



Kern Oil & Refining Co.

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October 2, 2012

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

**Re: Comments on Proposed Amendments to Low Carbon Fuel Standard Regulation
Third Notice of Public Availability of Modified Text
Kern Oil & Refining Co.**

Dear Clerk of the Board:

Kern Oil & Refining Co. (Kern) is providing comments on the Third Notice of Public Availability of Modified Text to the Low Carbon Fuel Standard (LCFS) regulation, released by the California Air Resources Board (CARB) Staff on September 17, 2012. Kern appreciates the opportunity to comment on the proposed modifications.

As outlined in detail in Kern's comments on the Second Notice of Public Availability of Modified Text to the LCFS dated August 24, 2012, Kern's greatest concern regarding the proposed modifications continues to be CARB's failure to address the defects of the current "average refinery" approaches in the LCFS regulations and proposed modifications. Specifically, the "average" approach results in a flawed High Carbon Intensity Crude Oils (HCICO) accounting for low-volume refiners and, similarly, a disproportionately high Carbon Intensity (CI) determination for finished fuels for low-energy use, low-complexity refiners. The resulting hardships to low-volume, low-energy use, and low-complexity refiners like Kern caused by the generalizations within the "average" approaches have been well-documented and substantiated, as well as acknowledged by CARB. Kern continues to urge CARB to address these defects as we move into implementation of LCFS because these defects now pose a real threat to Kern and similarly situated refiners' bottom lines.

As to the changes proposed in the Third Notice, Kern provides comments as follows:

I. Section 94582 - Use of 2010 as Baseline Year Rather Than 2009

As noted in Kern's previous comment letter dated August 24, 2012, the Second Notice of Public Availability of Modified Text failed to incorporate the most recent data representing 2010 as the baseline year for CA-Average Crude CI as opposed to 2009. The current modifications being

proposed have since updated the baseline year for CA-Average Crude Carbon Intensity to 2010 as well as the corresponding target CIs for finished fuels. Kern wishes to express its appreciation for CARB's consideration of points made and updating of the baseline year to 2010.

II. Section 94586 – Incorporation of the OPGEE Model to Generate CI Values

Although the language in the previous Second Notice of Modified Regulations was generic in allowing for models other than CA-GREET, the currently proposed language now specifically references OPGEE as an approved model for estimating crude oil CIs. Although the previously modified text did not specify a particular model, it was Kern's understanding from public workshops hosted by Staff in March and July 2012, that Staff would seek approval to use the recently developed OPGEE model. Use of the OPGEE model, as developed by Stanford University for CARB, would give Staff and those seeking specific new pathway approvals an alternative to the CA-GREET model for determining crude oil CIs.

As noted in our previous comment letter dated August 24, 2012, while Kern has no specific technical objection to the OPGEE model at this time, there are generally many concerns and unanswered questions surrounding the use of the model:

1. The model is still in infancy stages, having just been developed in 2012; the beta version was introduced in March 2012, with updates made and the next version released in June.
2. The model has been built on a number of assumptions because many of the data inputs necessary are not publicly available information.
3. There has been no opportunity to prove or ground-truth the model for accuracy. Without specific field operating data to input, developers have not been able to compare outputs using assumptions to outputs using known data. Without this opportunity, how can anyone be sure the results are reliable?
4. There has been no information made available to compare CIs of crude oils established using the CA-GREET model to CIs of the same crude oil established with OPGEE. What makes OPGEE more accurate, warranting that it replace CA-GREET for the crude oil production and transport CI value?
5. If the CIs of fuels in the regulations have been determined solely using CA-GREET, then are we even comparing apples to apples by having new CIs for crude oil baseline/annual compliance and new fuel pathways established based on a separate or possibly multiple model outputs?

RECOMMENDATIONS:

CARB should consider and respond to the above comments, and provide additional supporting documentation justifying the use of and substantiating output results from the OPGEE model.

III. Section 94584 – Table 8: Carbon Intensity Lookup Table for Crude Oil Production and Transport

The currently proposed modifications add a “Table 8” entitled “Carbon Intensity Lookup Table for Crude Oil Production and Transport.” Kern notes that the crude oil CIs identified on Table 8, however, appear to be an incomplete picture of the actual crude oil being utilized by California refineries. For example, Table 8 lists only two domestic crudes – the California Average Production and the Alaska North Slope. Absent from the proposed modifications is any explanation of how CARB calculated the California Average Production CI – for example, what specific California oil fields were considered, the time frame over which the considered production data was collected, or the averaging methodology. On July 10, 2012, CARB staff previously released a draft table entitled “Table 2: Preliminary Carbon Intensity Values for California Fields (Fields with greater than 2000 BOPD)”, which included California field specific CI values ranging from 1.6 (Beta) up to 28.6 (Placerita). The wide CI discrepancy from field to field highlights the need for California field specific CI data to be included in the regulations to give a more accurate picture of an individual refiner’s crude slates. Moreover, such an average necessarily assumes that the proportion of these crudes processed by California refiners will not vary from year to year, which obviously is not the case. The fact that Staff already has the field specific CI values makes the failure to include those values in the regulations even more unjustifiable.

Further, it is highly unlikely that California refiners only ran domestic crude oil from two different states – California and Alaska – as currently presumed in the modifications. The existing regulations did not mandate reporting of individual Marketable Crude Oil Names (MCON) to CARB, as would now be required by the proposed modifications. However, CARB distributed voluntary surveys to refiners in 2011, which Kern presumes was the source of the individual California field data listed in Table 2 and presumptively those surveys also listed domestic crude sources in addition to the two identified in the proposed modifications. It is unclear why this additional detail is not included within the currently proposed modifications.

RECOMMENDATIONS:

Kern urges CARB to expeditiously release CI values for additional domestic MCONs and update Table 8 to include California field-specific values as opposed to the currently proposed statewide average, to enable refiners to make informed business decisions going forward with regard to their crude oil slates.

In conclusion, Kern appreciates CARB’s consideration of Kern’s comments. Kern respectfully continues to urge the Board and Staff to address the unjustified disproportionately negative impact of the current regulations on low-volume, low-energy-use, and low-complexity refineries, like Kern – the timeliness of which is imperative. The cumulative effect of CARB’s continued failure to address LCFS regulatory shortcomings is in the inability for California refiners to

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access compliance, adequately budget, or make informed business decisions under LCFS. As always, we are committed to working with Staff throughout this regulatory process.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Melinda L. Hicks', with a stylized, cursive script.

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