Proposed Amended Rule 1135
Emissions of Oxides of Nitrogen from Electricity Generating Facilities

and

Proposed Rule 429.2
Startup and Shutdown Exemption Provisions for Oxides of Nitrogen from Electricity Generating Facilities

Working Group Meeting #2
September 15, 2021

Join Zoom Webinar Meeting:
https://scaqmd.zoom.us/j/94648515982
Webinar ID: 946 4851 5982
Teleconference Dial-In: 1-669-900-6833
Agenda

- Previous Working Group Meeting
- Proposed Amended Rule 1135 (PAR 1135)
- Proposed Rule 429.2 (PR 429.2)
- Next Steps
Summary of Previous Working Group Meeting

Presented the following PAR 1135 amendments:

- Remove ammonia limits for SCR and SNCR systems installed on electricity generating units – Addressed in permitting
- Align CEMS requirements with Rules 218.2 and 218.3 for non-RECLAIM and former RECLAIM facilities
- Move startup, shutdown, and tuning provisions to PR 429.2

Presented the following PR 429.2 concepts:

- Startup, shutdown, and tuning definitions
- Limits to startup, shutdown, and tuning periods
  - Maximum duration
  - Number of scheduled startup events
- Best Management Practices
- Recordkeeping
Proposed Amended Rule 1135
<table>
<thead>
<tr>
<th>Stakeholder Question</th>
<th>Staff Response</th>
</tr>
</thead>
</table>
| Will current ammonia limits in existing permits be retained after the rule amendment or will Engineering reassess ammonia limits? | • Operators can retain existing ammonia limits on permits  
• Ammonia limits for existing equipment will not be re-asses  
• Ammonia emission limits for new and modified pollution controls will be evaluated during permitting process |
| How does the Rule 1135 July 1, 2022 permit application submittal requirement relate to the permit applications to be submitted as part of the RECLAIM transition? | • The July 1, 2022 permit application submittal requirement is to reconcile permits with Rule 1135 provisions  
• Existing permits with conditions that already meet Rule 1135 requirements are not required to submit applications for July 1, 2022 deadline  
• Permit applications for RECLAIM transition will be a separate submittal |
Proposed Rule Language
### Definitions

#### Subdivision (c)

<table>
<thead>
<tr>
<th>Adding</th>
<th>Modifying</th>
<th>Updating</th>
<th>Removing</th>
</tr>
</thead>
</table>
| - Combined Cycle/Cogeneration Gas Turbine  
  - NOx Peaking Unit | - Electricity Generating Unit  
  - Emissions Cap  
  - Emissions Rate | - Former RECLAIM NOx Source  
  - Non-RECLAIM NOx Source  
  - RECLAIM NOx Source  
  - Electricity Generating Facility  
  - Shutdown  
  - Startup | - Cogeneration Turbine  
  - Combined Cycle Gas Turbine  
  - Landfill  
  - Petroleum Refinery  
  - Publicly Owned Treatment Works  
  - SCAQMD-Wide Daily Limits |
Staff is proposing to allow RECLAIM NOx process units to continue operating without CEMS after the RECLAIM transition.

- NOx Process Unit is a RECLAIM term, needed to define in PAR 1135.
- PAR 1135 definition is based on RECLAIM definition.

**NOx PEAKING UNIT** for the purposes of this rule means any NO\textsubscript{x} emitting turbine used intermittently to produce energy on a demand basis, does not operate more than 1,300 hours per year, and not subject to 40 CFR Part 72.
Cycle/Cogeneration Gas Turbine
Paragraph (c)(3)

Cogeneration Turbine and Combined Cycle Gas Turbine
Former Paragraphs (c)(3) and (c)(4)

Merged definitions of Cogeneration and Combined Cycle Gas Turbine
• Term will now be Combined Cycle/Cogeneration Gas Turbine
• Will not change Rule 1135 applicability

Electricity Generating Unit
Paragraph (c)(6)

• To align with new definition for Combined Cycle/Cogeneration Gas Turbine, removed reference to cogeneration turbines

**COMBINED CYCLE/COGENERATION GAS TURBINE** means any gas turbine that recovers heat from the gas turbine exhaust gases for use in a heat recovery steam generator to generate additional electricity.

**ELECTRICITY GENERATING UNIT** means a boiler that generates electric power, gas turbine that generates electric power with the exception of cogeneration turbines, or diesel internal combustion engine that generates electric power and is located on Santa Catalina Island with the exception of emergency internal combustion engines.
SCAQMD-Wide Daily Limits
Former Paragraph (c)(20)

• Removed definition to streamline rule language where emissions caps or emissions rates are required
  • SCAQMD-Wide Daily Limits are only applicable to City of Glendale

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Emissions Cap and Emissions Rate
Paragraphs (c)(8) and (c)(9)

• Due to removal of SCAQMD-Wide Daily Limits, Emissions Cap and Emissions Rate were made their own definitions
  • For Emissions Rate, moved provision regarding startup and shutdown emissions into subdivision (d)

**SCAQMD-WIDE-DAILY-LIMITS** means the daily emissions limits applicable to any electricity-generating facility consisting of an emissions cap and/or an emissions rate.

(A) **EMISSIONS CAP** is expressed in pounds of NOx and calculated as the total daily NOx emissions in pounds from all boilers at an electricity-generating facility.

(B) **EMISSIONS RATE** is expressed in pounds of NOx per Megawatt-Hour and calculated as the total daily NOx emissions in pounds from all boilers at an electricity-generating facility, divided by the total daily net electric power generated and/or obtained in Megawatt-Hours from all boilers at an electricity-generating facility. NOx emissions during start-ups and shutdowns, up to a maximum of 12 hours for each event, shall not be included in the determination of the emissions rate for an electricity generating facility if five or fewer boilers are in operation during this period.
Electricity Generating Facility
Paragraphs (c)(7)

• Updated definition to reference applicable South Coast AQMD rules for refineries, landfills, and publicly owned treatment works that are not electricity generating facilities

Electricity Generating Facility

ELECTRICITY GENERATING FACILITY means a facility that is owned or operated by an investor-owned electric utility; is owned or operated by a publicly owned electric utility, or has electricity generating units with a combined generation capacity of 50 megawatts or more of electrical power for distribution in the state or local electrical grid system. Electricity generating facility does not include landfills, petroleum refineries, or publicly owned treatment works facilities subject to South Coast AQMD Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, South Coast AQMD Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills, or South Coast AQMD Rule 1179.1 – Emissions Reductions from Combustion Equipment at Publicly Owned Treatment Works Facilities.

Petroleum Refinery, Landfill, and Publicly Owned Treatment Works
Former Paragraphs (c)(16), (c)(13), & (c)(18)

• Obsolete definitions removed to be consistent with updated definition for Electricity Generating Facility

Petroleum Refinery

PETROLEUM REFINERY means a facility identified by the North American Industry Classification System Code 324110, Petroleum Refineries.

Landfill

LANDFILL means an entire disposal facility in a contiguous geographical space where solid waste is placed in or on land.

Publicly Owned Treatment Works

PUBLICLY OWNED TREATMENT WORKS means 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.
Former RECLAIM, Non-RECLAIM, and RECLAIM NOx Sources Paragraphs (c)(12), (c)(15), and (c)(19)

- Aligned with definitions to be consistent with Rule 1100 for consistency
- Changed “Source” to Facility to be more accurate

FORMER RECLAIM NOx SOURCE FACILITY for the purpose of this rule means a n electric-generating unit located at an electricity-generating facility or any of its successors that was in the NOx Regional Clean Air Incentives Market (RECLAIM) as of January 5, 2018, as established in Regulation XX – Regional Clean Air Incentives Market (RECLAIM), 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 NOx RECLAIM program.

NON-RECLAIM NOx SOURCE FACILITY for the purpose of this rule means a n electric-generating unit located at an electricity-generating facility or any of its successors that was not in the NOx RECLAIM as of January 5, 2018, as established in Regulation XX.

RECLAIM NOx SOURCE FACILITY for the purpose of this rule means a n electric-generating unit located at an electricity-generating facility or any of its successors that is in the NOx RECLAIM as of January 5, 2018, as established in Regulation XX and is still in RECLAIM on the relevant date.
Shutdown and Startup
Paragraphs (c)(20) and (c)(22)

- Revised Shutdown and Startup to reference Proposed Rule 429.2

**SHUTDOWN** means the time period during which an electric generating unit begins reducing load and ending in a period of zero fuel flow or as otherwise defined in the SCAQMD permit as defined in South Coast AQMD Rule 429.2 – Startup and Shutdown Exemption Provisions for Oxides of Nitrogen from Electricity Generating Facilities.

**START-UP** – **STARTUP** means the time period that begins when an electric generating unit begins combusting fuel after a period of zero fuel flow and ends when the electric generating unit generates electricity for sale over the grid for power distribution, or as otherwise defined in the SCAQMD permit as defined in South Coast AQMD Rule 429.2.
Ammonia Emission Limits
Subdivision (d)

- Removed provisions related to ammonia emission limits in subdivision (d), including Tables 1 and 2
- Ammonia limits will be addressed during permitting

### Table 1: Emissions Limits for Boilers and Gas Turbines

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>NOx (ppmv)</th>
<th>Ammonia (ppmv)</th>
<th>Oxygen Correction (% dry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Combined Cycle/Cogeneration Gas Turbine and Associated Duct Burner</td>
<td>2</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Simple Cycle Gas Turbine</td>
<td>2.5</td>
<td>5</td>
<td>15</td>
</tr>
</tbody>
</table>

1. The NOx emission limits in Table 1 shall not apply during start-up, shutdown, and tuning.

### Table 2: Emissions Limits for Diesel Internal Combustion Engines

<table>
<thead>
<tr>
<th>NOx (ppmv)</th>
<th>Ammonia (ppmv)</th>
<th>Carbon Monoxide (ppmv)</th>
<th>Volatile Organic Compounds (ppmv)</th>
<th>Particulate Matter (lbs/mmbtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>5</td>
<td>250</td>
<td>30</td>
<td>0.0076</td>
</tr>
</tbody>
</table>

1. Corrected to 15% oxygen on a dry basis and averaged over a 60 minute rolling average
2. Corrected to 15% oxygen on a dry basis and averaged over 15 minutes
3. Measured as carbon, corrected to 15% oxygen on a dry basis, and averaged over sampling time required by the test method
4. The NOx, carbon monoxide, and volatile organic compounds emissions limits in Table 2 shall not apply during start-up and shutdown.
removed startup, shutdown, and tuning requirements from Rule 1135
will incorporate into PR 429.2

Start-up, Shutdown, and Tuning Requirements
The owner or operator of an electricity-generating facility shall meet start-up, shutdown, and tuning requirements in the SCAQMD permit for each electric generating unit. On and after January 1, 2024, the SCAQMD permit shall include limitations for duration, mass emissions, and number of start-ups, shutdowns, and, if applicable, tunings.
Former RECLAIM NOx Source and Non-RECLAIM NOx Facilities

Paragraph (e)(2) and Former Paragraph (e)(3)

In March 2021, Rule 218-series rules were amended and adopted to align CEMS requirements for RECLAIM and non-RECLAIM facilities

- As facilities exit RECLAIM, facilities will be transitioned from Rule 2012 to Rule 218.2 and 218.3
- Non-RECLAIM facilities will be transitioned from Rule 218 and 218.1 to Rules 218.2 and 218.3
Monitoring for RECLAIM NOx Process Units
Paragraph (e)(3)

• RECLAIM NOx peaking units are considered NOx process units and are not required to install CEMS per Rule 2012

• Currently, Rule 1135 requires CEMS for all electricity generating units at former RECLAIM and non-RECLAIM NOx facilities
  • Once a facility exits RECLAIM, units that were RECLAIM NOx process units will be required to install CEMS

• PAR 1135 will require former RECLAIM NOx facilities to follow Rule 218-series rules and operate CEMS

• To allow sufficient time for RECLAIM facilities with NOx process units to implement Rule 218-series rules, PAR 1135 will allow annual source testing until January 2027 in lieu of operating CEMS
  • Facilities must submit permit applications to limit operating hours to 1,300 hr/year for each NOx peaking unit to qualify for source testing option
Ammonia Emissions Testing or Monitoring Paragraph (e)(5)

- Current Rule 1135 only refers to ammonia testing or monitoring for catalytic control devices.
- Added non-catalytic control devices with ammonia injection to ensure source testing or continuous monitoring of ammonia emissions requirements apply to units with SCR and SNCR.

### Catalytic and Non-Catalytic Control Devices with Ammonia Injection Emissions Limits

**(A)** The owner or operator of each electricity generating unit with a catalytic or non-catalytic control device with ammonia injection shall conduct quarterly source tests to demonstrate compliance with the ammonia emission limit specified in the South Coast AQMD permit according to South Coast AQMD Method 207.1 – Determination of Ammonia Emissions from Stationary Sources during the first twelve months of operation of the electricity generating unit with a catalytic or non-catalytic control device with ammonia injection and annually thereafter when four consecutive quarterly source tests demonstrate compliance with the ammonia emission limit specified in the South Coast AQMD permit. If an annual test is failed, the owner or operator shall conduct four consecutive quarterly source tests must to demonstrate compliance with the ammonia emissions limits specified in the South Coast AQMD permit to operate prior to resuming annual source tests.

**(B)** In lieu of complying with subparagraph (e)(5)(A), the owner or operator of each electricity generating unit with a catalytic or non-catalytic control device with ammonia injection may utilize ammonia CEMS certified under an approved South Coast AQMD protocol to demonstrate compliance with the ammonia emission limit specified in the South Coast AQMD permit to operate.
Additional Considerations
Emissions Limits for Diesel Internal Combustion Engines
Paragraph (d)(2)

• Current Rule 1135 requires diesel engines meet NOx emission limit of 45 ppmv (at 15% $O_2$) by January 1, 2024 with an option of a 3-year extension
  • NOx limit derived from U.S. EPA Tier 4 Final emission standard (0.67 g/kWh or 0.50 g/bhp-hr for a generator set) with an assumed engine efficiency at 40%

• Santa Catalina Island Engine Replacement Project
  • Based on discussions with Southern California Edison (SCE), all six diesel internal combustion engines on Santa Catalina Island will be replaced with U.S. EPA Tier 4 Final-certified diesel engines to meet Rule 1135 emission limits
  • SCE has submitted permit applications for the first two replacement engines
  • Engineering is determining if replacement engines meet BACT
    • Proposed replacement engines are new equipment, thus subject to BACT
  • Replacement of all six engines expected to completed by January 1, 2027
Status of Santa Catalina Island Engine Replacement Project

• Initial review of submitted permit applications show new engines cannot:
  • Meet Rule 1135 NOx limit at all operating loads

• Engine manufacturer cannot guarantee proposed new engines will meet the 45 ppmv NOx limit on a 60-minute rolling average at all operating loads
  • Tier 4 Final certification tests are conducted at multiple loads and results averaged
  • Tier 4 Final certification testing conditions are not representative of actual field conditions
Considerations for Santa Catalina Island Engine Replacement

• Staff proposes to amend NOx emission limit for diesel internal combustion engines based on engine size and operating load
  • Tier 4 certification test results show each new engine model can meet NOx concentrations <45 ppmv (current Rule 1135 limit) at certain load ranges
  • Any proposed NOx emission limit higher than 45 ppmv may require additional operating limits (i.e., maximum hours at specific loads or facility wide limit)

• Proposed emission limits and associated operating conditions will ensure that the same NOx emission reductions occur from Santa Catalina Island engines if engines meet current 45 ppmv NOx limit on and after January 1, 2024

• PAR 1135 will retain current Rule 1135 emission limits for CO, VOC, and PM

• Staff is continuing to work with SCE and an engine manufacturer
• Staff is proposing revised NOx emission limits for diesel internal combustion engines on Santa Catalina Island
• Definition needed as proposed NOx emission limits will be based on engine operating load

ENGINE OPERATING LOAD is calculated as the average gross electrical power output (in kilowatts) measured at the generator terminals divided by the rated gross generator output (in kilowatts) of the engine multiplied by the inverse of the generator efficiency, expressed as a percent.
Proposed Rule 429.2

PROPOSED RULE 429.2
STARTUP AND SHUTDOWN EXEMPTION
PROVISIONS FOR OXIDES OF NITROGEN FROM ELECTRICITY GENERATING FACILITIES

(a) Purpose
The purpose of this rule is to limit emissions of oxides of nitrogen (NOx) during periods of startup and shutdown from electricity generating units at electricity generating facilities.

(b) Applicability
This rule shall apply to electricity generating units at electricity generating facilities.

(c) Definitions
For the purpose of this rule, the following definitions shall apply:

1. **BOILER COLD START** means the condition of a boiler startup occurring after a boiler has been shut down for 24 hours or more.

2. **BOILER NON-COLD START** means the condition of a boiler startup occurring after a boiler has been shut down for less than 24 hours or put in standby.

3. **ELECTRICITY GENERATING UNIT** is as defined in Rule 1135 — Emissions of Oxides of Nitrogen from Electricity Generating Facilities, which includes boilers, combined cycle/cogeneration gas turbines, duct burners, simple cycle gas turbines, and internal combustion engines, as defined in Rule 1135.

4. **ELECTRICITY GENERATING FACILITY** is as defined in Rule 1135.

5. **MINIMUM OPERATING TEMPERATURE** means the minimum operating temperature specified by the manufacturer, or as otherwise defined in the South Coast AQMD permit to operate.

6. **OXIDES OF NITROGEN (NOx) EMISSIONS** is as defined in Rule 1135.

7. **SCHEDULED STARTUP** means a planned startup that is specified by January 1 of each year.

8. **SHUTDOWN** means the time period that begins when an electricity generating unit begins reducing load and flue gas temperatures fall below the minimum operating temperature of the NOx post-combustion control equipment, and ends in a period of zero fuel flow.
Stakeholder Comments

<table>
<thead>
<tr>
<th>Stakeholder Comment</th>
<th>Staff Response</th>
</tr>
</thead>
</table>
| Explain the relationship between the startup and shutdown number and duration limits which are being proposed in PR 429.2 and which are already existing in the current permit (under RECLAIM) | • **Number of Startups and Shutdowns**  
   • PR 429.2 will only limit the number of scheduled startups  
   • Scheduled startups will count toward the permitted number of total startups  
• **Duration of Startups and Shutdowns**  
   • PR 429.2 will establish the most inclusive duration limits for entire universe of Rule 1135 equipment for each equipment type based on current permit conditions and documented startup and shutdown events  
   • Equipment that has more stringent startup and shutdown requirements in their permits will follow the permit conditions  
• **Permits that have no startup or shutdown limits**  
   • Will require permits to be updated with startup and shutdown conditions that do not exceed PR 429.2 |
## Stakeholder Comments (continued)

<table>
<thead>
<tr>
<th>Stakeholder Comment</th>
<th>Staff Response</th>
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</thead>
<tbody>
<tr>
<td>Rule should allow flexibility for changes to submitted scheduled startup dates submitted</td>
<td>• PR 429.2 will allow for this flexibility and include a provision for facilities to keep a record of all time and date changes to scheduled startups</td>
</tr>
<tr>
<td>Will PR 429.2 address aborted startups?</td>
<td>• Conditions for aborted startups will be addressed in the permits</td>
</tr>
</tbody>
</table>
Proposed Rule Language
Purpose
The purpose of this rule is to limit emissions of oxides of nitrogen (NO_x) during periods of startup and shutdown from electricity generating units at electricity generating facilities.

Applicability
This rule shall apply to electricity generating units at electricity generating facilities.
<table>
<thead>
<tr>
<th>Definitions from Rule 1135</th>
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<tbody>
<tr>
<td>• Electricity Generating Unit</td>
</tr>
<tr>
<td>• Electricity Generating Facility</td>
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<tr>
<td>• Oxides of Nitrogen (NOx) Emissions</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Definitions from Other Startup and Shutdown Rulemakings (PAR 429 and PR 429.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Minimum Operating Temperature</td>
</tr>
<tr>
<td>• Scheduled Startup</td>
</tr>
<tr>
<td>• Stable Conditions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Definitions Specific to PR 429.2</th>
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</thead>
<tbody>
<tr>
<td>• Boiler Cold Start</td>
</tr>
<tr>
<td>• Boiler Non-Cold Start</td>
</tr>
<tr>
<td>• Shutdown</td>
</tr>
<tr>
<td>• Startup</td>
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</tbody>
</table>
### Definitions from PAR 429 and PR 429.1

<table>
<thead>
<tr>
<th>Paragraph (c)(5)</th>
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<tbody>
<tr>
<td>MINIMUM OPERATING TEMPERATURE means the minimum operating temperature specified by the manufacturer, or as otherwise defined in the South Coast AQMD permit to operate.</td>
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<thead>
<tr>
<th>Paragraph (c)(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHEDULED STARTUP means a planned startup that is specified by January 1 of each year.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paragraph (c)(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STABLE CONDITIONS means that the fuel flow to an electricity generating unit is consistent and allows for normal operations.</td>
</tr>
</tbody>
</table>
New Definitions for Boiler Startup

<table>
<thead>
<tr>
<th>Boiler Cold Start</th>
<th>Boiler Non-Cold Start</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paragraph (c)(1)</strong></td>
<td><strong>Paragraph (c)(2)</strong></td>
</tr>
</tbody>
</table>

**BOILER COLD START** means the condition of a boiler startup occurring after a boiler has been shut down for 24 hours or more.

**BOILER NON-COLD START** means the condition of a boiler startup occurring after a boiler has been shut down for less than 24 hours or put in standby.
Startup
Paragraph (c)(10)

STARTUP means the time period that begins when an electricity generating unit begins combusting fuel after a period of zero fuel flow and ends when the electricity generating unit reaches the emission limit specified in the South Coast AQMD Rule 1135 or permit to operate, whichever is more stringent, or when the time limit specified in Table 1 is reached, whichever is soonest.

Shutdown
Paragraph (c)(8)

SHUTDOWN means the time period that begins when an electricity generating unit begins reducing load and flue gas temperatures fall below the minimum operating temperature of the NOx post-combustion control equipment, and ends in a period of zero fuel flow.
Approach for Establishing Startup and Shutdown Duration Limits

- Review all existing applicable equipment permits
- Obtain facility documentation of startup and shutdown events

Compile startup and shutdown duration limits

Establish startup and shutdown duration limits based on the most inclusive value

If the equipment category has major variation or outliers, establish multiple duration limits for that equipment category
Since add-on air pollution control equipment cannot be utilized until an electricity generating unit is at specific conditions and is stable, units are exempt from Rule 1135 NOx emission limit provisions during startup and shutdown.

An owner or operator an electricity generating unit is not subject to the NOx emission limits and the applicable rolling average and oxygen correction provisions pursuant to Rule 1135 during startup and shutdown.
Paragraph (d)(2)

- Effective January 1, 2024, units will be subject to Table 1: Startup and Shutdown Duration Limits or follow permit conditions, whichever is more stringent.
- Conditions for startups that are aborted due to an automatic equipment shutdown to prevent equipment damage or as a result of equipment malfunction, shall be addressed in the permits.

Paragraph (d)(3)

- Effective January 1, 2024, startup time allowing units to exceed Rule 1135 NOx limits cannot last longer than the time needed to reach stable conditions or minimum operating temperature of the NOx post-combustion control.

Table 1: Startup and Shutdown Duration Limits

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Time Allowance When Emissions Exceed Rule 1135 Emission Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Startup</td>
</tr>
<tr>
<td>Boiler</td>
<td>Boiler Cold Start: 24 hours</td>
</tr>
<tr>
<td></td>
<td>Boiler Non-Cold Start: 12 hours</td>
</tr>
<tr>
<td>Combined Cycle/Cogeneration Gas Turbine and Associated Duct Burner</td>
<td>6 hours</td>
</tr>
<tr>
<td>Simple Cycle Gas Turbine</td>
<td>1 hour</td>
</tr>
<tr>
<td>Diesel Internal Combustion Engines</td>
<td>1 hour</td>
</tr>
</tbody>
</table>
Limit to Number of Scheduled Startups
Paragraph (d)(4)

- Effective January 1, 2024, limit the number of scheduled startups to 10 events per year
- Scheduled startups will count toward the number of total startups if specified in a permit condition
- A scheduled startup includes:
  - Turnaround (catalyst changeout)
  - Planned maintenance
- A scheduled startup does not include:
  - Response to demand
  - Unscheduled maintenance
  - Equipment failure
  - Breakdowns or malfunctions
  - Any other startup that is not known by January 1
Paragraph (d)(5)
• Effective January 1, 2024, all reasonable and prudent steps must be taken to minimize emissions during startup and shutdown
  • Ensures best management practices
  • Includes maintenance, equipment repairs, and adjusting temperature of post-combustion controls

Paragraph (d)(6)
• Effective January 1, 2024, a calibrated temperature measurement device will be installed on all units equipped with a NOx post-combustion control
  • Allows determination of gas stream temperature entering the NOx post-combustion control equipment and when the catalyst will effectively control NOx

Paragraph (d)(7)
• Effective January 1, 2024, the post-combustion control must be operated, including injection of any associated chemical reagent to control NOx in exhaust stream, when the temperature of the inlet gas of the post-combustion control is greater than or equal to the minimum recommended operating temperature
  • Minimum recommended operating temperature specified in permit or manufacturer instructions
On and after January 1, 2024, permits shall include startup and shutdown duration limits, mass emission limits, and limits to number of startups and shutdowns.

Ensures that units without limits will be evaluated by engineering and incorporated into the permit.
• In order for South Coast AQMD to monitor startups and respond to any community inquiries, prior notification of scheduled startups is needed.

• Operator is required to notify the South Coast AQMD 24 hours prior to the scheduled startup.

• Must call 1-800-CUT-SMOG with date and time the scheduled startup will begin.
Recordkeeping
Subdivision (f)

- Following records are required to be maintained:
  - Operating log for startup and shutdown events, including date, time, duration, and reason for the event
  - List of scheduled startups, including dating and time
  - Any date and time changes to the scheduled startup
  - NOx CEMS emissions data during each startup and shutdown
- Maintain records for five years on-site, and make available to South Coast AQMD upon request
- Maintain documentation of manufacturer’s minimum operating temperature for units with NOx post-combustion control
Next Steps

PAR 1135 and PR 429.2 Public Hearing
January 7, 2022

PAR 1135 and PR 429.2 Stationary Source Committee Meeting
November 19, 2021

PAR 1135 and PR 429.2 Public Workshop
October 2021

Individual Stakeholder Meetings
Ongoing

October 2021

Ongoing
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PAR 1135 and PR 429.2 Proposed Rules Web Page

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