Proposed Amended Rule 429 (PAR 429) Startup and Shutdown Provisions for Oxides of Nitrogen

Public Workshop

February 18, 2022

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Meeting ID: 935 8829 6076

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Agenda

- PAR 429 Background
- Proposed Rule Language Overview
- Impact Assessments
- Next Steps

PAR 429 Background

Background

- Proposed Amended Rule 429 (PAR 429) is a companion rule to the following rules:

PAR 429				
Rule 1134 Stationary Gas Turbines	**Rule 1146** Boilers ≥ 5 MMBtu/hr	**Rule 1147** Miscellaneous Sources	**Rule 1147.1** Aggregate Dryers	**Rule 1147.2** Metal Melting and Heating Furnaces

- PAR 429 is designed to exempt facilities from the NOx and CO concentration limits during startup and shutdown
- PAR 429 is needed during startup and shutdown events as equipment cannot achieve NOx and CO concentration limits under respective RECLAIM landing rules when:
  - Equipment is not at steady-state conditions
  - Temperature is not optimal for pollution control equipment such as SCR
- Although some units may have permit requirements for startup and shutdown, U.S. EPA commented that startup and shutdown provisions must be addressed in a rule

Distinction Between RECLAIM and Command-and-Control

- RECLAIM program accounts for startup and shutdown emissions differently than a command-and-control regulatory structure
  - RECLAIM is based on mass emissions as compared to Rules 1134, 1146, 1147, 1147.1, and 1147.2 which are based on concentration limits
  - RECLAIM facilities are required to hold RTCs for all emissions*, including emissions during startup and shutdown events
- Approach for PAR 429
  - Concentration based limits may be exceeded during startup and shutdown
  - Command-and-control rules do not give facilities the option to use RTCs to account for these emissions
  - Establish startup and shutdown duration limits
  - Limit the number of scheduled startups

*Required RTC holdings do not include emissions from breakdowns as specified in Rule 2004

Proposed Rule Language Overview

Purpose and Applicability – Subdivisions (a) & (b)

- Adding a purpose subdivision
  - Provides an exemption from NOx and CO concentration limits during startup and shutdown for a limited time period for specific units regulated under certain source-specific rules
  - Establishes requirements during startup and shutdown to limit NOx and CO emissions
- Applies to equipment with continuous emissions monitoring systems (CEMS), semi-continuous monitoring systems (SCEMS), or alternative continuous emission monitoring systems (ACEMS) subject to Rules 1134, 1146, 1147, 1147.1, and 1147.2

Key Definitions – Subdivision (c)

Startup	Period of time beginning when a unit begins combusting fuel after a period of zero fuel flow
Shutdown	Period of time that begins when a unit starts reducing load in advance of terminating fuel flow and ends in a period of zero fuel flow
Scheduled Startup	Planned startup that is specified by January 1 of each year

Startup and Shutdown Exemption and Duration Limits – Paragraphs (d)(1) and (d)(2)

- Paragraph (d)(1) specifies that an owner or operator is not subject to NOx or CO concentration limits and rolling average provisions during startup and shutdown
- Startup and shutdown duration limits will be presented under Table 1
- Startup and shutdown periods will not be allowed to last longer than is necessary for the unit to reach stable conditions or the minimum operating temperature of the NOx post-combustion control equipment (if applicable)

TABLE 1: STARTUP AND SHUTDOWN DURATION LIMITS

Unit Type	Not to Exceed per Startup or Shutdown
Boilers and Process Heaters > 40 MMBtu/hour Rated Heat Input	8 hours
Boilers and Process Heaters ≤ 40 MMBtu/hour Rated Heat Input	6 hours
Simple Cycle Gas Turbines	15 minutes
Cogeneration, Combined Cycle, Compressor and Recuperative Gas Turbines	2 hours
Furnaces	24 hours
Aggregate Dryers	45 minutes
Tunnel Kilns	2 hours

Scheduled Startup Frequency Limits – Paragraph (d)(3)

- Scheduled startup frequency limits will be presented under Table 2
- Furnaces require more scheduled startups than other equipment types due to operational needs and advanced planning

TABLE 2: MAXIMUM NUMBER OF SCHEDULED STARTUPS

Unit Type	Maximum Number of Scheduled Startups per Calendar Year
Furnaces	35
All Other Units	10

Best Management Practices and Requirements for Units with NOx Post-Combustion Control Equipment – Paragraphs (d)(4) to (d)(6)

Take all reasonable and prudent steps to minimize emissions (d)(4)

- Includes equipment repairs and adjusting temperatures of post-combustion controls

Install Temperature Measuring Device (d)(5)

- An annually calibrated temperature measuring device required at the inlet of the NOx post-combustion control
- Temperature measuring device includes a temperature gauge or thermocouple

Operate NOx Post-Combustion Control Equipment (d)(6)

- Operate control equipment if the temperature of the exhaust gas to the inlet of the NOx post-combustion control equipment is ≥ the minimum operating temperature

Notification and Recordkeeping – Subdivisions (e) and (f)

- Notification of scheduled startups will be required on or before January 1 each year
  - Required to submit notification by calling 1-800-CUT-SMOG or by using other approved methods of notification as approved by the Executive Officer
  - Must contain the date and time that the scheduled startup will begin, the anticipated duration of the scheduled startup, and associated unit application numbers
- The following records will be required to be maintained on-site for 5 years
  - Operating log for startup, shutdown, and refractory dryout events which contains the date, time, duration, and reason for each event
  - A list of scheduled startups
- An owner or operator of a unit equipped with NOx post-combustion control equipment will be required to maintain on-site documentation from the manufacturer of the minimum recommended operating temperature of the NOx post-combustion control equipment

Exemptions – Subdivision (g)

- Units burning fuel solely in a pilot light will be exempt from the startup and shutdown duration limits specified in paragraph (d)(2) and operating log requirement specified in paragraph (f)(1)
- Units will be exempted from startup and shutdown duration limits in paragraph (d)(2) during refractory dryout

Impact Assessments

Costs, Emission Reductions, Cost-Effectiveness, Incremental Cost-Effectiveness, Socioeconomic Assessment

Costs

- The provisions in PR 429.1 are not expected to impose any additional costs

Emission Reductions

- No additional emission reductions from PAR 429
- Emission reductions for these units are a result of Rules 1134, 1146, 1147, 1147.1, and 1147.2

Cost-Effectiveness and Incremental Cost-Effectiveness

- H&SC Section 40920.6 requires a cost-effectiveness analysis when establishing BARCT requirements and an incremental cost-effectiveness analysis for BARCT rules when there is more than one control option
- PAR 429 does not include new BARCT requirements, so this provision does not apply

Socioeconomic Assessment

- PAR 429 does not impose any additional costs to the affected facilities and does not result in any adverse socioeconomic impacts

California Environmental Quality Act (CEQA)

- The proposed project (PAR 429) seeks to further minimize emissions during start-up and shutdown events without involving physical modifications that would cause a significant adverse effect on the environment
- PAR 429 is exempt from CEQA pursuant to:
  - CEQA Guidelines Section 15061 (b)(3) – Common Sense Exemption, which exempts activities where it can be seen with certainty that there is no possibility that the activities may have a significant adverse effect on the environment
  - CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment
- A Notice of Exemption will be prepared

Next Steps

Next Steps

End of Comment Period	March 4, 2022
Stationary Source Committee	April 15, 2022
Set Hearing	May 6, 2022
Public Hearing	June 3, 2022

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For more information, visit:
PAR 429 Proposed Rules Page

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