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August 5, 2021

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

Via e-mail at: mkrause@aqmd.gov

Re: SCAQMD Proposed Rule 429.1, Startup and Shutdown Provisions at Petroleum Refineries and Related Operations

WSPA Comments on Proposed Rule Language

Dear Mr. Krause,

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 preliminary draft rule language for PR429.1 on July 22, 2021.¹ WSPA offers the following comments on the draft rule language.

- 1. 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 provisions for equipment.**

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-preliminary-draft-rule-language.pdf?sfvrsn=6>. Accessed: August 2021.

PR429.1 addresses startup, shutdown, and maintenance provisions for refinery equipment. However, maintenance is not listed in the stated purpose of the proposed rule. The rule does not address equipment malfunctions. The breakdown and malfunction provisions provided in Rule 430, Breakdown Provisions, are inadequate for refining facilities. For this reason, WSPA suggests that a new section be included in the rule to explicitly address maintenance and malfunction/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. **429.1(c): The definition of “Startup” should account for non-post-combustion controls such as Ultra Low NOx Burners (ULNB). “Startup” should also explicitly include unit and process stabilization, and commissioning, as those are part of the startup process. A unit must not only reach the minimum operating temperature of the emission control equipment, but it must also be able to maintain such temperature.**
3. **429.1(d): WSPA recommends the following changes.**
 - 429.1(d)(1)
 - Section (d)(1) limits the duration of startup and shutdown events. This section should include stated duration limits for 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 boiler 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.
 - 429.1(d)(2) and (d)(3)
 - These sections limit the number of scheduled startups in a calendar year for various categories of equipment. The District has not provided any foundation for the reason why this limitation is necessary. The District should include a clarifying statement in the rule that there is no restriction on unscheduled startups.
 - 429.1(d)(4)
 - Section (d)(4) states that “an owner or operator of a unit shall take all possible steps to minimize emissions during startup and shutdown events.” To “take all possible steps to minimize emissions” and at the same time meet a startup duration limit are conflicting goals. WSPA suggests the language be changed as follows:

An owner or operator of a unit shall take all ~~possible~~ reasonable and prudent steps to minimize emissions during startup and shutdown events”

- 429.1(d)(7) – The proposed rule language significantly restricts the ability to use bypass stacks. The purpose of the bypass stack is to condition, repair, and replace the SCR catalyst or ancillary equipment associated with the NOx post-combustion control equipment in order to meet the BARCT limit. Therefore, additional flexibility is requested.
 - 429.1(d)(7)(A)
 - This section states that the bypass stack may not be used if the unit is scheduled to operate continuously for less than five years between planned maintenance shutdowns of the equipment. It may be necessary to change catalyst more frequently than every 5 years. Therefore, WSPA recommends that the requirement be tied to catalyst replacement schedules.
 - 429.1(d)(7)(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.
 - 429.1(d)(7)(C)
 - This section requires that equipment be operated at ≤25% of the rated capacity when the NOx post-combustion control equipment is bypassed. This requirement appears to be arbitrary and could significantly impact refinery operations. Additionally, operation at low capacity can result in high NOx, CO, and VOC emissions because the unit is being required to operate inefficiently. WSPA suggests that the language be updated as follows:

Operate the ~~unit process unit~~ at ~~25% of the rated capacity~~ the ~~minimum safe operating rate~~ of the ~~process unit~~ ~~or less~~ when the NOx post-combustion control equipment ~~or ancillary equipment~~ is bypassed.
 - 429.1(d)(7)(D)
 - This section requires that a facility notify SCAQMD at least seven days prior to bypassing the NOx post-combustion control equipment. WSPA suggests that the language be updated as follows:

For scheduled bypass, ~~Notify~~ the South Coast AQMD by calling 1-800-CUT-SMOG at least ~~seven days~~ 24 hours prior to bypassing the NOx post-combustion control equipment. This notification shall contain the ~~estimated~~ date, time, and duration that the NOx post-combustion control equipment will be bypassed.
 - 429.1(d)(7)(E) and (d)(7)(F)
 - These sections require that a facility continuously monitor NOx and CO emissions with a certified CEMS, or Laboratory Approval Program (LAP) approved contractor, and provide emissions data collected by a certified CEMS of the most recent startup and shutdown of the unit to SCAQMD. Under PR1109.1, not all units will be required to operate a

CO CEMS. Since bypasses are not operated normally, this section should clarify that the continuous monitoring under 429.1(d)(7)(E) with a CEMS or LAP approved contractor is only required during the bypassing event.

- 429.1(d)(7)(G), (d)(7)(H), and(d)(7)(I)
 - These sections require a facility to calculate “excess emissions”, provide that data to SCAQMD, and pay an excess emission fee within 30 days after the catalyst is conditioned, repaired, or replaced. Using a bypass stack during conditioning, repair, or replacement of catalyst and ancillary equipment is part of normal operation of an SCR. Facilities should not be penalized for maintenance of the equipment. Additionally, the rule allows for conditioning, repair, and replacement of catalyst. Therefore, the emissions resulting from this process cannot be considered “excess”.

4. 429.1(f): 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 suggests that an exemption be added to the rule to address equipment with existing SSMM permit conditions.

5. WSPA requests that a section specifically addressing maintenance activities be added to the rule.

Maintenance activities should be included in Rule 429.1. For example:

- Semi-regeneration reformers should be covered by PR429.1, as a covered maintenance activity. Reformer in-situ catalyst regenerations require use of a reformer heater at reduced capacity during a maintenance period. This is not considered a part of a shutdown or startup activity. During this step, a recycle hydrogen compressor is typically used to circulate air which is heated by the reformer heater and passed through the reformer catalyst bed in order to burn carbon off of the catalyst. The processing unit is considered shutdown at this point and an SCR is not operational. There are small amounts of NO_x and CO emissions during this step (as some but not all heater burners are operating at reduced capacity), but it is not possible to operate the SCR during this time.
- Steam/air de-coking of process heaters should also be covered by PR429.1 as a maintenance activity.
- SCR ancillary equipment.

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,

A handwritten signature in black ink that reads "Cathy Senecal". The signature is written in a cursive, flowing style.

Cc: Wayne Nastri, SCAQMD
Susan Nakamura, SCAQMD
Cathy Reheis-Boyd, WSPA