_x facility operating without a CEMS~~continuous emission monitoring system~~, shall provide source test information regarding the gas turbine's exhaust gas NO_x concentration, and the demonstrated percent efficiency (EFF), or the manufacturer's rated EFF, if the Executive Officer determines that it is representative of the unit's EFF, and the carbon monoxide concentration as specified pursuant to paragraph (f)(1). NO_x and carbon monoxide concentrations shall be in ppm by volume, corrected to 15 percent oxygen on a dry basis.
- (B) The owner or operator of each stationary gas turbine with a catalytic control device shall conduct source testing pursuant to clause(e)(2)(C)(iii) or utilize an ammonia CEMS~~continuous emission monitoring system~~ certified under an approved South Coast AQMD protocol to demonstrate compliance with the ammonia emission limit in the Permit to Construct or Permit to Operate.
- (C) Source Test Frequency
 - (i) The owner or operator of each stationary gas turbine operating without a NO_x CEMS and a catalytic control device not using an ammonia CEMS~~continuous emission monitoring system~~ and emitting 25 tons or more of NO_x per calendar year shall perform NO_x and ammonia source tests simultaneously to demonstrate compliance with the NO_x emission limits of this rule and the ammonia emission limits in the Permit to Construct or Permit to Operate, at least once every calendar year.
 - (ii) The owner or operator of each stationary gas turbine operating without a NO_x CEMS and catalytic control device not using an ammonia CEMS, ~~continuous emission monitoring system~~ and emitting less than 25 tons of NO_x per calendar year shall perform NO_x and ammonia source tests simultaneously to demonstrate compliance with the NO_x emission limits of this rule and ammonia emission

limits in the Permit to Construct or Permit to Operate, at least once every three calendar years.

- (iii) The owner or operator of each stationary gas turbine with a NO_x CEMS and a catalytic control device not utilizing using an ammonia CEMS~~continuous emission monitoring system~~ shall conduct an ammonia source tests quarterly to demonstrate compliance during the first ~~12~~twelve months of operation of the catalytic control device and every calendar year thereafter when four consecutive source tests demonstrate compliance with the ammonia emission limit in the Permit to Construct or Permit to Operate. If a source test is failed, four consecutive quarterly source tests shall demonstrate compliance with the ammonia emissions limits prior to resuming source tests annually.
- (iv) The owner or operator of each stationary gas turbine without a NO_x CEMS and with a catalytic control device using an ammonia CEMS shall conduct a NO_x source test to determine compliance with NO_x emission limits, at least once every three calendar years.
- (3) The owner or operator of each stationary gas turbine subject to Rule 1134 located at a RECLAIM NO_x facility shall comply with South Coast AQMD Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions to demonstrate compliance with the NO_x emissions limits of this rule.
- (4) ~~The owner or operator of each stationary gas turbine subject to Rule 1134 located at a former RECLAIM NO_x facility shall conduct monitoring and recordkeeping pursuant to SCAQMD Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions, excluding the following:~~
 - (A) ~~Rule 2012 paragraphs (c)(3) through (c)(8), reporting and Super Compliant facilities;~~
 - (B) ~~Rule 2012 subparagraphs (d)(2)(B) through (d)(2)(E), reporting and emission factors;~~
 - (C) ~~Rule 2012 subdivision (e), NO_x Process Units;~~
 - (D) ~~Rule 2012 paragraphs (g)(5) through (g)(8), reporting;~~

- (E) ~~Rule 2012 paragraphs (h)(1), (h)(2), and (h)(4) through (h)(6), reporting and mass emissions;~~
- (F) ~~Rule 2012 subdivisions, (i), (k), and (l), Recordkeeping, Exemptions, and Appeals; and~~
- (G) ~~Reported Data and Transmitting/Reporting Frequency requirements from Rule 2012 Appendix A “Protocol for Monitoring, Reporting and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions.”~~

(f) Test Methods

The following may be used by the Executive Officer to verify the concentrations of NO_x, ammonia, carbon monoxide (~~CO~~), and oxygen subject to the provisions of this rule. Emissions determined to exceed any limits established by this rule through either of the following shall constitute a violation of this rule.

- (1) South Coast AQMD Test Methods 3.1, 5.3, 7.1, 10.1, 100.1, and 207.1, and U.S. EPA Test Methods 10 and 17, or any method deemed to be equivalent by the Executive Officer and approved by CARB and U.S. EPA.
- (2) Data obtained from a ~~CEMS~~continuous emissions monitoring system, which is installed and properly operated according to paragraph (e)(1) of this rule and as approved by the Executive Officer.
- (3) Emissions determined to exceed any limits established by this rule through the use of any of the above-referenced test methods shall constitute a violation of the rule.

(g) Recordkeeping

The owner or operator of a stationary gas turbine shall comply with the following provisions ~~effective on and after~~ July 5, 2019:

- (1) All records shall be maintained at the facility for a period of two years and made available to South Coast AQMD staff upon request.
- (2) Maintain a stationary gas turbine operating log that includes, on a daily basis, the actual ~~start-up~~startup and ~~shut-down~~shutdown times; total hours of operation; type and quantity of fuel used (liquid/gas); cumulative hours of operation to date for the calendar year.
- (3) Install, operate, and maintain a data acquisition system (DAS) to demonstrate compliance with the provisions subdivisions (d) and (h) of this rule.

- (4) The results of source tests shall be submitted to the South Coast AQMD in a form and manner as specified by the Executive Officer within 60 days after source testing is completed.
- (5) Any person using an emission control system as a means of complying with this rule shall maintain daily records of system operation and maintenance which will demonstrate continuous operation and compliance of the emission control device during periods of emission producing activities.

(h) Exemptions

The owner or operator seeking to qualify for any one of the following exemptions has the burden of proving their stationary gas turbine meets the applicable specified criteria.

- (1) All provisions of this rule shall not apply to the following:
 - (A) Laboratory gas turbines used in research and testing; ~~and~~
 - (B) Gas turbines operated exclusively for firefighting and/or flood control; ~~and~~;
 - (C) Gas turbines subject to:
 - (i) Rule 1109.1 – Emissions of Oxides of Nitrogen for Petroleum Refineries and Related Operations;
 - (ii) Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities;
 - (iii) Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills; and
 - (iv) Rule 1179.1 – Emission Reductions from Combustion Equipment at Publicly Owned Treatment Works Facilities.
- (2) Emergency Standby Gas Turbines
 - (A) The owner or operator of an emergency standby gas turbine shall not be subject to subdivisions (d) and (e), and paragraphs (g)(3), (g)(4), and (g)(5) for that turbine, provided that the owner or operator of the emergency standby gas turbine shall:
 - (i) Install and maintain in proper operation a non-resettable engine hour meter; and
 - (ii) Demonstrates less than 200 hours of operation per calendar year.

(B) If the hour-per-year limit is exceeded, the exemption shall be automatically and permanently withdrawn. The owner or operator of any stationary gas turbine exempt under subparagraph (h)(2)(A) shall:

- (i) Notify the Executive Officer within seven days of the date the hour-per-year limit is exceeded; and
- (ii) Within 30 days after the date the hour-per-year limit is exceeded, submit a permit application for modification to equipment to meet the applicable compliance limit within 24 months of the date the hour-per-year limit is exceeded. Included with this permit application, the owner or operator shall submit an emission control plan including a schedule of increments of progress for the installation of the required control equipment. This plan and schedule shall be subject to the review and approval of the Executive Officer.

(3) Combined Cycle/Cogeneration Gas Turbines

The owner or operator of a combined cycle/cogeneration gas turbine installed prior to April 5, 2019 shall not be subject to paragraph (d)(3) for that combined cycle/cogeneration gas turbine, provided that:

- (A) The South Coast AQMD permit-Permit to operate-Operate as of April 5, 2019 includes a condition limiting the NO_x concentration to 2.5 ppmv NO_x at 15 %-percent oxygen on a dry basis; and
- (B) The NO_x and ammonia limits, averaging times, and start-upstartup, shutdown, and tuning requirements specified on the South Coast AQMD permit-Permit to operate-Operate as of April 5, 2019 are retained.

(4) Low-Use

(A) The owner or operator of a stationary gas turbine installed prior to April 5, 2019 shall not be subject to subdivision (d) for that stationary gas turbine, provided that:

- (i) The stationary gas turbine maintains an annual capacity factor of less than twenty-five percent each calendar year;
- (ii) The stationary gas turbine maintains an annual capacity factor of less than ten percent averaged over three consecutive calendar years on a rolling basis;

- (iii) The stationary gas turbine retains the NO_x and ammonia limits, averaging times, and ~~start-up~~startup, shutdown, and tuning requirements specified on the ~~SCAQMD permit~~ Permit to operate-Operate as of April 5, 2019;
 - (iv) The NO_x limit shall not exceed 12 ppmv at 15_%~~-percent~~ oxygen on a dry basis~~and the ammonia limit shall not exceed 10 ppmv at 15% oxygen on a dry basis~~; and
 - (v) The low-use exemption is a condition of the ~~SCAQMD permit~~ Permit to Operate.
- (B) The owner or operator of a stationary gas turbine that elects the low-use exemption pursuant to subparagraph (h)(4)(A) shall submit permit applications for each stationary gas turbine requesting the change of South Coast AQMD permit conditions to incorporate the low-use exemption by July 1, 2022.
- (C) The owner or operator shall determine eligibility of the low-use exemption for each stationary gas turbine annually and report to the Executive Officer no later than March 1 following each reporting year.
- (D) If a stationary gas turbine with a low-use exemption pursuant to subparagraph (h)(4)(A) exceeds the annual or three-year average annual capacity factor limit, such an exceedance shall be a violation of this rule and the owner or operator of that stationary gas turbine is subject to issuance of a notice of violation each year there is an exceedance for each annual and/or three-year exceedance. The owner or operator of that stationary gas turbine shall:
- (i) Submit complete South Coast AQMD permit applications to repower, retrofit, or retire that stationary gas turbine within six months from the date of the reported exceedance of subparagraph (h)(4)(A);
 - (ii) Submit a CEMS Plan within six months from the date of complete South Coast AQMD permit application submittal pursuant to clause (h)(4)(D)(i); and
 - (iii) Not operate that stationary gas turbine in a manner that exceeds the emissions limits listed in Table I after two

years from the date of the reported exceedance of
subparagraph (h)(4)(A).

- (5) The ~~ammonia limits in Table 1 and ammonia source testing requirements of clause (e)(2)(C)(iii)~~ subparagraph (e)(2)(C) shall not apply to turbines that do not use selective catalytic reduction or other processes that add ammonia into the exhaust gas.

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report

Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines

February 2022

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CHAPTER 1: BACKGROUND

INTRODUCTION

BACKGROUND

REGULATORY BACKGROUND

PUBLIC PROCESS

INTRODUCTION

In March 2017, the South Coast AQMD adopted the Final 2016 Air Quality Management Plan (2016 AQMP) which includes a series of control measures to achieve the National Ambient Air Quality Standards for ozone. The adoption resolution of the 2016 AQMP directed staff to achieve additional NO_x emission reductions and to transition the Regional Clean Air Incentives Market (RECLAIM) program to a command-and-control regulatory structure requiring Best Available Retrofit Control Technology (BARCT) as soon as practicable. In addition, California State Assembly Bill 617 (AB 617), which was signed by the Governor on July 26, 2017 and affects RECLAIM facilities that are also in the California Greenhouse Gas Cap-and-Trade program, requires implementation of BARCT no later than December 31, 2023, with priority given to older, higher polluting units.

Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (Rule 1134) was adopted in 1989 and mostly recently amended in April 2019 to facilitate the transition of the NO_x RECLAIM program to a command-and-control regulatory structure and to implement Control Measure CMB-05 – Further NO_x Reductions from RECLAIM Assessment (Control Measure CMB-05) of the 2016 AQMP. Rule 1134 applies to stationary gas turbines that are located at RECLAIM, former RECLAIM, and non-RECLAIM facilities. Rule 1134 does not apply to gas turbines that are subject to Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations (Rule 1109.1), Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities (Rule 1135), Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills (Rule 1150.3), and Rule 1179.1 – Emission Reductions from Combustion Equipment at Publicly Owned Treatment Works Facilities (Rule 1179.1).

Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (PAR 1134) will remove the ammonia emission limits for gas turbines and the provisions for startup, shutdown, and tuning to be consistent with policy changes that have been implemented after 2019. Additionally, PAR 1134 clarifies that recuperative gas turbines are included in a category referred to as “other” and adds new provisions for liquid fuel usage for health facilities to ensure Rule 1134 is consistent with state law provisions for use of liquid fuel in certain situations at health facilities.

The United States Environmental Protection Agency (U.S. EPA) has commented that interim emission limits are needed for former RECLAIM facilities that have compliance dates after the facility transitions out of RECLAIM. Only compressor gas turbines have NO_x BARCT limits that are likely to be implemented after the sunset of RECLAIM. PAR 1134 will establish an interim NO_x limit of 68 ppm for compressor gas turbines under subparagraph (d)(3)(B) which is consistent with current permit limits for this equipment.

BACKGROUND

The South Coast AQMD Governing Board adopted the RECLAIM program in October 1993. The purpose of RECLAIM is to reduce NO_x and SO_x emissions through a market-based approach. The program replaced a series of existing and future command-and-control rules and was designed to provide facilities with the flexibility to seek the most cost-effective solution to reduce their emissions. It also was designed to provide equivalent emission reductions, in the aggregate, for

the facilities in the program compared to what would occur under a command-and-control regulatory approach. Regulation XX – Regional Clean Air Incentives Market (RECLAIM) (Regulation XX) includes a series of rules that specify the applicability and procedures for determining NO_x and SO_x facility emissions allocations, program requirements, as well as monitoring, reporting, and recordkeeping requirements for RECLAIM facilities.

In response to concerns regarding actual emission reductions and implementation of BARCT under RECLAIM, Control Measure CMB-05 of the 2016 AQMP committed to an assessment of the RECLAIM program in order to achieve further NO_x emission reductions of five tons per day, including actions to sunset the program and ensure future equivalency to command-and-control regulations. During the adoption of the 2016 AQMP, the Resolution directed staff to modify Control Measure CMB-05 to achieve the five tons per day NO_x emission reduction as soon as feasible but no later than 2025, and to transition the RECLAIM program to a command-and-control regulatory structure requiring BARCT-level controls as soon as practicable. Staff provided a report on transitioning the NO_x RECLAIM program to a command-and-control regulatory structure at the May 5, 2017 Governing Board meeting and provides quarterly updates to the Stationary Source Committee, with the first quarterly report provided on October 20, 2017.

On July 26, 2017, AB 617 was approved by the Governor, which addresses non-vehicular air pollution (criteria pollutants and toxic air contaminants). Among the requirements of this bill is an expedited schedule for implementing BARCT for cap-and-trade facilities. The highest priority are given to older, higher polluting units that need to install retrofit controls.

REGULATORY BACKGROUND

Rule 1134 was adopted in 1989. The rule applies to stationary gas turbines rated at 0.3 megawatts (MW) and larger that were issued a Permit to Operate by the South Coast AQMD prior to August 4, 1989. The origin of the rule can be traced to a 1979 U.S. EPA New Source Performance Standard for Stationary Gas Turbines. In 1981, the California Air Resources Board (CARB) adopted a Suggested Control Measure for this same equipment. Rule 1134 was subsequently amended four times as summarized below.

- In December 1995, Rule 1134 was amended to exempt gas turbines located on San Clemente Island and the South East Desert Air Basin.
- In April 1997, Rule 1134 was amended to increase the NO_x concentration limit for turbines utilizing sewage digester gas.
- In August 1997, Rule 1134 was amended to clarify the need for continuous emission monitoring systems (CEMS) on turbines with a power output of 2.9 MW and larger.
- In April 2019, Rule 1134 was amended to expand the applicability to include gas turbines installed after 1989 and RECLAIM facilities, lower NO_x concentration limits for gas turbines based on a BARCT assessment, establish new ammonia slip limits and exemptions for low-use and near-NO_x-limit gas turbines, clarify monitoring, recordkeeping, and reporting compliance for former RECLAIM and non-RECLAIM facilities, and exclude gas turbines located at electricity generating facilities, petroleum refineries, publicly-owned treatment works, landfills, and turbines utilizing landfill gas.

U.S. EPA approved Rule 1134 amendments through 1997 and were included into the SIP on August 1, 2000. The April 2019 amendments were not submitted into the SIP because amendments

were needed for the startup and shutdown provisions. The April 2019 amendments along with the current amendments will be submitted into the SIP.

Stationary Gas Turbines and RECLAIM

Beginning in 1994, a large number of utilities and third-party owned cogeneration facilities were included in the RECLAIM program and as such were not required to meet the NO_x concentration limits imposed by Rule 1134 which had effective dates post 1994. However, gas turbines permitted prior to August 4, 1989 that were used at publicly owned treatment works, landfills, hospitals, and other public facilities, were not included in RECLAIM and were required to meet the NO_x concentration limits in Rule 1134. The 2019 amendment to Rule 1134 revised the applicability to all stationary gas turbines located at non-RECLAIM, former RECLAIM, and RECLAIM facilities (excluding those subject to Rule 1109.1, Rule 1135, Rule 1150.3, and Rule 1179.1), regardless of the date they were permitted.

PUBLIC PROCESS

Development of Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines was conducted through a public process. South Coast AQMD held two working group meetings on April 21, 2021 and July 8, 2021. The Working Group is composed of representatives from businesses, environmental groups, public agencies, and consultants. The purpose of the Working Group Meetings is to discuss proposed concepts and work through the details of staff's proposal. Additionally, a Public Workshop was held on September 23, 2021.

CHAPTER 2: SUMMARY OF PROPOSAL

INTRODUCTION

APPLICABILITY (Subdivision (b))

DEFINITIONS (Subdivision (c))

EMISSIONS LIMITS (Subdivision (d))

MONITORING, RECORDKEEPING, AND REPORTING (Subdivision (e))

EXEMPTIONS (Subdivision (h))

INTRODUCTION

Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (PAR 1134) removes the ammonia emission limits for gas turbines and the provisions for startup, shutdown, and tuning. Additionally, PAR 1134 addresses recuperative gas turbines by inclusion into the “Other” category of stationary gas turbines, adds new provisions for liquid fuel usage for health facilities, and includes an interim emission limit for compressor gas turbines.

APPLICABILITY (Subdivision (b))

PAR 1134 applies to all stationary gas turbines located at non-RECLAIM and RECLAIM facilities, regardless of the date they were permitted, excluding those subject to other facility specific Regulation XI rules. PAR 1134 will move the following rules to the exemption section: Rule 1135 – Emission of Oxides of Nitrogen from Electricity Generating Facilities, Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills, Rule 1179.1 – Emission Reductions from Combustion Equipment at Publicly Owned Treatment Works Facilities, and Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations.

DEFINITIONS (Subdivision (c))

PAR 1134 adds and modifies definition to clarify and explain key concepts and removes obsolete definitions. Please refer to PAR 1134 for each definition.

Proposed Deleted Definitions:	Cogeneration Gas Turbine Landfill Petroleum Refinery Publicly Owned Treatment Works
Proposed Added Definitions:	Force Majeure Natural Gas Curtailment Health Facility Recuperative Gas Turbine
Proposed Modified Definitions:	Combined Cycle/Cogeneration Gas Turbine Existing Gas Turbine Former RECLAIM NOx Facility Shutdown Startup Thermal Stabilization Period

EMISSIONS LIMITS (Subdivision (d))

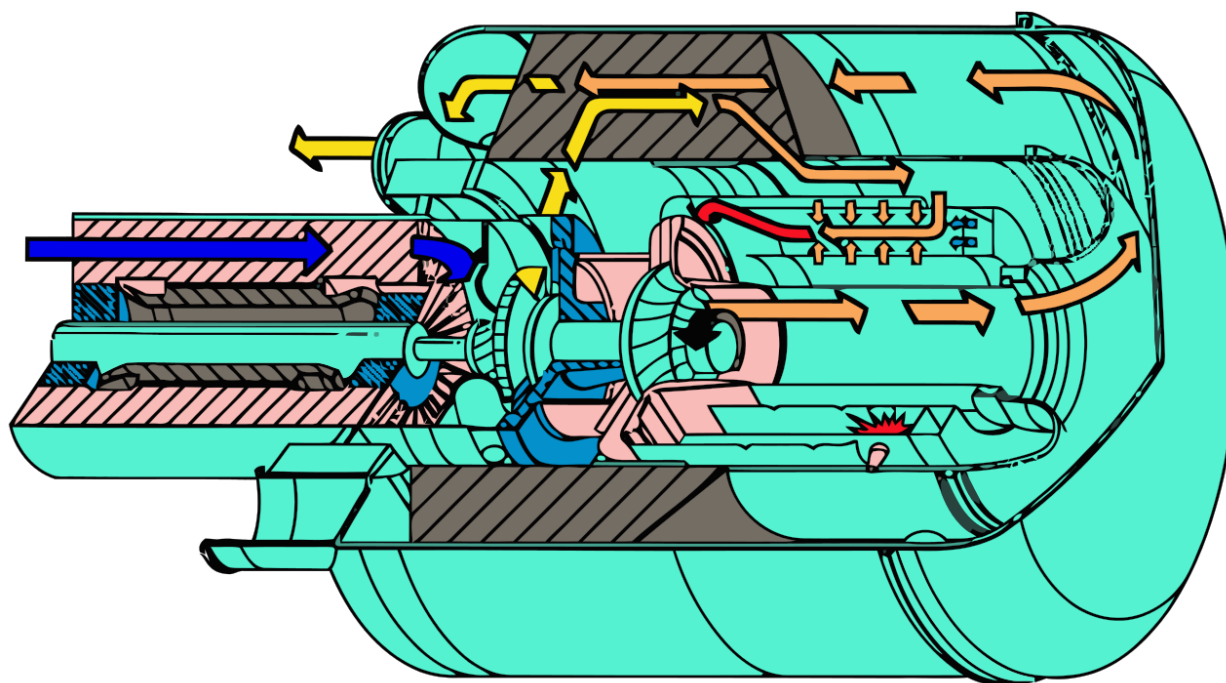
Paragraph (d)(3)

The ammonia emission limits in paragraph (d)(3) of Table I: Emissions Limits for Stationary Gas Turbines will be removed for all turbines currently subject to Rule 1134 which would have been effective on January 1, 2024. Additionally, paragraph (d)(3) clarifies that startup and shutdown periods are not applicable to the Table I limits and instead are pursuant to Rule 429 – Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen (Rule 429).

Staff conducted a BARCT assessment for stationary gas turbines as part of the 2019 amendment to Rule 1134. The BARCT assessment did not include recuperative gas turbines as staff was only aware of their use at landfills which are subject to Rule 1150.3. Subsequently, staff has learned that one recuperative gas turbine is subject to Rule 1134.

The 4.6 MW recuperative gas turbine is fired on natural gas with a NO_x permit limit of 5 ppmv NO_x at 15 percent oxygen, dry. Recuperative gas turbines differ in design from a simple cycle or combined cycle/cogeneration turbine. The recuperative gas turbine recovers combustion heat from the exhaust which is used to pre-heat the air from the compressor before returning it to the combustor. Figure 2-1 depicts a recuperated microturbine showing the recovery and reuse of combustion heat from the exhaust.

Figure 2-1 – Cutaway of Recuperated Microturbine



https://studopedia.su/21_45085_Electricity-generation.html

Recuperative gas turbines will be subject to the “Other” NO_x limit in paragraph (d)(3) of Table I. The facility operating the gas turbine will not need to make any changes to the equipment to meet

the “Other” NO_x limit. As a result, the cost-effectiveness is zero, since there is no feasible alternative more stringent than the NO_x limit to conduct the incremental cost-effectiveness.

Table 2-1
PAR 1134 Table I: Emission Limits for Stationary Gas Turbines
 (Corrected to 15% oxygen on a dry basis)

Fuel Type	NO _x (ppmv)	Ammonia (ppmv)
Liquid Fuel – Turbines Located on Outer Continental Shelf	30	5
Natural Gas – Combined Cycle/ <u>Cogeneration</u> Turbine	2	5
Natural Gas – Simple Cycle Turbine	2.5	5
Produced Gas	9	5
Produced Gas – Turbines Located on Outer Continental Shelf	15	5
Other ¹	12.5	5

¹Includes recuperative gas turbines

As defined in paragraph (c)(19), PAR 1134 requires that a recuperative gas turbine have an integrated heat exchanger already built in as part of the original design of the equipment. The heat exchanger must be a built-in integral part of the gas turbine, instead of an operator-installed modification.

The U.S. EPA has commented that interim emission limits are needed for equipment at former RECLAIM facilities that have compliance dates after the facility transitions out of RECLAIM. For Rule 1134, only compressor gas turbines have NO_x BARCT limits that are likely to be implemented after the sunset of RECLAIM. PAR 1134 will establish an interim NO_x limit of 68 ppm for compressor gas turbines under subparagraph (d)(3)(A) which is consistent with current permit limits for this equipment.

Former Paragraph (d)(5)

PAR 1134 will remove startup and shutdown provisions under former paragraph (d)(5). Currently, Rule 429 establishes provisions for simple cycle and combined cycle gas turbines regulated under Rule 1134. Proposed Amended Rule 429 will address startup and shutdown provisions for compressor gas turbines and recuperative turbines. Additional requirements for startup, shutdown, and tuning of existing stationary gas turbines are currently included in most operating permits for that equipment. The permit conditions are tailored to each unit and evaluated during the permitting process.

Paragraphs (d)(5), (d)(8), and (d)(9)

Currently Rule 1134 prohibits the use of liquid fuel for stationary turbines except for outer continental shelf gas turbines which do not have access to natural gas. Paragraphs (d)(5) and (d)(8)

includes provisions to allow turbines the use of liquid fuel during a force majeure natural gas curtailment at health facilities such as hospitals. This is consistent with the Office of Statewide Health Planning and Development (OSHPD) 2019 California Electrical Code, Title 24, Part 3, Articles 517.29 and 517.30 which requires a facility to have two independent power sources. Without this set of provisions, a turbine supplying power, or emergency power, for a health facility would be unable to operate during a natural gas curtailment. This would likely result in the health facility utilizing a diesel engine which would generate far more emissions than the turbine which is vented to air pollution control equipment that would remain operating at all times the turbine is operating. When conducting fuel readiness testing, paragraph (d)(9) exempts stationary gas turbines burning a liquid fuel from the NO_x emission limits specified in paragraph (d)(3) but specify how the readiness testing shall be conducted and require NO_x emission limits and duration limits be included in the Permit to Construct or Permit to Operate.

MONITORING, RECORDKEEPING, AND REPORTING (Subdivision (e))

Paragraph (e)(1)

In March 2021 Rule 218 – Continuous Emission Monitoring and Rule 218.1 – Continuous Emission Monitoring Performance Specifications were amended and Rule 218.2 – Continuous Emission Monitoring System: General Provisions and 218.3 – Continuous Emission Monitoring System: Performance Specifications were adopted to address the continuous emission monitoring system (CEMS) requirements for non-RECLAIM and former RECLAIM facilities. Under paragraph(e)(1), Rules 218.2 and 218.3 require the installment of a continuous in-stack NO_x and oxygen monitoring system to demonstrate that the turbine is in compliance with the emission limits in subdivision (d). Paragraph (e)(3) applies to non-RECLAIM NO_x facilities.

Paragraph (e)(2)

The source testing frequency is clarified in clause (e)(2)(C)(ii) for stationary gas turbines emitting less than 25 tons of NO_x per calendar year to specify that the facility will need to perform a source test every three years. Additionally, source testing is required to be performed simultaneously for NO_x and ammonia. Due to their interdependency, simultaneous testing will ensure that compliance with one pollutant emission limit does not come at the expense of the other. Clause (e)(2)(C)(iv) adds a source testing requirement for gas turbines without a NO_x CEMS but with an ammonia CEMS of once every three calendar years.

Former Paragraph (e)(4)

Continuous emission monitoring parameters pursuant to Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) Emissions were previously included for former RECLAIM NO_x facilities. With the recent adoption of Rules 218.2 and 218.3, the monitoring parameters will reference the newly adopted rules. Stationary gas turbines at RECLAIM facilities will still be subject to the provisions under Rule 2012.

EXEMPTIONS (Subdivision (h))Subparagraph (h)(1)(C)

The facility specific stationary gas turbines previously excluded in the applicability subdivision are now listed in the exemptions.

CHAPTER 3: IMPACT ASSESSMENT

POTENTIALLY IMPACTED FACILITIES

EMISSIONS INVENTORY AND EMISSION REDUCTIONS

COST-EFFECTIVENESS

INCREMENTAL COST-EFFECTIVENESS

RULE ADOPTION RELATIVE TO COST-EFFECTIVENESS

SOCIOECONOMIC IMPACT ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT

**DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE
SECTION 40727**

COMPARATIVE ANALYSIS

POTENTIALLY IMPACTED FACILITIES

There are 37 facilities subject to Rule 1134. The amendments to monitoring, recordkeeping, and reporting, and removal of ammonia limits and startup and shutdown requirements will apply to all facilities subject to the rule, but these changes are not expected to have any impacts. One facility is subject to each of the following: the recuperative gas turbine (“Other”) NO_x limit, interim gas compressor NO_x limit, and force majeure natural gas curtailment allowance for health facilities. In each case, the revisions are not expected to result in equipment modifications or additional costs. The turbines currently in operation can comply with the revisions without making any changes.

EMISSION INVENTORY AND EMISSION REDUCTIONS

The NO_x emission inventory for turbines subject to Rule 1134 was 3.2 tons per day in 2015. With full implementation of the April 2019 amendments, 2.8 tons per day of NO_x will be reduced by 2024. The proposed revisions in PAR 1134 will not impact the emission inventory or emission reductions.

COST-EFFECTIVENESS

The provisions in PAR 1134 are not expected to impose any additional costs.

INCREMENTAL COST-EFFECTIVENESS

H&SC Section 40920.6 requires an incremental cost-effectiveness analysis for BARCT rules or emission reduction strategies when there is more than one control option which would achieve the emission reduction objective of the proposed amendments, relative to ozone, CO, SO_x, NO_x, and their precursors. PAR 1134 does not reduce emissions nor provide more than one control option.

RULE ADOPTION RELATIVE TO COST-EFFECTIVENESS

On October 14, 1994, the Governing Board adopted a resolution that requires staff to address whether rules being proposed for amendment are considered in the order of cost-effectiveness. The 2016 Air Quality Management Plan (AQMP) ranked, in the order of cost-effectiveness, all of the control measures for which costs were quantified. It is generally recommended that the most cost-effective actions be taken first. Proposed Amended Rule 1134 helps implement Control Measure CMB-05. The 2016 AQMP ranked Control Measure CMB-05 sixth in cost-effectiveness.

SOCIOECONOMIC IMPACT ASSESSMENT

The Proposed Amended Rule 1134 does not impose any additional costs to the affected facilities and does not result in any adverse socioeconomic impacts.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section

15062 and if the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal, which may be accessed via the following weblink: <https://ceqanet.opr.ca.gov/search/recent>. In addition, the Notice of Exemption will be electronically posted on South Coast AQMD's webpage which can be accessed via the following weblink: <http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2022>.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing, and in the staff report.

Necessity

Proposed Amended Rule 1134 is needed to address establish BARCT requirements for stationary gas turbines, including stationary gas turbines at facilities that will be transitioning from RECLAIM to a command-and-control regulatory structure.

Authority

The South Coast AQMD Governing Board has authority to adopt amendments to Proposed Amended Rule 1134 pursuant to the Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, and 41508.

Clarity

Proposed Amended Rule 1134 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

Proposed Amended Rule 1134 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.

Non-Duplication

Proposed Amended Rule 1134 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

In amending Rule 1134, the following statutes which the South Coast AQMD hereby implements, interprets or makes specific are referenced: Health and Safety Code Sections 39002, 40000, 40001, 40406 (BARCT), 40702, 40440(a), and 40725 through 40728.5, and Clean Air Act Section 172 (c)(1) (reasonably available control technology).

COMPARATIVE ANALYSIS

Health and Safety Code Section 40727.2 requires a comparative analysis of the proposed amended rule with any federal or local district rules and regulations applicable to the same source. A comparative analysis is presented below in Table 3-1.

Table 3-1
PAR 1134 Comparative Analysis

Rule Element	PAR 1134	RECLAIM	40 CFR Part 60 GG	40 CFR Part 60 KKKK
Applicability	Turbines with generating capacity greater than 0.3 MW except those located electric generating facilities, landfills, petroleum refineries, and publicly owned treatment works or fueled with landfill gas	Facilities regulated under the NOx RECLAIM program (South Coast AQMD Reg. XX)	Gas turbines with heat input of ≥ 10 MMBtu/hr constructed or modified before 2/18/2005	Gas turbines with heat input of ≥ 10 MMBtu/hr constructed or modified after 2/18/2005
Requirements	Emission limits: <ul style="list-style-type: none"> • Combined Cycle/Cogeneration Gas Turbine and Associated Duct Burner: NOx 2 ppmv @ 15% O₂ • Simple Cycle Gas Turbine: NOx 2.5 ppmv @ 15% O₂ • Produced Gas Turbine: NOx 9 ppmv @ 15% O₂ • Outer Continental Shelf Produced Gas Turbine: NOx 15 ppmv @ 15% O₂ • Outer Continental Shelf Produced Gas Turbine (Liquid Fuel): NOx 30 ppmv @ 15% O₂ • Compressor Gas Turbine: NOx 3.5 ppmv @ 15% O₂ • Other Gas Turbine: NOx 12.5 ppmv @ 15% O₂ 	None	NOx limit @ 15% O ₂ : $0.0075 \cdot (14.4/Y) + F$ where Y = manufacture's rated heat input and F = NOx emission allowance for fuel-bound nitrogen	NOx limit for electric generating units (@ 15% O ₂): <ul style="list-style-type: none"> • ≤ 50 MMBtu/hr – 42 ppm when firing natural gas • 50 MMBtu/hr and ≤ 850 MMBtu/hr – 15 ppm when firing natural gas • >850 MMBtu/hr – 15 ppm when firing natural gas • ≤ 50 MMBtu/hr – 96 ppm when firing other fuel • 50 MMBtu/hr and ≤ 850 MMBtu/hr – 74 ppm when firing other fuel • >850 MMBtu/hr – 42 ppm when firing natural gas
Reporting	Annual reporting of NOx emissions	<ul style="list-style-type: none"> • Daily electronic reporting for major sources • Quarterly Certification of Emissions Report and Annual Permit Emissions Program for all units 	Excess emissions and CEMS downtime within 30 days	Excess emissions and CEMS downtime within 30 days; annual performance testing within 60 days
Monitoring	A continuous in-stack NOx monitor for turbines with a capacity of 2.9 MW or greater. Periodic source testing for turbines with a capacity of < 2.9	A continuous in-stack NOx monitor for major sources	A continuous in-stack NOx monitor	A continuous in-stack NOx monitor
Recordkeeping	Performance testing; emission rates; monitoring data; CEMS audits and checks maintained for five years	<ul style="list-style-type: none"> • < 15-min. data = min. 48 hours; ≥ 15-min. data = 3 years (5 years if Title V) • Maintenance & emission records, source test reports, RATA reports, audit reports and fuel meter calibration records for Annual Permit Emissions Program = 3 years (5 years if Title V) 	Performance testing; emission rates; monitoring data; CEMS audits and checks	Performance testing; emission rates; monitoring data; CEMS audits and checks
Fuel Restrictions	Liquid petroleum fuel limited to Outer Continental Shelf turbines and those supplying power for health facilities and during fuel readiness testing	None	None	None

ATTACHMENT H



**South Coast
Air Quality Management District**

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

**SUBJECT: NOTICE OF EXEMPTION FROM THE CALIFORNIA
ENVIRONMENTAL QUALITY ACT**

**PROJECT TITLE: PROPOSED AMENDED RULE 1134 – EMISSIONS OF OXIDES OF
NITROGEN FROM STATIONARY GAS TURBINES**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Exemption pursuant to CEQA Guidelines Section 15062 – Notice of Exemption for the project identified above.

If the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research for posting on their CEQAnet Web Portal which may be accessed via the following weblink: <https://ceqanet.opr.ca.gov/search/recent>. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: <http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2022>.

**NOTICE OF EXEMPTION FROM THE
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

To: County Clerks for the Counties of Los Angeles, Orange, Riverside and San Bernardino; and Governor's Office of Planning and Research – State Clearinghouse	From: South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765
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Project Title: Proposed Amended Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines

Project Location: The proposed project is located within the South Coast Air Quality Management District's (South Coast AQMD) jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project: The following amendments to Rule 1134 are proposed that would apply to facilities currently or formerly participating in the NOx RECLAIM program pursuant to South Coast AQMD Regulation XX, as well as non-RECLAIM facilities: 1) remove startup, shutdown, and tuning provisions tuning to be consistent with policy changes that have been implemented after 2019; 2) remove ammonia emission limits for gas turbines; 3) allow the use of liquid fuel for health care facilities during an emergency, natural gas curtailment, and readiness testing to ensure consistency with state law; 4) clarify that recuperative gas turbines are included in the equipment category listed as "other"; 5) update the CEMS for non-RECLAIM and former RECLAIM facilities; 6) clarify source testing frequency requirements for gas turbines; 7) establish an interim NOx emission limit for compressor gas turbines at 68 parts per million, by volume (ppmv) corrected at 15 percent oxygen on a dry basis to ensure there is no backsliding of emissions as required under the federal Clean Air Act Section 110(l) for the period when facilities transition of the NOx RECLAIM program until the unit is in compliance with Rule 1134; 8) align monitoring, recordkeeping, and reporting provisions with recently adopted and amended Rule 218-series; and 9) removes all references to Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for NOx Emissions. Other minor amendments are proposed which include additional definitions of terms, and revisions to improve rule implementation and clarify existing requirements.

Public Agency Approving Project: South Coast Air Quality Management District	Agency Carrying Out Project: South Coast Air Quality Management District
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Exempt Status: CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption

Reasons why project is exempt: South Coast AQMD, as Lead Agency, has reviewed the proposed project pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. Since no physical modifications are expected to occur as a result of the proposed project, it can be seen with certainty that implementing the proposed project would not cause a significant adverse effect on the environment. Therefore, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption.

Date When Project Will Be Considered for Approval (subject to change):

South Coast AQMD Governing Board Public Hearing: February 4, 2022

CEQA Contact Person: Ryan Bañuelos	Phone Number: (909) 396-3479	Email: rbañuelos@aqmd.gov	Fax: (909) 396-3982
Rule Contact Person: Lisa Wong	Phone Number: (909) 396-2820	Email: lwong@aqmd.gov	Fax: (909) 396-3982

Date Received for Filing: _____	Signature: <u>(Signed and Dated Upon Board Approval)</u> Barbara Radlein Program Supervisor, CEQA Planning, Rule Development, and Area Sources
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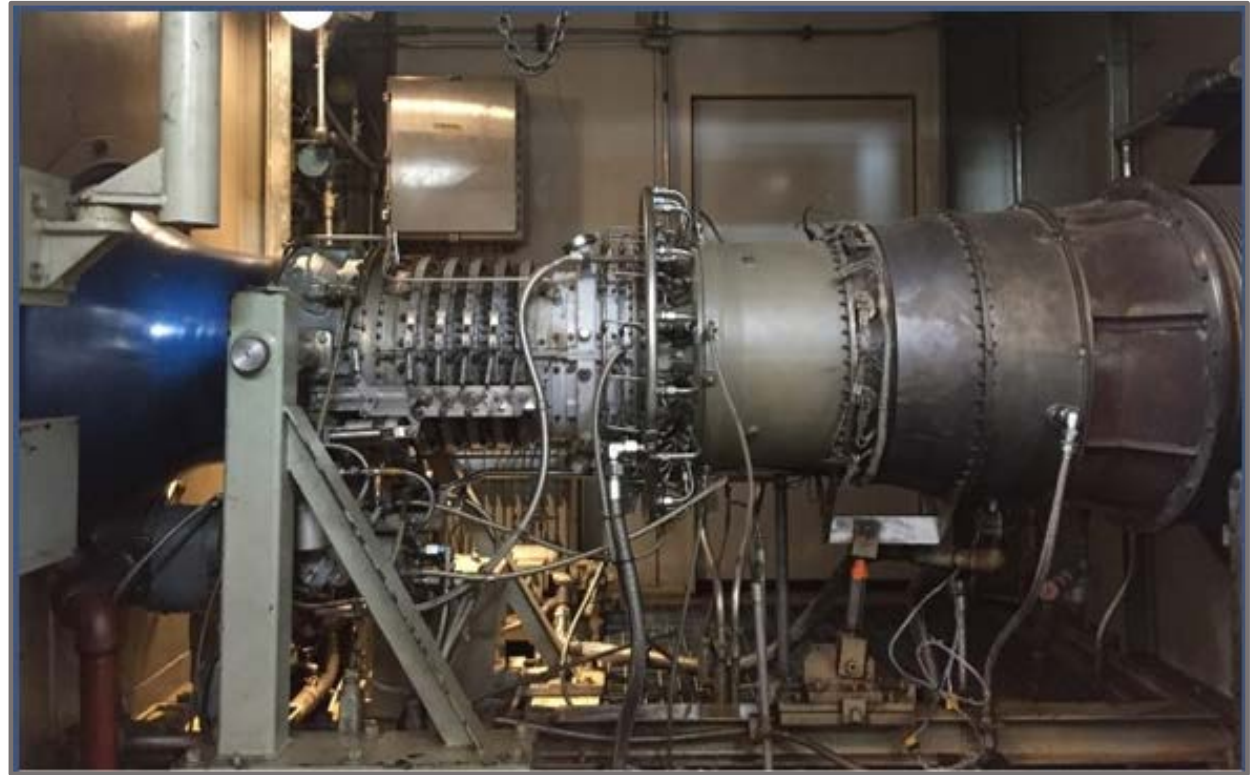
Proposed Amended Rule 1134 (PAR 1134)

Emissions of Oxides of Nitrogen from Stationary Gas Turbines

**Board Meeting
February 4, 2022**

Background

- Rule 1134 was adopted August 4, 1989 and last amended April 5, 2019
 - Last amended to update NO_x limits to Best Available Retrofit Control Technology (BARCT)
- Applies to stationary gas turbines 0.3 MW and larger
 - 37 facilities with 72 turbines are subject to Rule 1134



Purpose for Amendments



- U.S. EPA has requested two changes
 - Ensure startup and shutdown requirements are consistent with the Clean Air Act
 - Include interim emission limits as RECLAIM facilities transition out of RECLAIM
- Other revisions to address stakeholder comments

Proposed Amendments to Address U.S. EPA Requests

Startup and Shutdown

- Startup and shutdown for gas turbines is currently addressed in both Rule 1134 and Rule 429*
- To avoid confusion, startup and shutdown provisions will be removed from Rule 1134
- Startup and shutdown provisions will be updated in Rule 429 to reflect U.S. EPA's 2015 Policy

Interim Limits

- Interim Limits are needed to avoid backsliding as facilities exit RECLAIM
- Interim limits will apply to former RECLAIM facilities that have NOx BARCT limits that are effective after facilities exit RECLAIM
- Interim NOx limit of 68 ppm will be established for compressor gas turbines
- Only compressor gas turbines have NOx BARCT limits that will be implemented after the sunset of RECLAIM

* Rule 429 – Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen

Other Proposed Amendments

Ammonia Slip Limits

- Remove ammonia slip limits which will be addressed during permitting

Recuperative Gas Turbines

- Classify as “Other” turbines

Liquid Fuel Usage for Health Facilities

- Allow the use of liquid fuel for turbines providing power to hospitals during a natural gas curtailment

Clarifications

- Reference recently adopted CEMS rules
 - 218.2 – Continuous Emission Monitoring System: General Provisions
 - 218.3 – Continuous Emission Monitoring System: Performance Specification



Summary and Recommended Actions

- PAR 1134 is needed to reflect policy changes, implement U.S. EPA recommendations, and clarify existing provisions
- No increase in cost or emission impacts are anticipated
- Staff is not aware of any remaining key issues
- Recommendation is to adopt the Resolution:
 - Determining that proposed amendments to Rule 1134 are exempt from California Environmental Quality Act; and
 - Amending Rule 1134