



Western States Petroleum Association
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Thomas A. Umenhofer, CCM, REPA
Vice President

November 9, 2017

Mr. Sam Wade
Branch Chief
California Air Resources Board
1001 I Street
Sacramento, California 95814

sent via email: LCFSworkshop@arb.ca.gov

Re: WSPA Comments on ARB October 16, 2017 4th Refinery Co-Processing Working Session

Dear Sam,

The Western States Petroleum Association (WSPA) appreciates this opportunity to provide initial feedback on the California Air Resources Board (ARB) staff presentation at the 4th Low Carbon Fuel Standard (LCFS) Refinery Co-Processing Working Session, held on October 16, 2017 in Sacramento, CA. WSPA is providing these comments as part of a continuous effort to provide feedback on the LCFS-related items presented by ARB. WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states.

On January 16, 2017, March 22, 2017, and July 5, 2017, WSPA provided feedback on the ARB staff presentations at 1st, 2nd, and 3rd LCFS Refinery Co-Processing Working Sessions, held on December 13, 2016, February 7, 2017, and June 2, 2017, respectively. Therefore, the comments provided below augment that prior feedback.

General Comments

WSPA appreciates ARB providing flexibility for co-processing pathways and being willing to work one-on-one with individual facilities to address specific issues.

WSPA concurs with ARB to not require ¹⁴C testing to demonstrate the presence of renewable carbon in the product of co-processed fuels. Currently available ¹⁴C testing data (particularly at low renewable levels) suggests that this test method may not be accurate under certain conditions. In addition, the method is not widely available and is expensive. We do, however, believe that a ¹⁴C test method should be included as an option for co-producers to employ if they should choose to do so. Stakeholders should be given the opportunity to provide supporting evidence of the method's applicability.

Comments on ARB Staff Presentation

Co-processing in Hydrotreaters/Hydrocrackers (slide 7). In addition to incremental allocation, WSPA suggests that ARB staff consider including the option for direct measurement.

Framework for Renewable Volume Quantification (slide 6). WSPA appreciates ARB staff for including and continuing to support the mass balance approach.

Establish a Baseline (slides 15-17). WSPA appreciates ARB's clarification during the Workshop that the compositional analysis is not expected to be a daily sample. We support flexibility through the application process to determine the frequency and extent of measurement needed.

WSPA suggests that ARB allow for the applicant to provide alternative data and calculation methods for approval in the application process in the event that not all desired meters have yet been installed. Viable projects should not be eliminated because of measurement systems that may not be able to be installed until the next turnaround. Case-by-case approval temporary or permanent methods for quantification should be enabled in any guidance that ARB releases on the subject.

Comment on ARB Draft LCFS Guidance 17-03 Document (October 2017)

Section 2.3 - Carbon Balance for Baseline Operation (page 4) and Section 3.2 - Carbon Balance for Co-processing (page 5). The ARB staff suggestion of a minimum of 50 traces from sampling over multiple days over a three month period appears to be excessive. WSPA requests ARB further review and reconsider that suggestion.

Section 4 - Calculation of GHG Emissions (page 6).

WSPA is concerned the ARB's use of the PRELIM model. Limitations of the PRELIM model have been summarized in a Jacobs Consultancy study¹ with results sanctioned by the Alberta Department of Energy to evaluate their Oil Climate Index (OCI):

- *Every refinery is different: Crude slates, refinery configuration, product mix/markets. Crude slates are generally mixtures of crudes chosen by price, availability, and fit to refinery configuration and ability to meet product demand. Crude oil slates are constrained by the refinery processing configuration.*
- *No adjustment to meet product specs: No gasoline octane blending. No RVP blending for gasoline. Over-desulfurization (overtreats gasoline, jet, and diesel blendstocks: sulfur of treated products < 1 ppm S. FCC feeds are overtreated to < 3 ppm S. FCC slurry oil, which goes to fuel oil, is < 5 ppm S. Diesel cetane not reported.*
- *Disposition of products: Jet is both hydrotreated and Merox treated. Jet production is nearly twice market demand. Hydrocracked naphtha and hydrotreated coker naphtha are either blended or reformed based on user input. Heavy gas oil options - 50/50 split of Atmospheric Gas Oil, Light Vacuum Gas Oil, and Heavy Vacuum Gas Oil between FCC and GO HCU.*
- *Difficult to box balance mass and energy.*
- *Material and energy flows difficult to follow in model.*

Regardless of what model is utilized, all reliable reference sources of emission factors should be allowed. These sources should include (but not be limited to): GREET model, API Compendium², and AP-42³.

¹ Jacobs Consultancy, "OCI Review", Carnegie Oil Climate Index (OCI) Review Workshop, November 19, 2015.

² http://www.api.org/~media/files/ehs/climate-change/2009_ghg_compendium.ashx

³ <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors>

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WSPA appreciates this opportunity to provide our initial input regarding the 4th Refinery Co-Processing Working Session. If you have any questions, please contact me at (805) 701-9142 or via e-mail at tom@wspa.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas A. Young". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

cc: Catherine Reheis-Boyd, WSPA