Ms. Michelle Buffington
Air Pollution Specialist
Stationary Sources Division
California Air Resources Board

Mr. Richard Corey
Division Chief
Stationary Sources Division
California Air Resources Board

September 27, 2011

Re: Low Carbon Fuel Standard, High Carbon Intensity Crude Oil Provision

Dear Mr. Corey and Ms. Buffington:

We support ARB's efforts to strengthen the Low Carbon Fuel Standard going forward and to account for back-sliding in the gasoline (or CARBOB) and diesel (or ULSD) due to high carbon-intensity crude oils. As noted in our comments over the past two years, NRDC and CEERT, and the broader environmental and health-based community, have supported ARB's current regulations pertaining to high-carbon intensity crude oils (HCICOs) and we continue to do so.[1] As ARB staff has indicated a willingness to discuss alternative approaches to address specific concerns from oil companies, we provide several key principles that should guide the selection of these options. These principles will determine whether we will support specific new options or whether we oppose them. Four key principles include:

1. **Accurate accounting of the California or refinery baseline**. Establishing an accurate, performance-based accounting system will ensure that additional emissions in the carbon-intensity of California's gasoline and diesel baselines are captured. All crude oil sources that comprise the baseline should be treated consistently in a performance-based manner.

2. **Discourages backsliding in the California or refinery baseline**. An incremental deficit should provide a signal against refineries' crude oil slates from shifting away from the current baseline to greater use of high-carbon intensity crude oils.

[1] The current regulatory high carbon-intensity crude oil (or HCICO) provision has been called "Approach 1," July 22, 2011 Workshop Presentation by Staff.
http://www.arb.ca.gov/fuels/lcfs/regamend/072211lcfs_regamend_pres.pdf

3. **Provides a signal for innovative activities to reduce upstream emissions**. The opportunity to generate credits for upstream reduction activities will incentivize innovation and allow companies to generate credits, providing greater compliance flexibility to all refineries. A carefully designed HCICO provision could actually assist some or many refineries in achieving overall LCFS compliance by providing additional flexibility to comply.

4. **Minimizes negative carbon leakage such as crude shuffling, maximizes positive carbon leakage.** Spurring reduction activities that benefit other jurisdictions, creating a replicable regulatory structure, and minimizing the incentive to shuffle crude oils will help amplify the environmental benefits while reducing oil industry concerns.

A final key factor to consider is the degree to which any new option provides an environmental improvement versus the current regulatory provision.

Preferred Approaches:[2]

Approach 1) As noted in our earlier comments, we support the current HCICO approach. We support the goals of Approach 1 which prevents increases in the use of new high-carbon intensity crude oils going forward, such as tar sands. The provision is also refinery-specific, giving the clear signal and specific responsibility to purchasers of HCICOs. ARB has already developed an implementation approach and screening process over the course of the past year and a half that would enable the Board to go forward with this approach.

We understand that the Western States Petroleum Association as well as individual oil companies have raised concerns regarding:

- minimizing crude oil shuffling,
- ensuring that domestic refineries are not put in an unfavorable position by leaving out imports of intermediate and finished products
- avoiding differentiating crude oils, among others.

We note that fundamentally, assigning unique carbon-intensity scores based on performance is the heart of the program and is done for all alternative fuels. The new approaches presented by ARB focus attention on the baseline not getting worse over time as opposed to crude differentiating *per se*. Second, the new approaches also appear to minimize crude oil shuffling by allowing refineries to buy and sell crude oils so long as their average carbon-intensity does not worsen over time, such as through increasing their use of HCICOs. Finally, the provisions can treat intermediate and finished products in a similar, equivalent manner to crude oils.

[2] Per the June 30th Draft Outline, available at: http://www.arb.ca.gov/fuels/lcfs/workgroups/advisorypanel/20110630_topic14_outline.pdf

To the extent that ARB moves forward with changes to address these concerns, our alternative compromise approaches **in order of preference** are:

Approach 3) Hybrid California Average/Company Specific Approach (Approach B). We could support this alternative approach as being the most accurate and fair option to capturing additional emissions in California's gasoline and diesel baseline. This also provides the most direct signal to discouraging backsliding in the baseline and encouraging emission reductions by assigning the responsibility to the companies. This is very much in keeping with a polluter pays principle and "reducer gets rewarded" principle.

One concern about Approach A, which focuses on the HCICO volumes, is whether increases in California high-carbon intensity crude oils would still be considered part of the baseline and thus, not included in the volume. We could support Approach A, so long as all crude oils are accounted for in the provision.

Approach 4) Company specific approach. We could also support this alternative provision since it parallels Approach 3. We only note that the development of separate compliance schedules for each company may be technically simple but administratively challenging.

Approach 2) California average approach. This approach retains the accounting function of the HCICO provision (principle 1), but dilutes the signal against backsliding and the signal to innovate by not assigning company-specific responsibility. This approach also appears to be unfair to refineries that are either: (1) not increasing emissions or (2) even decreasing emissions. Refineries that increase their emissions through HCICOs would benefit from spreading their emissions across the entire industry. On the positive side, it could more readily capture intermediates and finished product imports.

We believe that Approach 2 could be improved by providing companies the option of reporting their specific refinery values through an approach analogous to Approach 3. This could be as simple as allowing a company to utilize the California average default value that is updated on a continuous basis or to move to a "Method 2" customized approach (essentially Approach 3). Any credit generation opportunities must be premised on a company choosing to report their own company specific baseline (Approach 3).

The addition of the opportunity for company-specific reporting would help counter-balance the weaknesses of Approach 2. This is because the risk of one refinery utilizing more HCICOs could be counter-balanced by the option of other refineries pulling out of the average. Instead of the "tragedy of the commons" problem, it would become analogous to that of the "Prisoner's dilemma".

Approach 5) Worldwide average approach. **We would strongly oppose this approach for several reasons based on the principles identified above.** Based on our understanding, this approach would require ARB to monitor all the crude oils globally and measure whether the weighted average was increasing (or decreasing) over time. Refineries in California and importers would then be assigned this value, despite there being little evidence of a nexus between the actual emissions occurring in California baseline and the global baseline. Approach 5 tries to solve the crude oil shuffling problem by removing accounting principles and responsibility for increased HCICO use in California. This is analogous to trying to fix a leaky faucet problem by simply removing all the plumbing. Approach 5:

- Does not accurately account for the California gasoline and diesel baseline increasing. Theoretically, California could shift to all HCICOs and the global average might not change or could even go down. Thus, there is little or no nexus between actual emissions from California and the global crude oil slate. (Principle 1)
- Approach 5 allows 100% carbon leakage to occur in the California program by failing to account for specific HCICO use. The side-effect of crude oil shuffling is minimized by not addressing the problem altogether. (Principle 4)
- Because there is no unique party that is responsible for the global crude oil slate, no actual disincentive is in place to discourage purchasing greater amounts of HCICOs. (Principle 2)
- Absent some assignment of responsibility and California focus, no credit generation mechanism for innovative practices can be credited to an individual company under this approach. (Principle 3)
- This is contrary to other LCFS principles that fuels need to be used in California and demonstrate a physical pathway.
- The baseline for the global average crude is far different from the CA baseline, raising questions administratively of whether refineries would need to reduce by 10% versus a lower baseline (e.g. 90 g/MJ versus 95 g/MJ).
- Oil companies have been reluctant to share data on the crude oil slate for California. Administratively, it will be even more challenging or near impossible for ARB to collect global data in any reasonable timeframe.

Based on the specific details provided, we continue to oppose Approach 5 based on the above principles and reasons.

<u>Comments on the Specific Details of the Provisions</u>

We provide ARB with additional comments on a number of areas affecting the provision.

***Importers**:* Importers of intermediate and finished products will need to be accounted for in order to provide complete and fair treatment. One option is for ARB to simply assign a conservative carbon-intensity value to importers and to provide importers an opportunity to provide information on their specific CI value, similar to refineries. The system should, in general, parallel the treatment for refineries, taking into account that these volumes are currently a relatively small fraction of California's fuel pool but could grow over time.

Moving average: The potential for a moving average has been raised. We are not opposed to this approach specifically in the context of a refinery-specific or hybrid approach (Option 3 or 4), since this mechanism would smooth out any abrupt refinery changes and spread out changes over a wider volume. This is so long as the average is weighted by volume and still accurately accounts for excess emissions, and is not extended across so many years that any major changes become unnoticeable and work as a disincentive to industry innovation. This is also why we consider the California average (Option 2) to be a weak alternative because it provides little reason to use a moving-average since the volume is already spread across a fairly large pool.

***Baseline year*:** For the baseline year, the HCICO should still rely on 2006 going forward to maintain simplicity and consistency. If a moving average is selected, the years 2005-2007 or 2006 – 2009 should be used as the averaging window. Any change from the LCFS baseline year (or years around 2006) should be justified so as not to select a particular year where the carbon-intensity is abnormally high versus historic levels. Refineries will also likely weigh in to argue the opposite, that the baseline should not be selected to select a particular year where the carbon-intensity is abnormally low.

Significant changes to the CI value due to a refinery closure, opening, or large production change: A weighted, moving average approach could address this situation, or ARB could also simply spread out these volumes over the next several years going forward if needed.

Crediting for innovative, upstream reduction activities. Innovative activities should be allowed to the extent that it can be shown that (1) a *de minimis* reduction is reached such as 5 grams/MJ similar to the Method 2 approach, or if reductions are from an approved list of qualified technologies or activities such as CCS, (2) the lower carbon-intensity crude is not merely being shuffled in, but an active, explicit long-term contract is shown to purchase this lower CI crude for purposes of credit generation, and (3) the amount of credits generated from this mechanism is capped so as not to exceed a certain percentage of the overall requirement (e.g. 20%). This last requirement is meant to address uncertainty on the extent this opportunity could be widely used and to preserve the LCFS goal of encouraging low-carbon, *alternative* fuels.

We respectfully submit these comments and look forward to working with ARB to ensure that any HCICO modifications accomplish the above goals.

Sincerely,

Scientist, Clean Vehicles & Fuels

John Shears

Research Coordinator
CEERT

CC:
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