



Western States Petroleum Association
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Vice President

September 7, 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 August 7, 2017 LCFS Workshop

Dear Sam,

The Western States Petroleum Association (WSPA) appreciates this opportunity to provide feedback on the California Air Resources Board (ARB) staff presentation at the Low Carbon Fuel Standard (LCFS) Workshop (Workshop), held on August 7, 2017 in Sacramento, CA. 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.

In addition to the comments provided herein, WSPA encourages ARB staff to continue to consider the LCFS program feedback provided by WSPA in comment letters for the following recent ARB LCFS Working Sessions:

- December 13, 2016 1st Refinery Co-Processing Working Session.
- December 19, 2016 Verification Governance & Impartiality Considerations Working Session.
- January 31, 2017 Ethanol Working Session.
- February 7, 2017 2nd Refinery Co-Processing Working Session.
- February 10, 2017 1st Biodiesel and Renewable Diesel Working Session
- March 17, 2017 Alternative Jet Fuel Working Session.
- May 15, 2017 2nd Biodiesel and Renewable Diesel Working Session.
- June 2, 2017 3rd Refinery Co-Processing Working Session.

General Comment

LCFS Credit Availability

Based on the draft illustrative compliance calculation tool and in response to a stakeholder question from the Workshop, ARB staff indicated that their expectation is there would be no future surplus in the LCFS credits bank and even enter the credit clearance market with structural deficits due to market-wide credit shortfall. ARB staff further stated that this approach was an acceptable outcome to promote obligated parties to "start-up" credit generating facilities in 5 years. WSPA has long argued that the credit clearance market, or any cost containment mechanism, is not a substitute for an infeasible program. While cost containment plays an important role to protect the consumer and the market from unforeseen circumstances, it should not be used to compensate for unsustainable targets.

ARB Executive Officer Richard Corey, during the 2015 LCFS reauthorization rulemaking, appeared to agree by stating that if it became obvious that structural deficits were building in the credit clearance market because there were not enough credits being generated by alternative fuels. Then, adjustments could be made to the program, including adjustments to targets. WSPA believes that ARB's current thinking overstates the ability for obligated parties to compensate for a credit shortfall in a market dependent on a diverse set of alternative fuels bringing as many credits to the market as possible. Moreover, a credit bank is a necessary feature in any market to deal with the natural variation in the market. Regardless of the credit bank, it is important that a program have sustainable targets to ensure enough credits are generated to cover deficit credit balances.

Comments on ARB Staff Workshop Presentation

Livestock Pathways and SB 1383 (slide 7)

The ARB staff presentation on Livestock Pathways and SB 1383 offers little definition on specifics that ARB staff is considering or the potential LCFS impact/contribution staff envisions out of dairy bio-methane. It should not be assumed that LCFS stakeholders are necessarily involved to the same extent in the Dairy Working Group meetings and, thus, a more detailed and thorough summary of the topics where LCFS overlaps would be beneficial at the next workshop. When implementing SB 1383's required financial incentives for dairy projects, ARB should maintain a level playing field where each dairy project has equal access to any incentive and innovation in technologies.

Public Process & Rulemaking Timeline (slide 9)

In light of the rulemaking timeline presented in slide 9 of the ARB Staff presentation, it is apparent that significant progress in refining the concepts and approaches put forth in the Workshop in many key areas needs to be made in a very short time period. WSPA looks forward to a more complete regulatory package for stakeholder review optimally in advance of the next LCFS Pre-regulatory Workshop, tentatively scheduled for September 22, 2017.

Environmental Analysis (slides 11-12)

It is unclear in the ARB staff presentation as to what CEQA Environmental Checklist ARB staff is proposing to be utilized beyond the general "identify and evaluate indirect impacts" purpose. At this time, there is no draft checklist to review but clearly affected parties are sensitive to potential impacts the environmental analysis may have not only on renewable fuel production but also on bio-feedstock production and distribution. WSPA requests that ARB provide a copy of the Checklist that ARB will be utilizing.

Target Setting (slides 14-21)

Slide 16, along with Appendix A, describes ARB proposed multi-stage approach to develop tools for scenario analysis and evaluation of potential compliance curves to set compliance targets to replace Tables 1 and 2 of the current regulation. While ARB staff continues to seek input on the previously released Biofuel Supply Module (BFSM) model, it is still testing the California Biofuel Allocation Model (CA-BAM) that appears on this flowchart and will not release this model for stakeholder review and feedback until later this year. WSPA is concerned that this time table may not allow sufficient time for us to review/evaluate the model as well as the scenarios and conclusions used in the model.

ARB appropriately envisioned a "stakeholder engagement/public comments" step alongside of each phase of the process (shown on slide 16). Seeking input from various stakeholders as well as SME's, academia, etc. creates the appropriate level of peer view necessary to improve the accuracy and quality of the model and confidence in

the final targets the model was used to generate.

With regard to specific elements of the modeling presentation:

- The process and flowchart lack timelines for each phase of the work. The reader may have difficulty getting the “big picture” and understanding when all this is supposed to come together. It would be useful if staff added timelines to the flowchart.
- In the flowchart, the “Public Comment” box needs to be connected to: “CA-BAM” and “Preliminary Evaluation” boxes by arrows, as explained in the Concept Paper (Appendix A). Note that in Concept Paper, page A-5, first sentence under Phase 4 heading: “phases 1-4” needed to be revised to “phases 1-3”
- “Compliance Calculator” box of the flowchart in Phase 4 of the process: the title for this box seems unfit, as Compliance Calculator is developed in Phase 3 of the process. We suggest that a more descriptive title may be “Scenario Analysis”.
- Similar to the bullet point above, the “Results” box description could be changed to a more descriptive entitled “Target Setting”.

Fuels and Regulated Parties (slides 24-31)

WSPA supports the ARB staff proposal to allow alternative jet fuel to earn LCFS credits for the reasons presented in slide 25 and under the terms outlined by staff in slide 24 (i.e., that conventional jet fuel would not generate deficits). We urge ARB staff to clarify the eligibility of various parties in the distribution chain to earn such credits and clarify that fuel blenders introducing/blending renewable/alternative jet fuel into their product offerings would be the initial parties eligible to generate credits for doing so.

There was a comment from an audience member during the Workshop, asserting that credit multipliers should be applied to certain fuels because they need extra-assistance to be economic. WSPA opposes this concept as all fuels should be credited based on their relative carbon intensity values and CARB should not pick winners and losers by awarding extra credit to specific fuels.

WSPA requests that ARB describe who will be the obligated parties for the propane. Commercial propane that is produced at the refinery is used in a variety of ways and only some will be used as transportation fuel. The end use is likely only known by the wholesalers and not the refiners so it would be inappropriate to assign an obligation to propane at the production facility.

With regard to the opt-in discussions in slides 29-30, WSPA has the following positions:

- Support alternative jet fuel (and would support opt-in of bio-jet fuels for flights into California as well as from California),
- Support locomotive diesel (for interstate/international shipments) if it generates credit,
- Support marine fuel (for interstate/international shipments) if it generates credit.
- Support removal of opt-in status for hydrogen as we agree with ARB’s analysis of the position of hydrogen as a fuel.

Third-Party Verification (slides 33-48)

WSPA supports the concept of ARB setting the appropriate safeguards for conflict of interest such as balancing the need for qualified verifiers with these safeguards. Further, WSPA supports the concept that verifiers who might already provide services for refiners in terms of other fuels programs (i.e., EPA attestations, RFS, etc.) could still be eligible to perform verification services under the LCFS. This will enhance the pool of qualified verifiers. WSPA also supports the concept of a petition process to object to adverse verifications.

With regard to “Conflict of Interest Assessment, Disclosure, and Monitoring” (slide 47), the regulatory language covering conflict of interest rules needs to be clear and direct. A conflict should only arise if an auditor performs services that directly affect a client’s LCFS pathway information. Services related to other topics or other programs should have no effect. ARB also needs to define what factors should be evaluated in a 3 or 5 year look-back in the determination of an allowable verification company.

WSPA continues to support the need for comprehensive, required verification audits under the LCFS. We also support previous statements by established verification auditors that the LCFS regulations should set clear guidelines for these audits to avoid a “lowest common denominator” approach. WSPA urges ARB to work closely with experienced, reputable Quality Assurance Plan (QAP) auditors to establish clear audit parameters and identify overlaps between the needs of QAP audits and LCFS verification audits. This will result in reliable LCFS verifications and potentially mitigate the cost of audits covering both programs.

With regard to “Material Misstatement Definition” (slide 39), it was discussed during the Workshop as to whether the 5% error should be based on the error in credits generated or the CI. A 5% error on a very small CI value will yield a much more restrictive application of the Material Misstatement definition for situations where credits generated are a high number. It would perhaps be useful for ARB staff to consider that a Material Misstatement be identified where both the CI and the credits generated would have more than a 5% error.

Notwithstanding WSPA position that Material Misstatement should be based on credits generated, ARB should confirm that, for refineries reporting CARBOB and neat CARB Diesel (without renewable and biodiesel), a material misstatement would occur in the event that the total volume of obligated CARBOB or neat CARB Diesel reported is less than 5% than the verified volume. The verifier will not issue an “adverse” outcome if an individual shipment volume of obligated CARBOB or neat CARB Diesel is less than 5%, as long as the total annual volume is within the 5% limit. For fuel pathway CI verification, the verifier should not confuse fluctuation of process conditions with errors. ARB needs to establish a process to recertify the CI with the new process information and the verifier should report a “positive” outcome in this case.

WSPA would also like emphasize (as we have in past comments) that ARB should allow a tolerance for the initial and on-going verifications of CI pathways with a range, for example +/- 5 gCO₂e/MJ, instead of a percentage, since a percentage would imply a tighter range for small CI values vs. high CI values (negative or positive).

With regard to “Verification Frequency and Credit Generation”, the proposed MCON verification deadline is very aggressive (slide 44). ARB should consider the likelihood of material errors that may affect crude CI calculations in deciding when to set this deadline. Reported data should be presumed correct and the verification as an after-the-fact confirmation. A rushed verification schedule has a greater chance of affecting the accuracy of reported data than catching potential misstatements. The verification deadline should come at least two months after the reporting deadline.

WSPA shares the concerns of renewable fuel producers around tracing feedstocks to their ultimate source. Practical guidelines are necessary to avoid excessive cost to feedstock producers, feedstock aggregators, and

renewable fuel producers. At the same time, validating feedstock supply chains is critical to ensuring the validity of the ultimate LCFS credits generated. In the concept paper, ARB staff suggested that “some feedstock suppliers may elect to obtain separate verification services to reduce the potential for multiple verifications when they supply multiple fuel production facilities.” WSPA supports this concept and suggests that ARB establish a feedstock supplier registry wherein feedstock producers or aggregators can register and undergo annual verifications to demonstrate the types and quantities of feedstocks supplied to producers. Renewable fuel producers could then have the option of either documenting their own feedstock supply chain or simply demonstrating that they bought from registered feedstock suppliers.

LCA Modeling Tools and Pathway Certification (slides 50-62)

We are unable to provide a complete assessment of the new CA-GREET model because the necessary documentation for CA-GREET 3.0 is currently unavailable. WSPA understands that the changes in GREET 2016 will feature significant modifications. With that understanding, WSPA offers the following suggestions as the CA-GREET 3.0 package is finalized:

- Develop detailed documentation for the CA-GREET 3.0 changes with references to the specific worksheets and cells that were revised and the basis for the changes.
- Provide an assessment of the impacts of the new CI values to the forecast of credits/deficits balance.
- Set the CARB Diesel sulfur specification at no more than 15 ppm.

With regard to OPGEE Revisions & CA Crude Baseline (slides 52-55), WSPA supports the addition of duct firing for steam generation in OPGEE 2.0 as this should help to more accurately capture the CI profile and co-generation efficiency of such operations. We recommend further review of OPGEE’s approach to subsurface reservoir pressure modeling and impact on electricity consumption for injection and artificial lift and are prepared to work with Dr. Brandt and ARB staff to ensure the new OPGEE model version accurately reflects commercial operations in those areas.

The element of the current version of the OPGEE model that remains a major concern is the input data (number of inputs, accuracy, uncertainty, outdated publicly available data). WSPA members are working individually with Dr. Brandt and ARB staff to address these issues and are providing the necessary operational data input to ensure the crude CI values generated through the model accurately reflect current conditions and practices in the field.

WSPA supports ARB staff’s proposed pathway streamlining and are particularly pleased to see that most lookup table applicants will be able to register directly in the LRT and begin reporting fuel qualities without submitting data in the Alternative Fuels Portal (AFP). We agree with ARB staff’s view that renewable hydrogen and renewable electricity lookup pathway applicants would first need to register in AFP to submit the necessary supporting data/documentation.

In reference to the “Lookup Table Pathway for EV Charging” (slide 62), as long as electricity provisions are applied consistently to other pathways, we can support the proposal to use CEC data, but would suggest annual updates or 3-year average updates rather than quarterly. We continue to urge staff to provide greater transparency into each step of their calculation and basis for input assumptions for credit calculations for residential EVs and forklift EVs and fixed transit credits. Otherwise, it is difficult for market buyers to assess risk of invalidation.

Crediting Provisions for Crude Production and Refineries (slides 64-68)

It is unclear from the ARB staff presentation as to what additional reporting may be required as part of a solar-to-steam innovative crude credit application package. WSPA request that a clarification be provided in this area. In addition, ARB staff should also clarify (or at least provide examples of) what other energy efficiency efforts can be considered as potentially available to generate credits through the innovative crude segment of the regulation

We continue to urge ARB staff to consider solar and wind electricity production flexibility at crude production sites, allowing the size of the facilities to be optimized by permitting tie-ins to be made “above the local utility’s electricity meter” at the subject facilities. This should enable the input of excess electricity produced during peak hours back into the grid to offset electricity drawn by the facility from the grid when no solar generation takes place.

WSPA agrees with ARB staff’s new approach for calculation of benefits associated with Refinery Renewable Hydrogen production. Focusing on the CI difference between renewable and fossil based feedstock to the refinery hydrogen plants is a significant simplification compared to the alternative of carrying the renewable hydrogen component through the complicated series of refinery process units all the way to the finished products.

With regard to “Other Refinery Provisions” (slide 67), WSPA supports ARB’s proposal to convene a work group to focus on making improvements to the refinery investment credit provisions that are hampering project/credit approvals. We think there are a number of improvements that should be discussed in the work group including, but not limited to:

- The eligibility criterion should be the startup date of when GHG reductions begin.
- The minimum CI impact threshold for refinery investment credit projects should be lowered to 5,000 metric tons, the same as for innovative crude. There should be no differential carbon intensity threshold.
- Elimination of usage and trading limits for credit generation from refinery investment and renewable hydrogen projects.
- Allowing for any technology/type agnostic investments that are independently verified and sustained to reduce lifecycle GHG to qualify for credits.

WSPA is also supportive of the ARB staff proposal to simplify the methodology under the renewable hydrogen provision and the clarification of applicability to on-site production and off-site purchases.

Credit Transactions (slides 70-71)

In June 2016, ARB staff proposed to advance credit transaction reporting deadlines to be 3 calendar days from the date of agreement for both seller and buyer. Despite ARB’s clarification that a deadline falling on a weekend or holiday would advance it to the next work day, we are still concerned that this timing is too tight. While most transactions are recorded this quickly, even a small number of unavoidable “late” transactions can put regulated parties at risk of breach of contract and enforcement action. Delays can be caused by communication issues, clerical errors, paperwork disputes, or technical difficulties. WSPA again strongly encourages ARB to establish a deadline of 5 business days to allow for these occasional issues. We understand that staff hopes to improve the timeliness of credit reporting data and expect that most activity will still be reported within the week of the transfer agreement.

We also seek clarification from ARB as to what constitutes an ‘agreement’. At a minimum, this should be when both parties have signed the agreement in writing. Also, provisions should be included in the regulation for written contracts related to future credit trading transactions to ensure that the credits are not moved in the LRT prematurely.

Key LCFS Program Elements Not Presented at the Workshop

We also note the absence of specific slides dedicated to key topics for our industry such as Carbon Capture and Sequestration (CCS) and Refinery Co-Processing. WSPA understands that work continues on CCS and that ARB staff’s initial proposal may be available in the near future.

With regard to Refinery Co-processing, the degree of interest among the various stakeholders appears to be high, based on prior Refinery Co-Processing Workshop participation. We understand that a third Refinery Co-processing Workshop has been scheduled for October 16, 2017 and we look forward to a more detailed view of where staff is heading on this topic. We urge staff to include Refinery Co-processing in the LCFS Regulation Amendment package as the feasibility and attractiveness of Refinery Co-processing projects will be largely impacted by the regulatory framework applied by ARB.

Furthermore, many of the provisions presented at the Workshop affect refinery co-processing and need to be clarified, particularly if ARB staff envisions substantial differences for co-processing applications:

- Renewable propane treatment can significantly impact project economics.
- Renewable jet fuel credits should include renewable jet produced through co-processing (i.e., there should be no difference to a fuel blender between imported renewable jet and internally produced renewable jet).
- Onerous bio-feedstock tracking provisions will have a similarly adverse impact on co-processing. Alternatives (i.e., bio-feedstock aggregator certification) need to be identified to prevent the need for co-processors to track their bio-feedstock all the way back up the distribution chain.

Comments on Pre-Rulemaking Concept Paper

Section IV.2.e (page 7): Tactical Military Vehicle Applications

With regard to the opt-in of alternative fuels sold in military applications, WSPA has the following questions with respect to implementation:

- If alternative fuels are to be sold under an opt-in to the military in California, are these alternative fuels no longer subject to any remaining restrictions as described under § 95482?
- Where does accountability rest for ensuring that credits generated from alternative fuels sold to the military meet the requirements of the LCFS program?

This is of particular relevance given that the regulated party selling the alternative fuel to the military has no line of sight to where and how alternative fuels are ultimately used.

Section IV.3 (pages 7-16): Additional Third-Party Verification

The verification process as outlined in Section IV.3 (pages 7-16) appears expensive and difficult to comply with.

Specific concerns include:

- The CI verification should be no more frequent than every two years. The concept paper seems to envision an almost perpetual review and change to CI for fuels. This would not only be expensive but would create tremendous uncertainty for producers. Barring a material change in the fuel production process, a verified CI should be good for a minimum two years before it is subject to re-verification or change.
- There are not likely to be many firms qualified or willing to perform these services. ARB should seriously consider that situation when establishing Conflict of Interest rules and requiring six year cycles for hiring new verification firms.
- Physical site visits used for verification requirements should be utilized only as much as necessary in the verification process, based on cost/benefit. ARB should allow verifiers to verify utilizing resources such as internet platforms, photographic evidence, etc. where considered adequate.
- The Monitoring Plan requirements on page 17 are unnecessary and could create significant cost and administrative hurdles for new entrants to low carbon fuel production.

Section IV.3.a (page 8): Data Types Subject to Verification

Regarding the language in the section entitled “Initial Validation of Fuel Pathway Applications (CIs)”, it appears that a biofuel producer needs to have an undefined amount of operating history in order to make an initial pathway application in order for it or the purchaser to generate credits. This appears to be a barrier to participation in the LCFS program by new biofuel plants.

WSPA suggests that, for example, ARB could allow a producer use design values and a design CI for the first quarter of operation and then calculate their actual value at the end of the first quarter when they are audited. The producer would then have to purchase credits if its calculated CI was higher than the design value or ARB would award credits to the producer if its actual CI was below the design value. This “trueing up” of credits with required purchases or awards could also be used to true up existing biofuel producers and obligated parties’ accounts due to findings stemming from the annual audit that has a positive or qualified positive verification statement.

Section IV.3.d (page 10): Requirements for Verification of Certain Feedstocks

Based on comments at the workshop and experience of a member that is a biofuel producer, WSPA is concerned that the proposed specific source feedstocks requirement to trace custody from the point of origin is likely to be impossible or very difficult to conduct. In addition, this is a potential significant expense to be added to the program that will hinder renewable biofuel use. WSPA believes that requiring that the biofuel producer have records of who they purchased or received the feedstock from (one step up in the supply chain) along with the verifier’s judgement based on the purchased price versus publically quoted market feedstock prices and a quality analysis of the feedstock will be sufficient to ensure that the feedstock is accurately represented.

Section IV.3.f (page 11): Verification Outcomes

WSPA is concerned that, unless ARB staff spells out exactly how credits associated with biofuels will be treated and the impact on producers by having an audited CI above its pathway value, the credit market could lose its liquidity for current year credits and potentially develop into a two-tiered market with credits associated with biofuels after an audit and credits associated biofuels before an audit (or audited and un-audited credits).

WSPA has several suggestions to avoid this outcome and to treat both biofuels producers and obligated parties fairly. In general, these suggestions are to document the actions that ARB staff could take, based on the various outcomes of an audit. The actual actions that ARB staff will take are not fully described in the concept paper. Our suggestions include:

- For all biofuel producer audits, ARB staff should hold the biofuel producer accountable for the actual CI versus the pathway CI and the volumes of the biofuels reported. The biofuel producer should have to purchase credits if the actual CI is high or the calculated volume is lower than reported and ARB staff should award credits if the actual CI is low or the calculated volume is higher than reported.
- The above truing-up procedure should also be applied to obligated parties audits.
- Existing producers should be allowed to add a cushion factor to their pathway CI at the beginning of any quarter provided they inform staff ahead of time.
- New versions of the CA-GREET model should be implemented by producers calculating and submitting a new CI in the year after the new model is adopted with the new CI taking effect January 1st of the following year.

Section IV.3.g (page 14): Verification Frequency and Credit Generation

WSPA suggests that ARB give serious consideration to audits every other year if a facility has a positive verification statement and its CI is below the pathway CI for the prior two years, regardless of the size of the facility.

Section IV.4.g (page 23): Renewable Natural Gas

WSPA suggests that ARB amend Section 95488(b)(2) to allow renewable natural gas (RNG) to be delivered as process fuel via the “Book and Claim” method (i.e., same as feedstock RNG). There is no discernible policy goal to be served by treating RNG differently when used in the two different ways. If the ARB requires molecular level delivery of RNG to a refinery to generate LCFS credits from use a process fuel, it will eliminate the opportunity for refineries to reduce emissions in this way. Biogas will rarely, if ever, be located within close proximity of a dedicated pipeline to a refinery in commercial quantities. The rule is meant to be fuel neutral and allow the market to determine the most cost effective method of cutting GHG from transportation fuel.

Section IV.5.b (page 24): Natural Gas Provisions

This section states that ARB intends to limit RNG “book and claim” to one quarter. This appears to mean that if an entity wants to maintain the ability to generate LCFS credits from RNG, the RNG must be sold as vehicle fuel within the quarter following injection. That requirement would be acceptable, provided the entity is allowed physical storage of natural gas in a storage facility for longer than one quarter while maintaining the ability to generate LCFS credits from that RNG.

Section IV.9 (pages 28-30): Refinery Credit Provisions

The Refinery Investment Credit Pilot Program has the potential to make a material impact to GHG reduction in the fuels supply chain. WSPA welcomes the thoughts expressed by ARB with respect to potential activities and projects that could qualify.

However, in order to underpin what is potentially a major investment decision for refineries, there are a number

of issues that need to be addressed:

- The proposed pilot program does not inherently provide a level of regulatory certainty to support refinery investment. If the pilot program is withdrawn at some point in the future, there would need to be assurance that investments are not stranded (i.e., through grandfathering of projects that have already commenced).
- The level of complexity to generate credits from this proposal (i.e., GHG reductions converted into CI and then back into GHG in the form of credits) needs to be simplified, perhaps by taking a more direct approach from GHG reduction to credit generation.

Appendix A (page A-6): Projected Carbon Intensities

WSPA requests that ARB staff verify that 30 gCO₂e/MJ CI for biodiesel, renewable diesel, and alternative jet fuel are consistent with current fuel CI.

WSPA appreciates this opportunity to provide our feedback. If you have any questions, please contact me at (805) 701-9142 or via e-mail at tom@wspa.org.

Sincerely,



cc: Catherine Reheis-Boyd, WSPA