Comments on Revised Proposed Rule 12-16 and Responses to Comments

General Comments

Comment: It is requested that you defer adoption of this Draft Regulation in order to give us all time to analyze the combined impact of final state legislation on this issue and this proposed rule. Additional time will also allow us to better understand the possible economic and employment impacts of these regulations collectively. While we appreciate that BAAQMD has engaged in several public meetings and workshops on this Draft Regulation, given the potential impacts of pending State legislation we believe it is in the best interest of all involved to take some additional time to evaluate these issues.

CCBCTC

Response: The Air District has engaged in an extensive and deliberate rule development process and has conducted all required analyses, including regulatory and socioeconomic analyses that address the commenters concerns.

Comment: Rule 12-16 is unnecessary, duplicative, inconsistent with existing law, and will, if adopted, be done so absent proper legislative authority.

Phillips 66

Response: The 12-16 Staff Report, Appendix A provides a complete summary of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication.

Comment: In general, Rule 12-16 is a misguided rule with the intent of making a political statement that at best will result in no environmental benefit and at worst actually increase greenhouse gas emissions.

Tesoro

Response: As Alaskan North Slope and California crudes decline, the potential for significant changes in crude slates can impact both criteria and GHG emissions. This rule is designed to prevent these impacts, while providing for full operation of permitted facilities to supply the transportation fuels needed in the Bay Area and minimizing any need for importation of transportation fuels into the region.

Comment: If Rule 12-16 is adopted, hydrogen plants' ability to supply hydrogen for fuel-cell electric vehicles may be reduced or eliminated.

Air Liquide

Response: Rule 12-16 GHG limits have been amended based on public comments to accommodate full operation of existing facilities, including permitted projects that may not have been fully utilized during the baseline period.

Comment: The Air Districts decision to incorporate operating variation plus 3 percent in their revised determination of GHG Emission limits is unsupported.

Air Products

Response: Rule 12-16 GHG limits have been amended based on public comments to accommodate full operation of existing facilities, including permitted projects that may have not been fully utilized during the baseline period.

Comment: Remove the "Carbon Intensity Neutrality" exemption loophole.

Health Professionals

Response: Rule 12-16 has been amended to replace the Carbon Intensity Neutrality with higher GHG limits that accommodate full operation of existing facilities, including permitted projects that may have not been fully utilized during the baseline period. This change yields the same substantive result as the June 6 proposal, but does so in the setting of the caps themselves rather than through a subsequent adjustment process.

Comment: Keep original refinery-specific cap calculations, as they are reasonable and targeted toward effective health protection; do not use the newly inserted calculations.

Health Professionals

and

Comment: Remove loophole language such as "Permitted Future-Operational Sources" which would radically increase polluting permissions and Rule 12-16-302 "Adjustment of Reported GHG Emissions" which would allow refineries to circumvent the caps by exempting emissions related to energy and pollution control measures.

Health Professionals

Response: In response to comments, the version of Rule 12-16 proposed for adoption on June 21 has been modified from the version noticed for public comment on June 6 by replacing the Carbon Intensity Neutrality with higher GHG limits that account for differences between the refineries, operational variability, predicted 3% growth of transportation fuel demand, and that accommodate full operation of existing facilities, including permitted projects that may have not been fully utilized during the baseline period. These changes more accurately implement the intent of the June 6, 2017 proposal and guard against unintended impacts on the transportation fuel markets.

Comment: Honor the public process that produced Rule 12-16 by keeping only the

changes to the Final EIR and Rule agreed to on May 31, 2017.

Health Professionals

Response: Air District staff believe the version of Rule 12-16 being proposed for adoption on June 21, 2017, is consistent with the intent of the Board's May 31, 2017 directives.

Rulemaking Process

Comment: Rule 12-16 is a continuation of the broken rulemaking process at Air District where public comment on the rules is a check the box activity and success is defined by putting a rule on the books even if the rule is not based on sound science and ineffective in improving air quality.

CCEEB, Tesoro

Response: Rule 12-16 adheres to the California Health & Safety Code requirements, as described in the Staff Report, Appendix A. As Alaskan North Slope and California crudes decline, the potential for significant changes in crude slates can impact both criteria and GHG emissions. This rule is designed to prevent these impacts, while providing for full operation of permitted facilities to supply the transportation fuels needed in the Bay Area and minimizing any need for importation of transportation fuels into the region. The record of significant changes made in response to public comment, including comments from the refineries, belies the assertion that public comment has been a "check the box" activity.

Comment: Rule 12-16 reflects the preferences of a single interest group to the exclusion of all others. At its July 20, 2016, hearing, the BAAQMD Board directed its staff to develop proposed Rule 12-16 so as to reflect and be consistent with concepts put forward by Communities for a Better Environment (CBE) and its coalition partners. This directive effectively rendered other public viewpoints both moot and mute, as none could be considered in the draft rule. In addition to this public participation problem, the Board's decision went against recommendations from its staff and Advisory Council, as has been well documented in the public record. Although the District did conduct a series of public and private meetings with stakeholders, and did accept public comments, we believe these actions were superficial at best and meant merely to satisfy the most basic procedural requirements under the state's Administrative Procedures Act (APA).

CCEEB

and

Comment: It appears that the Air District is contemplating adopting a "Refinery GHG Cap Rule" based on a proposal from a nongovernmental organization (NGO), instead of acting as an objective third party with technical expertise. This unprecedented move is disturbing, given multiple comment letters written since this effort started in 2013.

Valero

Response: Rule 12-16 final proposal reflects input from all stakeholders and reflects the professional opinion of Air District staff. The Staff Report for the May 31, 2017 proposal took the position that criteria pollutant caps, which had been suggested by NGOs, should not be adopted. Air District staff became receptive to the idea of GHG caps only after CARB opined that such caps could complement the State GHG cap-and-trade program. The Board of Directors ultimately followed staff's advice and directed staff to bring the rule back addressing GHGs only. The GHG caps were subsequently revised upwards in response to refinery comments to better assure that expected operations (absent significant changes in crude feedstocks) would be accommodated below the caps. The development of Rule 12-16 thus shows the Air District being responsive to the public, CARB, and the regulated refineries while asserting its own expert opinion.

Need for Rule 12-16

Comment: Including hydrogen support facilities within the revised Rule 12-16 regulation is redundant, creates a regulatory burden and will not contribute toward the air district's objective. While such concerns may be valid for refineries, they are not realistic concerns for hydrogen support facilities. Hydrogen plants have a single primary emission source (the reformer furnace) and operate with a fixed fuel and feedstock (principally, natural gas). Hydrogen production does not have the operational or feedstock flexibility that would result in an increased level of emissions beyond the very narrow design case. The inclusion of support facilities in Regulation 12-16 will only add an unnecessary regulatory reporting burden on these small support facilities with no offsetting benefit to the public or District. It is strongly encouraged the Air District to remove support facilities from this revision to Regulation 12-16 and recognize these contributions to overall Refinery GHG emission and carbon intensity are addressed in proposed regulation 13-1: Petroleum Refining Carbon Intensity Limits or Facility-Wide GHG Emission limits.

Air Products

Response: Refineries and associated support facilities are significant sources of GHGs. Excluding hydrogen support facilities would ignore the significant contribution hydrogen plays in a refinery's operation. Rule 12-16 is intended to prevent significant future increases in GHG emissions from refinery operations, of which hydrogen production is part of the integrated whole.

Comment: The Air District should not duplicate regulation of these sources and facilities solely because it disagrees with the Cap-and-Trade approach recommended by ARB staff. Furthermore, the District's own expert Council has warned that proposed Rule 12-16 will displace, not reduce, GHG emissions. Finally, ARB will soon begin development of a direct reduction measure for refineries. Given these actions and commitments of

ARB, we do not find Rule 12-16 to be necessary or consistent with state programs and goals.

CCEEB

Response: The 12-16 Staff Report, Appendix A provides a complete summary of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication. While Air District staff give significant weight to the Advisory Council's opinion on this matter, it must be kept in mind that the Advisory Council was largely addressing the issues of regulatory findings, non-duplication and efficacy of GHG caps, and was not referencing the specific caps being proposed for adoption on June 21, 2017. The Air District believes these caps strike an appropriate balance between allowing anticipated operations (and thus avoiding leakage) while guarding against the increases in GHGs that would be associated with a significant change to lower quality crude feedstocks. As noted in the Staff Report, these GHG caps are intended as a backstop until ARB can put a statewide program in place to reduce GHG emissions. A backstop is needed because State regulation is neither certain nor imminent.

Comment: The Air District has not demonstrated the necessity for Rule 12-16 considering existing federal and state regulations. It fails to "determine that there is a problem that the proposed rule or regulation will alleviate and that the rule or regulation will promote the attainment or maintenance of state or federal ambient air quality standards[.]" Health & Safety Code §40001(c).

Chevron

Response: The 12-16 Staff Report, Appendix A provides an expanded explanation of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication.

Comment: Rule 12-16 has significant issues with meeting the necessity requirements for a new rule required under California's Health and Safety Code. A rule needs to effectively alleviate an actual air quality problem that exists today. This rule is not addressing a problem that exists today.

Tesoro

Response: The 12-16 Staff Report, Appendix A provides a complete summary of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication. GHG impacts on global warming are a problem that exists today – local emissions contribute to these global impacts. The Staff Report explains why a switch to lower qualities crude feedstocks could increase GHG emissions, and is a real possibility.

Comment: the staff report does not address what a tiny fraction of total world-wide GHG emissions come from the eight Bay Area facilities that would be impacted by this rule. The average GHG emissions from the eight facilities from 2011 to 2014 per the draft rule language is 16.3 million metric tons per year. According to the World Research Institute, total annual worldwide GHG emissions are approximately 46 billion metric tons per year. In short, the eight potentially impacted facilities make up approximately 0.04 percent of the total inventory of greenhouse gases in the world. It is unclear how even significant increases or decreases from these eight facilities would make a noticeable difference in the worldwide inventory.

Tesoro

Response: The Air District rejects the argument that efforts to address GHG emissions lack merit unless they achieve a certain degree of impact. While regulatory action on a national scale would have greater impact on this global problem, it is clear at this point that action by the federal government is not imminent. Even Statewide regulation may be years away. Given the urgent need to begin addressing climate change, it is entirely appropriate for a regional agency such as the Air District to take early action. While GHG emissions from these refineries and support facilities may be small in context of global GHG emissions, they are a significant source of the local stationary source emissions. Rule 12-16 is the Air District's first regulatory first step in the progression of regulatory efforts needed to control climate change pollutants.

Comment: Crude oil is a worldwide market and any belief that imposing rules on five Bay Area refineries will prevent that crude oil from being produced is naive. Similar to the leakage concerns around limiting Bay Area refinery production and shifting that production to uncapped facilities outside of the Bay Area, if there is a rule that prevents certain grades of crude oil from being refined at Bay Area refineries, producers of crude oil will find buyers outside of the Bay Area. A goal stated by supporters of this rule is to keep crude oil in the ground. This rule will have no impact in achieving that goal.

Tesoro

Response: The Air District does not necessarily identify with the entirety of policy goals stated by NGOs and citizens advocating for caps on refinery GHG emissions. Rule 12-16 is not designed to impact the worldwide crude oil market. As Alaskan North Slope and California crudes decline, the potential for significant changes in crude slates can impact both criteria and GHG emissions. This rule is designed to prevent these impacts, while providing for full operation of permitted facilities to supply the transportation fuels needed in the Bay Area and minimizing any need for importation of transportation fuels into the region.

Comment: The numeric GHG emissions caps under proposed Rule 12-16 are not necessary. The Staff Report explains that Rule 12-16 is intended "as a backstop to prevent increases [of GHG emissions] while the State of California and the Air District

develop a strategy to significantly reduce refinery emissions in order to meet emission reduction goals set by the Legislature." Air District staff connect the need for Rule 12-16 with the Air District's concern that "possible changes in emissions due to changes in crude oil" at refineries will hamper California's and the Bay District's efforts in meeting State and District GHG reduction goals. The possibility that GHG emissions from refinery operations will increase at some as-yet-unidentified future time, based on an assumption that changes in crude oil sources will affect refinery emissions, is not sufficient justification for imposing numeric GHG emissions caps on refinery operations today. A refinery would likely need to pursue changes to its air permit(s) to accommodate new crude feedstocks, and therefore, any emissions increases that may stem from such operational changes at a refinery would already be appropriately addressed and mitigated through the Air District's existing permitting processes. Additionally, the Air District has not even attempted to demonstrate that minor changes in the crude slate that do not entail physical changes and are already covered by a facility's existing permits would have a significant effect on GHG emissions justifying this additional level of regulation.

Tesoro, WSPA

Response: The 12-16 Staff Report, Appendix A provides an expanded explanation of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication. As Alaskan North Slope and California crudes decline, the potential for significant changes in crude slates can impact both criteria and GHG emissions. This rule is designed to prevent these impacts, while providing for full operation of permitted facilities to supply the transportation fuels needed in the Bay Area and minimizing any need for importation of transportation fuels into the region.

In adopting Rule 12-15, which is concerned in part with attempting to track and if possible quantify the relationship between crude slate changes and emissions increases, the Air District acknowledged the plausibility of the refineries' theory that increases in emissions could only occur after operational changes requiring permitting. However, the theory is far from proven. Until this theory is validated, the potential for changes in crude feedstocks to affect emissions remains very significant. Rule 12-15 is designed to yield information allowing investigation of the relationship between crude characteristics and emissions. Proposed Rule 12-16 is designed to allow anticipated refinery operation while preventing GHG emission increases that would occur if changes to lower quality crude feedstocks negatively impact emissions.

Comment: The Staff Report does not justify the need for imposing GHG emissions caps specifically on petroleum refineries only, and not on other stationary sources of GHG emissions.

WSPA

Response: The 12-16 Staff Report, Appendix A provides an expanded explanation of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication, including rationale for making refineries and

associated support facilities the starting point in the Air Districts regulatory efforts to limit GHG emissions

Comment: Nowhere has the Air District even attempted to assess the impact of all of these other regulatory requirements on the refineries' existing GHG emissions – much less the extent to which these programs will limit the refineries' future ability to increase GHG emissions in the event of future as-yet-unspecified changes in the crude slate. The District cannot demonstrate the "necessity" of additional GHG controls until it evaluates the extent to which existing rules already control those emissions.

WSPA

Response: To date there have been no significant reductions in GHG emissions from refineries in the Bay Area. Rule 12-16 is not in conflict with existing regulations, and is consistent with full production of permitted facilities. Rule 12-16 Staff Report, Appendix A provides a complete summary of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication, including rationale for starting with refineries and associated support facilities.

Rule 12-16 Conflicts with AB 32

Comment: There is concern about the impacts of this Draft Regulation in relation to the possible extension of California's Cap and Trade Program.

CCBCTC

Response: Rule 12-16 GHG limits are consistent with full production of permitted facilities. Extension of CARB Cap and Trade requirements through the on-going Scoping Plan will likely result in requirements for refineries to reduce GHG emissions below the proposed GHG limits.

Comment: Eliminating caps on criteria pollutants does not remedy the duplication problem of proposed Rule 12-16, and staff arguments that there is a regulatory gap in greenhouse gas (GHG) oversight are flawed and based on faulty projections of future emissions trends. Proposed Rule 12-16 is duplicative of state programs to regulate GHGs, and it may not meet the necessity and consistency requirements in Health and Safety Code Section 40727.

CCEEB

Response: The 12-16 Staff Report, Appendix A provides an expanded explanation of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication, including rationale for starting with refineries and associated support facilities. Rule 12-16 may at some point become duplicative and/or unnecessary if CARB proceeds with actions forecast in the Scoping Plan, at which time

Rule 12-16 could be rescinded. At present, execution of the Scoping Plan is neither certain nor imminent.

Comment: Rule 12-16 also conflicts with existing statewide efforts to combat climate change through AB32. Local and direct regulation of greenhouse gases can increase global greenhouse gas emissions due to a phenomenon known as leakage. A GHG limit on Bay Area refineries, as proposed in Regulation 12-16, would limit the ability for Bay Area refinery gasoline production to offset the supply shortage in this situation. Such situations would create greater market drivers for more gasoline to be produced outside of California and transported into California, increasing the GHG intensity of the gasoline supply in California due to increased transportation needs and possibly less efficient production. The potential for this type of situation is not limited to process safety incidents, but can also occur if unexpected and/or planned maintenance events at California refineries happen to occur simultaneously.

Chevron, Shell

and

Comment: Proposed GHG Caps will simply shift production to jurisdictions outside the Bay Area, and will result in corresponding increases in GHGs in other parts of California or out of State. Since refineries are already subject to CARB's Cap and Trade program, it is not clear what benefits the District is aiming for by capping refinery GHGs in its air basin.

Valero

Response: Proposed Rule 12-16 establishes GHG limits that are consistent with full production of existing permitted facilities, and provides a mechanism to suspend these GHG limits in the event that there is a significant transportation fuel supply disruption, minimizing the likelihood of “leakage” of GHG emissions from importing transportation fuels into California.

Comment: The Commenter remains opposed to the localized regulation of GHG emissions from existing Bay Area refinery operations by the District. The Legislature’s decision to grant primary authority to CARB to monitor and regulate GHG emissions from large stationary sources under AB 32 and SB 32 demonstrates a long-standing effort to harmonize GHG reductions at the state level, not within individual air districts. There remains concerned that Rule 12-16’s GHG emissions caps will undermine and interfere with the comprehensive refinery GHG regulations that CARB is developing as part of its state-wide GHG reduction scheme.

WSPA

Response: Rule 12-16 GHG limits are established to prevent GHG emissions from increasing, and are consistent with full production of permitted facilities. Extension of CARB Cap and Trade requirements through the on-going Scoping Plan will likely result in requirements for refineries to reduce GHG emissions below the proposed GHG limits.

The Proposed GHG Emissions Limits Are Inappropriate and Need to Be Revised

Comment: The scope of sources covered by the limits is inconsistent with the scope of the emissions inventory. The proposed emissions limits are inherently unreasonable because they were derived from AB32 greenhouse gas inventories, which did not include mobile source emissions. This contrasts with the accounting of refinery emissions inventories which will include mobile source emissions. Section 12-16-207 defines the emissions inventory as "as defined in Section 12-15-206." The definition of an emission inventory in Section 12-15-206 includes "air releases from cargo carriers (e.g. ships and trains), excluding motor vehicles, during loading or unloading operations at a Petroleum Refinery."

Chevron

Response: The Air District believes Rule 12-15 Emissions Inventory Guidelines are consistent with CARB GHG emissions inventory protocols. This consistency is important to the effective implementation and enforcement of Rule 12-16. To the extent inconsistencies develop or are discovered, the Emissions Inventory Guidelines can be revised.

Changes / Adjustments to the GHG Emissions Limits

Comment: The emissions measurement methods used to establish the 2011-2015 emission inventories and the basis of the proposed emissions limits are not necessarily consistent from year to year. If the methodologies for estimating greenhouse gases change, the limits need a way to be adjusted accordingly.

Chevron

Response: Air District staff agrees. If GHG emissions inventory protocols change, GHG limits will need to be adjusted through amendments to Rule 12-16. CARB GHG emissions inventory protocols have been stable for 5 years.

Comment: In the District's staff report, the District affirms that "the rule may need to be amended in the future to include a variety of adjustments in emission limits", but has decided to defer such adjustments because they should require Board of Director's approval. This is incorrect because the issue of scope of emissions covered by the emissions limits and reported emissions is an existing issue. Additionally, the timing of changes to either emissions scope or emissions estimation methodologies because of CARB action is not bound to the timing of the rulemaking process at the Air District, which as proposed in Rule 12-16 is necessary to adjust the emission limits accordingly. The proposed emission limits are currently seriously flawed for the reasons described above. Rule 12-16 should not be adopted without making these necessary adjustments and allowing for future administrative adjustments within the regulation.

Chevron

Response: Rule 12-16 GHG emission limits are specific numeric limits. Air District staff will amend the GHG limits as GHG emissions estimation methods change, and will seek Air District Board action for approval.

Comment: The District does not have the authority under the federal Clean Air Act or the state's Air Quality Law to adopt regulations targeting a specific industrial sector for hypothetical future air quality concerns. Rule 12-16 must provide an adjustment process, but the detailed technical analyses and calculations under Sections 12-16-302 and 12-16-304 are overly complex. The Air District should instead incorporate a simple emissions limit adjustment process within Section 12-16-301 for the purposes of adjusting the limits to reflect changes in facility emissions from new legally permitted sources.

WSPA

Response: The 12-16 Staff Report, Appendix A provides a complete summary of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication, including rationale for starting with refineries and associated support facilities. Based on stakeholder comment, proposed GHG limits are consistent with full operation of permitted facilities. In addition, the adjustment process for permitted but under-utilized sources based on carbon intensity was removed from the proposal, and instead the caps were raised by an amount determined to be equal to full implementation of those permitted projects that were not utilized to full capacity at the time the baseline was determined. An adjustment process remains in the rule for future air pollution control projects. Allowing adjustments to reflect new legally permitted sources would be inconsistent with the concept of a cap based on current refinery configuration. To the extent a new permitted source would entail increases in GHG emissions, those emissions must be offset within the Affected Facility.

Comment: The rule does not provide any contingencies for unforeseen events and emergencies that could result in sustained and significant supply disruptions. This issue needs to be addressed in the rule. Although Section 12-16-302 allows the APCO discretion to adjust reported GHG emissions in specific circumstances, the proposed rule does not provide a similar process for suspending or adjusting GHG emission limits in the case of an emergency and unforeseen but major supply disruption. It is strongly recommended that a provision be added granting the APCO the authority to temporarily suspend the rule in emergency situations that cause Bay Area refineries to significantly increase production over a sustained period in response to major supply disruptions.

CCEEB

Response: Based on stakeholder comments, proposed Rule 12-16 provides a mechanism to suspend the GHG limits in the event that there is a significant

transportation fuel supply disruption, minimizing the likelihood of “leakage” of GHG emissions from importing transportation fuels into California.

Authority to Regulate GHGs from the Refinery Sector

Comment: Eliminating caps on criteria pollutants does not answer legal questions about District authority to adopt and implement proposed Rule 12-16.

CCEEB

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Comment: If the Board adopted this proposed rule, it would be a transparent attempt to utilize legislative authority that the Board does not rightfully have, which will have been hijacked by the Board solely to impose the Board’s own purported policy choices on a discreet sector of the economy and regulated community.

Phillips 66

and

Comment: In proposing a new rule or regulation, H&SC § 40001 requires that the Air District “determine that there is a problem that the proposed rule or regulation will alleviate.” Id. § 40001(c). The District has not identified an existing air quality problem – beyond its high-level reference to the threat of climate change – that requires the imposition of numeric GHG emission caps on Bay Area refineries. As discussed above, this is because Rule 12-16 addresses a problem that may occur. The Air District has only recently initiated its investigation of the relationship between crude slate and emissions under the provisions of Rule 12-15, and therefore currently has no basis or evidence for concluding that changes in crude slate feedstocks are, at present, contributing to increases in GHG emissions from refinery operations. The Air District does not have the authority under the federal Clean Air Act or the state’s Air Quality Law to adopt regulations targeting a specific industrial sector for hypothetical future air quality concerns.

WSPA

Response: The 12-16 Staff Report, Appendix A provides an expanded explanation of the necessary regulatory findings, including Authority and Reference, Necessity, and Consistency and non-duplication, including rationale for starting with refineries and associated support facilities. H&SC § 40001 applies to criteria pollutants. The Air District has explained in the context of adopting Rule 12-15 why changes in crude characteristics have the potential to significantly increase emissions, including GHGs. Information yielded by Rule 12-15 should allow the Air District to better understand this relationship. However, completion of this investigation is not a prerequisite to establishing caps to prevent increases in GHG emissions. The GHG caps in Rule 12-16 are designed so that if changes to lower quality crude do not occur, or if the refineries are correct in their assertion that such changes do not lead to increases in emissions, then the refineries should be able to comply with the caps and operations at anticipated levels will not be restricted.

Basis for GHG Emissions Limits

Comment: The calendar years used to establish the limits (Sections 12-16-301 through 12-16-305) are too narrow to represent the full range of utilization reasonably expected to occur at a refinery. The calendar years used to establish limits in Rule 12-16 should be expanded to 2008 through 2020.

Chevron

Response: Calendar years 2011 – 2015 provided consistent GHG emissions estimates, and refinery operations ranged up to 95% utilization during this period. This baseline period is reasonable, and in addition, GHG emissions have been established to accommodate for normal operating variation, potential increase in transportation fuel demand of +3%, and full utilization of permitted facilities.

Comment: The Staff Report explains that the Air District used the GHG emissions reported under CARB's mandatory reporting regulation to calculate the GHG emissions caps in Rule 12-16-301. However, for purposes of determining compliance with the emissions caps, the Air District proposes to compare the Rule 12-16 caps to the GHG emissions facilities will report in their emissions inventories under District Rule 12-15. But the emissions inventories may contain more, or different, sources than the GHG emissions reported to CARB. Therefore, to compare apples to apples and to maintain a consistent approach to GHG emissions calculations and methodologies, the District should determine a facility's compliance with the Rule 12-16 emissions limits by comparing the Rule 12-16 caps to the GHG emissions reported to CARB rather than to the GHG emissions reported to the District under Rule 12-15.

Phillips 66, Shell, WSPA

Response: Rule 12-15 Emissions Inventory guidelines are consistent with CARB GHG emissions inventory protocols. If GHG emissions inventory protocols change, GHG limits will need to be adjusted through amendments to Rule 12-16. CARB GHG emissions inventory protocols have been stable for 5 years.

Comment: The methodology to determine GHG emission caps has changed and does not adequately address annual variation in emissions for the facilities. The use of only three standard deviations for only five or fewer data points per refinery as a representation of process operating variation at a refinery is flawed as it is not a long enough time period to represent normal processing variation given the extended turnaround schedules. In addition, the data does not take into account the significant economic downturn that occurred during the baseline period which resulted in lower production levels due to decreased demand.

Shell

Response: Rule 12-16 GHG emission limits have been established to accommodate normal operating variation, potential increase in transportation fuel demand of +3%, and full utilization of permitted facilities.

Carbon Intensity

Comment: The methodology to determine GHG emission caps has changed and does not adequately address annual variation in emissions for the facilities. Restricting the carbon intensity within three standard deviations of the baseline carbon intensity has no basis as there is no reason to believe that the permitted projects would only be restricted to a carbon intensity of three standard deviations. The District should consider the theoretical carbon intensity based on the maximum operation throughput of the permitted equipment that has not operated at full capacity as this equipment investment was already authorized.

Shell

Response: Proposed Rule 12-16 includes increases in GHG emission limits to accommodate full utilization of existing but under-utilized permitted facilities.

Insufficient Time to Participate

Comment: The Air District has provided insufficient time for meaningful comment regarding the revisions to proposed Rule 12-16, failing to comply with California Health and Safety Code §40725. Taking a Board vote two weeks from publication of a drastically revised staff report is inadequate. An additional 30 days are requested to allowed for public comment.

Comment: Refineries and industry representatives objected to the short notice and comment period for the version of Rule 12-16 that is proposed for adoption, alleging inconsistency with the noticing procedures mandated in H&S Code Sections 40725 and 40726. These commenters noted that the version of Rule 12-16 for which the Air District requested notice on June 6, 2017 prior to being proposed for adoption on June 21 is significantly different than the version that was originally noticed on April 25, 2017 as being proposed for adoption on May 31. All commenters on this topic asserted that the comment period (the Air District requested comments by June 12) was unreasonably short. Some commenters additionally argued that the comment period was inconsistent with H&S Code Section 40725, which requires at least 30 days notice of a hearing to adopt a rule.

Chevron, Phillips 66, Shell, Tesoro, Valero, WSPA

Comment: Surprise draft rule released June 6 only deepens public participation concerns. Again, we find the District barely meeting the most basic requirements of the APA.

CCEEB

Response: At the request of its Board of Directors at the May 31st, 2017 hearing, the Air District followed an expedited schedule to bring back a version of the rule revised according to the Board's direction. However, the version of Rule 12-16 posted for notice on June 6 ("June 6 Version") is a logical outgrowth of the version posted for notice on April 25, 2017 ("April 25 Version"). The changes made to the April 25 Version are largely responsive to comments from the refineries. Significant provisions – specifically the criteria pollutant caps – would allow for increased fuel demand, necessary changes due to state fuel standards and other air quality regulations, and the full utilization of current permitted equipment at refineries. The Air District believes the June 6 Version is thus within the scope of the April 25 Version.

H&S Code Section 40725(b) requires 30 days notice before adoption of a rule, but does not specify a minimum time for comment. The Air District's practice is to request comment by a certain date to facilitate its ability to develop staff responses while recognizing that comments may be submitted any time prior to adoption of the rule. H&S Code Section 40726 requires that if the Board "makes changes in the text originally made available to the public that are so substantial as to significantly affect the meaning of a proposed rule or regulation, the Board shall not take action on the changed text before its next regular meeting and shall allow further statement, arguments, and contentions . . . to be made and considered prior to taking final action." Reading Sections 40725(b) and 40726 together, it is clear that the 30-day notice requirement applies only to the initial proposal and not to changes made by the Board, which must be subject to an additional but presumably less rigorous public process.

The Section 40726 provision for revision through an abbreviated public process are not infinitely elastic. There could be factual situations where an adopted rule is so fundamentally different from what was proposed that re-proposal subject to a new 30-day notice would be the only reasonable interpretation of the statute. That is not the present situation, for two reasons. First, the revised rule is within the scope of the original proposal. Second, the changes made, though significant, are responsive to comment received from the refineries.

Regarding scope, the April 25 Version would have established mass emissions caps on each refinery for both criteria pollutants and GHGs. The refineries, in their comments, objected to both criteria pollutant and GHG caps. The June 6 Version is responsive to these comments in that it no longer includes caps on criteria pollutants. The deletion of criteria pollutant caps is a significant change but does not establish new provisions or significantly change the provisions that remain. The GHG caps that remain in the rule have been numerically revised, but are of the same nature as those proposed in the April 25 Version. It would be logical to assume that the refineries would stand by the principled objections made to the GHG caps in the April 25 Version, and the refineries have in fact reasserted those principled objections in response to the June 6 version notwithstanding the abbreviated comment period.

Regarding the numerical value of the GHG caps, these values have been elevated considerably between the April 25 Version and the June 6 Version. The change in numeric values for the caps was made partially in response to comments submitted by the refineries on the April 25 Version that the caps in that version were too restrictive. The changes to the GHG limits would allow for increased fuel demand, necessary changes due to state fuel standards and other air quality regulations, and the full utilization of current permitted equipment at refineries. The refineries' comments on the June 6 Version indicate their position that the caps are still too restrictive. As a matter of procedure, however, the Air District believes this is an example of the notice-and-comment process working as it is supposed to, with the Air District make changes responsive to initial comments, and with the refineries being given a further opportunity to comment on those responsive changes.

One significant change has been made between the June 6 Version and the version that is being presented to the Board of Directors on June 21st. June 6 Version would have allowed the Air District to adjust the reported emissions downwards to account for projects permitted but not fully utilized based on carbon intensity remaining constant. Commenters voiced concerns regarding the apparent complexity and uncertainty of this provision. In response, the rule has been changed to elevate the caps in an amount commensurate with the potential to emit of permitted but not fully utilized projects. The result is the same, except that under the rule as currently proposed the result is built into the level at which the cap is set rather than through a subsequent annual adjustment process.

Comment: Some refineries asserted, citing CEQA Section 21092.1 and Section 15088.5 of the CEQA Guidelines, that the EIR for Rule 12-16 should have been recirculated to reflect changes between the April 25 Version and the June 6 Version.

Chevron, Shell

Response: CEQA and the Guidelines require recirculation of an EIR when "significant new information" is added to the document after it has been noticed. That is not the case here. The project has changed in that criteria pollutant caps have been removed from Rule 12-16. Of the adverse environmental effects discussed in the EIR associated with the April 25 Version, all were associated with the criteria pollutant caps. No adverse effects were identified as being associated with the GHG caps. Changing the project by removing criteria pollutant caps entails removing or rendering irrelevant the information in the EIR associated with those caps. It does not entail adding new information regarding the GHG caps that remain in the rule.

Nor does the fact that the GHG caps have been elevated relative to the April 25 Version raise a basis for recirculation. The absence of adverse environmental effects in the EIR is due to the lack of any control devices (with their associated collateral impacts) for controlling GHGs. That analysis remains the same if the GHG cap is raised to a higher level. Moreover, although the Air District believes concerns regarding GHG "leakage" are not well-founded, it should be noted that the risk of leakage decreases as the cap is raised.

Inhibits Refineries' Ability to Operate Permitted Equipment and Build New Equipment

Comment: The proposed rule severely inhibits (or may altogether prevent) the ability of Bay Area refineries to build new equipment or process units that may be required to meet future federal and/or California Air Resource Board (CARB) fuel standards or to respond to increases in demand. Section 12-16-302.1 should be amended to explicitly exempt GHG emissions from projects or equipment added to comply with potential future federal and/or CARB fuel standards.

Phillips 66, Shell

Response: Following consideration of comment and further analysis, the GHG limits have been raised relative to the version of the rule noticed on June 6, 2017. The changes to the GHG limits would allow for the projected increase in fuel demand, necessary changes due to state fuel standards, and the full utilization of current permitted equipment at refineries.

Comment: Establishing numeric limits on GHGs (to cap refinery emissions) would impede the ability to operate existing sources at previously permitted levels and should be eliminated from consideration.

Proposed Reg 12-16 would deprive refiners of the flexibility to operate within legally obtained and demonstrably protective emission limits established through previous permitting processes, many of which addressed the same concerns cited as the basis for this rulemaking by requiring installation of pollution control technology costing hundreds of millions of dollars. This unreasonable and arbitrary constraint of operational flexibility unfairly and arbitrarily reduces the return on previous investments in pollution control technology in defiance of California's vested rights doctrine.

Rule 12-16 disregards all the health and environmental analyses that support the refinery's current permitted emission limits in favor of arbitrarily preventing increases above recent historical actual emissions. The District has failed to explain why the health and environmental analyses that support the refinery's current permitted emission limits are insufficient.

Valero

Response: The changes to the GHG limits would allow for increased fuel demand, necessary changes due to state fuel standards and other air quality regulations, and the full utilization of current permitted equipment at refineries.

Comment: To the extent that Rule 12-16 is claiming to support public health by capping refinery emissions, it is duplicative of other District rules that address toxic emissions.

Valero

Response: The intent of this rule is to limit GHGs emissions from the affected facilities. While, there may be some health benefit from this, staff agrees that it would be difficult to correlate the potential health benefits of limited GHG emissions. Staff agrees that direct and risk-based regulations are the most effective means of addressing localized and regional health impacts of air pollution.

The Adjustment for Regulatory-Attributable GHG Increases Is Unclear

Comment: In the newly added Section 12-16-302.1 appears to address the need for adjustments to the GHG limits due to regulatory-driven projects, but the Air District's staff report's only example of a project that fits the intent of the section was a thermal oxidizer for a refinery source. The Air District needs to also explicitly identify the category of projects which may increase refinery GHGs in order to comply with non-refinery regulations (e.g., fuel standards).

Chevron, Valero

Response: The provision is intended to address increased GHG emissions from add-on controls such as thermal oxidizers and scrubbers and from larger changes in refinery design and operation that may be required to meet air pollution regulations, such as fuel sulfur standards.

Quarterly Emissions Reporting Requirement

Comment: Quarterly reporting adds unnecessary administrative reporting, when the compliance obligation is under the control and responsibility of the affected facility. Quarterly reporting also introduces questions regarding the accuracy requirements of the quarterly reports and how CARB missing data provisions will be factored into compliance determinations. Lastly, quarterly reporting may interfere with AB32 market for allowances, especially when a subset of facilities is reporting more frequently than others.

Air Liquide, Air Products, CCEEB, Chevron, Phillips 66, Shell, WSPA

Response: Changes have been made to this requirement; the provision now requires affected facilities to “make available” the information necessary to estimate quarterly GHG emissions. This was done to avoid interference with the AB 32 Cap-and-Trade market and potential confidential business information. The Quarterly reports will allow predictions of whether a refinery is on track for year-end compliance.

Violation of the Annual Limits on a Daily Basis Is Arbitrary

Comment: Similarly, the language in 12-16-303 stating that GHG emissions in excess of the annual limit is a daily violation of the Rule for each day of that particular year should be deleted because there is no requirement to comply with GHG emissions on a

daily basis. Stating that a violation of the annual limit results in 365 daily violations is completely arbitrary.

Air Liquide, Air Products, CCEEB, Phillips 66

Response: Staff disagrees with this comment and believes that the annual violation is both appropriate and specific in its degree and scope, given the annual compliance period. The GHG emissions caps are intended to govern how a refinery conducts its operations throughout an entire calendar year. It follows that failure to comply with that limit equates to a failure to operate appropriately over an entire year. It is also worth noting that a facility-wide cap essentially treats a great many individual emissions points as if they were one source, equating with one violation if the cap is exceeded. Treating violation of an annual facility-wide cap as a year's worth of violations is in some sense a policy surrogate that allows penalties to be commensurate with the broad scope and consequence of the limit.

Some commenters suggested that non-compliance should only be counted for days a refinery operates after the limit has been exceeded. This would mean that, for example, if the cap was exceeded on December 29, a refinery would be liable for 3 days of violation. Penalties for 3 days of violation would likely be insufficient to incentivize decisions regarding emissions of GHG above the cap a refinery should operate over the course of a year.

Determining the number of days of violation ultimately rests with the court if the matter is litigated. The Air District does not purport to be able to dictate this determination to a court. However, Rule 12-16 puts refineries on notice as to the theory of liability the Air District will pursue in an enforcement context.

Comment: The stated rationale presented in the staff report for removing the criteria pollutant caps was the staff's apparent concern that the regulation may not be legally defensible since it would conflict with existing permit rules. This is consistent with the staffs strongly-worded objection to the original version of this proposed regulation in prior staff reports. The staff report goes on to claim that a GHG cap does not similarly conflict with any local, state or federal regulations with the possible exception of the cap and trade program. This is directly inconsistent with the staff's opposition to the original version of Regulation 12-16. In fact, the cap and trade program conflict is a serious conflict that could impact the integrity of the program.

Shell

Response: The ARB, in their April 5, 2017 letter, "agree[d] that both the approaches [proposed Rule 12-16 and draft Rule 13-1] could help to ensure that these sources do not add to the state's overall emissions of greenhouse gases and criteria or toxic pollutants." In light of this concurrence and the ARB's plans to directly regulate petroleum refineries, staff disagrees with this comment. In general, Air District staff's assessment of Rule 12-16 has changed as the provisions of the draft rule itself has changed. This is not in itself an indication of inconsistency.

Low-Carbon Fuel Standard

Comment: The staff report fails to analyze and discuss California's Low Carbon Fuel Standard (LCFS) which is applicable to the refining facilities in addition to the statewide cap and trade program.

Response: Low Carbon Fuel Standard (LCSF) protocols are designed to assess GHG emissions from transportation fuels, well to wheel. These protocols do an excellent job of assessing GHG impacts from crude oil production and transportation to the refinery, and from the consumption of the finished transportation fuels. However, the LCFS currently assigns a standard GHG impact for refining, regardless of where the refinery is located or what crude oils the refinery may process. LCSF could be an excellent method to manage GHG emissions, but additional development is needed to assess GHG impacts from refining. A method developed by the University of Alberta (Canada) shows promise in quantifying refining GHG impacts, but is not currently ready for use.

Health Assessment of Rule 12-16

Comment: Ensure the final EIR includes a full health assessment of the No Project Alternative. Since the alterations potentially worsen current health protections, the health impacts of proposed new language (if it is not removed) also need to be included.

Health Professionals

Response: The comment was addressed in the Public Comments on the Draft EIR and Responses to Comments in Appendix C to the Draft EIR.

Comment: There should be no further deterioration to the existing air quality levels in the Bay Area.

Health Professionals

Response: The Air District is committed to ensure that the Bay Area's air quality does not further deteriorate. This commitment is reflected by the 2017 Clean Air Plan.

Comment: There are significant health consequences without Rule 12-16, especially for communities near refineries.

Health Professionals

Comment: It is reasonable for the final EIR to further evaluate health impacts and benefits of Rule 12-16.

Health Professionals

Response: These comments were addressed in the Public Comments on the Draft EIR and Responses to Comments in Appendix C to the Draft EIR.

Comment: Future rule-making should directly regulate PM2.5 (not only as GHG co-pollutant).

Health Professionals

Response: Staff agrees that $PM_{2.5}$ should be directly regulated and are currently developing rules to do so.

Comment: Rule 12-16 will protect health.

Health Professionals

Response: The intent of Rule 12-16 is to limit global climate pollution from refineries. While this is expected to also limit emissions of other combustion pollutants, such as $PM_{2.5}$, the extent to which this will benefit public health is difficult to predict and would depend on many site-specific factors. That is why staff agrees with the commenters' previous comment about directly regulating $PM_{2.5}$.

The Socioeconomic Analysis

Comment: While Air District staff's analysis states the proposed emission limits provide enough flexibility for the refineries to continue to operate at their current capacity, we do not believe enough analysis has been done on what the potential employment impacts may be at these refineries, nor have we been provided with sufficient time to understand these impacts. Additional consideration of how best to integrate the environmental concerns of our communities and economic benefits is warranted.

CCBCTC

Response: The final version of Rule 12-16 will not impose cost on the affected facilities and is therefore not expected to cause employment impacts.

Comment: Many assumptions about population growth and fuel demand underlying staff's socioeconomic analysis are flawed, and contradicted by evidence given in the report itself. More importantly, staff fails to analyze the indirect economic impacts of higher fuel costs, particularly costs borne by small businesses throughout California. neither the socioeconomic report nor the staff report provides the background analysis to substantiate this claim. Air District staff should provide this detail. Moreover, demand analysis needs to include growth and demand trends for all regions served by the Bay Area refineries.

CCEEB, Chevron

Response: The changes to the GHG limits would allow for increased fuel demand, necessary changes due to state fuel standards and other air quality regulations, and the full utilization of current permitted equipment at refineries. All of these changes should ensure minimal impact on the economics of the refineries and the transportation fuels market.

Comment: The net profits for Bay Area refineries is overstated. Pricing of products should be based on all products produced by the refinery instead of just gasoline, jet and diesel. To identify other deficiencies, the socioeconomic report needs to explain how it estimated refinery operating costs.

Chevron

Response: The socioeconomic analysis used the standard methodologies for estimating the profits of and economic impacts to the affected facilities. If the commenter has specific, verifiable information, we would like to include that in future analyses.

Definitions

Comment: No definitions for "significant increase" or "normal variation" in carbon intensity are provided in Rule 12-16. Definitions for these elements are required to implement the Carbon Intensity Neutrality calculation described in Sections 12-16-304, 12-16-206, and 12-16-208. Without definitions of these terms, the determination of Carbon Intensity Neutrality is completely up to District staff with no guidelines or process whatsoever. These determinations would be completely arbitrary.

Phillips 66

Response: These terms have been removed from the Rule and a simpler process has been added.

Emissions Estimation Methodologies

Comment: Sections 12-16-204 and 12-16-213: According to the staff report, the baseline in Section 204 is based on emissions reported to ARB through its Mandatory Reporting Rule (MRR), whereas annual reporting to determine compliance with proposed Rule 12-16 is based on the District's Reg. 12, Rule 15. There is concern that these are two separate and distinct emissions calculation methodologies, which result in different numbers and which can change over time. CCEEB asks staff to address this issue by including in the staff report an explanation of how these methods differ and what if any adjustment is needed to harmonize the resulting emissions estimates.

CCEEB, Valero

Response: The emissions estimate methodology contained in Rule 12-15 will be consistent with that of the Mandatory Report Rule.

Comment: Section 12-15-403: This section appears to be mis-numbered.

CCEEB

Response: This error will be corrected in the final proposed version of Rule 12-16.

Abbreviation	Commenter
Air Liquide	Jared Wittry, Manager of Commercial and Regulatory Affairs Air Liquide Large Industries U.S. LP, Letter, June 12, 2017
Air Products	Scot Govert, Sr. Principal Environmental Specialist, Air Products and Chemicals, Inc., Letter, June 12, 2017
CCBCTC	Bill Whitney, CEO, Contra Costa Building and Construction Trades Council, Letter, June 12, 2017
CCEEB	Bill Quinn, Chief Operating Officer and Bay Area Partnership Project Manager, California Council for Environmental and Economic Balance, Letter, Jun 12, 2017
Chevron	Steven Yang for Shawn Lee, HES Manager, Chevron Richmond Refinery, Letter, Jun 12, 2017
Health Professionals	Bart Ostro PhD, Former Chief of Air Pollution Epidemiology Section, California EPA, Consultant to the World Health Organization, Research Faculty, Air Quality Research Center, UC Davis; Robert M. Gould MD President, Physicians for Social Responsibility, SF Bay Area Chapter Associate Adjunct Professor, Program on Reproductive Health and the Environment, UCSF School of Medicine; Jonathan Heller PhD, Co-Director and Co-Founder, Human Impact Partners, Oakland CA; Linda Rudolph MD MPH Director, Center for Climate Change and Health, Public Health Institute; Heather Kuiper DrPH MPH Public Health Consultant, Oakland CA, Letter, June 12, 2017
Phillips 66	Don Bristol, Environmental Superintendent, Phillips 66 San Francisco Refinery, Letter, June 12, 2017
Shell	Keith M. Casto, Cooper, White & Cooper, representing Shell Oil Company, Martinez Refinery, Letter, June 12, 2017
Tesoro	Matthew Buell, Manager, Environmental, Tesoro Refining & Marketing Company LLC, Martinez Refinery, Letter, June 12, 2017
Valero	Donald W. Cuffel, Director, Environmental, Health, Safety & Community/Government Affairs, Benicia Refinery, Valero Refining Company, Letter, June 12, 2017
WSPA	Kevin Buchan, Manager, Bay Area Region, Western States Petroleum Association, Letter, June 12, 2017