Coalition for Fair and Equitable Allocation

VIA ELECTRONIC POSTING: *CAPANDTRADE13*

April 5, 2014

Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento CA, 95814

The Coalition for Fair and Equitable Allocation (Coalition) hereby submits these comments on the March 21, 2014, Proposed Amendments (Proposed Amendments) to the Cap-and-Trade Regulation (Regulation), Proposed Amendments which completely reversed the refining benchmark policy direction established last October. This significant change in policy was both surprising and extremely disappointing. The Coalition believes, and would like the opportunity to show, that this reversal was not only unwarranted, but based on an incomplete data set, in violation of the spirit of cooperative regulatory process and transparency, and counter to the direction provided by the Board five and a half months ago in both Resolution 13-44 and its accompanying Attachment A. Therefore, the Proposed Amendments should be withdrawn from the April Board Hearing to give the Board the opportunity to review the issue, hear from all impacted parties, and have the ability to change direction prior to a vote.

Amending the refinery benchmark is a significant policy and technical exercise. That is why the Coalition was formed last September, and why individual members have been meeting with ARB regularly for over three years. It is not only a foundation of the Cap-and-Trade Program (Program) but determines the baseline competitive position (both intrastate and interstate) for California refiners. The astonishing switch back to a single benchmark, which compares the state's smallest and least complex refineries against its largest, fully integrated refineries, will have long-lasting and significant negative impacts on the refining sector. The focus of the Coalition has always been to protect smaller refineries in California from the competitive disadvantages that arise out of a single one-size-fits-all benchmark. The Coalition includes Kern Oil & Refining Co., Alon USA, Inc., San Joaquin Refining Co. Inc., Lunday-Thagard Refining Co., and Phillips 66 on behalf of their Santa Maria facility.

From the time staff introduced its policy to separately benchmark smaller, less-complex refineries at a workshop held on October 7, 2013, through stakeholder meetings as recent as March 5, 2014, ARB staff had consistently presented two benchmarks for the industry to review and analyze, and for the Board to approve as the policy direction. The two categories of refineries were known as Atypical (smaller, less-complex refineries) and Typical (all other refineries). Over those 150 plus days, ARB has held a refinery-specific workshop, a full Board Hearing (with corresponding resolution), released an INFORMAL DISCUSSION DRAFT, released a refinery-specific technical document, and held an "all-refinery" meeting, all of which presented two refinery benchmarks. Stakeholders only learned about the policy reversal with the March 21, 2014, release of the Proposed Amendments (which were advertised as final regulatory language). ***The Coalition firmly objects to this last minute change in policy direction and views it as an affront to the regulatory process and Administrative Procedure Act.***

With the release of the Proposed Amendments, ARB staff has erred on the three pillars of regulatory development:

1. Robust Regulatory Process,
2. Transparent Supporting Data, and
3. Fair and Consistent Policy

As the calendar clicks toward the April Board meeting, the Coalition respectfully requests that a vote on the Proposed Amendments, as well as, the remainder of the regulatory package, be removed from the Board's agenda. This delay will allow the ARB Board the opportunity to weigh in on this policy reversal, and allow for an additional 15-day package if the Board so desires.

Process Considerations

Over 18 months worth of stakeholder process, including multiple workshops and expert testimony, was completely overturned in the last two weeks preceding the release of the Proposed Amendments *without any industry input or knowledge.* This timeline is laid out explicitly in **Attachment A** to these comments and is well established by the record in this proceeding. Additionally, ARB exclusively conducted an "informal" process such that released documents and industry comments are not part of the official administrative record. Attached as Attachment D is staff's "Discussion Draft – January 31, 2014 Potential Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms" which incorporates provisions, definition and draft regulatory language for two benchmark values. Attached as Attachment G is staff's technical paper "Cap-and-Trade Regulation: Proposed Benchmarks for Refineries and Related Industries" dated February 26, 2014. This release too discusses separate benchmarks and proposes the revised values of such following correction of discovered calculation errors. The Coalition attaches these documents, along with others, in order to complete the official record.

ARB staff informed Coalition members verbally after release of the Proposed Amendments that analysis of "new information/data" was used to make the final policy decision which staff refused to share or elaborate on despite numerous requests. Staff however later confirmed that the final published benchmarking curve is based on a data set identical to the data set used for benchmarking curves published on February 26, 2014 (Attachment G), in which staff supported having separate benchmarks. *No additional data or information has been presented to support this divergent change in policy – indeed, the data reflected in the record remains identical to the data that staff previously used to justify a separate Atypical benchmark.*

The starting position of staff for refinery benchmarking back in 2012 was the generic "one product one benchmark," but based on months of stakeholder dialogue, data analysis, expert testimony and policy discussions with stakeholders, staff proposed at an early October 2013 workshop to separately benchmark the State's "Atypical" refineries. This position was re-affirmed by staff at the October 2013 Board Meeting, and the ARB Board agreed with the approval of Resolution 13-44 and Attachment A. Subsequent document releases, albeit "informal" in January 2014 and February 2014, along with a verbal reaffirmation at an all-refinery meeting in early March 2014 was consistent with the Typical/Atypical proposal.

The decision to establish two benchmarks rather than one is a policy decision. Such decisions are reserved for the ARB Board. By presenting the Board with two benchmarks in October, and only one benchmark in April, ARB staff has circumvented the Board's explicit direction under Attachment A to Resolution 13-44. **Therefore, no vote should be taken until the Board has the opportunity to review the issue, hear from all impacted parties, and have the ability to change direction if so desired.**

Data Considerations

ARB's supporting documentation highlights that one refinery had abnormal operations in 2008, and therefore was excluded from the benchmarking calculation. In fact, that particular Coalition member facility actually had normal operations in 2008, but has subsequently had a temporary change in its operational status. Though it was known that that refinery would have fit into the Atypical category, the particular refinery (a Coalition member) did not object to this data omission from in the benchmark as it was deemed not necessary given that two benchmarks that had been proposed. Given the reversal in

policy, this data exclusion has become material as it supports the need for an Atypical benchmark. In fact, when included, this data point demonstrates further the distinction between the proposed Atypical and Typical benchmark values.

Similarly, Staff omitted data for another Coalition member facility from the Atypical analysis that would have further supported the need for an Atypical benchmark Staff intentionally considered this facility's data point among the Typical refinery data set simply because the facility does not itself produce finished fuels, despite otherwise meeting proposed Atypical qualifications (an ongoing robust discussion of this issue, i.e., "jointly operated," was rendered moot when the revised single benchmark was released). Consideration of that data and inclusion of the "abnormal" facility in the Atypical category further supports the need for the category (i.e., the efficiency limitations of Atypical refineries) and again would have increased the previously proposed benchmark. Staff selective consideration of data and failure to use data which supports the need for an Atypical benchmark is troubling – especially given the extremely limited number of Atypical data points that remain – a mere four facilities. The plot of Atypical refinery data looks much different with six data points, rather than just the narrower set of four points utilized by Staff, demonstrating a more continuous curve in the Atypical group.

The final manipulation of data and lack of transparency regarding two week reversal of established policy is also very concerning. Staff has not disclosed what "new information/data" was used to make the final policy determination. But they have confirmed that the benchmarking curve shown in Figure 1 of the February 26, 2014 refinery document (Attachment G) is identical to the one included in Figure 6 of the attachment to the Proposed Amendments. It is unclear how identical data can reverse firmly established policy, which relied on 18+ months of intense stakeholder and expert dialogue versus two weeks of behind closed doors analysis by ARB staff without any stakeholder or expert input. **Therefore, the Coalition strongly requests that official administrative record contain any new information used to establish Board policy.**

Policy Considerations

Smaller, less-complex refineries cannot be fairly compared to larger more complex "Typical" refineries. Industry expert Solomon Associates "has found that smaller and simpler (i.e., a lower complexity) refineries tend to have poorer energy efficiency, for reasons such as limitation on economy of scale and fewer streams of feed and products and therefore less heat integration and exchange opportunities for energy saving and optimization" (*August 6, 2013, Solomon Response to ARB Questions, p. 1-2*). Additionally, Solomon testified that Atypical refineries have been identified in every benchmarking process that they have participated in around the world and that smaller refineries cannot be fairly compared to "super" refineries (*August 25, 2013, Workshop, Solomon Testimony*).

There is always a range of refinery efficiency no matter the size. Some overlap between the most efficient Atypical refinery and the least efficient Typical refinery was to be expected. Indeed, from the inception of Staff's recommendation for two benchmark, there has been overlap between the Atypical and Typical groups (i.e., among the most efficient Atypical refineries and the least efficient Typical refineries). Therefore the recent discussion in Appendix A—Additions and Amendments to Product-Based Benchmarks in the Cap-and-Trade Regulation which states that "some smaller and less complex refineries are among the most emissions efficient (in relation to CWB throughput)" misses two key facts: 1) those two refineries are mainly asphalt refineries and do not produce CARB gasoline, 2) the two worst performing refineries (and those impacted the most) are the State's smallest gasoline-producing facilities. Variation in a sub-group of refineries does not negate any single facility's position as Atypical, nor does it justify a single benchmark. What staff fails reference or account for is the fact that the two worst performers in the industry are in fact smaller, less complex Atypical facilities.

Staff's release also erroneously overstates the value of the CWB methodology in accounting for the size and complexity of a facility for benchmarking purposes. The CWB methodology measures a surrogate product - it does **not** account for efficiency limitations. CWB is an accurate measurement of a refinery's "product," BUT a refinery's emissions per product is affected by that refinery's size and complexity. Staff's Appendix A released with the Proposed Amendments erroneously expresses the ability of the CWB methodology to account for facility size and complexity *in benchmarking*. The CWB accounts for these differences in determining a common, single product; however, appropriately comparing facilities for benchmarking is a separate and distinct exercise. By way of example, some of our members were among the most efficient refineries under the simple barrel approach and now are some of the least efficient refineries under CWB methodology. Solomon (the creator of CWB) stated at the August 13, 2013, workshop that accuracy of the CWB is irrelevant as to whether Atypical refineries should be separately benchmarked and gave an example of how this is true. By nature of the structural constraints highlighted by Solomon, in general smaller, less complex refineries cannot achieve the scores that larger, more complex refineries, thus the need for an Atypical benchmark.

A single benchmark creates winners and losers. Shifting to a single benchmark would require certain Coalition Members to reduce emissions by 40% just to meet the benchmark level (90% of the average statewide refinery efficiency). This is unrealistic, as ARB's own energy audit found reduction potential at individual facilities to be below 10%.

ARB previously abandoned a single simple barrel approach (2010 benchmarking) because of similar detrimental impacts to individual facilities and went with a two-tier approach. **That approach was precedential and should be followed again now with the reinstatement of the Atypical benchmark.**

To summarize, the Coalition opposes the final regulatory package being approved by the Board due to process, policy and data concerns surrounding the late shift in policy direction which significantly impacts our membership. We urge the Board to reject the Proposed Amendments and reinstate the recognition of an Atypical refining category for the purposes of refinery benchmarking.

Thank you for your attention to this important matter. Any questions or follow-up comments can be directed to individual Coalition members or Jon Costantino at 916-552-2365 or at jcostantino@manatt.com.

Sincerely,
/s/
Jon M. Costantino
Coalition Director

Enc: Attachment A-Timeline
Attachment B- ECOFYS (excerpt)
Attachment C- October 7, 2013 PowerPoint (excerpt)
Attachment D- January 31, 2014 Informal Discussion Draft (excerpt)
Attachment E- February 5, 2014 document
Attachment F- January 31, 2014 Comment Letters
Attachment G- February 26, 2014 document
Attachment H- February 26, 2014 Comment Letters

cc: CARB Board Members
Mary Nichols
Virgil Welch
Richard Corey
Edie Chang
Cynthia Marvin
Steve Cliff
Rajinder Sahota
Mary Jane Coombs
Eileen Hlvaka
Mark Sippola

Attachment A

CARB Cap-and-Trade Refinery Allocations

Coalition for Fair and Equitable Allocation, April 2014

Timeline of Events:

- August 28, 2012, Workshop
  - Ecofys (CARB expert) suggests CARB consider benchmarking atypical (smaller/less-complex) refineries separately and identifies Alon Bakersfield, Kern Oil, San Joaquin, P66 Santa Maria, and Lunday-Thagard among the potentially "atypical" refineries (Preliminary Work Product, p. 44 "Exclusion of Atypical Refineries", p. 45 Table 11 Potentially atypical refineries together with indication for not being a 'mainstream' refinery".)
  - WIRA, Lunday-Thagard, and Kern Oil submit comments emphasizing the need to analyze and adjust the benchmarking approach for atypical refineries.
- November 1, 2012, Kern Oil Meets with CARB staff on atypical issue and expresses concern about projected dramatic compliance costs increases under new benchmarking methodology. CARB staff states that it has not begun analyzing the "atypical" issue.
- July 18, 2013, CT Regulation update workshop – petroleum refineries noted being considered for modification without any mention of atypical or benchmarks
  - Alon submits comments emphasizing the need for more than one benchmark.
- August 13, 2013, Refiner Specific Workshop (included vigorous participation by smaller refineries)
  - Staff presentation: "Analysis does not suggest that smaller refineries and larger refineries systematically would get a different % of the allowances they need" (p. 19) BUT "some refiners will benefit and some will lose" (p. 19).
  - CARB Expert Testimony (Ecofys & Solomon Associates):
    - In every benchmarking they have participated in worldwide, each region has had its own "atypical refineries".
    - "[S]maller and simpler (i.e., a lower complexity) refineries tend to have poorer energy efficiency, for reasons such as limitation on economy of scale and fewer streams of feed and products and therefore less heat integration and exchange opportunities for energy saving and optimization." (Solomon Answers to ECOFYS Questions (CARB), August 6, 2013, p. 1-2.)
    - A smaller refinery **cannot** be fairly compared to a super refinery.
    - ***CWB may be an accurate measurement for product, which includes consideration for size and complexity, it is not a substitute for an appropriate benchmark***, for example although a glass manufacturer may have an accurate CWB score, it would nonetheless not make sense to benchmark that glass manufacturer against the CWB of refineries.
    - Gave the example of the US EPA Energy Star Program, which groups refineries into size based peer groups for comparing energy efficiency
    - Suggested merely plotting out each refinery's CWB and size would show natural outliers.
  - P66, WIRA, Alon, SJR, Kern and LTR provide comments on the need for separate benchmarks and the failure of CARB to perform due diligence on the issue, which was initially raised by its own consultant (Ecofys).
- September 6, 2013, The Coalition for Fair and Equitable Allocations was formed to engage CARB staff on refinery benchmarking and protect smaller, less-complex refineries and begins engaging CARB staff and Board members on the competitive disadvantage that would be codified by a single benchmark.
- October 7, 2013, Cap-and-Trade Refineries and Related Industries Workshop
  - Staff proposed to "Calculate separate CWB benchmark for 'atypical' refineries." (Staff Presentation, p. 14.)
  - "Revised proposal based on **input from workshop**, final data gathering, and further data analysis" (P. 5, emphasis added.) Atypical based on size and complexity criteria.
  - Noted that atypical refineries only account for 2% of total emissions in California (P. 26)

- Coalition submitted comments in favor of proposal.

- October 25, 2013, Staff proposes two separate benchmarks for typical and atypical refineries to the Board, new "jointly operated" requirement causes some discussion and request for clarity from Board members but no opposition is expressed against establishing two benchmarks by either Board Members or stakeholders. Attachment A to Resolution 13-44 specifies the additional work to be done by staff and explicitly states there will be two benchmarks.
- January 31, 2014, Staff Releases an informal discussion draft [link removed from CARB site] regulation released after data confirmation with all refineries and includes benchmarks for typical and atypical with lower benchmarks as a result of data calculation errors by staff. Coalition members submitted comments.
- February 26, 2014, Staff Releases informal document entitled: *Cap-and-Trade Regulation: Proposed Benchmarks for Refineries and Related Industries*, which slightly adjusts benchmark after CARB has met with all refineries to confirm data and corrects calculation errors earlier in February. Final sentence of third paragraph on page 1 reaffirms that two benchmarks are being established in the 15-day package. The Coalition and members submitted comments supporting atypical benchmark.
- March 5, 2014, Staff holds all refiners-only meeting to discuss February 26, 2014, draft – NO indication that CARB was considering a single benchmark – "jointly operated" was debated and Steve Cliff offered pushing back consideration of refinery benchmarks to a later Board meeting for more discussion on "jointly operated." This offer to delay was rejected by stakeholders as not necessary.

18+ months of stakeholder work and analysis

Less than 2 weeks analysis, w/o stakeholder input

- March 21, 2014, In a preview phone call within hours of the final language being released in the 15-day package, staff inform stakeholders that it received "new data" and "new information" from Coalition members that was critical to a change in policy direction as it relates to refinery benchmarking. This new data or information has yet to be shared with stakeholders. March 21, 2014, 15 Day package and Benchmarking Appendix released with a single refinery benchmark
    - Refinery Data in package and Appendix is **identical** to February 26, 2014, release (which included two benchmarks) and there is NO reference to "new data" or "new information."
    - **Within 2 weeks of holding an all-refiner meeting, and in consideration of "new information and new data," which staff has refused to elaborate on and is not reflected in the record, and without any discussion or involvement of stakeholders, Staff overturned a policy to separately benchmark atypical refineries, formulated and supported by over 18 months of stakeholder and expert collaboration.**

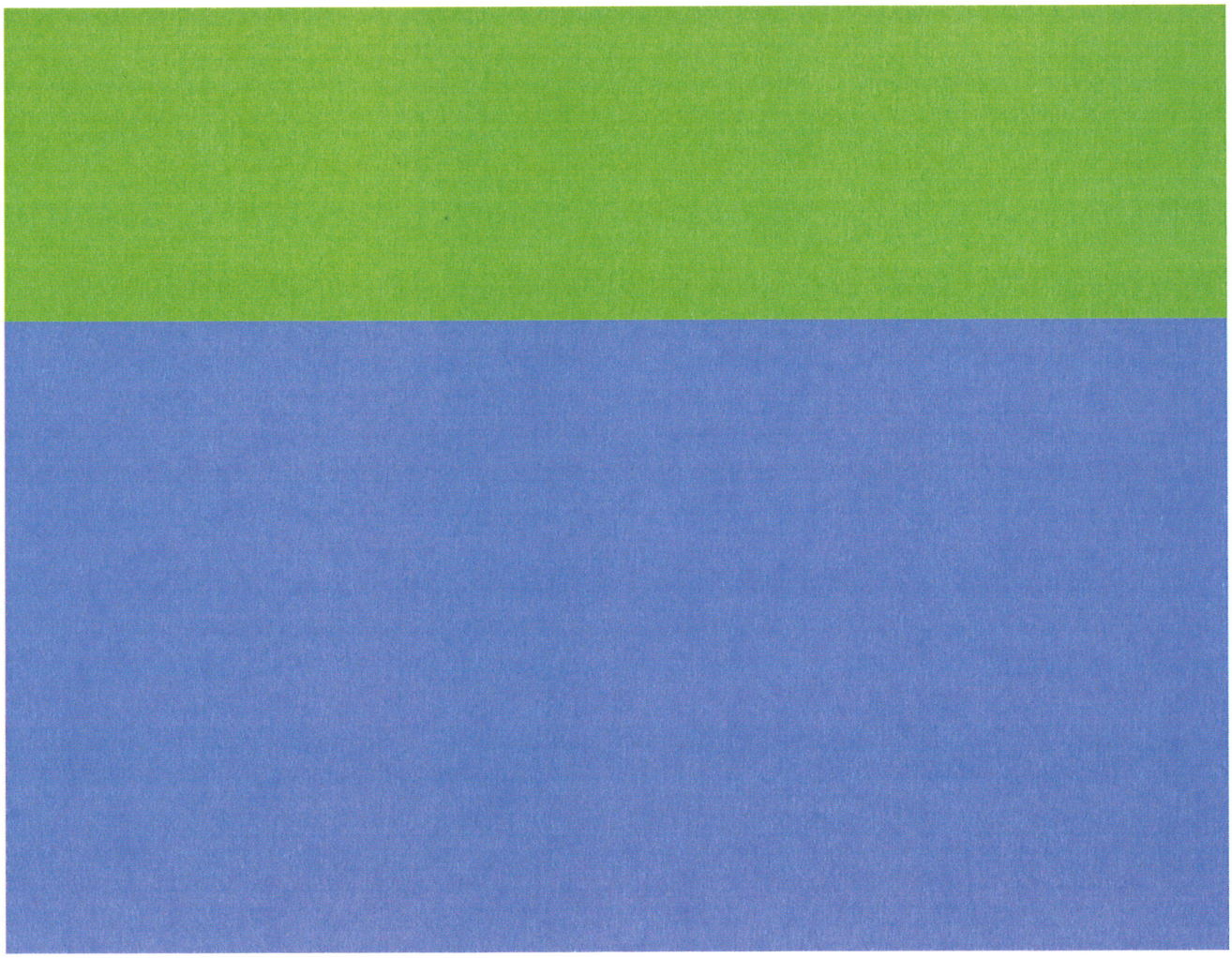
Attachment B

ECOFYS

sustainable energy for everyone

Development of GHG efficiency benchmarks for the distribution of free emissions allowances in the California Cap-and-Trade Program

Refineries – Preliminary Work Product



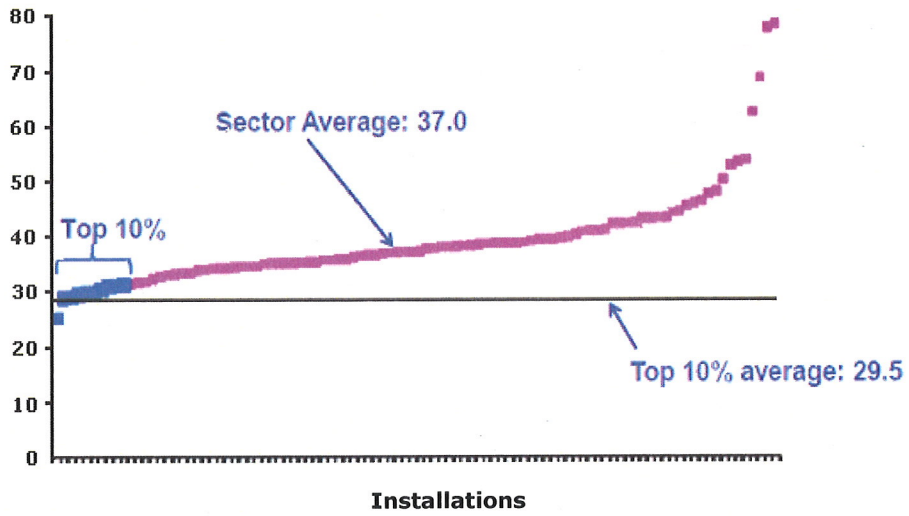


Figure 8. CO_2 benchmarking curve for 89 mainstream refineries in EU ETS; Curve based on 2007/2008 data (Lane, 2011; reformatted)

6.3 Exclusion of Atypical Refineries

It is observed that some of the California refineries with the lowest capacity are found at either end of the benchmark curve. Since it is known that the CWT approach is not suitable for smaller refineries, it may be speculated that the CWT approach is not suited for some of the smaller, "atypical" refineries in California. For these atypical refineries it may be more appropriate to use alternative allocation methodologies such as energy benchmarking.

Table 11 lists a number of small refineries in California and provides indications for why these refineries may be regarded as "atypical." In case a smaller refinery is connected with a nearby larger refinery, these refineries could be grouped together to form on mainstream facility for the purpose of applying the CWT methodology. We propose to assess the appropriateness of applying the CWT methodology to these facilities on a case-by-case basis. The threshold used in Europe (see Box 3) could be used as a starting point in this assessment.

Box 3. Atypical refineries in the EU ETS

In Europe, the CWT methodology was not used to that did not produce a: *"Mix of refinery products with more than 40% light products (motor spirit (gasoline) including aviation spirit, spirit type (gasoline type) jet fuel, other light petroleum oils/ light preparations, kerosene including kerosene type jet fuel, gas oils) expressed as CO_2 weighted tonne (CWT)."* Refineries with other product mixes (so-called atypical sites producing mainly lubricants or bitumen) receive allocation on the basis of energy-based benchmarks. In Europe, emissions from atypical refineries represent a very small share of the total emissions of the refinery sector.

Table 11 Potentially atypical refineries together with indication for not being a 'mainstream' refinery

Facility	Indications for not being a 'mainstream' refinery
Evergreen Oil, Inc, Refinery	Emissions <25 $ktCO_2$; account closed;
Santa Maria Refining Company	Emissions <25 $ktCO_2$; account closed; Relatively low capacity of crude atmospheric distillation unit
Lunday-Thagard Company	Emissions <35 $ktCO_2$; Relatively low capacity of crude atmospheric distillation unit
Tesoro Refining and Marketing Co. - SRP	Report under NAICS code 325188 (All Other Basic Inorganic Chemical Manufacturing) instead of 324110 (Petroleum Refineries); For the purpose of applying the CWT methodology, this facility could perhaps best be grouped with Tesoro LA refinery.
Edgington Oil Company	Emissions <35 $ktCO_2$; For the purpose of applying the CWT methodology, this facility could perhaps best be grouped with Alon USA – Paramount
Alon Bakersfield Refinery - Area 3 (formerly Big West of California Bakersfield Refinery)	Emissions <35 $ktCO_2$; For the purpose of applying the CWT methodology, this facility could perhaps best be grouped with Alon Bakersfield Refinery - Areas 1&2
Kern Oil and Refining Company	Relatively low capacity of crude atmospheric distillation unit
San Joaquin Refining Company	Relatively low capacity of crude atmospheric distillation unit

Attachment C

Refinery Allocation Under Cap-and-Trade

Proposed 2013 Amendments

Participation and Comments

- Presentation and proposed CWB language posted at http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm
- Email questions to coastalrm@calepa.ca.gov
- Comment period on this workshop ends 10/14, but 45 day comments accepted until October Board Hearing

Regulatory Context

- Today's workshop is within the 45-day comment period which precedes the October 24-25 Board Hearing
  - All comments received will be included in FSOR
- Staff will make a proposal regarding the refinery sector at the October Board Hearing
  - Board can direct staff to make 15-day changes

Process to Date

- Received proposal in May
- Conducted a survey to collect information from California refineries to evaluate CWB proposal and determine benchmark
- Conducted workshop in August to discuss initial staff thinking
- Revised proposal based on input from workshop, final data gathering, and further data analysis

Outline

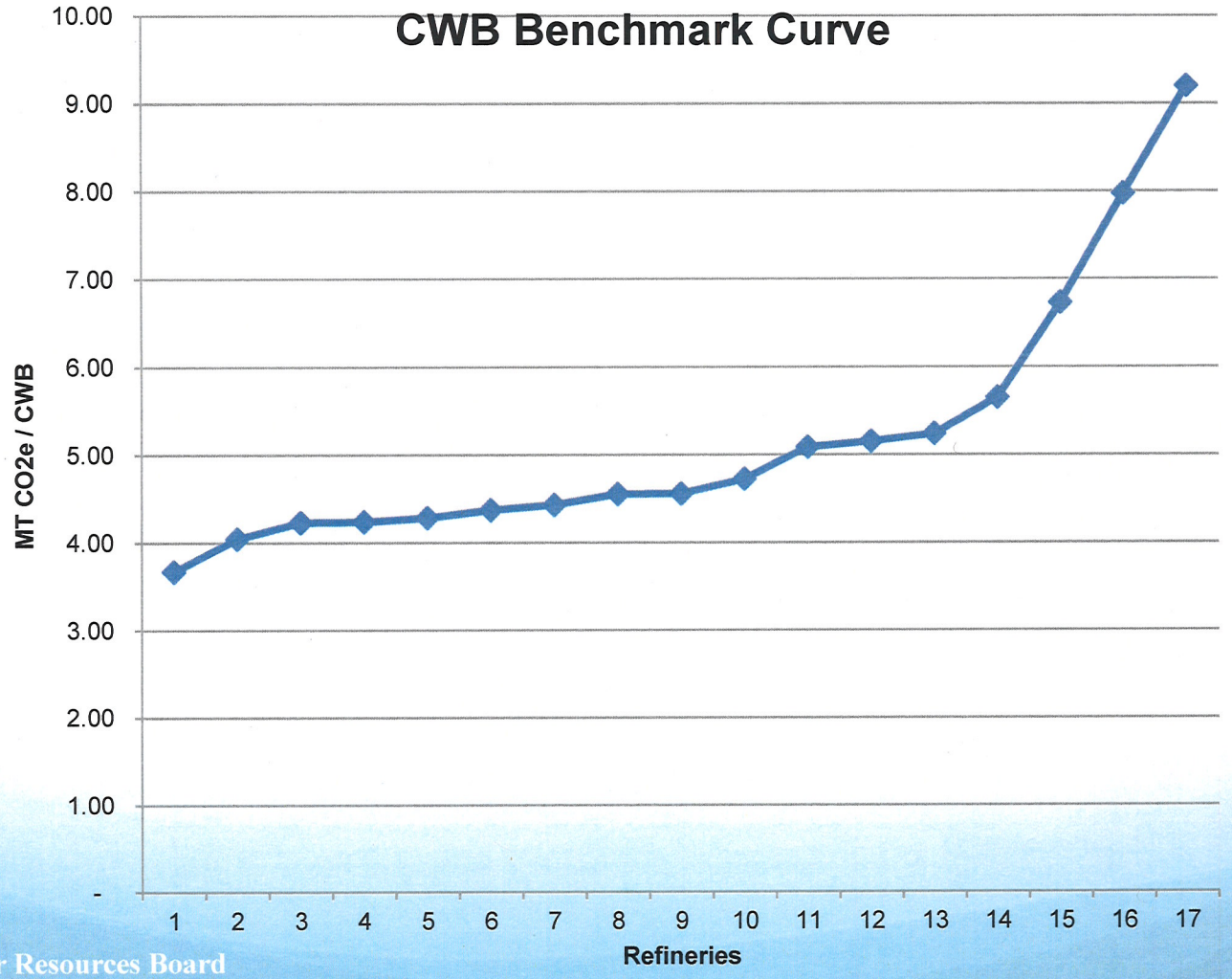
- CWB Analysis
- Proposal as a Whole
- Process Units
- Electricity and Steam
- Typical vs. Atypical Refineries
- Hydrogen
- Calcining

Staff Proposal: Summary

Staff propose 15-day regulatory amendments which would:

- Use Complexity-Weighted Barrel (CWB) instead of Carbon Dioxide-Weighted Tonne (CWT)
- Not change any process unit factors, including off-site adjustment, from those provided by Solomon Associates
- Exclude electricity purchased and sold and include steam consumption in ARB benchmark, consistent with other benchmarks
- Calculate separate CWB benchmark for "atypical" refineries
- Allocate for hydrogen production separately from CWB
  - Same benchmark and thus consistent incentives for on-site and off-site hydrogen
- Allocate for calcining separately from CWB, using standard process to calculate benchmark

Refinery Distribution Under This Proposal



Outline

- CWB Analysis
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- Typical vs. Atypical Refineries
- Hydrogen
- Calcining

Staff Proposal: Typical and Atypical Benchmarking

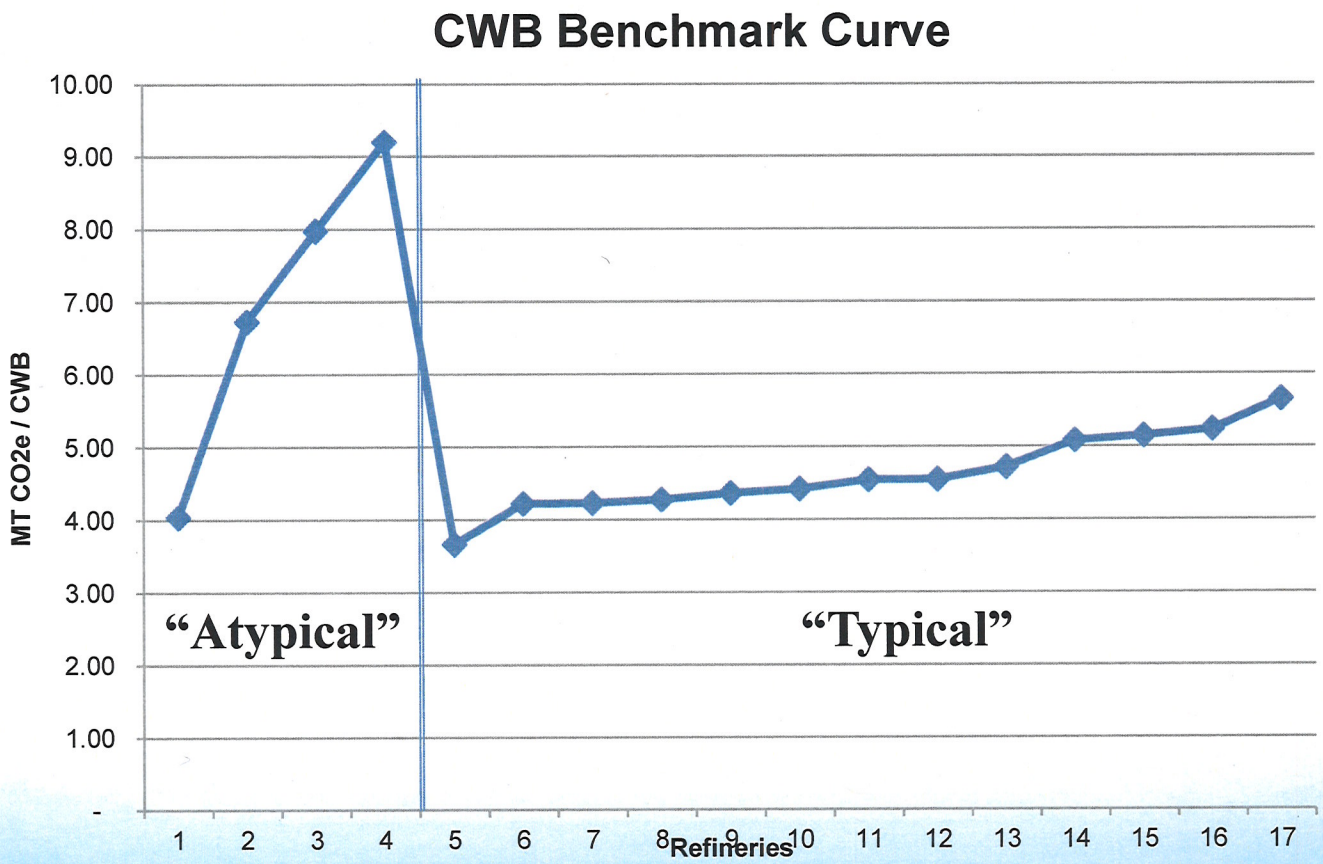
- Staff proposes to benchmark atypical refineries separately under CWB
- Atypical proposal:
  - Defined as having < 12 process units and < 20 million barrels crude through the atmospheric distiller / year (during allocation year)
  - If jointly operated with another refinery, must meet those criteria for the combined facilities
  - Includes 5 refineries, based on 2008 and 2010 data

Emissions of Typical and Atypical Refineries

	Atypical Refineries (N = 4)	Typical Refineries (N=13)	Total of 17 Refineries
Portion of Total Emissions	2%	98%	100%
Total Emissions	510,800	31,467,055	31,977,855

One refinery which was non-operational in 2010 was omitted from this analysis

Refinery Benchmark Curve by Atypical and Typical Refinery Type



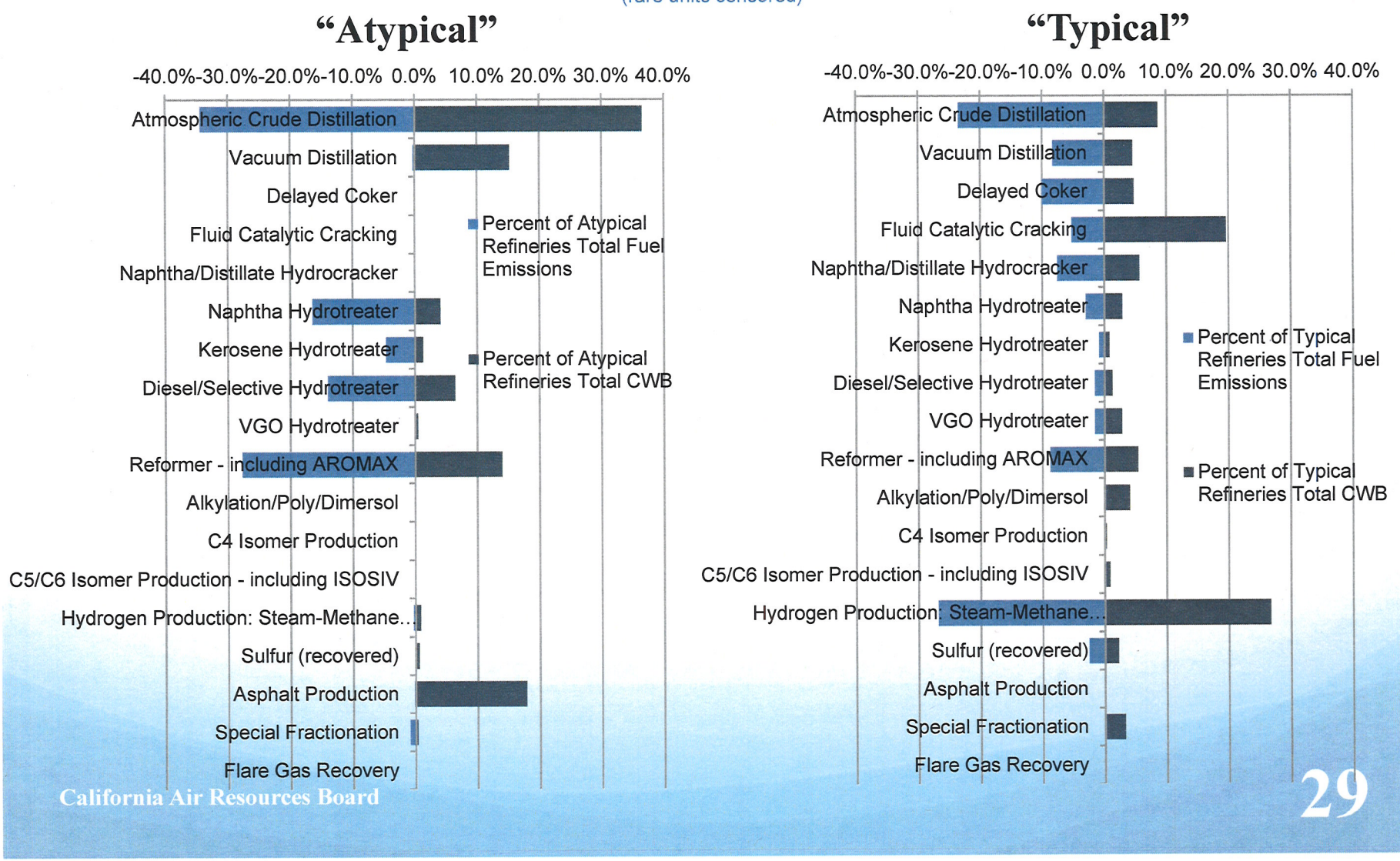
Comparing Benchmark Performance by Refinery Type

	Benchmarks (allowances/CWB)		Percent that Typical is Lower Than Atypical
	Atypical Refineries Only (N=4)	Typical Refineries Only (N = 13)	
CWB	6.78	4.08	40%
CWB Best in Class	X	X	9%
CWT	46.18	33.10	28%

Highlighted cells show proposed benchmark values

Atypical v. Typical by Process Unit

(rare units censored)



Next Steps

- Most helpful if comments are submitted by October 14th, 5 PM: http://www.arb.ca.gov/lispub/comm/bclist.php
- Comments may be submitted during the entire 45-day comment period
  - If after October 14, it may be difficult to react to before Board Hearing
- Board Hearing October 24-25th for both MRR and Cap and Trade
- MRR amendments would need to be in effect Jan. 1, 2014

Attachment D

INFORMAL DISCUSSION DRAFT 1.31.2014

California Air Resources Board – DRAFT

Discussion Draft – January 31, 2014
Potential Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms

Background

On September 6, 2013, Staff released a Notice of Public Hearing to Consider Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms. Following the 45-day comment period, the Board considered the proposed amendments at its meeting on October 25, 2013. At its October 25, 2013 public hearing, the Board approved Resolution 13-44 directing staff to consider additional modifications to the proposed amendments to the Cap-and-Trade Regulation as part of a subsequent 15-day rulemaking package.

As part of the public process for this rulemaking, staff is providing this discussion draft of the potential proposed amendments. Potential proposed 15-day changes are shown ~~in double strikeout~~ and double underline. The ~~single strikeout~~ and single underline are the amendments that were proposed during the formal 45-day comment period last September.

Stakeholders are invited to review and provide comments on the proposed 15-day amendments by February 14, 2014. Those comments can be electronically submitted at:

http://www.arb.ca.gov/cc/capandtrade/comments.htm

~~(14)~~~~(19~~20) "Asset Controlling Supplier" means any entity that owns or operates interconnected electricity generating facilities or serves as an exclusive marketer for these facilities even though it does not own them, and is assigned a supplier-specific identification number and system emission factor by ARB for the wholesale electricity procured from its system and imported into California. Asset Controlling Suppliers are considered specified sources.

~~(15)~~~~(20~~21) "Assigned Emissions" or "Assigned Emissions Level" means an amount of emissions, in CO_2e, assigned to the reporting entity by the Executive Officer under the requirements of section 95103(g) of MRR.

~~(16)~~~~(21~~22)"Associated Gas" or "Produced Gas" means a natural gas that is produced in association with the production of crude oil.

(23) "Atypical Petroleum Refining" means petroleum refining at a refinery with less than 20 million barrels of crude throughput through its atmospheric distillers per year and fewer than twelve types of process units, of the process unit types listed in the first column of Table 1 of section 95113 of the MRR, except not including "Total Refinery Input" and "Non-Crude Input" as process units. For the purposes of determining whether refining is typical or atypical, any two or more refinery facilities which are "jointly operating" will be considered as a single refinery.

~~(17)~~~~(22~~24)"Auction" means the process of selling California Greenhouse Gas Allowances, along with allowances from External Greenhouse Gas Emissions Trading Systems with which California has linked its Cap-and-Trade Program pursuant to subarticle 12, by offering them up for bid, taking bids, and then distributing the allowances to winning bidders.

~~(18)~~~~(23~~25)"Auction Purchase Limit" means the limit on the number of allowances one entity or a group of affiliated entities may purchase from the share of allowances sold at a quarterly auction.

~~(19)~~~~(24~~26)"Auction Reserve Price" means a price for allowances below which bids at auction would not be accepted.

~~(20)~~~~(25~~27)"Auction Settlement Price" means the price announced by the Auction Administrator at the conclusion of each quarterly auction. It is the price which

(~~354~~357) "Transferred ARB Project" means an offset project which has been transferred from one Offset Project Registry where it was ~~initially~~previously listed to another Offset Project Registry. The Offset Project Registry to which the offset project is transferred will indicate the applicable offset project status from the following list: "Proposed Project," "Active ARB Project," "Active Registry Project," "Proposed Renewal," "Active ARB Renewal," and "Active Registry Renewal."

(~~279~~)(~~355~~358)"Tribe" means a federally-recognized Indian tribe and any entity created by a federally-recognized Indian Tribe.

(~~356~~359) "True-up allowance amount" is a quantity of California GHG allowances allocated for changes in production or allocation not properly accounted for in prior allocations pursuant to 95891(b), 95891(c)(3)(B), 95891(d)(1)(B), 95891(d)(2)(B), 95891(d)(2)(C), 95891(e)(1), 95894(c) or 95894(d)~~(1)~~.

(~~360~~360) "Typical Petroleum Refining" means all refining at a petroleum refinery which does not meet the definition of atypical petroleum refining. For the purposes of determining whether refining is typical or atypical, any two or more refinery facilities which are "jointly operating" will be considered as a single refinery.

(~~280~~)(~~357~~361)"Unintentional Reversal" means any reversal, including wildfires or disease that is not the result of the forest owner's negligence, gross negligence, or willful intent.

(~~358~~362)"University Covered Entity" means a facility that meets the definition of an educational facility pursuant to Education Code section 94110(e) and is either a covered entity, or opt-in covered entity starting with the 2015 data year.

(~~281~~)(~~359~~363)"Unspecified Source of Electricity" or "Unspecified Source" means a source of electricity that is not a specified source at the time of entry into the transaction to procure the electricity.

(~~282~~)(~~360~~364)"Vented Emissions" means intentional or designed releases of CH_4 or CO_2 containing natural gas or hydrocarbon gas (not including stationary combustion flue gas), including process designed flow to the atmosphere

NAICS Sector Definition	NAICS code	Activity (a)	Benchmark (B_a)	Benchmark Units
Paper (except Newsprint) Mills	322121	Tissue Manufacturing	~~1.14~~0.101	Allowances / Air Dried Short Ton of tissue produced adjusted by water absorption capacity
Paperboard Mills	322130	Recycled Boxboard Manufacturing	~~0.499~~0.516	Allowances / Air Dried Short Ton of recycled boxboard
		Recycled Linerboard (Testliner) Manufacturing	0.562	Allowances / Air Dried Short Ton of recycled linerboard
		Recycled Medium (Fluting) Manufacturing	0.392	Allowances / Air Dried Short Ton of recycled medium
Petroleum Refineries	324110	Typical Petroleum Refining ~~(CO_2 Weighted Tonne)~~	~~0.0295~~ 3.96	Allowances / ~~CO_2 Weighted Tonne~~ Complexity Weighted Barrel
		Atypical Petroleum Refining	5.11	Allowances / Complexity Weighted Barrel
All Other Petroleum and Coal Products Manufacturing	324199	Coke Calcining	~~0.341~~ 0.632	Allowances/ ~~Short Ton~~ Metric Ton Calcined Coke
Industrial Gas Manufacturing	325120	~~Gaseous~~ On – Purpose ~~Hydrogen Production~~	~~8.85~~	~~Allowances / Metric Ton of~~ On – Purpose ~~Hydrogen Gas~~
		Liquid Hydrogen Production	~~8.85~~	Allowances / ~~Metric Ton~~ of Liquid Hydrogen

Attachment E

February 5, 2014

Proposed Refinery Allocation Approach

ARB sets benchmarks at either 90% of a sector's average greenhouse gas (GHG) emissions per unit product or best-in-class, which means the lowest facility-specific GHG emissions per unit product. Best-in-class is used when no one facility can meet the 90% average benchmark. The proposed complexity weighted barrel (CWB), hydrogen, and calcining benchmarks follow this approach, and details of their calculation are given below.

Background

The current Cap-and-Trade Regulation includes a benchmark for the second and third compliance period that is based on a carbon weighted tonne (CWT) approach. In response to a request by the refineries, we are proposing a CWB benchmark in the amendments to the Regulation. The main difference in the approach is the measurement in barrels versus tonnes, but there are other differences as well since the CWT benchmark was based on European data and the CWB benchmark uses California specific data and methodologies. The proposed amendments are expected to be heard by the Board in April and in effect mid-2014.

CWB units are defined under the Mandatory Reporting Regulation and include process units, off-sites, and non-process steam adjustments. In mid-2013, California refineries voluntarily reported historical data on their throughput per process unit and data for the non-process CWB adjustments to ARB.

CWB Benchmarks

The CWB benchmarks are calculated using the following procedure:

1. Classify refineries as atypical or typical. To be atypical, a refinery must have fewer than 12 process units and also have less than 20 million barrels per year of crude input through its atmospheric distiller. For this purpose, we consider a refinery to possess a process unit if the refinery reported via our voluntary survey a non-zero throughput for that process unit type as defined under CWB, not including the CWB units of "off-sites" or "non-process steam adjustments." All refineries not meeting this definition are classified as typical, including refineries without atmospheric distillers. If a refinery had severely abnormal years during 2008 or 2010, it was excluded from the benchmark calculation entirely.

2. Calculate the benchmark for typical refineries, $b_{typical}$, as 90% of total GHG emissions summed over all typical refineries divided by total CWB summed over all typical refineries:

$$b_{typical} = 0.9 * \frac{\sum_{typical\ refineries} GHG_{refinery,2008} + \sum_{typical\ refineries} GHG_{refinery,2010}}{\sum_{typical\ refineries} CWB_{refinery,2008} + \sum_{typical\ refineries} CWB_{refinery,2010}}$$

Annual greenhouse gas emissions at a refinery, $GHG_{refinery,year}$, are based on mandatory reporting data from 2008 and 2010, adjusted to include emissions from steam consumed on site and exclude emissions from steam and electricity exported off site during the same year. Most industry benchmarks use 2008-2010 as the data years but ARB only has refinery survey data for 2008 and 2010. Steam transferred between merchant hydrogen plants and refineries is treated the same as other steam imported to or exported from a refinery.

$CWB_{refinery,year}$ is the annual complexity weighted barrels equivalent of product, for 2008 or 2010, as calculated with refinery provided survey data and using the methodology outlined in MRR. . A refinery's CWB, $CWB_{refinery,year}$, includes process emissions and adjustments for offsites and non-crude sensible heat:

$$CWB_{refinery,year} = Process\ CWB_{refinery,year} + 0.327 * Total\ Input\ Barrels_{refinery} + 0.0085 * Process\ CWB_{refinery,year} + 0.44 * Non-Crude\ Input\ Barrels_{refinery,year}$$

$$Process\ CWB_{refinery,year} = \sum_{process\ units} CWB\ factor_{process\ unit} * throughput_{process\ unit,year}$$

Additionally, both the emissions and CWB include hydrogen in setting the benchmark because we are unable to remove hydrogen emissions accurately. Since the benchmark is per CWB and the reported CWB will not include hydrogen, the allocation will not double-count hydrogen. Refineries will receive hydrogen-based allocations under the hydrogen benchmark.

Once these calculations were made, staff confirmed that at least one refinery could meet the 90% of average benchmark so this was the appropriate benchmark.

3. Calculate the benchmark for atypical refineries, $b_{atypical}$, using the same method as above, but with summation over atypical refineries instead of typical refineries..

$$b_{atypical} = 0.9 * \frac{\sum_{atypical\ refineries} GHG_{refinery,2008} + \sum_{atypical\ refineries} GHG_{refinery,2010}}{\sum_{atypical\ refineries} CWB_{refinery,2008} + \sum_{atypical\ refineries} CWB_{refinery,2010}}$$

Hydrogen Benchmark

The hydrogen benchmark, $b_{hydrogen}$, presented at the October 2013 workshop was calculated similarly to the CWB benchmark, but using data for merchant hydrogen plants, referred to as "merchants" in the equation below:

$$b_{hydrogen} = 0.9 * \frac{\sum_{merchants} GHG_{merchant,2008} + \sum_{merchants} GHG_{merchant,2010}}{\sum_{merchants} Hydrogen_{merchant,2008} + \sum_{merchants} Hydrogen_{merchant,2010}}$$

$Hydrogen_{merchant,year}$ is the amount of hydrogen produced by the given merchant hydrogen plant in the given year and the summations are over all merchant hydrogen plants.

ARB is still in the process of considering the hydrogen benchmark in order to appropriately take refinery and merchant hydrogen plants into consideration as well as the limits of available data. We have conducted analysis but the incomplete hydrogen emissions data leads to unexpected benchmark results. We are considering additional options to adjust the CWB or CWT published benchmarks.

Calcining Benchmark

The calcining benchmark is calculated using data from 2008, 2009 and 2010. ARB has 2008, 2009 and 2010 data for calcining so we have used the entire time series to calculate the benchmark. The calcining benchmark is set equal to either the best in class, $b_{calcining,BIC}$, or 90% of the sector average, $b_{calcining,90\%}$, whichever is less stringent. These values are calculated by the following equations, in which *ccoke* refers to the amount of calcined coke produced in the given year:

$$b_{calcining,BIC} = \min_{calciners} \left[\frac{GHG_{calciner,2008} + GHG_{calciner,2009} + GHG_{calciner,2010}}{ccoke_{calciner,2008} + ccoke_{calciner,2009} + ccoke_{calciner,2010}} \right]$$

$$b_{calcining,90\%} = 0.9 * \frac{\sum_{calciners} GHG_{calciner,2008} + \sum_{calciners} GHG_{calciner,2009} + \sum_{calciners} GHG_{calciner,2010}}{\sum_{calciners} ccoke_{calciner,2008} + \sum_{calciners} ccoke_{calciner,2009} + \sum_{calciners} ccoke_{calciner,2010}}$$

Attachment F

Coalition for Fair and Equitable Allocation

VIA WORKSHOP COMMENT LOG AND ELECTRONIC MAIL

February 14, 2014

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento Ca, 95814

Dear Rajinder:

The Coalition for Fair and Equitable Allocation (Coalition) herby submits its comments on the January 31, 2014 INFORMAL DISCUSSION DRAFT (Discussion Draft) of the Cap and Trade Regulation (Regulation). These written comments are in follow-up to verbal dialogue with staff representatives Elizabeth Scheele, Eileen Hlakva and Mark Sippola on February 11, 2014. The February 11, 2014 meeting was the first opportunity granted to engage staff on the concepts presented at the October Board meeting which resulted in Resolution #13-44 Attachment A—Refinery Allocation Methodology, Atypical Benchmark.

Amending the refinery benchmarking and associated industrial allocation methodology is a significant policy and technical exercise, which establishes a foundation of the Cap and Trade Program (Program) and determines the baseline competitive position (both intrastate and interstate) for California refiners. The Coalition was formed to protect small refineries in California from competitive disadvantages threatened in the proposed refinery benchmarking and allocation methodology. The Coalition includes Kern Oil & Refining Co., Alon USA, Inc., San Joaquin Refining Co. Inc., Lunday-Thagard Refining Co., and Phillips 66.

The Coalition generally supported the majority of the provisions within the 45-day regulatory package and continues to support the recognition of an atypical refining category for the purposes of benchmarking and industrial assistance. But, as the adopted Resolution noted, there is still some important work to be done to finalize this regulatory package. The Coalition is specifically providing comments on the following, which are described in more detail below, to assist staff in that final work:

1. Continued support for separately benchmarking atypical refineries in recognition of the structural constraints of smaller, less-complex facilities and the inappropriateness of benchmarking them against larger more complex facilities;
2. Recommend removing the concept of "jointly operated" from any atypical refinery definition because conceptually it is irrelevant to the atypical consideration, practically unworkable as defined in the Discussion Draft, and does not recognize of the variety of intercompany relationships between California refiners nor that intermediates produced by atypical refiners are a significant percentage of their product slate;

3. Concern regarding the lack of transparency in the significant change in the CWB Atypical Benchmark and the need for additional data to support that change;
4. Concern regarding the lack of an open and transparent regulatory process; and
5. Request for additional data analysis related to the leakage risk associated with in-state production of intermediate products.

Comment Details

1. **The Atypical Refinery Distinction and Separate Benchmark Appropriately Acknowledges the Uneven Playing Field of the Refinery Sector.**

Formal recognition and separate benchmarking of "atypical" refineries in the Cap and Trade Program is a key policy recommendation the Coalition supports. As the Board has acknowledged, not all refineries in California are large and complex; the atypical category appropriately recognizes that smaller, less complex facilities cannot reach the efficiencies of larger, more complex facilities because of a lack of economies of scale and heat integration opportunities. As the concept of what constitutes an "atypical" refinery is regional in nature—comparing apple to apples, staff has appropriately established criteria for an "atypical California refinery" based on analysis of the state's existing inventory of facilities. ***The Coalition continues to support the proposed California-specific atypical criteria metrics of less than 12 process units and 20 million barrels of crude throughput per year.***

2. **The Concept Of "Jointly Operated" Is Fatally Flawed And Should Be Removed From The Regulation In Its Entirety.**

The Coalition fundamentally opposes the concept of "jointly operated" as being irrelevant to the atypical distinction. This additional concept seems to be based on an incomplete or flawed view of how California's refining industry operates. The Coalition's opposition is especially acute as the definition of "jointly operated" was crafted without any input from our members (as discussed in more detail below). The concept of "jointly operated" as a disqualification from otherwise meeting the definition of an atypical refinery is flawed in that the disposition of refinery products – primary or otherwise – has no impact on a facility's ability to achieve certain levels of efficiency, which is the essence of the atypical designation. Atypical refiners, by definition, do not possess the complexity and size to fully refine a barrel of crude oil, nor do they have the level of heat integration of a larger refinery.

The "jointly operated" definition's reliance on percentage of Primary Refinery Products production is also misplaced. The product slate of an atypical refinery is necessarily different than that from a typical refinery, a direct demonstration of their fundamental difference in refinery configuration. Coalition members produce "Primary Refinery Products" as defined in the Regulation and also produce by necessity a much greater percentage of additional refined products, including a range of intermediate products, specialty oils and bunker fuel oil. While excluded from the definition of "Primary Refinery Products," these other products nonetheless have value and are bought, sold and imported on a daily basis. This refinery commerce is usually, but not always, conducted between an atypical and a typical refinery. These dynamic interactions make up the complex California refining system, and are integral to its flexibility and continued operations.

No one atypical refinery operates in a vacuum. The "jointly operated" definition proposed in the Discussion Draft arguably removes the atypical distinction of three of the Coalitions' members, and could potentially impact others as market conditions vary. From recent discussions we understand it was not staff's intent to capture multiple Coalition members. But we were also unable to clearly get CARB to articulate the policy intention or justification for the jointly operated limiter. These recent discussions have lead the Coalition to be concerned that staff does not fully appreciated the daily interactions between atypical and typical refineries in California, nor the emissions leakage potential if the imports of those products were increased from their current levels rather than produced in-state. Additionally, the Discussion Draft was not accompanied with any additional economic or environmental analysis to support it positions, such as inclusion of a 50% threshold of Primary Refinery Products. It is our hope that the recent conversations with staff highlight the reality that all smaller refineries interact commercially with other refinery counterparties on a regular basis, and that CARB staff will remove this concept from the Regulation.

From a technical standpoint, "jointly operated" is not necessary as the Complexity Weighted Barrel (CWB) methodology already accounts for the energy inputs associated with intermediate products and their transfer and use between facilities. The specific CWB term is referred to as "Non-Crude Sensible Heat". The energy required to address non-crude inputs at both typical and atypical facilities is already accounted for, and therefore already established in the benchmark itself. Likewise, the general policy of the Program, and its price on carbon, will reward the most efficient facilities without the need for additional adder.

Staff's "operated jointly" proposal also creates inconsistencies between the existing Cap and Trade and Mandatory Reporting Regulations (MRR), as well as the historically accepted definition of "facility". The definition of a stationary source has been established over the many decades of air pollution control laws, and is already defined in both the MRR and Cap and Trade Regulations, as is the definition of a "Petroleum Refinery" or "Refinery." These definitions are complementary and consistent in that each location/operation is a separate and distinct compliance entity. Grouping multiple facilities together, including competitors, solely because it is has a variety of contractual relationships with a separate (and equally specialized) facility is an application of inconsistent policy. This "carve out" is especially troublesome as it seems to be written in an attempt to affect only a single facility in California, but in fact, it has much wider implications and does not actually further the policy goals of the program.

The California refining industry is a complex intersection of related facilities and operating entities. By pushing a "jointly operated" concept, it seems that CARB is implying that a "facility" must be truly independent of the rest of the industry, which is impossible. This impossibility is precisely why the long held definitions used in traditional air pollution control are appropriate—because they limit the scope and enforcement of the Regulation to the actual location of the emissions and do not attempt to sort through myriad of commercial relationships which exist today. California's dozen or so refineries are truly interdependent on each other for a wide variety of needs and business transactions too numerous to completely list. The current definition shows the danger in trying to parse a separate sub-group.

As written, the "jointly operated" definition contained in the Discussion Draft is vague and ambiguous, with numerous undefined terms, in stark contrast to the explicit requirement located in the rest of the Regulation and within MRR. The enforceability of the definition is questionable, prone to multiple interpretations, and threatens inappropriate unintended consequences beyond the Cap and Trade Regulation. These concerns have already been provided to you under separate cover. Any alternative definition drafted will most certainly run into similar problems and issues because the concept itself is fatally flawed. ***Therefore, the Coalition recommends that time and energy not be spent trying to fix the proposed definition, but that it rather be removed from the Discussion Draft in its entirety.***

3. **The Significant Changes in the CWB Benchmarks Must Be Verified and Justified by CARB.**

The Discussion Draft revised the Atypical Benchmark from 6.78 to 5.11 allowances per CWB. This change is a significant adjustment downward, on the magnitude of greater than 25% (and it is still not final). In discussions with staff it was discovered that a CARB calculation error played the biggest part in the change, with facility data adjustments playing a smaller role. This change is very disconcerting to the Coalition on a number of fronts. From a process perspective, our opportunity to address this smaller number in front of the Board was compromised, and our ability to double check the calculation itself has not been provided.

The whole point of this year-long exercise is to establish viable benchmarks heading into the next compliance period. Now we are scrambling to finalize the benchmark in the final days, based on ever changing data that has yet to be verified outside of CARB. Such a process is problematic. ***The Coalition recommends that staff provide as much information as possible to the public such that the benchmark calculation and methodology can be verified or allow for an independent third party verifier to confirm CARB's calculations and assumptions.***

4. **CARB Failed to Conduct Any Stakeholders in the Requisite Stakeholder Process Following the October Board Meeting Prior to Releasing the Discussion Draft in January.**

The 15-day regulatory amendment process is intended to be a smoothing and shaping exercise on firmly established, stakeholder vetted, and Board approved policies. Unfortunately, that is not occurring on this specific topic as whole concepts have been defined without stakeholder input AFTER the Board meeting occurred. The Board clearly had concerns about the lack of clarity on the "jointly operated" issue and requested on three separate occasions for staff to confirm that a robust stakeholder process would be used to solve the issues presented in October. The process since that time has been closed, without stakeholder input being sought. In fact, attempts to meet and discuss prior to the release of the Discussion Draft were rejected by staff.

Releasing a Discussion Draft can be useful, but when the timing of such a release dictates truncated review and analysis, the spirit and intent of the Administrative Procedure Act is compromised. Because CARB has taken the view that "nobody can see anything, until everybody sees everything", the entirety of changes to all affected the sections of the regulation were released at the same time. This causes a real hardship on the stakeholders' ability to access limited staff resources for discussion purposes. Couple the short timeline with an imposed deadline to get an official 15-day noticed package release for the purpose of making the April Board Meeting, and it becomes obvious how the process has been shorted.

This truncated process creates a potential obstacle to the adoption of this final package as there is the very real possibility of unintended consequences associated with the Staff proposal surrounding the "jointly operated" facilities concept. The Coalition continues to strongly believe that this is an inappropriate attempt to combine otherwise independently operated small refineries with other independently operated larger facilities for sole purposes of allowance allocation, but has not had sufficient time to meet with various levels of CARB management to walk through the issues and discussion its policy implications.

The Coalition and CARB Staff worked together almost daily leading up to the October Board meeting. Amending the refinery benchmarking and associated industrial allocation methodology is a very significant policy and technical exercise. We again note that the administrative process associated with refinery benchmarking was clipped at the end of the October rulemaking with the concept of "jointly operated" only day lighted in the weeks before the Board Meeting without any substance associated with the concept. These amendments require in-depth analysis and significant decisions affecting the potential long-term viability of entire facilities. The idea of a robust public process is defeated by having to make such evaluate such critical issues in a relatively rushed manner.

5. ARB Failed to Conduct Any Leakage Analysis Associated with In-State Production of Intermediate Products.

The "jointly operated" concept, by definition, only impacts California's smaller refiners. As noted above, this sub-group of California facilities produces a significant amount of intermediate refinery products. Information on regional imports of these products are kept by the Energy Information Administration (EIA). This data shows a historical trend of increased out of state intermediate/unfinished oil imports into California. Imports of intermediates or unfinished oils could be advantaged by the jointly operated concept. ***Before the jointly operated concept advances in the regulatory process, the Coalition requests a full leakage analysis consistent with the previous work done by CARB for this regulation.***

Thank you for your attention to this important matter. With these amendments tentatively scheduled for the upcoming April Board Meeting, the Coalition stands ready to provide feedback and engage in constructive dialogue so that we can avoid a last minute regulatory process. Any questions or follow-up comments can be directed to Jon Costantino at 916-552-2365 or at jcostantino@manatt.com.

Sincerely,

/s/

Jon M. Costantino
Coalition Director

cc: CARB Board Members
Mary Nichols
Virgil Welch
Richard Corey
Edie Chang
Cynthia Marvin
Steve Cliff
Rajinder Sahota
Eileen Hlvaka
Mark Sippola

311459141.1

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VIA ELECTRONIC MAIL

February 14, 2014

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento Ca, 95814

Re: Comments on Cap and Trade Informal Discussion Draft Dated January 31, 2014

Dear Ms. Sahota:

Kern Oil & Refining Co. (Kern) is providing comments on the Informal Discussion Draft (Discussion Draft) of the Cap and Trade Regulation (Regulation) related to Refinery Sector Allocations dated January 31, 2014. Kern is a small, privately owned petroleum refiner located in Bakersfield, California, in the southern San Joaquin Valley. Kern has operated for over 70 years and employs approximately 120 employees. Kern's refining capacity is 27,000 barrels per stream day.

Kern continues to support the California Air Resources Board's (ARB) proposal to separately benchmark "atypical" refineries and which appropriately acknowledges the structural constraints imposed by size and complexity and that imposition of a single benchmark would codify an unfair competitive disadvantage for smaller, less-complex refineries. As a small, less-complex California refinery, Kern has been acutely aware of the uneven playing field of the California refinery sector. Kern is appreciative of the analysis performed by ARB Staff that underlies their proposal to separately benchmark atypical refineries and to adopt the full CWB methodology, inclusive of the off-site adjustment. Kern supports the proposal to define "atypical" facilities as those having less than 12 process units and less than 20 million barrels crude through the atmospheric distiller per allocation year, which Staff stated was a natural size and complexity break for the refining sector.

Kern however is concerned with the: (1) the significant change in the Atypical Refinery CWB benchmark; (2) the proposed "Jointly Operated" atypical refinery criterion; and (3) the continued lack of necessary stakeholder process and transparency.

1. **Additional Detail Must Be Provided in Support of the Significant Change in the Proposed Refinery Benchmarks.**

The Discussion Draft revised the proposed Atypical Refinery Benchmark from 6.78 to 5.11 allowances per complexity weighted barrel (CWB) and the proposed Typical Refinery Benchmark from 4.08 to 3.96. Staff has attributed the significant change in the benchmarks to calculation errors, mainly their failure to include consideration for Offsites and Non-Energy Utilities, and Non-Crude Sensible Heat. The previous proposed CWB methodology explicitly included these considerations but apparently Staff erroneously omitted them from the benchmark calculation last October. Offsites and Non-Energy Utilities, and Non-Crude Sensible Heat reporting requirements were included in the recently adopted Mandatory Reporting Requirements (MRR) in support of the previously proposed Regulation. Staff also acknowledged a smaller impact from updated data submissions from stakeholders in response to survey request clarifications. The change of more than 25 percent for the atypical refinery benchmark is significant and may reduce allocations for certain atypical refineries in excess of 30 percent, which represents a financial impact of several hundred thousand dollars annually at current Carbon Credit prices.

The previous benchmark miscalculations raise doubt as to the accuracy of the current benchmark calculations. ARB must take steps to assure stakeholders that the ultimately adopted benchmarks are correct and based on sufficient reliable data. To that end, ARB must be transparent in how the benchmarks are being calculated, what data is being utilized, how that data is being verified, and what checks are in place to ensure the accuracy of the benchmark calculation and the stakeholder data relied upon. Although Confidential Business Information must be protected, other ARB programs have released aggregate or masked data in support of proposed regulations and the expectation is that the same efforts should be made in support of the proposed benchmarks.

2. **The "Jointly Operated" Criteria for Atypical Refineries is Misplaced and Should Be Dropped from the Regulation.**

Utilizing a "Jointly Operated" concept to link what would otherwise be considered distinct facilities in order to disqualify an otherwise atypical facility is problematic – both conceptually and practically as currently proposed in the Discussion Draft. The Jointly Operated criterion is irrelevant to the justification for separately benchmarking atypical facilities. Only a single, integrated facility can benefit from the economies of scale, heat integration, and efficiency benefits afforded a larger, more complex facility. Absent such structural integration, an otherwise atypical refinery gains no efficiency or emission benefits from selling intermediates to a typical refinery for further refinement. Indeed, a defining characteristic of an atypical refiner is the lack of complexity necessary to fully process the bottom of the barrel, which necessarily requires utilizing an alternate avenue to market and sell those "intermediate" products. ARB has not, and cannot, justify the Jointly Operated criterion from a benchmarking, efficiency and/or emissions standpoint.

The proposed definition of Jointly Operated, which relies on an arguably arbitrary percentage make requirement of Primary Refinery products, imposes inappropriate and unintended commercial and operational restraints and pressures on atypical refineries' product slate. The proposed definition is inconsistent with the treatment of facilities across the program, including the definition of "facility" in both Cap and Trade and the Mandatory Reporting Regulations. Finally, the definition is vague and ambiguous, with several undefined terms and a lack of necessary specificity, for example with regard to timing. The Jointly Operated definition and limitation on what otherwise would be considered atypical refineries should be removed from the proposed Regulation.

3. **ARB Must Improve Upon Stakeholder Involvement and Transparency.**

Kern is disappointed that ARB Staff undertook significant revisions to the proposed Regulation after the October 2013 Board meeting without consulting or seeking the input of stakeholders. In response to a meeting request in December regarding outstanding issues (including the Jointly Operated criterion), Staff stated that it could not share any specifics on the 15-day changes. This position was reiterated in a brief meeting in January. Staff has taken a hardline and unnecessarily rigid approach that does not allow for stakeholder involvement or interaction until the near final release of a regulation. This approach has severely curtailed the time to work though these issues – many of which likely could have been resolved by Staff seeking input prior to finalizing the Discussion Draft for release – and goes against the Board's direction in October of 2013to resolve these issues through a stakeholder process. While we appreciate Staff's release of a Discussion Draft in advance of the 15-day package for the April Board Meeting, practically speaking little time is left to work though these significant issues. More should have been done sooner and making significant changes at the last minute is a disservice to the process and to the stakeholders.

In conclusion, Kern appreciates ARB's consideration of these comments and looks forward to receiving the clarifications requested. This matter is far too critical, its impacts far too significant to not get it right. As always, we are committed to working with Staff throughout this regulatory process.

Sincerely,

Melinda L. Hicks
Manager, Environmental Health and Safety
Kern Oil & Refining Co.

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February 14, 2014

Richard Corey
Executive Officer
California Air Resources Board
1001 I Street
Sacramento CA, 95814

RE: Phillips 66 comments on January 31, 2014 INFORMAL DISCUSSION DRAFT-Cap and Trade

Dear Richard:

Phillips 66 employs over 1,200 employees in the state with significant operations in California. Our operations include oil refineries, a calciner, petroleum product pipelines and terminals. We write to you today as the business units which must comply with the stationary source Cap and Trade program which only applies to California refineries. Phillips 66 also supports the comments provided by the Coalition for Fair and Equitable Allocation, however we wish to highlight several concerns with the January 31, 2013 draft that are important.

The comments detailed below focus on three aspects of the INFORMAL DISCUSSION DRAFT (Discussion Draft):

1. Atypical Refinery Benchmarking—Jointly Operated Definition
2. Coke Calcining – Cap Adjustment Factor (categorization under Table 9-2: Cap Adjustment Factors for Allowance Allocation)
3. Process Concerns

1. Atypical Refinery Benchmarking – Jointly Operated Definition

The regulatory process regarding refinery benchmarking has not provided Phillips 66 the opportunity to fully review and analyze its impacts on our operations, specifically the issue of "atypical" refinery benchmarking as related to "jointly operated facilities". In 2011, we faced a similar process on the initial

Cap and Trade proceeding, where the administrative process was truncated because the time was running out on the rulemaking. Now it seems the decisions of 2011 are set in stone and the basis for the current policy discussion. The January 31, 2014 definition of "jointly operated" has created more questions than answers – equity, how the definition will be applied in practice and the arbitrary selection of '50% of the input' criteria – and because it is lacks a policy basis. The new definition for jointly operated is a solution without a problem now that the Complexity Weighted Barrel methodology has been adopted and the energy it takes to address intermediates is put directly into the benchmark. This fact makes jointly operated unnecessary and double counting.

First and foremost, our Santa Maria facility meets the proposed "atypical" refinery metrics adopted by the Board based on its size and complexity. By this definition, this refinery historically has operated as an Atypical facility. But the proposed "jointly operated facilities" component is troubling and lacks rational policy justification. The distinction proposed by staff between typical and atypical refineries is based on having less than 12 process units and less than 20 million barrels crude through the atmospheric distiller during an allocation year. Phillips 66 supports these metrics. *Our Santa Maria refinery clearly fits in the midpoint range of the small atypical refinery category.*

We believe staff will have a very difficult time defining "jointly operated" in such a way as to capture our Santa Maria Refinery and not include many other refineries that produce a high proportion of intermediate products because technically, our Santa Maria facility operates like other small California refineries. The products from the Santa Maria facility are transported via an integrated regional common-carrier pipeline system—a system that contains four separate lines (numbered 100, 200, 300 and 400) with a number of tank farms along the way where products are comingled by truck shipments from other refineries.

As we have recently relayed to staff, "the pipeline" which CARB staff has cited as a basis for the concept of our two facilities "operating as one" is actually a complex system. The complexity of this system was not raised by Phillips 66 representatives in prior development of the Cap and Trade Regulation as it was not relevant at the time. But as this concept of "Jointly Operated" was forwarded, it became clear that the details of the system were important. This system connects third parties and other refineries with various input and output locations. In fact, a multitude of products and crude oil are transported, stored and blended at different pumping stations/truck rack/tank farms along the 400 mile pipeline segment, including neat crude. While some of the feedstock materials come from Santa Maria, they are offloaded, stored and mixed with other products arriving by third party truck providers, taken out of the pipelines and blended before reaching Rodeo. In fact, the pipeline system routinely accepts two other refiners' output for transporting and there are contractual business agreements between these companies and Phillips 66 products for the delivery of their products into the system. Economics drive Phillips 66 to utilize Santa Maria's products rather than sell them as commodities into the marketplace. Attempts to define "jointly operated" to capture these commodities would only negatively impact instate refining of intermediate products and blend stocks tipping the economics towards import and creating a program that encourages rather than minimizes leakage, the entire purpose for distributing free allowances.

Phillips 66 is operating separate business units: refining (where we manufacture fuel) and transportation (where we move products through a multitude of pipelines and storage tank farms and blend fuel stocks).

Our operations use proprietary and third-party blending terminals and tank farms along the way accepting trucking contract loads as well.

The complex interconnection of small refining facilities in California will be impacted by this new policy direction, leading to serious unintended consequences, including encouraging leakage of refined intermediate products. We expect that many "atypical" refineries have commercial relationships with California's major refiners. Phillips 66's operations are similar from a technical standpoint, and should not be singled out without adequate policy justification. Recent meetings with staff have failed to provide such a policy justification.

Refinery benchmarking is a very significant policy decision which not only establishes the foundation of the Cap and Trade Regulation, but our competitive position within California. Our competitors in-state and out-of-state do not face this additional liability. This concept is counter to the free allowance policy of leakage prevention and certainly points to our refinery.

Comparing less complex refineries against larger more, complex refineries has been acknowledged to be the wrong policy choice, and led to the formation of an "atypical" benchmarking category. Circumventing this new category by including the "jointly operated facilities" definition is not justifiable. The Discussion Draft just released has not identified any safeguards to prevent leakage, nor does it contain any economic or environmental analysis to support such a distinction. It also creates a conflict in definitions with the Mandatory Reporting Regulations already adopted by the Board as is discussed below. Staff's original justification when the concept was introduced was a vague oral explanation alluding that facilities linked by pipelines mean that one refinery cannot operate without the other. We believe a lot has been learned and shared since October 2013. The San Francisco refinery located in Contra Costa County is 250 driving miles from the Santa Maria Refinery, and though not currently configured to do so, each could operate independent of the other. This is no different than any other smaller "atypical" refinery that lacks the on-site infrastructure to completely process a barrel of crude oil.

CARB must not create a definition for small refiners rather than small refineries. This is an important distinction. While the Santa Maria Refinery refines intermediate products, and these unfinished oils are transported, blended with other products and eventually make it to Rodeo to make finished product, Rodeo could most certainly operate without the intermediate made by Santa Maria and shipped by pipeline. Intermediate products are commodities that could be brought to Rodeo by ship, barge, rail or other pipeline where we purchase from another source. This leakage is exactly what the atypical benchmark was created to protect against.

Imports of intermediates or finished oils would be advantaged by CARB's new policy of jointly operated facilities. The Energy Information Administration (EIA) keeps statistics on imports of intermediates/unfinished oils and reports imports by country of origin. Historical trends demonstrate an increase in intermediate/unfinished oil imports. By CARB refusing to treat intermediates/unfinished oils

as a commodity, the instate refining of these commercial products becomes disadvantaged and the import of such products become more attractive. The PADD District Imports Table produced by the EIA demonstrates that imports are real and significant.

PADD District Imports Unfinished Oils Barrels Per Day

Region (PADD)	2008	2009	2010	2011	2012
East Coast (1)	173,000	134,000	88,000	88,000	112,000
Midwest (2)	9,000	10,000	0	1,000	0
Gulf Coast (3)	522,000	474,000	462,000	535,000	434,000
Rocky Mountain (4)	0	0	0	0	0
West Coast (5)	58,000	58,000	56,000	63,000	51,000

Some of our competitors choose to import previously processed intermediates from out of state or country rather than refine it from California's crude oil, which begs the questions: Would their use of imported intermediates link their instate refinery to the state or country where the intermediate was refined? Wouldn't this policy increase marine and other transportation of intermediates into California without this same penalty? Why would CARB create a policy that discriminates and penalizes a California company that meets all the state environmental regulations in favor of out-of-state intermediate imports and that have to be transported here?

Looking at EIA trends, PADD 5 statistics demonstrate an increasing number of intermediate/ unfinished oil imports over the last four decades.

West Coast (PADD 5) Imports by PADD of Processing of Unfinished Oils (Barrels per Day)

Decade	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
1980s		8,000	8,000	5,000	13,000	2,000	6,000	5,000	8,000	7,000
1990s	5,000	9,000	8,000	13,000	24,000	19,000	23,000	20,000	24,000	33,000
2000s	25,000	39,000	33,000	28,000	53,000	59,000	65,000	69,000	58,000	58,000
2010s	56,000	63,000	51,000							

We are concerned that the staff doesn't appreciate and understand the complexity of the industry or our facilities, and the push to try to establish a definition for the "jointly operated" concept could present serious, unintended consequences for the entire refining sector as intermediates are shipped by pipelines throughout the underground pipeline infrastructure statewide.

Furthermore, CARB staff's proposal is a fundamental change to the longstanding definition of a "stationary source facility". By linking otherwise independent facilities as single facility for purposes of an atypical determination, CARB is modifying the overarching policy definition of federal and state stationary source permitting. Most refineries are accessible by underground pipeline to receive or deliver a multitude of refining feed stocks. Facilities can operate jointly through company ownership, third party long-term contract, or commodity streams. The definition of facility, embedded in the CARB MRR regulation definition, is why we report our five operating sites separately to CARB:

> "Facility," unless otherwise specified in relation to natural gas distribution facilities and onshore petroleum and natural gas production facilities as defined in section 95102(a), means any physical property, plant, building, structure, source, or stationary **equipment located on one or more contiguous or adjacent properties in actual physical contact** or separated solely by a public roadway or other public right-of-way and under common ownership or common control, that emits or may emit any greenhouse gas.

The key words here are "continuous or adjacent". Modifying the regulation to capture refiners instead of refineries will create competitive disadvantages for only "atypical" refineries. The policy justification and objective is punitive and will not result in improved energy efficiency on-site, but instead decreases much needed allowances to operate in CA and encourages, by regulation, leakage.

The California refining industry is a complex intersection of related facilities and operating entities. By pushing a "jointly operated" concept, it seems that CARB is implying that each facility is truly independent of the rest of the industry. This is false and precisely why the long held definitions used in traditional air pollution control are appropriate—because they limit the scope to the actual location of the emissions and do not attempt to sort through commercial relationships. California's dozen or so refineries are interdependent on each other for a wide variety of needs and commercial transactions too numerous to list. Phillips 66 is physically linked to other refineries, third parties and manufacturers numerous independent streams of many products at each of our five sites.

Phillips 66 continues to strongly believe that this is an inappropriate attempt to combine otherwise distinctly-operated small refineries with other independently operated larger facilities for sole purposes of allowance allocation. Each small refinery in California is uniquely subject to leakage from out-of-state competition. For this reason alone, and the others contained in this section, the "atypical" definition should not include any reference to "jointly operated", and any work on that front should be considered counterproductive.

RECOMMENDATION: Phillips 66 respectfully requests CARB move forward with the Cap and Trade Regulation without the jointly operated definition and therefore retain the current definition of facility within the rule, remaining consistent with GHG reporting. To our knowledge, this concept has been acknowledged by, and only affects, a single entity—Phillips 66.

2. Coke Calcining—Cap Adjustment Factor

Phillips 66 and CARB staff have been in discussions about the application of the declining cap adjustment factors shown in the California Air Resources Board (CARB) Table 9-2 of the Cap and Trade regulation to the coke calcining sector. The category of factors currently applied to other sectors with process emissions greater than 50%, we believe, incorrectly excludes coke calcining as pointed out in our previous written comments. The justification for selecting the slower declining cap factor for coke calcining is clear.

CARB has previously stated the requirements to be granted a slower cap decline factor: 1) process emissions greater than 50%, 2) a high leakage risk and 3) high emissions intensity. It is clear these conditions have all been satisfied vis-à-vis coke calcining and been stated publically by CARB staff, in existing Cap and Trade regulatory documents. AB 32 specifically speaks to handling leakage, especially with an international product such as refined calcined coke.

Somehow, a different determination about calciners has been concluded based on a conservative assumption that calciners do not have high emissions intensity based on the emissions intensity of industries under the combined category of NAICS Code 324 (Petroleum and Coal Products Manufacturing). NAICS Code 324 is made up of five subcategories: Petroleum refineries, two related to asphalt manufacturing, one for lubricant manufacturing, and 324199 - for "All Other Petroleum and Coal Products Manufacturing". We believe that NAICS code 324 is an error and is too broad for coke calcining categorization.

California calciners appropriately use the NAICS Code 324199. Additionally, the U.S. Department of Commerce identifies that NAICS Code 324199 is appropriate and is recommended specifically for "Calcining petroleum coke from refined petroleum". The selection of appropriate NAICS Code 324199 from the U.S. Department of Commerce is so clear we cannot envision any calciner owner would not use the 324199 code. NAICS Code 324199 also applies to other industries that are similar to calcining (primarily using coke ovens), whereas the broader Code 324 applies to many industries that are very different from calcining. Industries associated with NAICS Code 324199 have high emissions intensity, as already published in Appendix K of the 2010 Cap and Trade rulemaking. Therefore, it is befuddling why coke calcining has been omitted from Table 9-2's slower cap decline factor. Calciners meet all three requirements to be eligible for the slower declining cap adjustment factors.

RECOMMENDATION: Phillips 66 requests coke calcining be assigned the slower Cap Adjustment Factor in the upcoming 15-day amendment package.

3. Process Concerns

Lastly, we again note that the administrative process associated with refinery benchmarking was truncated at the end of the October rulemaking. These amendments require in-depth analysis and subsequent significant decisions may affect the viability of entire facilities. The idea of a robust public process is defeated by having to make such critical business decisions in a relatively rushed manner. Because some important portions of the actual language of the proposals have just been provided to stakeholders, we request that the process leading up to a required 15-day regulatory amendment package be given the utmost of deference to the need of stakeholders to understand and analyze Staff's proposal and its underlying support data.

Historically, the 15-day process is intended to be a smoothing and shaping exercise on firmly established, stakeholder-vetted, and Board-approved policies. Unfortunately, that is not occurring on these specific topics with the view of the language recently released at the end of January 2014. It creates a potential obstacle to the adoption of this final package. We understand that staff is continuing to work on this issue in anticipation of the formal 15-day regulatory amendment package due to be published in the coming weeks, with a tentative April Board Meeting on the 2014 calendar to finalize this and other policy issues associated with the Cap and Trade program. Phillips 66 stands ready to provide feedback and engage in constructive dialogue so that we can avoid a last minute deadline process.

Conclusion

We hope we have demonstrated that pursuing the "jointly operated" concept is inappropriate and that calcining operations deserve to have the slower Cap Assistance Factor. Thank you for your attention to these important and unanswered rulemaking matters. Stephanie Williams, our State Government Affairs Manager, is available to help resolve these matters before the 15-day package is released and changes would be impossible to make. She can be reached at (916) 447-5572.

Sincerely,

Chris R. Chandler

Manager, Los Angeles Refinery

Mark E. Evans

Manager, Rodeo Refinery

CC: Mary Nichols
Virgil Welch
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Attachment G

Cap-and-Trade Regulation:
Proposed Benchmarks for Refineries and Related Industries

Background

The current Cap-and-Trade Regulation includes a refinery benchmark for the second and third compliance period that uses carbon-weighted tonne (CWT) as a proxy for product. In response to a request by the refineries, ARB staff is proposing to use complexity-weighted barrels (CWB) instead. This approach is used in the current proposed amendments to the Cap-and-Trade Regulation. The main differences in the two approaches are that refinery throughputs are reported in barrels versus tonnes and that the CWT benchmark is based on European data while the CWB benchmark uses California specific data and methodologies. The Board is expected to consider the proposed amendments in April with an effective date of mid-2014.

Total refinery CWB is calculated using several dozen types of refinery process units as well as adjustments representing emissions due to off-sites and non-process steam. In mid-2013, California refineries voluntarily reported to ARB historical throughput data for process units and data for the non-process CWB adjustments. ARB double-checked these data with each refinery in early 2014. These data enabled ARB to compare CWB, CWT and actual refinery emissions.

As ARB has received data and input from stakeholders and conducted analyses during 2013 and early 2014, its proposed benchmarks for refineries and related industries have evolved. This document outlines how the current benchmarks were calculated and why they differ from earlier proposals. ARB plans to propose the benchmarks presented here in the 15-day rulemaking package to be released in March.

For more information on allocation, please see Appendix J of the 2010 Cap-and-Trade Regulation rulemaking package, which can be found at:

http://www.arb.ca.gov/regact/2010/capandtrade10/capandtrade10.htm

Standard ARB Benchmarking Approach

ARB sets benchmarks at either 90% of a sector's average greenhouse gas (GHG) emissions per unit product or best-in-class, which means the lowest facility-specific GHG emissions per unit product. The best-in-class benchmark is used when no one facility can meet the 90% average benchmark. The proposed refinery, hydrogen, and calcining benchmarks all follow this approach, and all were set at 90% of the sector average. Details of their calculation are given below.

ARB typically uses 2008-2010 emissions and production data to establish benchmarks. However, ARB does not have 2009 throughput or hydrogen emissions data from refineries, so the refinery CWB benchmarks and the hydrogen benchmark are based only on 2008 and 2010. The calcining benchmark was calculated using data from 2008, 2009 and 2010. Emissions are adjusted to include imported steam and exclude exported electricity and steam.

Hydrogen Benchmark

To ensure program design consistency with ARB's "one product, one benchmark" guideline, a single hydrogen production benchmark, $b_{hydrogen}$, is proposed for merchant and refinery hydrogen production. Hydrogen is considered to be a separate refinery product. Both refineries and independent hydrogen facilities would receive hydrogen production-based allocation under this single hydrogen benchmark, thus providing common incentives among all hydrogen producers. The hydrogen benchmark was calculated as 90% of the sum of all hydrogen production GHG emissions at refineries and merchant facilities divided by the sum of all hydrogen production at refineries and merchant facilities.

$$b_{hydrogen} = 0.9 \times \frac{\sum_{merchant\ \&\ refinery} GHG_{2008} + \sum_{merchant\ \&\ refinery} GHG_{2010}}{\sum_{merchant\ \&\ refinery} Hydrogen_{2008} + \sum_{merchant\ \&\ refinery} Hydrogen_{2010}}$$

Here, GHG_{year} is the annual GHG emissions associated with hydrogen production at a refinery or merchant hydrogen facility, and $Hydrogen_{year}$ is the amount of hydrogen produced (in millions of standard cubic feet) in the given year at a refinery or merchant hydrogen facility. The summations indicate that both emissions and production are summed over all merchant hydrogen producers and refineries that produce hydrogen. Refinery hydrogen data are from the refinery survey, while merchant hydrogen data are from Mandatory Reporting Regulation (MRR) records. MRR data for refineries from 2008 and 2010 do not identify hydrogen production emissions independent from total facility emissions so they could not be used for refinery hydrogen production emissions. A small number of facilities had problems with hydrogen production emissions data reported in the voluntary survey, and both production and emissions data from these facilities were excluded from the calculation.

Aggregate hydrogen production and associated GHG emissions data are presented in Table 1. The data in Table 1 were used to calculate $b_{hydrogen}$ as follows:

$$b_{hydrogen} = 0.9 \times \frac{(9{,}360{,}073 + 9{,}548{,}261)\ MT\ CO_2e}{(388{,}788 + 401{,}256)\ million\ scf\ H_2}$$

$$b_{hydrogen} = 21.54 \text{ allowances/million scf } H_2 = 8.94 \text{ allowances/MT } H_2$$

Once these calculations were complete, staff confirmed that at least one facility could meet the 90% of average benchmark so this was the appropriate benchmark

Table 1 Sector aggregated hydrogen production and associated GHG emissions

Sector	2008		2010	
	GHG emissions (tonnes CO_2e)	Hydrogen production (million scf)[#]	GHG emissions (tonnes CO_2e)	Hydrogen production (million scf)[a]
Merchant hydrogen	2,108,246	95,287	2,685,568	121,423
Refinery hydrogen	7,251,827	293,501	6,862,693	279,833
Total hydrogen	**9,360,073**	**388,788**	**9,548,261**	**401,256**

[a] Million standard cubic feet at atmospheric pressure and 60 °F.

Previously Proposed Hydrogen Benchmark

The hydrogen benchmark presented at the October 2013 workshop was calculated using a different approach because sufficient data on refinery hydrogen emissions were not available at that time. The equation used was similar to the above benchmark equation but only data for merchant hydrogen facilities were used:

$$b_{hydrogen} = 0.9 * \frac{\sum_{merchants} GHG_{merchant,2008} + \sum_{merchants} GHG_{merchant,2010}}{\sum_{merchants} Hydrogen_{merchant,2008} + \sum_{merchants} Hydrogen_{merchant,2010}}$$

$Hydrogen_{merchant,year}$ and $GHG_{merchant,year}$ are respectively the amount of hydrogen produced and the associated GHG emissions for a merchant hydrogen plant in the given year. The summations are over all merchant hydrogen plants.

The previously proposed benchmark was 20 allowances/million scf H_2. The currently proposed hydrogen benchmark is higher than that proposed in October because refinery hydrogen data are included in the current calculation. The refinery hydrogen producers are on average less emissions efficient than the merchant hydrogen producers, so the benchmark increases when the refinery data are included.

CWB Benchmarks

The CWB benchmarks were calculated using the following procedure:

1. Refineries were classified as atypical or typical. To be atypical, a refinery must have fewer than 12 process units and also have less than 20 million barrels per year of crude input through its atmospheric distiller. For this purpose, a refinery possesses a process unit if the refinery reported via our voluntary survey a non-

zero throughput for that process unit type. The CWB adjustments for off-sites and non-crude sensible heat are not considered process units for this purpose. All refineries not meeting this definition are classified as typical, including refineries without atmospheric distillers. If a refinery had abnormal operations during 2008 or 2010, its data were excluded from the CWB benchmark calculation entirely. Using this classification scheme there are 13 typical refineries and 4 atypical refineries, with one refinery excluded.

2. The benchmark for typical refineries, $b_{typical}$, was calculated as 90% of GHG emissions summed over all typical refineries divided by CWB summed over all typical refineries. Because refinery hydrogen was included under the hydrogen benchmark, emissions and CWB contributions from hydrogen production were not included in this calculation.

$$b_{typical} = 0.9 \times \frac{\sum_{typical\ refineries} GHG_{refinery,2008} + \sum_{typical\ refineries} GHG_{refinery,2010}}{\sum_{typical\ refineries} CWB_{refinery,2008} + \sum_{typical\ refineries} CWB_{refinery,2010}}$$

Annual greenhouse gas emissions at a refinery, $GHG_{refinery,year}$, are based on mandatory reporting data from 2008 and 2010, adjusted to include emissions from steam imported on-site and exclude emissions from steam and electricity exported off-site during the same year. Steam transferred between merchant hydrogen plants and refineries is treated the same as other steam imported to or exported from a refinery. In addition, $GHG_{refinery,year}$ does not include emissions associated with hydrogen production, unless these data were not reported in the refinery survey.

The annual complexity weighted barrels for a refinery, $CWB_{refinery,year}$, was calculated with refinery provided survey data. $CWB_{refinery,year}$ includes contributions from refinery process units ($CWB_{process,year}$), off-sites ($CWB_{off\text{-}sites}$), and non-crude sensible heat ($CWB_{non\text{-}crude\ sensible\ heat,year}$), and was calculated using the following equations:

$$CWB_{refinery,year} = CWB_{process,year} + CWB_{off-sites,year} + CWB_{non-crude\ sensible\ heat,year}$$

$$CWB_{process,year} = \sum_{process\ units} (CWB\ Factor_{process\ unit} \times Throughput_{process\ unit,year})$$

$$CWB_{off-sites,year} = (0.327 \times Total\ Input\ Barrels_{year}) + (0.0085 \times CWB_{process,year})$$

$$CWB_{non-crude\ sensible\ heat,year} = (0.44 \times Non - Crude\ Input\ Barrels_{year})$$

Definitions for *Total Input Barrels*$_{year}$, *Non-Crude Input Barrels*$_{year}$, *CWB Factor*$_{process\ unit}$ and *Throughput*$_{process\ unit,year}$ are as described in MRR. The above equations can be combined and simplified to yield:

$$CWB_{refinery,year} = (1.0085 \times CWB_{process,year}) + (0.327 \times Total\ Input\ Barrels_{year}) + (0.44 \times Non - Crude\ Input\ Barrels_{year})$$

For this benchmark calculation, contributions from hydrogen production were not included in *CWB*$_{process,year}$ unless complete data were not available to allow exclusion. For refineries where problematic hydrogen emissions data led to their exclusion from the hydrogen benchmark calculation, their total emissions (including hydrogen production emissions) and total CWB (including the CWB contribution from hydrogen production) were included when calculating the refinery benchmark.

Aggregate values of *GHG*$_{refinery,year}$ and *CWB*$_{refinery,year}$ are provided in Table 2 for typical and atypical refineries. These values can be inserted into the $b_{typical}$ equation to yield:

$$b_{typical} = 0.9 \times \frac{(24{,}943{,}556 + 23{,}538{,}047) MT\ CO_2e}{(5{,}770{,}830 + 5{,}485{,}247)\ CWB}$$

$b_{typical}$ = 3.88 allowances/CWB

Once these calculations were complete, staff confirmed that at least one refinery could meet the 90% of average benchmark so this was the appropriate benchmark.

Table 2 Aggregate values of *GHG*$_{refinery,year}$ and *CWB*$_{refinery,year}$ for typical and atypical refineries

Sector	2008		2010	
	GHG emissions (MT CO_2e)	CWB (CWB)	GHG emissions (MT CO_2e)	CWB (CWB)
Typical refineries	24,943,556	5,770,830	23,538,047	5,485,247
Atypical refineries	502,228	93,873	468,871	79,332
Total	**25,445,784**	**5,864,703**	**24,006,918**	**5,564,579**

3. The benchmark for atypical refineries, $b_{atypical}$,was calculated using the same method as above, but with summation over atypical refineries instead of typical refineries:

$$b_{atypical} = 0.9 \times \frac{\sum_{atypical\ refineries} GHG_{refinery,2008} + \sum_{atypical\ refineries} GHG_{refinery,2010}}{\sum_{atypical\ refineries} CWB_{refinery,2008} + \sum_{atypical\ refineries} CWB_{refinery,2010}}$$

Values for atypical refineries from Table 2 can be inserted into this equation to give:

$$b_{atypical} = 0.9 \times \frac{(502{,}228 + 468{,}871)\ MT\ CO_2e}{(93{,}873 + 79{,}332)\ CWB}$$

$b_{atypical}$ = 5.05 allowances /CWB

CWB Benchmark Curves

The benchmark curves below show the emissions intensity – emissions attributed to CWB divided by CWB – for each refinery. Both emissions and CWB were calculated for each refinery using the methods described above under "CWB Benchmarks." The refinery with anomalous data that was excluded from the benchmark calculation is also excluded from the benchmark curves.

Figure 1 shows the CWB benchmark curve with refineries ordered on the x-axis from most emissions efficient (refinery 1) to least efficient (refinery 17). Figure 2 shows the same benchmark curve with atypical refineries grouped to the left and typical refineries grouped to the right. Atypical refineries have fewer process units which may contribute to their wider variation in emissions per CWB. These two benchmark curves may be compared to the benchmark curves shown in the October workshop presentation[1].

[1] http://www.arb.ca.gov/cc/capandtrade/meetings/100713/refinery_workshop_presentation_10_7_13.pdf

Figure 1 CWB benchmark curve with refineries in order of increasing emissions intensity.

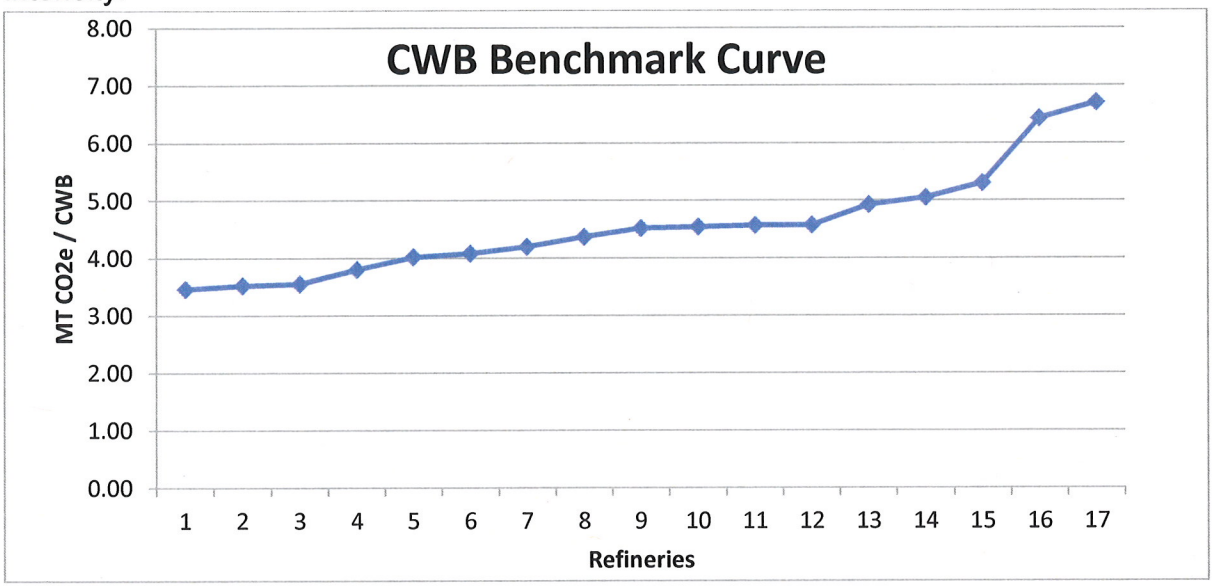
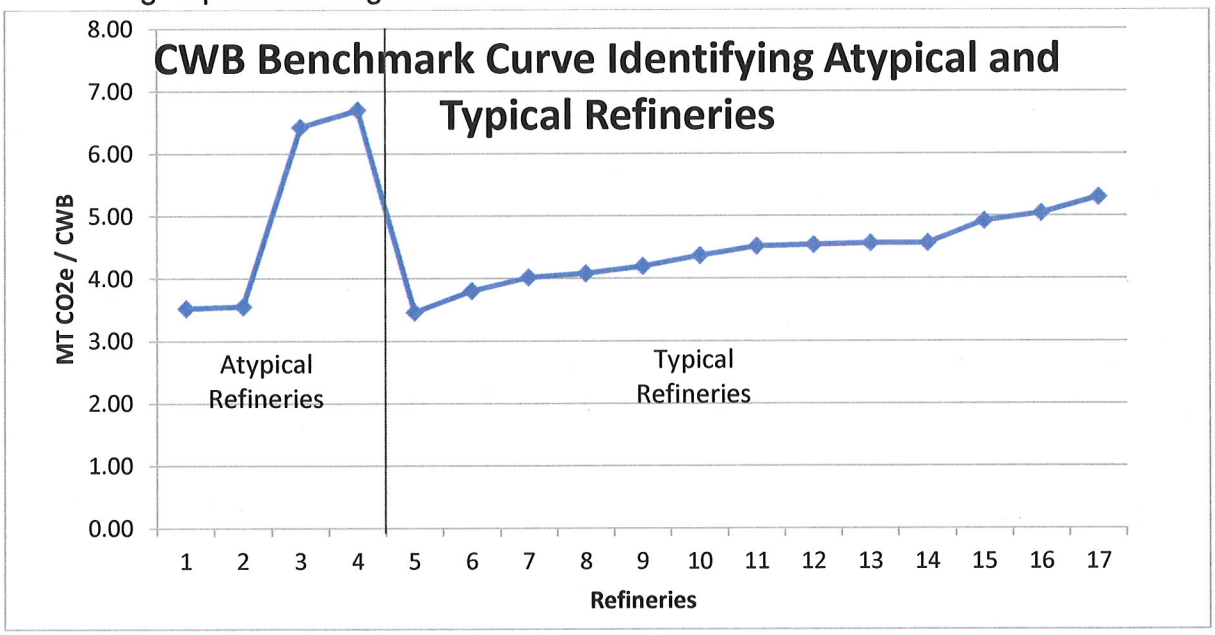


Figure 2 CWB benchmark curve with atypical refineries grouped to the left and typical refineries grouped to the right.



Previously Proposed CWB Benchmarks

ARB has distributed two previous sets of potential CWB benchmarks for refineries: one in the informal regulatory draft posted on the ARB website on January 31, 2014,[2] and one at the October 7, 2013 workshop.[3] These previous proposals, along with the current proposal are summarized in Table 3.

Table 3 Proposed CWB Benchmarks

Refinery Type	Proposed Refinery CWB Benchmarks (allowances/CWB)		
	Oct. 7, 2013 Workshop	Jan. 31, 2014 Informal Draft	Current Proposal
Typical	4.08	3.96	3.88
Atypical	6.78	5.11	5.05

The CWB benchmarks distributed in the informal regulatory draft were 5.11 allowances/CWB for atypical refining and 3.96 allowances/CWB for typical refining. Two changes led to the differences between the informal regulatory draft values and the current calculated values: excluding hydrogen production from the CWB benchmark calculation and data changes based on updated information reported to ARB during the completion of the informal survey. The benchmark calculation now excludes emissions and CWB contributions from hydrogen production, while previous calculations included these because early hydrogen data did not appear reliable. In recent weeks, ARB reviewed survey data with representatives from each refinery to improve accuracy and provide an opportunity for corrections. While checking data, most refineries reported at least one correction. Most corrections consisted of adding refinery throughput data that had erroneously been omitted from earlier reports or increasing values that had been underreported. Therefore, final CWB totals using these data are higher than previously calculated and final CWB benchmarks are slightly lower.

The potential CWB benchmarks presented at the October workshop were larger than those put forth in the informal regulatory draft on January 31, 2014. The October workshop benchmarks were calculated differently than those in the informal regulatory draft. First, they relied on non-reviewed preliminary throughput data. Second, the earlier total CWB calculation included only process CWB and omitted the adjustments for off-sites and non-crude sensible heat, together known as off-sites adjustments. ARB staff inadvertently omitted off-sites adjustments in the calculation results presented at the October 7 workshop. Of the change in the atypical benchmark from 6.78 to 5.11 allowances/CWB, approximately 20% was due to data corrections received from refineries and 80% was due to the omission of off-sites adjustments. For the atypical benchmark's change from 4.08 to 3.96 allowances/CWB, all of the decrease was due to

[2] http://www.arb.ca.gov/cc/capandtrade/cap-trade-15-day-discussion-draft-01-31-14.docx

[3] http://www.arb.ca.gov/cc/capandtrade/meetings/100713/refinery_workshop_presentation_10_7_13.pdf

the addition of off-sites adjustments to the total CWB calculation, and data corrections contributed a very slight increase.

Calcining Benchmark

The proposed calcining benchmark, $b_{calcining}$, is 0.632 allowances/MT calcined coke. This was calculated using 2008, 2009 and 2010 production and emissions data reported by calciners. The calcining benchmark was calculated by the following equation, in which $ccoke_{calciner,year}$ refers to the amount of calcined coke produced in the given year:

$$b_{calcining} = 0.9 * \frac{\sum_{calciners} GHG_{calciner,2008} + \sum_{calciners} GHG_{calciner,2009} + \sum_{calciners} GHG_{calciner,2010}}{\sum_{calciners} ccoke_{calciner,2008} + \sum_{calciners} ccoke_{calciner,2009} + \sum_{calciners} ccoke_{calciner,2010}}$$

This benchmark is set at 90% of average since at least one of the calciners can meet the benchmark. Since there are only two calciners in California, further calculation details are withheld to protect confidential business information.

Neither the calcining benchmark nor its underlying data have changed since the October 7, 2013 workshop.

Other Expected Changes from the Informal Discussion Draft

"Atypical Petroleum Refining" means petroleum refining at a refinery with less than 20 million barrels of crude throughput through its atmospheric distillers per calendar year as reported and verified under section 95113 of the MRR and fewer than twelve types of process units, of the process unit types listed in the first column of Table 1 of section 95113 of the MRR, except not including "Total Refinery Input" and "Non-Crude Input" as process units. For the purposes of determining whether refining is typical or atypical, any refinery facilities which are "jointly operating" will be evaluated jointly. The total throughput and total number of unique types of process units reported via MRR for the two facilities combined will be used to determine if the jointly operated refineries are atypical. The determination will be made annually.

"Complexity weighted barrel" or "CWB" means a metric created to evaluate the greenhouse gas efficiency of petroleum refineries and related processes. The CWB value for an individual refinery is calculated using actual refinery throughput to specified process units and emission factors for these process units. The emission factor is denoted as the CWB factor and is representative of the greenhouse gas emission intensity at an average level of energy efficiency, for the same standard fuel type for each process unit for production, and for average process emissions of the process units across a sample of refineries. Each CWB factor is expressed as a value weighted relative to crude distillation. A refinery's CWB value for allocation will be its $CWB_{process}$ value adjusted for off-sites and non-crude sensible heat using the following equation: $CWB = 1.0085*CWB_{process} + 0.327*$Total Refinery Input + 0.44*Non-crude Input. This calculation will rely on data submitted under section 95113 of the MRR.

"Jointly operating" means the condition of two or more refineries which are considered jointly for the purposes of determining if the refinery is atypical. Any refinery whose annual production of primary refinery product, measured by volume, as reported via section 95113 of MRR, is less than 10% of its atmospheric crude distillation throughput for that year will be considered jointly operating with the refinery to which it transfers the greatest volume of output for that year via any mode of transport. If a refinery has no atmospheric crude distillation throughput, then it will be considered jointly with the refinery from which it receives the most inputs by volume via any mode of transport. Any refineries reporting under a single ARB Identification Number under MRR also will be considered jointly operating.

"Typical Petroleum Refining" means all refining at a petroleum refinery which does not meet the definition of atypical petroleum refining.

ARB will add additional text in the regulation to clarify the process for determining jointly operating. ARB will determine if any refinery meeting the throughput and process unit requirements of atypical also meets the jointly operated criteria based on data reported

and verified via MRR section 95113 and will request notification of which refinery it is sending the greatest volume of output to or receiving the greatest volume of input from prior to allocation.

95891. Allocation for Industry Assistance.

(a)(2) Second and Third Compliance Period Refining Sector Allocation. For ~~buget~~ budget years 2015-2020, petroleum refineries shall receive their allocation of allowances pursuant to the product output-based allocation calculation methodology stated in section 95891(b), using ~~carbon-weighted tonne or~~ the complexity weighted barrel metric~~s~~ detailed in ~~the~~ section~~s~~ 95113(l)(3)~~-(4)~~ of MRR and the following equation: $CWB = 1.0085 \times CWB_{process} + 0.327 \times \text{Total Refinery Input} + 0.44 \times \text{Non-Crude Input}$.

Attachment H

Kern Oil & Refining Co.
7724 E. PANAMA LANE
BAKERSFIELD, CALIFORNIA 93307-9210
(661) 845-0761 FAX (661) 845-0330

VIA ELECTRONIC MAIL AND REFINERYBENCHMARK-WS

March 7, 2014

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento Ca, 95814

Re: Comments on Cap and Trade Informal Discussion Draft Dated February 26, 2014

Dear Ms. Sahota:

Kern Oil & Refining Co. (Kern) is providing comments on the Informal Discussion Draft (Discussion Draft) of the Cap and Trade Regulation (Regulation) related to Refinery Sector Allocations dated January 31, 2014. Kern is a small, privately owned petroleum refiner located in Bakersfield, California, in the southern San Joaquin Valley. Kern has operated for over 70 years and employs approximately 120 employees. Kern's refining capacity is 27,000 barrels per stream day.

Kern continues to support the California Air Resources Board's (ARB) proposal to separately benchmark "atypical" refineries and which appropriately acknowledges the structural constraints imposed by size and complexity and that imposition of a single benchmark would codify an unfair competitive disadvantage for smaller, less-complex refineries. As a small, less-complex California refinery, Kern has been acutely aware of the uneven playing field of the California refinery sector. Kern is appreciative of the analysis performed by ARB Staff that underlies their proposal to separately benchmark atypical refineries and to adopt the full CWB methodology, inclusive of the off-site adjustment. Kern supports the proposal to define "atypical" facilities as those having less than 12 process units and less than 20 million barrels crude through the atmospheric distiller per allocation year, which Staff stated was a natural size and complexity break for the refining sector.

Kern would also like to reiterate how important the establishment of the atypical benchmark is to our companies and our employees. We appreciate the work Staff has done to examine and ultimately justify the establishment of an atypical benchmark. As a smaller company, Kern is less able to absorb regulatory costs and ensuring fair treatment of our facilities is critical. We urge you to support Staff's current proposal and the recognition of atypical refineries.

Staff's proposal further addresses nearly all of our previous concerns regarding the "jointly operated" criteria as part of the "atypical refinery" definition, in large part by lowering the Primary Refinery Products threshold to less than 10% of a refinery's atmospheric crude distillation. Moving forward, we are hopeful we can do better from a process prospective with earlier substantive engagement on regulatory issues with Staff.

Thank you for your consideration of these comments. If you have any questions, or if we can provide any additional detail, please do not hesitate to get in touch. As always, we are committed to working with Staff throughout this regulatory process.

Sincerely,

Melinda L. Hicks
Manager, Environmental Health and Safety
Kern Oil & Refining Co.

Coalition for Fair and Equitable Allocation

VIA ELECTRONIC MAIL and refinerybenchmark-ws

March 10, 2014

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento Ca, 95814

Dear Rajinder:

Following up on the all-refiner meeting last week, the Coalition for Fair and Equitable Allocation (Coalition) herby submits its comments on the February 26, 2014 Cap and Trade Regulation" Proposed Benchmarks for Refineries and Related Industries document (Benchmark Document). The Coalition appreciates the release of the Benchmark Document. It provides additional transparency and clarity on the issues. Establishing a new set of refinery benchmarks is a significant step in the development of the Cap and Trade Program (Program) that will impact facilities for years to come, and determines the baseline competitive position (both intrastate and interstate) for California refiners. It is under this umbrella of importance that Coalition was formed to protect the interests of smaller refinery operations in California. The Coalition includes Kern Oil & Refining Co., Alon USA, Inc., San Joaquin Refining Co. Inc., Lunday-Thagard Refining Co., and Phillips 66.

Atypical Benchmark Designation

Formal recognition and separate benchmarking of "atypical" refineries in the Cap and Trade Program is a key policy recommendation the Coalition supports. As the Board has acknowledged, not all refineries in California are large and complex; the atypical category appropriately recognizes this reality. Additionally, as the concept of an atypical refinery is regional in nature—comparing apple to apples, it is entirely appropriate to establish criteria for an "atypical California refinery" based on the state's existing inventory of facilities. ***The Coalition continues to support the proposed California-specific atypical criteria metrics of less than 12 process units and 20 million barrels of crude throughput per year.***

CWB Benchmark Changes

The Benchmark Document again revised the Atypical Benchmark. Though this change is not as significant an adjustment downward, its ultimate value is of paramount importance to Coalition members. The additional data and calculations provided are a useful and welcome addition to the public record.

A major point of this year-long regulatory exercise was to establish viable benchmarks heading into the next compliance period. It is apparent CARB is getting close to the end of this process, which the Coalition supports. We also understand that final calculations and data review are occurring. ***The Coalition recommends that staff provide as much information as possible to the public on the final benchmark calculation and methodology as possible.***

Thank you for your attention to this important matter. Any questions or follow-up comments can be directed to Jon Costantino at 916-552-2365 or at jcostantino@manatt.com.

Sincerely,

/s/

Jon M. Costantino
Coalition Director

cc: CARB Board Members
Virgil Welch
Richard Corey
Edie Chang
Steve Cliff
Mary Jane Coombs
Eileen Hlvaka
Mark Sippola

311587040.1

SAN JOAQUIN REFINING CO., INC.
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March 10, 2014

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: CAP & TRADE INFORMAL DISCUSSION DRAFT DATED FEBRUARY 26, 2014

Dear Ms. Sahota:

San Joaquin Refining Company, Inc. (SJR) is providing comments on the subject Informal Discussion Draft. SJR is a small, independent refiner located in Bakersfield, CA.

SJR fully supports the California Air Resources Board (CARB) proposal to include a separate benchmark for "atypical" refineries. SJR, because of the amount of process units and the amount of crude processed through our atmospheric distiller per calendar year, is considered an "atypical" refiner. We appreciate the efforts of CARB Staff to determine a separate benchmark for refineries similar to ours.

As a small refiner, SJR is less able to absorb regulatory costs and fair treatment of our facility is very important to us. SJR urges you to support CARB Staff's current proposal that includes recognition of "atypical" refineries. Additionally, the Staff's proposal also includes lowering the Primary Refinery Products threshold to less than 10% of a refinery's atmospheric crude distillation. This change to the proposal addresses the remainder of SJR's previous concerns regarding the "jointly operated" definition in the proposal.

Thank you for your consideration of these comments. If you have any questions or comments, please feel free to contact me.

Sincerely,

SAN JOAQUIN REFINING COMPANY, INC.

David G. Campbell
Environmental Manager

LUNDAY-THAGARD COMPANY
P.O. Box 1519 • South Gate, CA 90280-1519
(562) 928-7000 • Fax (562) 806-4032

Grant Aguinaldo
Environmental Manager
(562) 928-7000, ext. 2259
gaguinaldo@worldoil.net

March 10, 2014

VIA ELECTRONIC SUBMITTAL

Ms. Rajinder Sahota
California Air Resources Board
1001 "I" Street
Sacramento CA, 95814

Subject: LTR's Comments on "Benchmarks for Refineries and Related Industries" Dated February 26, 2014

Dear Ms. Sahota:

Lunday-Thagard Company ("LTR") appreciates the opportunity to comment on the Proposed Benchmarks for Refineries and Related Industries guidance document ("guidance document") dated February 26, 2014.

LTR is a small privately-owned refinery located in Southern California with a processing rate of 10,000 barrels per day. LTR employs over 66 employees, with approximately 55% of our workforce residing within 5 miles of the refinery. LTR has been in operation for the past 75 years producing a variety of roofing and specification-grade paving asphalts using only a minimal amount of process units.

The comments presented herein reflect the following:

1. Continued support for the proposed "atypical refinery" definition; and
2. The need for increased oversight and accuracy when calculating the final benchmark value.

Continued Support for the Proposed Atypical Refinery Definition

As defined in the guidance document, LTR continues to support the California Air Resources Board's ("CARB") proposed size and complexity criteria that describe an "atypical refinery." Due to the independent nature of our organization, the mere absence of an atypical benchmark will undoubtedly translate into impacts that our business will not be able to tolerate. We commend the work that Staff has done to respond to our concerns throughout the benchmarking process. As one of the few remaining asphalt producers in the state, the proposed atypical refinery definition ensures that LTR can continue to produce asphalt products for the entire state of California.

Increased Oversight and Accuracy in Calculating the Final Benchmark Value

The guidance document describes the changes to two previous benchmark proposals. In addition, the guidance document also proposes another benchmark value that is *lower* than

the previous two. While LTR does understand that these changes were attributed to "non-reviewed preliminary throughput data" and the omission of "off sites and non-crude sensible heat," these errors call the accuracy of these calculations into question going forward.

In that regard, LTR recommends that the CARB take the necessary steps to assure stakeholders that the final benchmark values are not only calculated correctly, but are based on reliable data. Due to the small sample size of the atypical refinery group, any error in a benchmark value can have unwanted consequences to the allocation of an atypical refinery. To eliminate these consequences, the CARB must maintain full transparency during the calculation process, while still honoring the confidential nature of the data used in these calculations.

In summary, LTR continues to support the proposed size and complexity criteria that describe an atypical refinery. We also encourage the CARB to increase the amount of transparency and calculation checks to assure stakeholders that the final benchmark values are correct. Again, we appreciate the opportunity to comment on the guidance document.

Please feel free to contact me with any questions.

Sincerely,

/s/

Grant T. Aguinaldo
Environmental Manager

March 12, 2014

Richard Corey
Executive Officer
California Air Resources Board
1001 I Street
Sacramento CA, 95814

RE: Phillips 66 comments on February 26, 2014 – Cap and Trade Regulation Proposed Benchmarks for Refineries and Related Industries

Dear Mr. ~~Corey~~ Richard:

Thank you for taking the time to listen to our concerns on March 6, 2014. Phillips 66 is a significant employer in California with over 1,200 employees. Our operations covered by the rule include oil refineries, a calciner, petroleum product pipelines and terminals. The comments detailed below focus on two aspects of the February 26, 2014 Cap and Trade Regulation –Proposed Benchmarks for Refineries and Related Industries **("February Proposed Benchmark")**:

1. Atypical Refinery Benchmarking—Jointly Operated Definition
2. Coke Calcining – Inappropriate Cap Adjustment Factor (categorization under Table 9-2: Cap Adjustment Factors for Allowance Allocation)

I. Atypical Refinery Benchmarking – Jointly Operated Definition:

We have engaged in several discussions with CARB staff, particularly in the past few weeks, where we have been provided with an opportunity to express our concerns regarding the February Proposed Benchmark, as well as to discuss the data related to the Santa Maria Refinery. Our concerns, as expressed in our meetings and in supporting technical documentation provided to staff, may be summarized as follows:

The regulatory process regarding refinery benchmarking remains in flux, particularly since we have yet to see final language defining "jointly operated."

The use of 2008 date relative to our Santa Maria Refinery to determine the CWB is not appropriate. Data from the 2009-2012 CWB more accurately portrays Santa Maria's carbon footprint. Staff has been provided with detailed documentation regarding the impact of using the 2008 data versus the 2009-2012 data and other details regarding calculation methodology.

The Santa Maria Refinery meets the proposed "Atypical" refinery metrics approved by the Board in October 2013 based on both its size and complexity. The use of the anomalous 2008 CO2e/CWB data distorted the impact of the proposed regulation, which the use of the more representative sample based on the 2009-2012 average CO2e/CWB will correct.

If this correction is made, the Santa Maria facility would not fall below the proposed Atypical benchmark level and fits within the range of the small atypical refinery category. Phillips 66 supports Staff's proposed distinction between typical and atypical refineries based on having less than 12 process units and less than 20 million barrels crude through the atmospheric distiller during an allocation year as reflective of the facility's size and complexity. The "jointly operated" definition should be dropped from the February proposed Benchmark for the following reasons:

- This definition is written so it impacts just one company, Phillips 66.

- The definition has been a moving target. Since October 2013, CARB staff has proposed three different definitions – (1) October 2013 - refineries joined by pipeline are "jointly operated"; (2) January 31, 2014 - "Jointly operated" requires a level of 50% of the input to its atmospheric distillers; (3) February 26, 2014 – 50% input lowered to 10%.

- CARB staff has not provided sufficient policy justification or analysis to support any of these proposed definitions.

- The 10% jointly operated definition creates an unintended perverse incentive to manufacture asphalt in small quantities solely to fit into the atypical category rather than to optimize refinery operations.

- The February Proposed Benchmark also does not properly define finished products sold by refineries and uses this flawed definition of primary products to apply the 10% threshold with respect to "jointly operated".

- CARB's failure to either properly define "primary products" or to recognize that intermediate products such coke, sulfur and intermediate gas oils are distinct commodities that are sold in commerce has artificially created the need for the jointly operated concept.

- For benchmarking purposes, CARB should treat intermediate refinery products in the same manner that it treats other intermediate products such as lactose, non-fermented lactose, flat gas manufacturing, mineral wood fabrication and aseptic tomato paste, all of which have distinct benchmarks.

- The February Proposed Benchmark does not address the problem of leakage or imports and fails to identify any safeguards to prevent leakage from occurring. To the contrary, CARB's treatment of intermediate refinery products incentivizes leakage and will lead to unintended consequences such as displacing California-manufactured intermediate products with intermediate imports from out-of-state.

- The "jointly operated" definition was also mistakenly based on Phillips 66's practice of reporting its operations in Santa Maria and Rodeo to the Energy Information Agency ("EIA") as a single facility. This combined reporting was started in 2009 and was done because our data did not fit the EIA's standard reporting forms; but for all other purposes these refineries operate independently.

- The "jointly operated" definition also marks a fundamental change to the longstanding definition of stationary source facility. By linking otherwise independent facilities as a single facility for purposes of an atypical determination, CARB is modifying the overarching policy definition of federal and state stationary source permitting.

- Defining "jointly operated" is inherently difficult because most refineries are accessible by underground pipeline to receive or deliver a multitude of refining feed stocks. Facilities also can operate jointly through company ownership, third party long-term contract, or commodity streams.

- The "jointly operated" concept from the February Proposed Benchmark is outmoded, inaccurate, creates perverse incentives for leakage, and impacts just one company. It should be eliminated.

RECOMMENDATION: Phillips 66 requests CARB re-evaluate our data and move forward with the Cap and Trade Regulation without the jointly operated definition and therefore retain the current definition of facility within the rule, remaining consistent with GHG reporting.

II. Calciner NAICS code utilized by CARB is in error and conflicts with a published warning from the US Department of Commerce to businesses not to make this error.

Phillips 66 and CARB staff have been in discussions about the application of the declining cap adjustment factors shown in the California Air Resources Board (CARB) Table 9-2 of the Cap and Trade regulation to the coke calcining sector. The category of factors currently applied to other sectors with process emissions greater than 50%, incorrectly and without justification excludes coke calcining. The justification for selecting the slower declining cap factor for coke calcining is clearly supported by existing CARB documentation.

CARB has previously stated the requirements to be granted a slower cap decline factor: (1) process emissions greater than 50%; (2) a high leakage risk; and, (3) high emissions intensity. It is clear these conditions have all been satisfied vis-à-vis coke calcining. Specifically the calciner meets the necessary criteria as listed below:

- Calciner have >90% process emissions, far exceeding the 50% required for the alternative declining cap factor as shown in Table 9-2 "Cap Adjustment for Allowance Allocation". The emissions criteria are easily demonstrated in Phillips 66' MRR reporting.

- ARB's C&T Rule Table 8-1 classifies Calciner (NAICS) as High Leakage Risk.

- ARBs Appendix K, Table K-10, K-45 lists NAICS Code 324199 as having an Emission Intensity value of 9,754. This is above the 5,000 threshold to support the alternative declining cap of Table 9-2. In addition, Phillips 66' internal calculations show values >9,000 emission intensity when you look at it both in terms of with and without taxes.

There has been an unaddressed and mistaken assumption that calciners do not have high emissions intensity based on the emissions intensity of industries under the combined category of NAICS Code 324 (Petroleum and Coal Products Manufacturing). NAICS Code 324 is made up of five subcategories: Petroleum refineries, two related to asphalt manufacturing, one for lubricant manufacturing, and 324199 - for "All Other

Petroleum and Coal Products Manufacturing". We believe that use of **NAICS code 324 is an error** and is too broad for coke calcining categorization. This is verified by NAICS guidance.

California calciners appropriately use the NAICS Code 324199. Additionally, the U.S. Department of Commerce identifies that NAICS Code 324199 as appropriate and recommends specifically for "Calcining petroleum coke from refined petroleum." The selection of appropriate NAICS Code 324199 from the U.S. Department of Commerce is compelling. Indeed, the Code section explicitly warns businesses not to make this error.

NAICS Code 324199 also applies to other industries that are similar to calcining (primarily using coke ovens), whereas the broader Code 324 applies to many industries that are very different from calcining. Industries associated with NAICS Code 324199 have high emissions intensity, as already published in Appendix K of the 2010 Cap and Trade rulemaking. Therefore, it is perplexing and silent on why coke calcining has been omitted from Table 9-2's slower cap decline factor after so many instances of pointing this out. Calciners meet all three requirements to be eligible for the slower declining cap adjustment factors.

RECOMMENDATION: Phillips 66 requests coke calcining is assigned the slower Cap Adjustment Factor in the upcoming 15-day amendment package.

We hope we have demonstrated that pursuing the "jointly operated" concept is inappropriate based on the above and new information we are providing at this time. Calcining operations appropriately should be classified within the Code that is referenced and the slower Cap Assistance Factor must be applied.

Thank you for your attention to these important and unanswered rulemaking matters, please don't hesitate to call me at (916) 447-5572.

Sincerely,

Stephanie R Williams
Manager, State Government Relations
Western and Rocky Mountain Regions

Encl: attachment

cc: Mary Nichols
Virgil Welch
Edie Chang
Steve Cliff
Rajinder Sahota
Eileen Hlavka
Mark Sippola

PARAMOUNT PETROLEUM
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(562) 531-2060

Via refinerybenchmark-ws and Electronic Mail

March 13, 2014

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento Ca, 95814

Dear Rajinder :

Following up on our recent conversations, Paramount Petroleum Corporation and its parent, Alon USA Energy, Inc. (collectively, Alon) hereby submits comments regarding the Refinery Benchmark Discussion Document released on February 26, 2014. Additionally, we are submitting additional items of consideration based on these discussions. Alon understands the window is closing on this regulatory package, but also believes there is still some important work to be done to finalize this regulatory package along with continued post-adoption discussion and work. These comments are intended to assist staff in the final work.

Summary of Comments

- Strong support for retaining the separate Atypical refinery category and the retention of a separate benchmark;
- Support for the current size and complexity metrics in the draft Atypical definition;
- Recommend removing, or severely limiting, the concept of "jointly operated" from the Atypical refinery proposal.
- Recommend excluding the newly introduced concept of "negative true-up" or "negative allocation".
- Need for continued discussions concerning the unique issues associated with Alon's past, existing and future California operations.

Alon and CARB have worked together continuously for more than a year on these issues. Amending the refinery benchmarking and associated industrial allocation methodology is a very significant policy and technical exercise because it establishes the foundation of the Cap and Trade Program (Program) and determines the baseline competitive position (both intrastate and interstate) for California refiners. Its impact on Alon cannot be understated. According to the Benchmark Document, there is still additional language to be developed relating to the "Jointly Operated" component of the Atypical definition. This is concerning to Alon, as we understand the formal 15-day regulatory amendment package is due out very soon, it is very likely that the language contained in that document will be the final version, and depending on how it is written, could impact Alon negatively.

With a tentative April Board meeting on the calendar to finalize this and other policy issues associated with the Cap and Trade program, Alon stands ready to provide feedback and engage in constructive dialogue so that we can avoid a last minute deadline process. Further explanation of these summary comments are provided below.

Detailed Comments—"Atypical" and "Jointly Operated"

Formal recognition and separate benchmarking of "atypical" refineries in the Cap and Trade Program is a key policy recommendation Alon supports. Not all refineries in California are large and complex, and not all of them are of a simple single site configuration; the atypical category appropriately recognizes this reality. What defines a refinery as being "atypical" is certainly regional in nature; therefore it is entirely appropriate to establish criteria for an atypical California refinery based on the state's existing inventory of refineries. Alon supports the proposed California-specific atypical criteria metrics of less than 12 process units and 20 million barrels of crude throughput per year. Recent conversations with staff have implied that these metrics are being reconsidered. This would be a very significant change at the end of a long process. Alon would not support changes to these metrics at this point in the process without a full and complete ability to review and analyze their impacts on our operations followed by an opportunity to provide meaningful comment.

This concern extends to the proposed, but not yet finalized concept, of "jointly-operated". As Alon has multiple facilities within California, the potential for this concept to impact our operations is real. And with additional clarifications still to be provided, it has limited our ability to fully understand if we are actually impacted. One potential concern was highlighted in our recent discussions, the scenario where a facility imports intermediates and operates without an atmospheric distiller. Under the current draft definition, that facility would be considered with the refinery from which it receives it inputs, regardless of its location (in-state or out-of-state) even though it met the Atypical metrics for size and complexity.

As we have commented before, the "jointly-operated" concept was a very late addition to an otherwise year-long process of stakeholder involvement as it was introduced within two-weeks of initial Board approval in October. As a facility potentially subject to this provision, we have significant concerns on this issue. The 15-day process is intended to be a smoothing and shaping exercise of firmly established, stakeholder- vetted, and Board approved policies. A "finalization" of concepts. This regulatory package could be considered 99% complete, yet it is the final 1% that impacts Alon directly. Alon firmly believes the policy basis of "jointly operated" is flawed, and has not been supported through a leakage analysis.

In addition, how these concepts will impact the new "Renewable Diesel Refinery", collocated at the Paramount facility are unknown. To further complicate the issues, our long-term planning could include using our Long Beach facility in this new activity. Loss of the Atypical status for any of these facilities could have serious economic impacts. Recent conversations with your staff have confirmed that additional discussion and evaluation of the myriad of impacts is necessary. Alon will be working to fully describe its potential operating scenarios for staff discussion.

According to the Benchmark Document and recent discussions, "Jointly-Operated" is still a work in progress. Having to respond, and trying to analyze, such concept in the 15-day process is not appropriate. ***Alon respectfully asks that the concept be abandoned in the final regulatory package.***

Detailed Comments—"Negative True-Up" or "Negative Allocation"

This concept could have significant implications to Alon's California operations, including the aforementioned Renewable Diesel Refinery. We understand that staff discovered a potential problem with the allocation methodology late in the regulatory development process, after the ISOR to the October amendments was completed. Alon only learned about the desire to

add this language on the day of the October Board hearing as the first public disclosure by CARB of such a concept was in Attachment A to Board Resolution 13-44, and there has not been any additional information provided by staff. Alon has many questions about how this new provision will be implemented and requests a full vetting and analysis of it impacts, including economic and any potential environmental analysis before it is included in the final regulatory language. As with the Jointly Operated concept, Alon will provide additional information for staff review and discussion, but it was communicated by staff that due to the timing of the regulatory adoption process, it was very unlikely that issue can be addressed at this time. Alon looks forward to CARB revisiting and working on this issue in the future.

Lastly, Alon has continually raised the issue of the uniqueness of Asphalt refineries and how they could be addressed under the Cap and Trade regulation in general, and specifically under the CWB methodology. These issues have been discussed, but were "left off the table" due to limited staff resources, regulatory timing and other higher priority considerations. Alon accepted that only so much could be squeezed into this regulatory package, but we are concerned when stakeholder issues are pushed to future packages yet significant CARB-proposed late revisions are allowed to be introduced. Alon looks forward to continuing the discussion about how the Cap and Trade Regulation impacts in-state asphalt production facilities.

Because some important portions of the actual language of the proposals have yet to be provided to stakeholders, we request that any new amendments, not yet provided be struck from the final package, and any amendments formally proposed under a 15-day package be drafted with the utmost of deference to the need of stakeholders to understand and analyze Staff's proposal and its underlying support data.

Thank you for your attention to this important matter. Any questions or follow-up comments can be directed to Gary Grimes GGrimes@ppcla.com. Additionally, Alon is available to help CARB work through these important issues.

Sincerely,

Glenn Clausen
Vice President – West Coast Refining

cc: Mary Nichols
Virgil Welch
Richard Corey
Edie Chang
Holly Stout
Steve Cliff
Mary Jane Coombs
Eileen Hlvaka
Mark Sippola