



Patty Senecal

Senior Director, Southern California Region

September 17, 2021

Michael Morris
Manager, Planning and Rules
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Via e-mail at: mmorris@aqmd.gov

**Re: SCAQMD Proposed Rule 429.1, Startup and Shutdown Provisions at Petroleum Refineries and Related Operations
WSPA Comments on PR 429.1 Language (August 20, 2021 version)**

Dear Mr. Morris,

Western States Petroleum Association (WSPA) appreciates the opportunity to participate in the Working Group Meetings (WGMs) for South Coast Air Quality Management District (SCAQMD or District) Regional Clean Air Incentives Market (RECLAIM) Transition, Proposed Rule 1109.1 (PR1109.1), Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, and the related rulemaking for Proposed Rule 429.1 (PR429.1), Startup and Shutdown Provisions at Petroleum Refineries and Related Operations. These rulemakings are being undertaken to transition facilities in the RECLAIM program for NO_x emissions to a command-and-control structure (i.e., the "RECLAIM Transition Project"). WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport, and market petroleum, petroleum products, natural gas, and other energy supplies in five western states including California. WSPA has been an active participant in air quality planning issues for over 30 years. WSPA-member companies operate petroleum refineries and other facilities in the South Coast Air Basin that are within the purview of the RECLAIM Program administered by the SCAQMD and will be impacted by the RECLAIM Transition Project.

SCAQMD released revised preliminary draft rule language for PR429.1 on August 20, 2021.¹ WSPA offers the following comments on the draft rule language.

- 1. PR 429.1 (a): Section (a) states that the purpose of the rule is to limit emissions of NO_x and CO during periods of startup and shutdown from units at petroleum refineries and facilities with related operations. This is inadequate to address refinery needs for maintenance and malfunction.**

As currently drafted, PR429.1 addresses operations during periods of startup and shutdown for refinery equipment. But with the exception of SCR catalyst maintenance, maintenance activities for refinery equipment are not included in the stated purpose of the proposed rule. The rule also does not address equipment breakdowns (i.e., malfunctions). Current Rule 430, Breakdown Provisions, does not provide adequate provisions for refining equipment. For this reason, WSPA suggests that a new section be included in the rule to explicitly address

¹Proposed Rule 429.1, Startup and Shutdown Provisions at Petroleum Refineries and Related Operations: Preliminary Draft Rule Language. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/429.1/rule-429-1-pdrl-pw.pdf?sfvrsn=4>. Accessed: September 2021.

maintenance and breakdown provisions for refinery equipment. The Purpose should be restated as follows:

The purpose of this rule is to limit emissions of oxides of nitrogen (NOx) and carbon monoxide (CO) during periods of startup, ~~and shutdown, maintenance, and malfunctions (SSMM)~~ from units at petroleum refineries and facilities with ~~related operations related to petroleum refineries.~~

2. **PR 429.1(c)(2): The definition of “Catalyst Maintenance” should be revised to include any ancillary equipment to the SCR system, such as the ammonia injection system or induced draft fans. WSPA recommends that the language be updated as follows:**

CATALYST MAINTENANCE means conditioning, repairing, or replacing the catalyst ~~or ancillary equipment~~ in NOx post-combustion control equipment associated with a unit which has a bypass stack or duct that exists prior to [Date of Adoption].

3. **PR 429.1(c): Some gas turbines need to be tuned multiple times per year as part of regular scheduled maintenance required by the manufacturer. In the event that tuning requires a startup or shutdown, units will require relief from Proposed Rule 1109.1 concentration limits if a startup or shutdown is necessary.**

WSPA suggests the definition of “TUNING” from Rule 1134 be added to Rule 429.1:

TUNING is adjusting, optimizing, rebalancing, or other similar operations to a stationary gas turbine or an associated control device or otherwise as defined in the South Coast AQMD Permit to Construct or Permit to Operate. Tuning does not include normal operations to meet load fluctuations.

4. **PR 429.1(d): WSPA recommends the following changes.**

- PR429.1(d)(1)
 - As discussed above, cogeneration turbines need to be tuned multiple times per year as part of regular scheduled maintenance. If a gas turbine requires shutdown for tuning, it will not be able to meet the concentration limits in Proposed Rule 1109.1. WSPA recommends that the language in Section (d)(1) be updated as follows:

(1) An owner or operator of a unit is not subject to the NOx and CO emission limits and the applicable rolling average provisions pursuant to Rule 1109.1 during startup, shutdown, ~~tuning maintenance events,~~ and catalyst maintenance events.

- PR429.1(d)(2)
 - Section (d)(2) limits the duration of startup and shutdown events. This section should include stated duration limits for equipment commissioning periods. SCAQMD often includes commissioning duration when issuing Permits to Construct, and this should be reflected in the rule language.
 - The proposed durations for process heaters, boilers, and SMR heater startup and shutdown events are insufficient to accommodate these activities. The District should confer with facilities to understand what adjustments are

- needed. The standards established in the rule must be adequate to allow all affected units to comply.
- Gas turbines with NOx post-combustion control equipment have similar issues to boilers and process heaters with respect to the necessary time allowance to meet NOx emission limits. WSPA requests that Table 1 of (d)(2) be changed such that a gas turbine with NOx post-combustion control equipment is subject to the same 48-hour time allowance as boiler and process heaters with NOx post-combustion control equipment
 - PR429.1(d)(7)
 - Paragraph (d)(7) is an operating requirement for post-combustion control equipment if the temperature of the exhaust gas to the inlet of the control equipment "... is greater than or equal to the minimum operating temperature." Because operating temperature fluctuates during startup, WSPA observes that, at times, the minimum temperature may be initially reached for a very short duration and then fall below that minimum temperature before again rising to a minimum temperature until a stabilized minimum temperature is reached. For this reason, WSPA requests that the aforementioned phrase be changed to "... is greater than or equal to the minimum operating and stable temperature."
 - PR 429.1(d)(8) – The proposed rule language significantly restricts the ability to use bypass stacks. The purpose of the bypass stack is to allow conditioning, repair, and replacement of SCR catalyst or ancillary equipment associated with the NOx post-combustion control equipment in order to meet the BARCT limit. Therefore, the following adjustments are requested.
 - (d)(8)(B)
 - This section limits the use of a bypass stack to 200 hours in a rolling three-year cycle. This time period appears to be arbitrary and is insufficient for catalyst changeouts on some units. WSPA recommends that the duration for use of the bypass stack be extended to 14 days per year.
 - (d)(8)(C)
 - This section requires that the unit be operated at the minimum safe operating rate of the unit when the NOx post-combustion control equipment is bypassed. The minimum safe operating rate should be in reference to the process unit, not the combustion device. The minimum rate or turndown of a combustion device could be lower than the safe operating rate of the process unit and would cause the unit to shut down. The operation of the combustion device will be dictated by the operating rate of the process unit. WSPA suggests that the language be updated as follows:

*Operate the unit at the minimum safe operating rate of the **process** unit when the NOx post-combustion control equipment is bypassed.*
 - (d)(8)(D)

- This section requires that a facility submit documentation from the manufacturer of the minimum safe operating rate for the unit being bypassed. The minimum safe operating rate is determined by the refinery, not the manufacturer. WSPA recommends that the language in Section (d)(7)(d) be stricken from the rule.

5. PR 429.1 (f)(2): WSPA recommends the following.

- This section requires that an owner or operator of a unit maintain on-site documentation from the manufacturer of the minimum operating temperature of the NOx post-combustion control equipment and make the information available to SCAQMD upon request. Refinery permits already include conditions specifying minimum temperature for ammonia injection which are equipment-specific. WSPA suggests that the language be updated as follows:

An owner or operator of a unit equipped with NOx post-combustion control equipment at a former RECLAIM petroleum refinery or a new petroleum refinery shall maintain on-site documentation from the manufacturer of the minimum operating temperature of the NOx post-combustion control equipment and make this information available to the South Coast AQMD upon request *unless the minimum temperature requirement is listed in the Permit to Operate.*

6. PR 429.1(g): WSPA requests that the following exemptions be added to the rule:

- The SSMM provisions listed in PR429.1 should be a backstop for units that do not have SSMM provisions included in their Permits to Operate. The rule should therefore defer to equipment specific SSMM conditions where listed in the permit. WSPA recommends that an exemption be added to the rule to address equipment with existing SSMM permit conditions.
- PR429.1(g)(1) – This section provides an exemption from the duration limits during certain commissioning and maintenance activities. An exemption should be added to the rule to address duration limits related to tuning on cogeneration turbines. WSPA recommends revising the language in Section (g)(1) as follows:

(1) An owner or operator of a unit at a former RECLAIM petroleum refinery or a new petroleum refinery shall be exempt from the requirements of paragraph (d)(2) during the following...

(E) Tuning Maintenance Activities

- Cogeneration units are subject to North American Electric Reliability Corporation (NERC) standards, which specify reliability standards for power generation facilities that supply power to the public. These standards include the requirement to maintain their equipment in good working order, including the obligation to conduct electrical testing following any upgrades or repairs made to the cogeneration unit's safety and control systems (e.g., protection relay and excitation control systems). These tests are required to ensure that the systems have been functionally tested to prevent any process safety or reliability issues. Some testing must occur at different electrical loads that can only occur during the startup phase. The testing duration ranges from 4 to 12 hours depending on the complexity of the testing. As this testing is required to ensure

the safety and reliability of the system, WSPA requests that this testing be categorically excluded from the time limitations in paragraph (d)(2) by including the following:

- Adding the following exemption as a new subparagraph to paragraph (g)(1):

(g)(1)(E) Electrical testing associated with commissioning of cogeneration control systems following upgrades or repairs.

and

- Adding the definition of gas turbine which incorporates the term “cogeneration” from subdivision (c) of PR 1109.1 to PR429.1(c).

WSPA appreciates the opportunity to provide these comments related to PR429.1. We look forward to continued discussion of this important rulemaking. If you have any questions, please contact me at (310) 808-2144 or via e-mail at psenecal@wspa.org.

Sincerely,



Cc: Wayne Nastro, SCAQMD
Susan Nakamura, SCAQMD