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Company LLC**
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November 20, 2020

VIA E-MAIL: pfine@aqmd.gov

Philip M. Fine, Ph.D.
Deputy Executive Officer
Planning and Rules
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Comments on South Coast Air Quality Management District Staff's 1109.1 Proposed Rule Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Industries Released to the Public on Friday, October 23, 2020

Dear Dr. Fine,

Torrance Refining Company LLC ("TORC") is pleased to submit comments to the South Coast Air Quality Management District ("District") in response to staff's Proposed Rule 1109.1 Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Industries ("PR 1109.1") released on October 23, 2020. TORC's specific comments are contained in Attachment A, which is attached hereto. TORC's general comments regarding the District's proposed sunseting of the REgional CLean Air Incentives Market Program ("RECLAIM") and the PR 1109.1 rulemaking follows.

PR 1109.1 Is Premature

TORC believes that the District is moving too quickly to adopt a rule that will have a greater economic impact to a single industry, the Refining sector, than any District rule ever proposed and/or adopted. Currently, PR 1109.1 affects hundreds of Refinery equipment components, and by the most conservative of estimates, could cost the sector at least \$2,000,000,000 to retrofit or replace existing equipment to meet the proposed Best Available Retrofit Control Technology ("BARCT") levels. Moreover, with the planned transition of the RECLAIM program to a command-and-control regulatory structure there are a number of statutory, regulatory, and constitutional considerations that must be considered. These include the Federal Clean Air Act, U.S. Environmental Protection Agency ("USEPA") policies and guidelines, various parts of the California Health & Safety Code ("H&SC") applying to both market-based and command-and-control air pollution control programs (e.g., including but not limited to, H&SC § 40001, § 39616,

November 20, 2020

Page 2

etc.), and other California statutes. There may also be Federal and State constitutional considerations.

Therefore, we believe the District's current PR 1109.1 draft rule language is premature, as District staff has not addressed all of the underlying issues surrounding a RECLAIM sunsetting, particularly for the Refining sector.

RECLAIM is a comprehensive, complex program that was adopted as a whole. In the development of RECLAIM, staff not only determined current and future effective BARCT, but also examined and addressed New Source Review ("NSR"), reviewed socioeconomic impacts, mitigated implications of emissions trading, resolved enforcement and monitoring issues, and understood a host of other consequences of adopting such a program. This comprehensive approach ensured the overwhelming success of the RECLAIM program as it was designed. The RECLAIM program achieved more than 70% decline in NOx emissions since 1994. During that same period, non-RECLAIM stationary source emissions declined by about 50%.

In contrast for this rulemaking, staff is dismantling the RECLAIM program for the Refining sector without analyzing all of the consequences of the proposed approach. Most importantly, District staff has not demonstrated to date the technological feasibility and cost-effectiveness of the proposed BARCT levels for all affected refinery equipment targeted by PR 1109.1, has not analyzed the environmental and socioeconomic impacts of PR 1109.1, nor addressed the significant NSR and permitting ramifications of what would be required to comply with PR 1109.1.

This is further exacerbated by the unprecedented and extraordinary circumstances created by the COVID-19 pandemic that has devastated the California economy and the Refining sector and the uncertainty created by Governor Newsom's October 23, 2020 Climate Change Executive Order N-79-20 ("Governor's EO"), requiring sales of all new passenger vehicles to be zero-emission by 2035 and other additional measures to eliminate emissions from the transportation sector.

Accordingly, against this backdrop, TORC requests that PR 1109.1 be paused and/or slowed down so that all of these critical issues can be addressed in a thoughtful, dispassionate, and informed manner.¹

¹ It is important to remember that Assembly Bill 617 ("AB 617") did not amend the H&SC provisions allowing BARCT to be implemented through market-based programs such as NOx RECLAIM. Accordingly, the District should not be using AB 617 as a driver for the PR 1109.1 rulemaking schedule or implementation schedule, if adopted.

November 20, 2020

Page 3

PR 1109.1 BARCT Levels Have Not Been Proven To Be Technologically Feasible

The California Health and Safety Code defines BARCT as follows:

“Best available retrofit control technology means an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.”²

In establishing BARCT, a district must do all of the following:³

- 1) Identify one or more potential control options that achieve the emission reduction objectives for the regulation.
- 2) Review the information developed to assess the cost-effectiveness of the potential control option. For purposes of this paragraph, “cost-effectiveness” means the cost, in dollars, of the potential control option divided by emission reduction potential, in tons, of the potential control option.
- 3) Calculate the incremental cost-effectiveness for the potential control options. To determine the incremental cost-effectiveness under this paragraph, the district shall calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.
- 4) And consider the effectiveness of the proposed control option, the cost-effectiveness of each potential control option, and the incremental cost-effectiveness between the potential control options.

In short, prior to adopting updated BARCT requirements, particularly in the case of PR 1109.1, the District Governing Board must find that the proposed emission limitations are both: (a) achievable; and (b) cost effective. These findings must be based on information and analyses contained in the rulemaking record.⁴ This must include technical information concerning emissions performance, energy impacts, and environmental effects, as well as information concerning the capital and operating costs associated with the proposed BARCT. Such detailed information, as long as the data is not confidential business information, must be openly provided to stakeholders so they have the opportunity to understand and evaluate the basis for staff's recommendations and provide comments as appropriate, thereby making the rulemaking a legally meaningful exercise. High-level summaries in District staff presentations are insufficient for meeting this objective.

²H&SC § 40406.

³H&SC § 40920.6.

⁴H&SC § 40728(c)

November 20, 2020

Page 4

To date, District staff has not provided to stakeholders its detailed BARCT technology feasibility analysis for the proposed oxides of nitrogen (“NOx”) and carbon monoxide (“CO”) levels for any of the Refinery equipment categories targeted by PR 1109.1. Yet, District staff has prematurely released draft rule language apparently based on “emerging technologies” that are not currently available on a commercial scale, but which are anticipated to be available at some future date, for the proposed NOx and CO BARCT levels for the various equipment categories. The forcing of “emerging technologies” in PR 1109.1 is inappropriate as “BARCT standards, by contrast [to BACT], are generally applicable rules that require full compliance at some future date, usually several years after a rule is adopted.” *American Coatings Ass’n v. South Coast Air Quality Management District*, 54 Cal 4th 446, 467 (2012) (citations omitted).⁵

As District staff was recently informed by TORC representatives on November 10, 2020 during a Zoom meeting, TORC’s initial review of the proposed BARCT NOx levels in PR 1109.1 for the targeted Refinery equipment categories cannot be met either singularly or with the combination of Selective Catalytic Reduction (“SCR”) and Ultra Low NOx Burners (“ULNB”). As TORC explained, there is not a one-size-fits-all technology that can guarantee same or similar results for all configurations currently in operation within the Refining sector. Every one of them has to be evaluated on a case-by-case basis, which District staff had not done to date.

As should be clear, the nature of how each Refinery in the South Coast Air Basin is configured, i.e., the number of RECLAIM combustion equipment components, the specific design of each, equipment spacing, operating requirements, and many other factors, will determine whether achieving a specific BARCT level at an individual equipment-specific level is feasible. District staff must also consider personal and process safety in the determination of what is technologically achievable and/or cost effective in terms of BARCT level emissions controls as they are of paramount importance.

In addition, of significant importance is understanding that for NOx BARCT levels, NOx formation is a complex reaction for each Refinery equipment component and is dependent upon many factors including refinery fuel gas composition, flame temperature, heater temperature, excess oxygen, if air preheat is present, and burner design. Therefore, there is a wide operating window and NOx performance levels are dynamic and in flux.

Some of the factors and costs to be considered for each piece of Refinery equipment and any related BARCT level emission control projects include the following:

⁵ On its face, PR 1109.1 is a BARCT rule, but its implementation requires physical modification of the source which triggers NSR permitting. In that scenario, where “industry seeks permission for imminent new construction,” the *American Coatings* decision dictates that emission control requirements be limited to those that can be achieved with currently available technology.

November 20, 2020

Page 5

- Equipment configuration, particularly for heaters and boilers (e.g., vertical cylindrical, box style, forced draft, induced draft, balanced draft, natural draft, radiant / convection section spacing);
- Space constraints (e.g., plot space available for an SCR, ULNB burner space limitations at the heater floor, space available for extra catalyst beds);
- Appropriate approach temperatures for efficient SCR performance. If the stack temperature is too high or too low, significant heater modifications may be required or additional downstream heat exchange equipment may be required;
- ammonia storage and related ammonia injection infrastructure;
- power needs (e.g., will new substations be required or will existing ones need to be upgraded);
- other ancillary equipment (e.g., induced draft fans, temperature control, regeneration);
- costs unique to California (e.g., seismic requirements, greenhouse gas implications); and
- costs unique to refining in California (e.g., 20%+ increase in labor costs due to California SB 54).

Additionally, particularly for SCRs, the District must also consider the incidental increase in co-pollutants like particulate matter (PM10 and PM2.5) when setting the very low NOx BARCT levels. Currently, to achieve low NOx levels with technology, ammonia (“NH3”) injection is used resulting in NH3 slippage. As a result, because NH3 is a precursor of PM10 and PM2.5 under specific conditions, these emissions could increase and need to be considered as part of the PR 1109.1, particularly in the context of the NSR and permitting requirements that would be required for PR 1109.1.

Another important factor that must be taken into consideration in District staff’s review of the proposed BARCT levels for PR 1109.1 is the appropriate useful equipment life for each Refinery equipment category. Staff’s use of a useful life of 25 years is inappropriate considering the Governor EO’s may require a shorter useful life with a proposed ban of combustion engines by 2035. This EO could significantly impact the BARCT technology feasibility and cost-effectiveness assessments in relation to the total amount of emission reduction span across each Refinery’s equipment’s useful life.

Moreover, because District rulemaking is far more frequent, with the prior major NOx RECLAIM rulemaking occurring only 10 years ago, Staff’s technology feasibility analysis should be revised to reflect a 10-year useful life assumption, which is more consistent with recent District rulemaking

November 20, 2020

Page 6

schedules, is consistent with the useful life assumption typically used by CARB and other major air districts, and recognizes the Governor's EO.

A Programmatic CEQA Analysis Must Be Done For PR 1109.1

It is a fundamental principle of CEQA review that environmental effects for the whole of a project must be analyzed together. In this case, the "project" is PR 1109.1 as a whole as required by Control Measure CMB-05 as adopted in the 2016 Air Quality Management Plan ("AQMP"). Yet, staff recently informed TORC representatives on November 10, 2020 during a Zoom meeting that the CEQA review that it is doing to analyze the environmental impacts associated with PR 1109.1's proposed BARCT levels is a Supplemental Environmental Assessments ("SEA") that "tiers off" the December 2015 Final Program Environmental Assessment for RECLAIM, last NOx shave ("2015 RECLAIM NOx Shave PEA"), and the March 2017 Final Program Environmental Impact Report for the 2016 Air Quality Management Plan ("2016 AQMP EIR"). TORC believes that such tiering is a "piecemeal" approach for analyzing the potential environmental impacts for PR 1109.1. "... CEQA's requirements 'cannot be avoided by chopping up proposed projects into bite-size pieces which, individually considered, might be found to have no significant effect on the environment or to be only ministerial.' [Fn. omitted.]" *Lincoln Place Tenants Assn. v. City of Los Angeles* (2005) 130 Cal.App.4th 1491,1507 quoting *Plan for Arcadia, Inc. v. City Council of Arcadia* (1974) 42 Cal.App.3d 712, 726.

Notably, tiering off the 2015 RECLAIM NOx Shave PEA is not possible (or valid) because there was no comprehensive analysis of what is currently being proposed by staff in PR 1109.1. For example, the PEA did not analyze: (1) the total number of Refinery equipment components that PR 1109.1 is targeting; (2) the combination of the control technologies (i.e., SCRs and ULNBs) that will be required for almost every Refinery equipment category to meet the currently proposed BARCT levels; (3) the extended implementation schedule with multiple overlapping turnarounds by the Refineries that will be required for almost every Refinery equipment category; and (4) the possibility of installing multiple fuel gas treater projects to address the co-pollutant issue associated with the use of SCR and NH3 injection. This assumes, of course, that it can be proven that the proposed BARCT levels are technologically feasible and cost-effective.

Similarly, tiering off the earlier 2016 AQMP EIR to support PR 1109.1, which seeks to implement RECLAIM sunseting for the Refining sector is not possible (or valid) because there was no comprehensive analysis in this CEQA document regarding RECLAIM sunseting, much less for the Refining sector.

Specifically, the problem with tiering off the 2016 AQMP EIR to support the CEQA analysis for PR 1109.1 is that control measure CMB-05 as proposed at the time the 2016 AQMP EIR was prepared did not include a transition out of the RECLAIM program. That language was added well after the CEQA analysis was complete. Furthermore, no additional CEQA analysis was conducted to address the changes to CMB-05.

November 20, 2020

Page 7

Thus, the transition out of the RECLAIM program, which PR 1109.1 seeks to implement for the Refining sector, was not included in the version of CMB-05 presented to the Governing Board as part of the 2016 AQMP. The 2016 AQMP EIR, which was completed in January 2018, did not analyze the transition of the RECLAIM program because that was not prescribed by the CMB-05 measure at that time. Therefore, tiering off of the 2016 AQMP EIR to support PR 1109.1 is not possible since there is no analysis from which to tier.

Staff's attempt to tier without having completed a programmatic analysis of the RECLAIM transition, particularly for PR 1109.1, ignores the fact that RECLAIM is a comprehensive program that includes an assessment of BARCT for all of the RECLAIM equipment categories. RECLAIM was adopted as a whole, a single package, not as a series of individual rules and regulations. There are no separate BARCT regulations in the RECLAIM program. Because RECLAIM allows for BARCT to be implemented on an aggregate basis, all BARCT determinations had to be made together.

Furthermore, all RECLAIM rules are dependent upon one another, and none of these can stand alone. By attempting to analyze the impact of a single RECLAIM rule, i.e., BARCT determination for PR 1109.1, staff is ignoring the interdependency of the program, and thus, improperly disregarding the impacts of the comprehensive program.

Furthermore, RECLAIM is an emissions trading program. It allows facilities to choose to implement specific controls or to purchase emissions credits. A piecemealing analysis does not account for those facilities that have implemented other means to comply with the program and the additional impacts the transition to individual command and control rules may have on these facilities. Additionally, these impacts cannot be captured in a single rule analysis. Rather, staff's piecemealing further ignores the impacts on facilities that are subject to multiple BARCT determinations.

In the absence of a program level CEQA analysis that includes the whole of PR 1109.1, staff's currently proposed segmented analysis tiering off of the 2015 RECLAIM NO_x Shave PEA and 2016 AQMP EIR constitutes a classic "piecemealing" that is contrary to the requirements of CEQA. To avoid this, we urge the District to undertake a programmatic and thorough CEQA analysis of all the potentially significant impacts of PR 1109.1.

PR 1109.1 BARCT Levels Have Not Been Proven to Be Cost-Effectiveness

As noted earlier, prior to adopting updated BARCT requirements, particularly in the case of PR 1109.1, the District Governing Board must find that the proposed emission limitations are both: (a) achievable; and (b) cost effective. With respect to the finding of cost effectiveness, H&SC § 40703 requires that when adopting any regulation "the district shall consider, pursuant to § 40922,

November 20, 2020

Page 8

and make available to the public, its findings related to the cost-effectiveness of a control measure, as well as the basis for the findings and the consideration involved.” Thus, the District is required by statute, unless the information is CBI, to make public the basis of its findings that the proposed and adopted BARCT standards are cost-effective.

To date, similar to the technology feasibility assessment, District staff has not provided to stakeholders its detailed BARCT cost-effectiveness analysis for the proposed NO_x and CO levels for any of the Refinery equipment categories targeted by PR 1109.1. Yet, District staff has prematurely released draft rule language indicating with what appears to be based on “emerging technologies” that are not currently available on a commercial scale or cost-effective.

District staff has frequently acknowledged in various Rule 1109.1 Working Group meetings how expensive the implementation of this rule will be, but still claims it is cost-effective without presenting any detailed analysis to substantiate that claim. Based on the information provided to date by staff, TORC fails to see how PR 1109.1 can currently be justified as cost-effective when considering the fact that some of the BARCT levels under consideration for multiple Refinery equipment categories exceed the \$50,000 per ton cost-effectiveness threshold utilizing District staff’s methodology.

An important factor that must be taken into consideration in District staff’s review of the proposed BARCT levels for PR 1109.1 is the appropriate useful equipment life for each Refinery equipment category. Staff’s use of a useful life of 25 years is inappropriate considering the Governor EO’s may require a shorter useful life with a proposed ban of combustion engines by 2035. As noted above, the EO could significantly impact the BARCT technology feasibility and cost-effectiveness assessments in relation to the total amount of emission reduction span across each Refinery’s equipment’s useful life.

Moreover, because District rulemaking is far more frequent, with the prior major NO_x RECLAIM rulemaking occurring only 10 years ago, use of a 25-year useful life assumption makes the PR 1109.1 costs appear lower than they actually are by diluting the significant capital costs of required projects over a much longer timetable than is likely to occur. Staff’s cost-effective analysis should be revised to reflect a 10-year useful life assumption, which is more consistent with recent District rulemaking schedules, is consistent with the useful life assumption typically used by CARB and other major air districts, and recognizes the Governor’s EO.

Additionally, under H&SC § 40728.5, the District is required to perform an analysis of the socioeconomic impacts of the proposed regulation. This assessment is important because it lays out the range of probable economic impacts to the regulated industries as well as the impact on the economy of the region as a whole. Unfortunately, the socioeconomic impacts analysis is not available at this time. TORC believes that a third party review and analysis of the socioeconomic impacts is necessary for its ability to meaningfully comment on PR 1109.1.

November 20, 2020

Page 9

NSR and Permitting Issues Need to be Addressed in the PR 1109.1 Rulemaking

TORC continues to actively participate in the Working Groups for RECLAIM sunseting as well as PR 1109.1. In these forums, the District has indicated that it is continuing discussions with USEPA staff regarding a variety of NSR issues related to RECLAIM sunseting. These include issues that will impact RECLAIM facilities both during the transition of their permits from the RECLAIM program (i.e., Regulation XX) to the District's command-and-control NSR program (i.e., Regulation XIII), and also affect how future NSR actions are regulated. At the present time, neither Regulation XX nor Regulation XIII includes USEPA-approved provisions to address these issues for RECLAIM facilities.

Since permits for Title V facilities are federally enforceable, and Regulation XX is USEPA-approved under the District's State Implementation Plan (SIP), Title V facilities will likely need to continue operating under the Regulation XX RECLAIM program at least until such time that the RECLAIM transition rules are formally approved by USEPA into the District's SIP and replaced Regulation XX provisions are rescinded. This would require an effective date tied to USEPA approval which will be sometime after the Governing Board's adoption of the transition rules. Otherwise, Title V facilities could be left having to comply simultaneously with two different and mutually exclusive programs.

Moreover, TORC has already experienced significant delays in getting permits from the District related to 2015 NOx shave projects that it is trying to implement that will result in significant NOx reductions. Due to a theoretical co-pollutant issue associated with use NH₃ injection for a proposed SCR installation, TORC has seen one of its permits held up for two years. This issue must be addressed in the context of PR 1109.1 or the hundreds of permits that will be required to implement the currently proposed BARCT levels, assuming they can be proven to be technologically feasible and cost-effective, will significantly impede the implementation of the rule, if adopted.

The Proposed Phased Compliance Schedule for PR 1109.1 is Infeasible

The timing of PR 1109.1 implementation must be driven by the amount of time reasonably necessary for all parties working diligently to complete rulemaking and obtain USEPA approval of the new program, and to engineer, design, permit, procure and construct new BARCT emission control equipment. Given the complexity associated with the PR 1109.1, implementation timing cannot be dictated by arbitrary deadlines.⁶

⁶ See footnote 1.

November 20, 2020

Page 10

Under RECLAIM's market-based design, covered facilities have successfully reduced aggregate program emissions for NO_x and oxides of sulfur ("SO_x") in accordance with the programs' declining RECLAIM Tradeable Credit caps. Facilities have implemented custom compliance strategies to meet these caps, which included installing emissions controls on equipment where it was cost effective and using the compliance market where physical changes were not cost effective. This is exactly what the program was designed to do, and it has been successful.

Due to program design, the Refining sector has pursued widely varied strategies and as such now finds itself in widely varied situations with respect to their basic equipment, currently installed emissions controls, and the investments and construction needed to achieve PR 1109.1 command-and-control proposed BARCT NO_x and CO levels. Given these varied starting points, the implementation schedule for PR 1109.1 is an important factor in defining what is achievable or cost effective as BARCT. This is especially true for the Refining sector where investments must be coordinated with turnaround schedules, capital projects have a long planning and engineering schedule, and the labor pool may be limited by the requirement to meet the "skilled and trained workforce" requirements of SB 54.

Finally, there are important considerations of fundamental fairness, equity, and ensuring a continuing smoothly functioning Refining sector. If implemented in a manner that does not maintain a strong, productive Refining sector, particular in a COVID-19 pandemic environment that has already devastated the California economy and the Refining sector, the economy of California could be continued to be adversely affected for a long-time, disproportionately impacting citizens least able to withstand economic downturns.

However, to date, these important considerations appear to have not been fully appreciated or addressed by District staff in the PR 1109.1 rulemaking.

For many of the Refinery equipment categories targeted by Rule 1109.1, the draft rule language does not provide a definitive deadline for BARCT implementation seeming to indicate that this will be determined for each Refinery based on a Compliance Plan. However, at the November 4, 2020, PR 1109.1 Working Group meeting, District staff for the first time proposed a phased compliance schedule for BARCT implementation. According to District staff at the meeting, this phased approach requires each Refinery to submit permit applications for their equipment that represents 50% of the net 2017 emission reductions (i.e., facility base year 2017 RECLAIM emissions minus the base year 2017 emissions with BARCT levels applied) by January 2022. Subsequently, staff indicated that permit applications for an additional 25% of equipment for each Refinery is required to be submitted by July 2023 and the remaining 25% by January 2025.

This phased compliance schedule approach as proposed is infeasible. It does not take into account many issues raised above and previously raised by the affected Refineries. First, this phased in timeline currently presented by staff would require that 100% of the proposed BARCT emission control projects be permitted and constructed within approximately seven years of rule adoption

November 20, 2020

Page 11

(assuming rule adoption is mid-year 2021, which does not provide sufficient time for pre-engineering required for January 2022 permit applications submission). As mentioned previously, there will be hundreds of permit applications submitted by the affected Refineries for the targeted Refinery equipment categories and only a limited amount of District resources to process them. Historically, Refinery permit applications have taken 12 to 18 months to be reviewed and approved by the District after submittal, and after issuance, have only one-year effective duration before they expire. Potentially, under the District staff's phased in approach, the affected Refineries could be waiting for their first permit applications to be reviewed and approved by the District under the first phase, but still have to submit the next phase of the applications.

Second, to safely implement BARCT emission control projects the targeted Refinery equipment will require to be shut down. The planning and timing for these projects will have to coincide with the turnaround schedules for the particular Refinery Process units associated with the targeted Refinery equipment. The unknown timing of the District approvals for the permit applications for these projects and the scheduled associated Refinery Process unit turnarounds is not accounted for in this phased approach.

To engineer, design, permit, procure, and construct BARCT emission controls projects, involving long lead items and turnaround coordination for all of the targeted Refinery equipment, TORC believes it will take it 15 years or more for it to complete the projects for all of the targeted Refinery equipment categories. The uncertainty involved in implementing BARCT emission control projects under Rule 1109.1 is summarized below:

- Design/Engineering – Each project could take 30 to 40 months to design and engineer.
- CEQA – Project-specific CEQA analysis could take 18 to 24 months to complete, particularly if it becomes a controversial project, which is possible given the nature of the activist community in California.
- Permitting – The District cannot issue a permit until the CEQA process has been completed. Historically, the District has taken much longer than several months if not years to review and approve complex refinery permits such as what could be required under PR 1109.1. TORC has already experienced this recently with a RECLAIM NO_x Shave Project that has been pending for approximately 23 months. Importantly, the District is only one of multiple government entities and jurisdiction that requires, reviews, denies and/or issues permits for such complex projects. In addition to uncertainty over timing of the District's permit review process, other agencies' timing is currently unknown.

For District permitting, TORC's Refinery is a Title V facility, and any permit would be subject to EPA review and public comment. Additionally, PR 1109.1 projects would trigger NSR and a potentially a Prevention of Significant Deterioration ("PSD") review, which applies to new major sources or major modifications at existing air pollution sources. Under NSR, a new Refinery process unit would be subject to BACT requirements, and air

November 20, 2020

Page 12

dispersion modeling. BACT for the co-pollutant issue associated with SCR NH₃ injection is already an issue with RECLAIM NO_x shave projects. Also, under District Rule 1401, would be subject to a toxics analysis.

Going through the CEQA process, meeting the District's NSR, PSD, and BACT requirements, and conducting air dispersion modeling and toxics analysis could take years to complete for each BARCT emission control project in order to obtain a permit before any construction could occur.

- Procurement, Fabrication, and Delivery – Each Refinery project is custom built requiring long-lead items that could take up to 24 months to procure, fabricate, and deliver. This would have to be coordinated with workloads of existing vendors contractors that are capable of designing and manufacturing equipment for such a large project, as they would also be handling similar projects for other Refineries, which could result in long delays.

Notably, if all refineries are required to complete their projects with the same timing, there will be a shortage of resources from a design, construction and control equipment, since all Refineries will be planning similar projects during the same period.

The lack of resources will likely lead to schedule increases which may delay the project beyond the effective permit duration.

This is especially true for Refineries where investments must be coordinated with turnaround schedules, capital projects have a long planning and engineering schedule, and the labor pool may be limited by the requirement to meet the “skilled and trained workforce” requirements of SB 54.

- Logistics – Each project requires a turnaround to complete, which would take place in the future based on ever changing schedules based on market dynamics, and then could take months to complete. Turnaround coordination for such projects like these needs to take into account the status of numerous Refinery process units and equipment that would be involved.
- Testing / Prove Out – If Refineries are forced to install unproven “emerging technologies” in an attempt to comply with PR 1109.1, this would extend the implementation timeline due to the need to test and proving-out these technologies. This would further extend the PR 1109.1 implementation timeline.

As shown above, the total schedule for the completion of each project will take years to complete. Accordingly, based on the foregoing, staff's proposed phased in compliance schedule presented during the November 4, 2020 Rule 1109.1 Working Group meeting is not feasible.

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November 20, 2020

Page 13

In closing, for all the reasons above, **TORC requests that PR 1109.1 be paused and/or slowed down so that all the critical issues discussed above can be addressed in a thoughtful, dispassionate, and informed manner.**

As highlighted above, there still remains much detailed and technical analyses to be performed prior to any rule adoption, which includes, but not limited to, the incorporation of co-pollutant cost impacts associated with permitting the BARCT emissions control equipment and the third-party expert analysis that will have an impact on the BARCT technology feasibility and cost analyses. Further, the CEQA analysis, Socioeconomic Impact Assessment, and Draft Staff Report all need to be prepared and released for public review and comment before any rule adoption.

Fundamentally, the transition of the RECLAIM program for the Refining sector requires a significant amount of effort and time to properly develop PR 1109.1 to establish BARCT levels for target Refinery equipment at the affected Refineries. We request that proposed BARCT levels be technologically feasible and cost-effective as required by law, and that the ability to operate our Refinery in compliance with applicable requirements not be jeopardized by imposition of unrealistic requirements and implementation deadlines

Thank you for the opportunity to submit comments on the draft rule language for PR 1109.1. We stand ready to work diligently with District staff and other stakeholders to address the complex issues associated with PR 1109.1.

Please note that in submitting this letter, TORC reserves the right to supplement its comments as it deems necessary, especially if additional or different information is made available to the public regarding the PR 1109.1 rulemaking process.

We incorporate by reference into this letter the relevant comments previously submitted by Western States Petroleum Association on August 21, 2015, October 11, 2017, May 1, 2018, July 3, 2018, November 6, 2018, January 30, 2019, March 28, 2019, August 14, 2019, and November 11, 2018; Latham & Watkins on August 15, 2018, September 7, 2018, November 1, 2018, February 25, 2020, and April 27, 2020; California Council for Environmental and Economic Balance on April 24, 2018 and February 14, 2020; Ultramar Inc. on September 7, 2018 and October 14, 2018; Marathon Petroleum Corporation on March 2, 2019; Andeavor on September 7, 2018; Chevron Products Company on March 25, 2020; and Air Products and Chemicals, Inc. on June 14, 2019 pertaining to PR 1109.1, RECLAIM, RECLAIM sunseting, Regulation XIII, and NSR.

November 20, 2020
Page 14

If you have any questions regarding TORC's comments, please call or email me or John Sakers. Our office phone numbers are 310-212-4500 (Steve) and (310) 212-4292 (John).

Sincerely,



Steve Steach
Refinery Manager

cc: **District Staff - via e-mail and overnight delivery**

Wayne Nastri	Executive Officer
Susan Nakamura	Assistant Deputy Executive Officer
Michael Krause	Planning and Rules Manager

cc: **District Refinery Committee Members - via e-mail and overnight delivery**

Dr. William A. Burke	Governing Board Chair
Hon. Ben Benoit	Governing Board Vice-Chair and Refinery Committee Member
Hon. Larry McCallon	Governing Board Member and Refinery Committee Chair
Hon. Judy Mitchell	Governing Board and Refinery Committee Member
Hon. Lisa Bartlett	Governing Board Member and Refinery Committee Member

cc: **District Governing Board Members - via overnight delivery**

Hon. Kathryn Barger	Governing Board Member
Hon. Joe Buscaino	Governing Board Member
Hon. Michael A. Cacciotti	Governing Board Member
Hon. Vanessa Delgado	Governing Board Member
Hon. Gideon Kracov	Governing Board Member
Hon. V. Manuel Perez	Governing Board Member
Hon. Carlos Rodriguez	Governing Board Member
Hon. Janice Rutherford	Governing Board Member

Attachment A
TORC's Comments
November 20, 2020

TORC offers the following detailed comments to specific sections of the District staff's PR 1109.1 draft rule language released on October 23, 2020. These comments and the concerns and issues discussed above must be considered and addressed before the District continues with its current PR 1109.1 rulemaking effort. Note the TORC's detailed comments below are not an endorsement that it believes or supports that the proposed BARCT NO_x and CO limits in Table 1 of Section (d) of PR 1109.1 for the targeted Refinery equipment categories are technologically feasible or cost-effective. As commented above, this has not been demonstrated by District staff to date.

1. Section (a) - Purpose

TORC Comment: The District has indicated that the purpose of the proposed rule is to additionally limit CO emissions. However, it should be clear that 1) the District has not to date conducted any BARCT analysis to support the inclusion of CO limits in the rule; 2) the CO BARCT limits presented in Table 1 of Section (d) conflict with currently applicable District and federal rules and permit limits; and 3) staff have not surveyed the affected Refineries to understand the technical feasibility or costs-effectiveness associated with the proposed BARCT CO limits. Therefore, the technical feasibility and cost-effectiveness analyses required by the HS&C has not been completed to date, and therefore, there is no basis for the inclusion of these BARCT CO limits. **Based on this, TORC requests that all BARCT CO limits be removed from this proposed rule.**

2. Section (c) - Definitions

- a. **TORC Comment:** The District had indicated in prior 1109.1 Working Group meetings that the rule would not impact any Refinery flare already subject to Rule 1118. The "Ground-Level Flare" definition should indicate that it does not include any flare subject to Rule 1118.
- b. **TORC Comment:** The "Malfunction" definition needs to be revised as there could be times when the same process or process equipment will violate both Rule 1109.1 and other District regulations due to a malfunction that is beyond the reasonable control of the Refinery. Requesting Rule 430 Breakdown coverage for non-PR109.1 requirements or permit conditions should not preclude malfunction relief under PR1109.1 for the NO_x and CO BARCT limits under Section (d). Additionally, the District's definition of malfunction should be consistent with 40 Code of Federal Regulations § 63.2 and include process equipment.
- c. **TORC Comment:** The "Start-Up" definition should include other equipment such as Fluidize Catalytic Cracking Unit ("FCCU") regenerators that do not use fuel for combustion. The definition should clearly indicate that the fuel burned occurs in a burner not the pilot lights. Additionally, refractory dry out should not be included in the startup definition regardless of whether or not a separate unit is used. It

Attachment A
TORC's Comments
November 20, 2020

should be considered as part of a continued maintenance activity not as part of operation or NO_x and CO BARCT limits under the rule. Further, while the minimum operating temperature of control equipment may indicate the beginning of the operation of the control equipment, startup should not be considered as ended until the unit's emission limits (Permit and/or BARCT limit) are met, and as long as the startup process is continuous.

- d. **TORC Comment:** The "Shutdown" definition should include other equipment such as FCCU regenerators that do not use fuel for combustion.

3. Section (d) - Emission Limits

- a. **TORC Comment:** (d)(1). PR 1109.1 requires that an owner or operator operate a unit and meet the applicable BARCT NO_x and CO emission limits in Table 1 excluding start-up and shutdown only. However, Section (e)(1) states that an owner or operator is exempt from meeting the BARCT NO_x and CO emission limits in (d)(1) during start-up, shutdown, and malfunction. Therefore, Section (d)(1) also needs to include malfunction relief. Additionally, the emission limits should not be applicable to safety related equipment associated with boilers and process heaters. Pilots are safety devices which are part of the unit's interlock system and are required to be lit before the start up and sometimes after the shutdown of a unit. Therefore the BARCT NO_x and CO emission limits in Table 1 should exclude periods of time when pilots are operated by itself.
- b. **TORC Comment:** (d)(1), Table 1. District staff has proposed BARCT CO emission limits without, as noted above, performing BARCT technology feasibility and cost-effective analyses. Accordingly, the BARCT CO limits for the targeted Refinery equipment should be removed from PR 1109.1.
- c. **TORC Comment:** (d)(1), Table 1. During Rule 1109.1 Working Group meetings, the District staff presented more equipment classifications for process heaters than what is now shown in Table 1. These additional equipment classifications should still be included. More specifically, District had previously shown that process heaters in the 40 – 110 MMBtu/hr category were not cost-effective at a BARCT NO_x limit of 2 ppmv since the cost per ton of NO_x controlled exceeded \$50,000/ton. As a result, a BARCT limit of not less than 5 ppmv NO_x should be used for this category of process heaters.
- d. **TORC Comment:** (d)(1), Table 1. The implementation schedule for the targeted Refinery equipment categories should be removed from the table and included in the Section (j) after the District has taken into account all the issues and concerns discussed above associated with the District staff's proposed phased in compliance approach presented at the November 4, 2020 PR 1109.1 Working Group meeting.

Attachment A
TORC's Comments
November 20, 2020

Additionally, because there are dozens of Refinery equipment subject to PR 1109.1 at each Refinery with different design, engineering, permitting, procurement, construction, and turnaround schedule considerations, different compliance dates will be required for each piece of equipment in a targeted category.

- e. **TORC Comment:** (d)(1), Table 1. The FCCU BARCT NO_x and CO limits 7-day rolling average should be consistent with TORC's NSR Consent Decree and excluded from the rolling average the periods of time when annual boiler inspections within the unit are performed as required under California Code of Regulations, Title 8, Section 770(b) as the FCCU's SCR is bypassed during these periods.
 - f. **TORC Comment:** (d)(1), Table 1. As presented by District staff at the May 21, 2020 PR 1109.1 Working Group meeting, Steam Methane Reformers with Gas Turbine should be normalized to 15% O₂ rather than 3% O₂.
4. Section (e) - Start-up, Shutdown and Malfunction
- a. **TORC Comment:** (e), Table 2. For the targeted Refinery equipment categories, there may or could be equipment or associated Process Units with bypass stacks around a new or existing SCR that are used when there is maintenance on the SCR or with an inline unfired boiler that may not require a shutdown. The District needs to provide relief from the applicable BARCT CO and NO_x limits for these maintenance situations. In addition to the FCCU, as discussed above, other Refinery equipment targeted by PR 1109.1 are subject to California Code of Regulations, Title 8, Section 770(b), inspection requirements. Because the inspection frequencies differ for each piece of equipment, the District staff should meet with each Refinery to understand the inspection frequencies as mandated and determine how much time is needed for these inspections, and then, accommodate and address in the proposed rule. Additionally, if a bypass of a SCR occurs during a malfunction of the Refinery equipment or associated Process Unit and a bypass stack is used, the Refinery should also be exempt from the CEMS requirements of Section (f) in addition to the BARCT NO_x and CO emission limits in Section (d) during the period of time included in Table 2.
 - b. **TORC Comment:** (e), Table 2. Since not all startups are the same and are unique, these start-up hours listed in Table 2 for various targeted Refinery equipment categories may not be representative of actual equipment operations. Too short of a start-up period could jeopardize process and personal in rushing to meet the start-up hour restrictions to avoid non-compliance or require Refineries to seek variance relief, which may not be currently required. Since the District is establishing start-up periods for the proposed rule, the District should work and meet with each

Attachment A
TORC's Comments
November 20, 2020

Refinery to ensure that any limitation on start-up periods are safe, operationally realistic, and can be consistently met prior to including them in the rule.

- c. **TORC Comment:** (e)(2). The requirement for providing the District with a schedule of all planned start-up and shutdowns for the calendar year is duplicative of what Refineries are already required to provide to the California Department of Industrial Relations (“CalOSHA”) pursuant to SB 1300 (California Labor Code §§ 7872 and 7873). As this information is highly competitively sensitive, turnarounds schedules are submitted under CBI to CalOSHA. Accordingly, as turnaround schedules, including start-ups and shutdowns of equipment, are primarily process and personal safety related, this information should not be requested under PR 1109.1 and left to the authority already given to CalOSHA by the State. If the District still forges ahead and requires this highly competitively sensitive information under PR 1109.1, it should be the same information as provided to CalOSHA and submitted under and kept as CBI. It should be stressed that any requirement to provide turnaround dates, including start-ups and shutdowns, should be for informational purposes only and cannot be interpreted as actual dates when they will occur as such dates are fluid and could change during the course of the year due to a variety of reasons. Additionally, to avoid creating process safety and personal safety issues, there should not be any limit mandated on the number of start-up and shutdowns that could occur in a calendar year as these events are typically driven by emergencies or maintenance needs.
- d. **TORC Comment:** (e)(3). Either a call should be made to 1-800-cut-smog or a quarterly report should be submitted. Both are not necessary. Further, the 1-800-cut-smog phone line should be set up in advance so that there is no confusion in making the telephonic report and the subsequent written report should be submitted no more frequently than quarterly, which is consistent with current District rule reporting requirements. Additionally, if a written report is required, the District should be more specific in PR 1109.1 as to what the report should include, but it is unnecessary to pre-approve the format of the written report. However, if the District believes it needs to approve the report format, then the District provide a form to the Refineries to use for consistency.
- e. **TORC Comment:** (e)(4). NO_x and CO emissions from targeted Refinery equipment that are calculated during a startup, shutdown, or a malfunction period should be excluded from the emission averages. During these periods, targeted equipment do not usually have a fully functioning emission control device due to various operating considerations such as temperatures needed for full emission control operation. If these periods are included, this would artificially drive up the averaging period emissions and would not be representative of BARCT NO_x and CO limits, making compliance at such low levels even more difficult.

Attachment A
TORC's Comments
November 20, 2020

5. Section (f) - CEMS Requirements

- a. **TORC Comment:** (f)(2)(A) and (B). Missing data should not be applied for compliance purposes in PR 1109.1. Using prior data to determine current compliance is not appropriate and potentially punitive. Similar to our comments on Section (e)(4) above, the missing data during a startup, shutdown, or a malfunction period should not be averaged into the 365-day rolling average NO_x and CO BART emission limits for the targeted Refinery equipment.
- b. **TORC Comment:** (f)(3). As indicated in the previous comment, missing data should not be applied to determine current compliance “and data generated pursuant to paragraph (f)(2)” should be removed from this Section.

6. Section (g) - Source Test Requirements

- a. **TORC Comment:** (g)(2) and Table 3. Section (d) of PR 1109.1 requires a CEMS for an SRU TG Incinerator. However, Table 3 requires source test for SRU TG Incinerators. Section (g)(2) states that if a Table 3 unit operates a Continuous Emission Monitoring Systems (“CEMS”), then it is not subject to the source testing requirements. Accordingly, Section (d) and Section (g)(2) are contradictory and confusing. Why are SRU TG Incinerators included in Table 3 if Section (d) requires a CEMS and are exempted under Section (g)(2)? TORC suggests that SRU TG Incinerators be removed from the Table 3 because as noted in Section (d), CEMS is required and is exempt under Section (g)(2).
- b. **TORC Comment:** (g)(7). Under RECLAIM, many affected Refineries have District-approved source test protocols for targeted Refinery equipment and have been performed source tests for many years. A lower BARCT NO_x or CO emission limit under PR 1109.1 would not warrant a submittal of a new source test protocol since the source test method would be the same. District staff should clarify the text in this Section that both BARCT NO_x or CO emission limit change and the source test method have to occur before the affected Refinery is required to submit a new source test protocol.
- c. **TORC Comment:** (g)(8)(B). The applicable BARCT NO_x and CO emission limits averaging periods for the targeted Refinery equipment categories in Table 1 of Section (d) range from 2 hours to 365 days. PR 1109.1 currently requires that source tests use these averaging periods. A 365-day source test evaluation would not be practical, costly, and is likely infeasible. The specific test methodology should be used with the required testing period and approved with the source test protocol.

Attachment A
TORC's Comments
November 20, 2020

- d. **TORC Comment:** (g)(12). This requirement is redundant to Title V requirements and not needed. Refineries are already in the District's Title V program, which already requires specific notification and written reports for deviations.
7. Section (h) - Diagnostic Emission Checks
- a. **TORC Comment:** (h)(1) – (3). Since annual source tests are required for targeted Refinery equipment listed in Section (f), monthly emission checks with a portable analyzer are not warranted. Currently, RECLAIM requires triennial large NOx compliance tests and semiannual tune-ups with a portable analyzer. Because these checks have shown to be sufficient to determine compliance and proper equipment operation in the past, there is no need for an additional burden of monthly checks. Accordingly, PR 1109.1 should require annual source tests.
8. Section (i) - Monitoring, Recordkeeping and Reporting Requirements
- a. **TORC Comment:** (i)(2). It is unnecessary to require that daily operating logs for targeted Refinery equipment be approved by the District. Refineries already under RECLAIM to maintain daily records of the hours of operation, fuel used, and hours of operation for each individual unit in order to estimate NOx and SOx emissions from existing RECLAIM sources. Further, the District already requires Refineries to submit reports of regarding start-up, shutdown, and malfunction (“SSM”) events pursuant to Section (e)(3)(B). TORC believes that this Section is duplicative and overly burdensome and should be removed from PR 1109.1.
- b. **TORC Comment:** (i)(3). Preparing the operating logs and maintaining them for 5 years is unnecessary since the SSM events are provided to the District pursuant to Section (e)(3)(B). TORC believes that this Section is duplicative and overly burdensome and should be removed from PR 1109.1.
9. Section (j) - Compliance Schedule (and Section (d) Emissions Limits)
- a. **TORC Comment:** As previously commented above, the District should meet with each individual Refinery before any Compliance Schedule is proposed. The issues and concerns discussed above associated with the District staff's proposed phased in compliance approach presented at the November 4, 2020 PR 1109.1 Working Group meeting must be addressed before any Compliance Schedule can be included in PR 1109.1. Additionally, because there are dozens of Refinery equipment subject to PR 1109.1 at each Refinery with different design, engineering, permitting, procurement, construction, and turnaround schedule considerations, different compliance dates will be required for each piece of equipment in a targeted category.

Attachment A
TORC's Comments
November 20, 2020

- b. **TORC Comment:** Section (j)(1) should be similar to Section (j)(2). To indicate a schedule for burner replacement with a future technology be included in the rule before it is developed, commercially available, and without performing the appropriate BARCT analysis does not meet the requirements of the HS&C. PR 1109.1 should explicitly state that technology must be commercially available before it is installed on targeted heaters or boilers. Notably, for this equipment, there may be fire box limits or burner spacing that may not allow for burner replacement even if it is commercially available.
 - c. **TORC Comment:** Section (j)(3). The District has already established BARCT in Table 1 of Section (d) for heaters less than 40 MMBtu/hr. Under the HS&C, the District staff cannot bypass its statutory obligation and predetermine in PR 1109.1 a different or future BARCT limit until such time that a new BARCT analysis demonstrates that such a limit is technologically feasible and cost-effective through the appropriate rulemaking process, allowing for stakeholder involvement and public comment and hearing. Therefore, this Section should be removed from PR 1109.1.
10. Section (l) - Exemptions
- a. **TORC Comment:** (l)(4)(A). PR 1109.1 provides exemptions for existing process heaters less than 40 MMBtu/hr if they were permitted with a concentration limit of 40 ppmv NO_x at 3% O₂. If an existing permitted process heater was designed to meet the 40 ppmv NO_x limit and can demonstrate that it can meet this limit, it should be exempt provided that the heater meets this requirement prior to rule adoption. TORC suggests that the District staff include rule language in this Section that allows an affected Refinery to submit a permit application for an existing process heater to obtain an enforceable NO_x limit in its Title V permit that would meet this requirement.
 - b. **TORC Comment:** (l)(4)(B). PR 1109.1 provides exemptions for existing process heaters that have been permitted at 5 ppmv NO_x at 3% O₂ on a dry basis prior to rule adoption. However, under RECLAIM, an existing uncontrolled heater could be designed to meet the 5 ppm NO_x requirement without a permit limit since NSR was not triggered. Therefore, an affected Refinery would be penalized for reducing their NO_x emissions by having to further reduce them to meet 2 ppmv because they did not have a Title V permit limit for the process heater at 5 ppmv. TORC suggests that the District staff include rule language in this Section that allows an affected Refinery to submit a permit application for an existing process heater to obtain an enforceable NO_x limit in its Title V permit that would meet this requirement.