



**Patty Senecal**

Director, Southern California Region

February 2, 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](mailto:mkrause@aqmd.gov)

**Re: SCAQMD Proposed Rule 1109.1, NO<sub>x</sub> Emission Reduction for Refinery Equipment  
WSPA Comments on Working Group Meeting #14**

Dear Mr. Krause,

Western States Petroleum Association (WSPA) appreciates the opportunity to participate in South Coast Air Quality Management District (SCAQMD or District) Proposed Rule 1109.1, NO<sub>x</sub> Emission Reduction for Refinery Equipment (PR1109.1), Working Group Meetings (WGMs). As the District has stated, this proposed rulemaking is part of the District's larger project to transition facilities in the Regional Clean Air Incentives Market (RECLAIM) program for NO<sub>x</sub> 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 thus will be impacted by PR1109.1.

SCAQMD has recently published revised draft rule language for PR1109.1.<sup>1</sup> This letter addresses continuing concerns with the BARCT rulemaking process and the draft rule language.

WSPA will provide further written comments on category specific BARCT endpoints in other letters.

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<sup>1</sup> Proposed Rule 1109.1 Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations. December 24, 2020. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/r1109-1-rule-language--12-24-20.pdf?sfvrsn=6>. Accessed: January 2021.

**1. The limits presented in Table 1 are preliminary because the District has not completed the technical and economic analyses necessary for this NOx BARCT rulemaking.**

PR1109.1, which would establish new Best Available Retrofit Control Technology (BARCT) standards for equipment at refineries and other related facilities, represents a complex rulemaking which would impact hundreds of pieces of equipment. WSPA has actively engaged with the District on PR1109.1 development for over two and a half years. Despite that considerable time, the District has not completed the technical or economic analyses required for a BARCT rule under the California Health & Safety Code (CHSC).<sup>2</sup> While the District has presented preliminary BARCT “endpoints” for the equipment categories which will be covered by PR1109.1, there remain significant unresolved questions concerning technical feasibility and cost-effectiveness for the proposed endpoints. The District’s two third-party consultants identified important concerns about the technical feasibility of the Staff’s proposed BARCT endpoints. A number of these technical feasibility issues have yet to be assessed. Additionally, the third-party experts identified costs that needed to be considered when assessing the potential compliance cost and cost-effectiveness of the staff’s proposals. Generally, those items do not appear to have been considered in Staff’s cost-effectiveness analyses. These technical feasibility and cost issues must be addressed before finalizing the BARCT endpoints in Table 1.

**2. The District’s cost analysis has failed to account for additional costs of refinery fuel gas (RFG) desulfurization which could be a direct result of PR1109.1. While the District has been working with U.S. EPA and CARB on varying approaches to address co-pollutant BACT, this issue is not resolved. Projected costs for RFG desulfurization could significantly increase the cost of PR1109.1, thereby reducing cost-effectiveness. Since this issue would render the District’s initial BARCT proposals as not cost-effective, the PR1109.1 BARCT determinations cannot be finalized until the co-pollutant BACT issue is resolved.**

SCAQMD Rule 1303 requires implementation of Best Available Control Technology (BACT) for any new or modified source that results in an emission increase of any nonattainment air contaminant. In order to meet some of the proposed BARCT endpoints, SCR would need to be installed on equipment. Unreacted ammonia from SCR systems can react with SO<sub>3</sub> formed in the gas path to form ammonium sulfate, which is emitted as particulate matter. The District has suggested these particulate matter emissions could trigger BACT, potentially requiring additional desulfurization for existing RFG systems fueling the units.

The District has reportedly been working with US EPA and CARB on different approaches to resolve this issue. But there is currently no resolution to the BACT issue. If RFG desulfurization was required, those costs would be significant. Based on the SCAQMD’s 2020 Fuel Gas Treatment Survey (2020 FGT Survey), the projected costs for WSPA member facilities alone were estimated to be approximately \$1.4 billion.<sup>3</sup>

If triggered, these costs must be included when determining whether the proposed BARCT are cost effective. The PR1109.1 BARCT endpoints cannot be finalized for the equipment categories impacted by this issue until the co-pollutant BACT issue has been resolved.

**3. PR1109.1 draft rule language includes references to carbon monoxide (CO) emission limits.<sup>4</sup> The District has not provided any information to demonstrate such limits are necessary, technically feasible or cost-effective. If CO limits are imposed in conjunction with the new NOx BARCT limits, the District would need to demonstrate technical feasibility and evaluate cost-effectiveness.**

<sup>2</sup> California Health & Safety Code §40406, 40440, 40920.6.

<sup>3</sup> In 2020, District Staff surveyed companies subject to PR1109.1 to provide estimated costs for desulfurization of their fuel gas systems. Afterwards, Ramboll acting for WSPA, surveyed WSPA members to provide those District survey responses, confidentially, to Ramboll. The aggregated sum of those cost estimates is presented above.

<sup>4</sup> Proposed Rule 1109.1 Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations. December 24, 2020. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/r1109-1-rule-language--12-24-20.pdf?sfvrsn=6>. Accessed: January 2021.

Since early 2018, the PR1109.1 WGMs have focused on NO<sub>x</sub> BARCT with limited side discussions of ammonia (NH<sub>3</sub>) slip emissions and PM<sub>2.5</sub> co-pollutant emissions potentially associated with the SCR technology. There has been zero technical discussion or analysis of CO emissions or CO emissions control technologies. We appreciate the District's stated intent to prevent an increase in CO emissions. However, the District has not presented stakeholders with any information to demonstrate that proposed CO limits presented in the PR1109.1 are technically feasible or cost-effective for existing equipment without permitted CO limits.

A very cursory examination suggests that the limits included in Table 1<sup>5</sup> would conflict with other District rules currently applicable to PR1109.1 equipment. How widespread a problem that would be is unclear because there has been no analysis of CO emissions performance for units without existing CO limits. If it is ultimately determined that there is a supportable basis for imposing CO limits, then the cost-effectiveness analysis for PR1109.1 needs to reflect any costs associated with meeting the proposed limits.

**4. PR1109.1 draft rule language excludes internal combustion engines (ICE). PR1109.1 is a sector-based rule specific to petroleum refineries and related operations. As such, it should include all equipment located at these facilities, including ICE.**

SCAQMD presented a cost-effectiveness analysis for ICE at refineries at WGM #11.<sup>6</sup> Staff concluded that neither retrofit or replacement was cost-effective for the category and proposed a low-use exemption for ICE operating ≤100 hours/year. More recently, staff suggested moving these units to Rule 1110.2, Gaseous - and Liquid-Fueled Engines, which includes an exemption for emergency equipment. But the engines in this category are not necessarily designated as "emergency" equipment. As such, they wouldn't necessarily qualify for the low use exemption in Rule 1110.2 (limited to emergency engines). Also, there has been no BARCT analysis for this equipment under Rule 1110.2. For these reasons, WSPA believes the refinery ICEs in this category should remain covered under PR1109.1.

**5. PR1109.1(c) definitions for malfunction, start-up, and shut-down in PR1109.1(c) should be modified to align with EPA definitions.**

PR1109.1 draft rule language defines malfunction as follows:

MALFUNCTION means any sudden, infrequent, and not reasonably preventable failure of air pollution control, monitoring equipment, process equipment, or a process to operate in a normal manner, which causes, or has the potential to cause, the emission limitations to be exceeded.

40 CFR Part 60 Subpart A defines a malfunction as follows:<sup>7</sup>

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

WSPA recommends that the PR1109.1 definition of malfunction be revised to better align with the EPA definition.

PR1109.1 draft rule language defines start-up as follows:

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<sup>5</sup> PR 1109.1 (December 24, 2020), Table 1.

<sup>6</sup> PR1109.1 WGM #11 Presentation. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/pr1109-1-wgm-11-final.pdf?sfvrsn=6>. Accessed: January 2021,

<sup>7</sup> 40 CFR Subpart A – General Provisions, §60.2, Definitions. Available at: <https://www.law.cornell.edu/cfr/text/40/60.2>. Accessed: January 2021.

START-UP is the time period that begins when a NO<sub>x</sub> emitting unit combusts fuel after a period of zero fuel flow or zero feedstock and ends when the flue gas temperature reaches the minimal operating temperature of the emission control equipment. Start-Up does not include the time used to dry refractory if a separate unit is used for the drying process

40 CFR Part 60 Subpart A defines start-up as follows:<sup>8</sup>

Startup means the setting in operation of an affected facility for any purpose. "Affected facility" means any apparatus to which a standard is applicable.

WSPA recommends that the PR1109.1 definition of start-up be revised to better align with the EPA definition.

PR1109.1 draft rule language defines start-up as follows:

SHUTDOWN is the time period that begins when an operator reduces load and for flue gas temperatures to fall below the minimum operating temperature of the emission control equipment, and which ends in a period of zero fuel flow or zero feedstock, unless otherwise defined in the South Coast AQMD permit to operate.

40 CFR Part 60 Subpart A defines shutdown as follows:<sup>9</sup>

Shutdown means the cessation of operation of an affected facility for any purpose. "Affected facility" means any apparatus to which a standard is applicable.

WSPA recommends that the PR1109.1 definition of shutdown be revised to align with the EPA definition.

## **6. The PR1109.1(c) definition for unit should include ICE.**

PR1109.1 draft rule language defines unit as follows:

UNIT means, for the purpose of this rule, boilers, flares, fluid catalytic cracking units, gas turbines, petroleum coke calciners, process heaters, steam methane reformer heaters, sulfuric acid furnaces, SRU/TG incinerators, and vapor incinerators requiring a South Coast AQMD permit and not specifically required to comply with a NO<sub>x</sub> emission limit by other South Coast AQMD Regulation XI rules.

Per our above comment, the PR1109.1 definition of unit should be modified to include ICEs.

## **7. The PR1109.1(c) definition for rolling average should specify how the average emission values of the subsets should be calculated.**

PR1109.1 draft rule language defines rolling average as follows:

ROLLING AVERAGE means the average of a subset of values which is modified by shifting the subset forward, excluding the first value of the series and including the next value in the subset.

PR1109.1(d)(4) requires that rolling average emissions be calculated based on one-hour subsets of data (for units with averaging times of 24 hours or less) but does not specify how the average emission values of these subsets should be calculated. The definition of "rolling average" in PR1109.1 should be expanded to clarify how subset averages should be calculated. To be consistent with SCAQMD Rule 218.3 (which itself is consistent with the federal requirements for one-hour averaging of CEMS data, as stipulated in 40 CFR 60, Subpart A), the

<sup>8</sup> 40 CFR Subpart A – General Provisions, §60.2, Definitions. Available at: <https://www.law.cornell.edu/cfr/text/40/60.2>. Accessed: January 2021.

<sup>9</sup> 40 CFR Subpart A – General Provisions, §60.2, Definitions. Available at: <https://www.law.cornell.edu/cfr/text/40/60.2>. Accessed: January 2021.

definition should state that the emissions averages for one-hour subsets be calculated by averaging every valid data point collected over the 60-minute period commencing on the hour, and that a minimum of one valid data point be collected in each 15-minute quadrant of the hour.

**8. The PR1109.1(c) definition for flare is confusing because it excludes refinery flares subject to Rule 1118.**

PR1109.1 draft rule language currently defines flare as follows:

FLARE means a combustion device that oxidizes combustible gases or vapors, where the combustible gases or vapors being destroyed are routed directly into the burner without energy recovery, and it is not subject to Rule 1118.

We are concerned that stakeholders will be confused by a refinery rule (i.e., PR1109.1) definition and standard for “flares” when that definition effectively excludes refinery flares (i.e., those covered by R1118, Refinery Flares). We recommend Staff find a different term/definition for this item.

**9. PR1109.1(d)(1)(A) – (d)(1)(C) present exceptions to compliance with the emission limits presented in Table 1. It is potentially confusing to have these exceptions located within the emission limits section. We recommend the exceptions be moved to Section (I), Exemptions.**

PR1109.1(d)(1)(A) – (d)(1)(C) present exceptions to the emission limits presented in Table 1. Because these exceptions are really exemptions from the compliance timetables, they would be more appropriate in Section (I), Exemptions. We recommend these be moved to Section (I).

**10. PR1109.1 draft rule language requires an owner or operator of a boiler <40 MMBtu/hr, SMR heater with gas turbine, or sulfuric acid furnace submit an application for a permit that limits the NOx and CO emissions to meet applicable limits and permit application submittal deadline in Table 1 (Section (d)(1)(C)). The District has not yet demonstrated technical feasibility for these subcategories of equipment.**

PR1109.1 draft rule language requires an owner or operator of a boiler <40 MMBtu/hr, SMR heater with gas turbine, or sulfuric acid furnace submit an application for a permit that limits the NOx and CO emissions to meet applicable limits and permit application submittal deadline in Table 1 (see Section (d)(1)(C)). While SCAQMD has suggested at several WGMs that these units are currently able to meet the proposed BARCT endpoints,<sup>10,11,12</sup> to our knowledge that has not been demonstrated. In fact, some of these units are presently permitted at limits higher than the proposed BARCT endpoint. The District has not demonstrated that these units can continuously comply with the proposed BARCT endpoints.

**11. PR1109.1(e)(1) states that an owner or operator of a unit is exempt from the applicable Table 1 NOx and CO emission limits during start-up, shutdown, or malfunction (SSM) of a unit for the time periods specified in Table 2, or the time specified in a SCAQMD permit, whichever occurs sooner. While the purpose of this section is to provide a backstop for units without existing SSM limits, the phrase “whichever occurs sooner” could effectively require units to meet the event duration requirements in the rule irrespective of previously established SSM permit conditions. For this reason, the phrase**

<sup>10</sup> PR1109.1 WGM #9. Available at: [http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/pr1109-1-wgm\\_9\\_final.pdf?sfvrsn=12](http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/pr1109-1-wgm_9_final.pdf?sfvrsn=12). Accessed: January 2021.

<sup>11</sup> PR1109.1 WGM #11. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/pr1109-1-wgm-11-final.pdf?sfvrsn=6>. Accessed: January 2021.

<sup>12</sup> PR1109.1 WGM #15. Available at: [http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/final\\_pr1109-1\\_wgm\\_15.pdf?sfvrsn=20](http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/final_pr1109-1_wgm_15.pdf?sfvrsn=20). Accessed: January 2021.

**“whichever occurs sooner” should be removed from PR1109.1(e)(1). In addition, SSM conditions should be a maximum for each category type.**

PR1109.1(e)(1) states that an owner or operator of a unit is exempt from the applicable Table 1 NO<sub>x</sub> and CO emission limits during SSM of a unit for the time periods specified in Table 2, or the time specified in a SCAQMD permit, *whichever occurs sooner*. Table 2 provides allowable duration for operating over the emission limits presented in Table 1 during SSM events.

The SSM requirements in this section are intended to cover units that do not have SSM requirements listed on the permit. But the phrase “whichever occurs sooner” would effectively subject all units to the SSM requirements in the rule, overriding the permit conditions. Since the purpose was to backstop, the phrase “whichever occurs sooner” should be removed from this section. Additionally, SSM limits in the rule should be the maximum necessary for each subcategory (i.e., these being backstops).

**12. PR1109.1 draft rule language requires an owner or operator with a start-up, shutdown, or malfunction event that exceeds the applicable Table 1 NO<sub>x</sub> and CO emissions limit implement *best engineering practices* such that the unit meets the Table 1 NO<sub>x</sub> and CO emissions as quickly as feasible (Section (e)(2)). This section conflicts with the allowances provided in PR1109.1(e)(1). Additionally, “best engineering practices” is an undefined and subjective term. PR1109.1(e)(2) should therefore be removed from the draft rule language.**

PR1109.1(e)(1) states that an owner or operator of a unit is exempt from the applicable Table 1 NO<sub>x</sub> and CO emission limits during start-up, shutdown, or malfunction of a unit for the time periods specified in Table 2, or the time specified in a SCAQMD permit, *whichever occurs sooner*. However, PR1109.1(e)(2) requires that if the unit exceeds the applicable emission limit, best engineering practices must be implemented to ensure that the unit meets the Table 1 emission limits as quickly as feasible. PR1109.1(e)(2) conflicts with the allowances provided in PR1109.1(e)(1).

In addition, “best engineering practices” is an undefined and subjective term and should therefore be removed from PR1109.1(e)(2).

**13. PR1109.1 draft rule language states that emissions determined to exceed any limits established by this rule through the use of a certified CEMS shall constitute a violation of the rule (Section (f)(4)). This requirement is unnecessary and should be removed.**

PR1109.1(f)(4) states that emissions determined to exceed any limits established by this rule through the use of a certified CEMS shall constitute a violation of the rule. PR1109.1(d) states that an owner or operator shall not operate a unit, excluding SSM periods, unless the unit meets the applicable limits specified in Table 1. It is understood that an exceedance of the limits in Table 1 would constitute a violation. It is unnecessary to include additional language in the CEMS Requirements section. Section (f)(4) should be removed from the draft rule language.

**14. PR1109.1 draft rule language requires that an owner or operator of a unit that exceeds any limits established by this rule by any of the reference test methods in subparagraph (g)(8)(B) inform the Executive Officer within 72 hours from the time an owner or operator knew of the excess emissions, or *reasonably should have known* (Section (g)(11)). WSPA requests the phrase “reasonably should have known” be removed from the requirement.**

PR1109.1(g)(11) requires that an owner or operator of a unit that exceeds any limits established by this rule by any of the reference test methods in subparagraph (g)(8)(B) shall inform the Executive Officer within 72 hours



from the time an owner or operator knew of the excess emissions, *or reasonably should have known* (Section (g)(11)). This would be a subjective requirement. WSPA recommends the phrase “reasonably should have known” be removed from this section.

**15. PR1109.1 draft rule language presents requirements for diagnostic emission checks in Section (h). WSPA does not agree that these diagnostic emission checks will be accurate in determining emissions in excess of those in Table 1. This section should be removed from the rule.**

PR1109.1(h) presents requirements for diagnostic emission checks. Specifically, it requires owners or operators of units required to perform a source test perform diagnostic emission checks of NO<sub>x</sub>, CO, and O<sub>2</sub> with a portable analyzer every 90 days or every 2,000 hours, whichever occurs later. A diagnostic emission check that finds the emissions in excess of those allowed by the rule or permit condition will not constitute a violation of the rule provided that the problem is corrected, and compliance is demonstrated with an additional diagnostic emission check within 72 hours from the time the owner or operator knew, or reasonably should have known, of excess emissions, or the equipment can be shutdown by the end of the operating cycle, whichever is sooner. Any diagnostic emission check conducted by SCAQMD that finds emissions in excess of those allowed by the rule is a violation.

PR1109.1 Table 1 lists averaging periods for the various subcategories of equipment, ranging from 2 hours to 365 days. Diagnostic emission checks are only useful if they are consistent with averaging periods associated with the emission standard. In other words, diagnostic emission checks would need to be conducted on the same averaging period as those listed in Table 1 to be an accurate representation of emissions. Handheld analyzers provide emission data for one moment in time. Because the minimum averaging period is at least a 2-hour duration, a diagnostic emission check with a handheld analyzer is not an appropriate method for demonstrating compliance with Table 1 limits. This section should be removed from the rule.

**16. PR1109.1 draft rule language includes requirements for CEMS operation (Section (f)) and monitoring, reporting, and recordkeeping (MRR) requirements (Section (i)), and specifically reference compliance with the Rule 218 series of rules. The rule language must be revised to reflect the phases for transitioning out of Regulation XX and into the R218 series.**

PR1109.1 draft rule language requires that units subject to the CEMS requirements of section (f) and MRR requirements of section (i) must adhere to various CEMS and MRR requirements of the Rule 218 series. These units are currently regulated under Regulation XX, and there will need to be a transition plan between the two regulation schemes. The PR1109.1 draft rule language should include details to clarify how the CEMS and MRR requirements of Regulation XX will be phased out and replaced with those from PR1109.1 and the 218 series. Details on the timing and process of such transitions should be included so that facilities can prepare for compliance, and the rule language should allow for the adequate time to do so.

**17. PR1109.1(k)(3) states that the Executive Officer shall notify the owner or operator in writing whether the B-CAP is approved or disapproved. This section should include a requirement that the District should approve the B-CAP or request additional information from the facilities within 30 days so that these projects can move forward.**

As noted above, the emission limits presented in Table 1 of the draft rule are preliminary and the District has not demonstrated that these values are BARCT. For that reason, WSPA believes it is premature for the District to be discussing compliance schedules or phasing. Just the same, WSPA offers the following comments concerning the District’s B-CAP concept.

PR1109.1(k)(3) states that the Executive Officer shall notify the owner or operator in writing whether the B-CAP is approved or disapproved. However, it does not provide a timeline for response from the Executive Officer to

the facilities submitting the B-CAP. A set response time for the District is necessary to ensure that the Phased projects are approved in a timely manner and that facilities can proceed with the process of adding NO<sub>x</sub> controls to the units. This section should therefore be revised to include a requirement that the District should approve the B-CAP or request additional information from the facilities within 30 days.

We expect that companies will be separately addressing their individual concerns with the District's proposed B-CAP provisions.

**18. PR1109.1(k)(5) states that the Executive Officer shall review the request for the time extension and shall provide written approval or reject the request within 60 days of receipt. This should be shortened to a 15-day time period. If a time extension is rejected, the facility will need the maximum amount of time to address issues prior to the implementation date.**

PR1109.1(k)(5)(A) states that an owner or operator complying with an approved B-CAP may submit a request to the Executive Officer for one six month extension per unit, and that the request shall be made in writing at least 60 days prior to the Implementation and Final Compliance date. PR1109.1(k)(5)(B) states that the Executive Officer shall review the request for the time extension and shall provide written approval or reject the request within 60 days of receipt. If the Executive Officer utilizes those full 60 days for response to a facility request for an extension, there could be situations created where, if the request is rejected, the facility is left with no alternative other than to shut down. For this reason, we recommend the period for Executive Officer response should be shortened to 15 days.

**19. PR1109.1(l)(2)(B), (l)(4)(B), and (l)(5)(C) state that the owner and operator of the subject equipment shall be exempt from the requirements of various subdivisions provided that the equipment operates in compliance with the SCAQMD permit condition. This is an unnecessary requirement and should be deleted.**

PR1109.1(l)(2)(B) and (l)(4)(B) state that the owner and operator of the subject equipment shall be exempt from the requirements of various subdivisions provided that the equipment operates in compliance with the SCAQMD permit condition. This is an unnecessary condition and should be deleted.

**20. PR1109.1(l)(5) addresses heaters >40 MMBtu/hr that currently meet 5 ppm NO<sub>x</sub>. This BARCT endpoint has been mischaracterized in the draft rule as an exemption. Rather, the endpoint for this subcategory of equipment needs to be addressed under Section (d).**

PR1109.1(l)(5) addresses heaters >40 MMBtu/hr that currently meet 5 ppm NO<sub>x</sub>. SCAQMD presented a BARCT cost analysis for these heaters, stating that the lowest permit limit for heaters with existing SCR is 5 ppm NO<sub>x</sub> (14 units), and the next lowest permit limit is 12 ppm NO<sub>x</sub> (1 unit).<sup>13</sup> As presented to the Working Group, Staff's BARCT determination for this category is 5 ppm NO<sub>x</sub>.

Staff told the Working Group it had evaluated the cost-effectiveness for heaters achieving emissions of 5 ppm and found that a 2 ppm BARCT endpoint was not cost-effective.<sup>14</sup> For that reason, staff recommended that BARCT for heaters >40 MMBtu/hr with a permit limit of 5 ppm or less (within 6 months of rule) is 5 ppm limit until a future effective date, or when the SCR is replaced, whichever is sooner. This is the BARCT determination for this class and category of equipment, not an exemption. This requirement should be addressed in Section (d).

<sup>13</sup> PR1109.1 WGM #13. Available at: [http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/final\\_pr1109-1\\_wgm\\_13.pdf?sfvrsn=12](http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/final_pr1109-1_wgm_13.pdf?sfvrsn=12). Accessed: January 2021.

<sup>14</sup> PR1109.1 WGM #15. Available at: [http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/final\\_pr1109-1\\_wgm\\_15.pdf?sfvrsn=20](http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1109.1/final_pr1109-1_wgm_15.pdf?sfvrsn=20). Accessed: January 2021.



**21. PR1109.1 (j)(3) must be deleted. PR1109.1 (j)(3) would require compliance with a 2 ppm endpoint for heaters >40 MMBtu which currently achieve 5 ppm NOx based on the length of operation of post-combustion controls. As discussed in Comment 20, staff was unable to demonstrate that this endpoint is BARCT because it was not cost-effective. Absent a demonstration that it is cost effective, the District cannot impose a 2 ppm standard for this class and category of equipment.**

PR1109.1 (j)(3) would subject heaters >40 MMBtu that currently achieve 5 ppm NOx to a 2 ppm endpoint if the unit has “post combustion controls operating more than 25 years, [TEN YEARS AFTER RULE ADOPTION], or when the existing post-combustion air pollution control equipment is replaced, whichever is earlier; or, for units with post combustion controls operating for less than 25 years, 25 years after the installation of post combustion controls.” To be clear, the District has not demonstrated that the standard that would be imposed by Section (j)(3) is cost effective. Therefore, it cannot be BARCT. Section (j)(3) should be deleted from the rule.

WSPA appreciates the opportunity to provide these comments related to PR1109.1. We look forward to our continued discussion for this important rulemaking. If you have any questions, please contact me at (310) 808-2144 or via e-mail at [psenecal@wspa.org](mailto:psenecal@wspa.org).

Sincerely,



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