



Western States Petroleum Association
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Catherine H. Reheis-Boyd
President

December 15, 2011

Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, CA 95814
Via e-mail to <http://www.arb.ca.gov/lispub/comm/bclist.php>

Re: **Western States Petroleum Association Comments on Public Hearing to Consider Amendments to the Low Carbon Fuel Standard Regulation December 16, 2011 Hearing – Agenda Item 11-10-2**

Dear Clerk of the Board:

The Western States Petroleum Association (WSPA) submits its comments for the December 16 hearing on amendments to the Low Carbon Fuel Standard (LCFS) program. WSPA is a non-profit trade association representing twenty-seven companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and five other western states. Our members comprise the majority of the regulated parties under the program.

WSPA has several general comments on the status of the LCFS program, as well as on the proposed amendments to the regulation. All of our specific comments regarding regulatory language revisions are included below as Attachment A. We have also attached a paper by Sierra Research that takes work by CARB and the CEC, along with EIA data, and analyzes the various CARB illustrative compliance scenarios to demonstrate why our industry is so concerned about the ability of our members to comply with the program within the next few years. In addition, we have attached a presentation made to the Periodic Review Advisory Panel by our contractor, Wood Mackenzie, on the impacts of a crude differentiation policy.

WSPA Requests to Board

WSPA has five “asks” of the Board:

- **ARB conceded this year that the original crude oil screening approach was going to have unintended negative consequences such as crude shuffling. Staff is now proposing a new crude oil treatment approach that WSPA does not support called the California Average. WSPA strongly recommends ARB replace their current California Average proposal with a Crude Oil Equivalency approach that does not discriminate between crude oils.**
- **WSPA requests the Board ask staff to include an annual review of the program’s health that would include a public process and a formal report to the Board. At a minimum, topics to be included in the analysis would be the feasibility of the program in terms of low CI fuel and credit availability as well as costs and other possible adverse impacts of the program. This review would**

be required to incorporate analyses conducted by the California Energy Commission on current and projected energy supply and costs impacts.

- WSPA requests the Board ask staff to analyze a "trigger" mechanism for insertion in the regulation (NOT an alternative compliance mechanism) that would get triggered if certain criteria are reached in the program. Needs to be a priority topic at the beginning of 2012.
- WSPA requests the Board ask staff to initiate a thorough analysis of alternatives to transportation sector GHG emissions reductions. Based on experience and knowledge gathered to date, we believe there may be less costly alternative approaches than a LCFS program. If the state wants to promote select technologies and fuels it can be done in ways that are not structured like the LCFS.
- Initiate a thorough analysis of the potential cumulative impacts on the cost and availability of transportation fuels and on the sector in California from numerous climate change regulations being implemented by ARB.

Advisory Panel Process

WSPA was instrumental in having the 2009 LCFS hearing Board Resolution include a requirement for Periodic Reviews of the regulation. We also participated this year in the Advisory Panel that was convened to conduct the first periodic review of the program. Overall, while we acknowledge it was a good forum for stakeholders to listen to presentations by staff and express views, we are disappointed however, in the timeline of the Advisory Panel.

We expected the dialogue, information, and results of the Advisory Panel to inform the selection of issues that needed revising at the December regulatory amendment hearing. Instead, some of the least important issues were addressed first by the Panel and were therefore completed in a timely way, but some of the more critical issues – such as the updated economic impact analysis and the review of meeting the compliance targets – were discussed in more detail well after the staff documents on the regulatory amendments were already out for 45 day review, and in fact were not even finished during a post-final Panel meeting on November 17. Staff merely indicated work would be ongoing.

We believe there should have been sufficient time between the final work of the Advisory Panel and the release of staff's ISOR and regulatory amendments.

Crude Oil Treatment – Carbon Differentiation and Discrimination (Please see attached Wood Mackenzie presentation)

WSPA has remained strongly in support of a “no crude oil differentiation” approach since the LCFS inception hearing in 2009. Staff began studying a crude oil screening process right after the original hearing, but there were several negative anticipated consequences associated with this approach. This summer staff began investigating a number of optional approaches for dealing with crude oil carbon intensity treatment. WSPA hired a contractor, Wood Mackenzie to investigate potential impacts and consequences of a differentiation approach.

WSPA supports a simple crude equivalency approach that does not discriminate between crude oils. The reasons for this are:

- 1) It simplifies an already complex regulation and provides certainty to the standards to be achieved,*
- 2) It provides overall certainty and stability to the marketplace, and reduces the cost impact of the regulation,*

- 3) *It eliminates crude differentiation and any potential negative marketplace impacts such as the initiation of CA crude oil exports due to the policy,*
- 4) *It focuses the intent of the LCFS program on the development of low carbon and innovative alternative fuels,*
- 5) *It provides for equal treatment of all refineries – including out-of-state and international refineries,*
- 6) *It avoids the difficulties and complexities regarding CI accounting of imports of products, intermediates or blendstocks,*
- 7) *It eliminates the need for development and use of complex crude CI accounting systems,*
- 8) *It helps alleviate discrepancies between countries where detailed information is known about crude production processes, and countries where very little accurate data is available,*
- 9) *It totally eliminates crude shuffling attributed to the program,*
- 10) *It eliminates potential negative impacts on California and US energy security,*
- 11) *It allows jurisdictions in crude producing areas to manage GHGs (such as existing Canadian federal and provincial GHG regulations) without concern over competitive disadvantages,*
- 12) *If the LCFS spreads to other jurisdictions/regions (22 states currently contemplating), it sets a simple and positive precedent for treatment of crudes in those areas, rather than having jurisdictions try to determine how to deal with a CA average approach versus another crude oil approach elsewhere that creates variations in gasoline and diesel CI values.*

We do not support the staff's proposed California Average approach, nor any of the other optional approaches that were investigated by staff since they all involve differentiating crude oil carbon intensity. In particular, we oppose the individual or specific refiner crude oil approaches.

Compliance Schedule (Please see attached Sierra Research paper)

Overall, WSPA's greatest concern is that the LCFS Periodic Review has failed to provide a credible assessment and forecast of the availability, California supply, and costs of fuels that ARB has assumed will be available in its "illustrative compliance scenarios." It is imperative that ARB complete a credible and balanced determination of availability of gasoline and diesel substitutes that would be necessary for LCFS compliance over the next 4-5 years. In particular, ARB staff must justify why assumptions that the bulk of the nationwide supply will be delivered to and used in California, are reasonable. It is also imperative that this analysis include the expected added costs for compliance, including those associated with fuel distribution and refueling infrastructure and specialized vehicles (e.g., battery electric vehicles).

ARB's fourteen LCFS scenarios (eight for gasoline and six for diesel) are characterized as "illustrative scenarios" of how compliance *might* be achieved, based on various assumptions about future conditions. Caveats are included in ARB's analysis that the scenarios are not forecasts or predictions, and only represent a handful of the numerous combinations and permutations that could have been evaluated.

During the Advisory Panel meetings, there was significant emphasis placed by panel members on the inappropriateness of the use of the word "plausible" to describe the compliance scenarios. There was lengthy discussion during the panel meeting about the need to exclude the word "plausible" since it provided too much of a sense of believability to the scenarios. WSPA does not agree that the "plausible or viable" words can be used to describe ANY of these scenarios. Although no one can say with any degree of certainty at this point in time whether the compliance schedule is achievable or what fuel/credit combinations may be used to attempt to comply with the program, there are a number of assumptions ARB staff has used in the illustrative scenarios that are not believable based on EIA

projections, historical experience with timing and volumes of new fuel/vehicle introductions, and future market economics.

Data from various sources (EIA, CEC, etc.) indicate that all fourteen scenarios evaluated by ARB are optimistic and beyond a best-case scenario; therefore none of these scenarios is likely to occur. For ARB to characterize them as plausible, (i.e., not impossible) is of little value and misleading. Designing a non-transparent policy based on impossible scenarios is disingenuous and may eventually lead to higher cost for the program.

All regulatory programs incorporating compliance flexibility options involve uncertainty with respect to the actual outcome. This uncertainty is typically addressed by analyzing a “worst-case” and a “best-case” scenario, and potentially a “most likely” scenario which would fall somewhere between the two.

Because ARB did not take this approach, it is impossible to determine whether any of the 14 illustrative scenarios fall within the probable bounds. Other data indicates that all 14 scenarios are optimistic beyond the best-case scenario and therefore none of them are likely to occur. Characterizing them as plausible, (i.e., not impossible) or stating, “But, the scenarios show that various means exist to meet compliance” is of little value and misleading, given that there are many other plausible scenarios that show noncompliance.

ARB should replace its 14 compliance scenarios with two or three scenarios, based on the worst-case, best case, and most likely forecasts of the availability of alternative fuels and the vehicles utilizing such fuels.

Economic Impact Analysis Update

There was minimal effort to update the 2009 economic impact analysis, and the Economic Subgroup of the Advisory Panel did not have a comprehensive discussion regarding the assumptions and approaches to conducting an economic impact analysis.

ARB states that much of the 2009 analysis remains valid, but acknowledges the need for an entirely new analysis. Staff is considering using a contractor to conduct a more comprehensive economic analysis of the LCFS. Such an analysis would not be completed until sometime in 2012 or early 2013. It is unfortunate that ARB did not work with CEC to develop the economic impact analysis in time for the hearing.

Environmental Analysis - GHG Impact of Fuel Shuffling

WSPA notes that fuel shuffling needs to be addressed in a “holistic sense” by reviewing GHG emissions change on a global scale. This type of environmental assessment was not done for the 2011 Review Report, as ARB staff does not believe that the transportation fuel usage in California has changed significantly since 2009 to warrant a new environmental analysis. We continue to disagree and point out that CEC and others have referred to the current fuel shuffling occurring as a result of the program.

Issues for Later Review

WSPA agrees it is inappropriate for ARB to make decisions at this point in time on issues related to:

- Ultra low carbon fuel designation
- Low Energy use refineries
- Alternative Compliance Mechanisms

WSPA is strongly opposed to alternative compliance mechanisms. Rather than incorporating any “alternative compliance” mechanism in the LCFS regulation, ARB needs to establish

reasonable and feasible compliance targets. If compliance with the LCFS targets is not possible, then the targets need to be revised.

Trigger Mechanism

WSPA suggests that compliance “off-ramps” be included in the LCFS regulation so that if the California supply and consumption of low CI fuels do not hit specific benchmarks during the early years of the LCFS program, the compliance targets are automatically revised. As indicated in the attached markup of the outline for this section, any mechanism for revising the LCFS targets must include lead time that is sufficient to prevent disruptions in the California transportation fuels market. This means that all program infeasibilities that may occur in the next 4 -5 years need to be included in the Periodic Review report, and addressed in the upcoming December Board LCFS review hearing.

Appendix A - Proposed Regulation Order- Specific WSPA Comments

Due to the ongoing and increasing complexity of the regulation and the various interpretations that can be made, WSPA again requests that ARB hold a Compliance Workshop so all the various entities involved in the program can ask questions and dialogue about issues and concerns.

Sections 95480.2 and .4 (General)

WSPA has concerns about the concept of permitting procedures and requirements which govern the manner in which out-of-state biofuel producers or marketer/distributors are given the ability to opt-in as regulated parties under the LCFS. The problem with staff’s proposal is that it would allow opt-ins for a producer or marketer/distributor under the LCFS without any specific ties to delivered product. This creates a potential disconnect between the opt-in parties and the regulated parties receiving the biofuel in California. Potential problems could arise where an opt-in party could claim credits for renewable fuel that was never delivered to California, or where credits could be generated for the same volume of fuel by both the opt-in party and also by a party who is acting as an importer of the fuel.

WSPA supports regulatory revisions that allow parties that opt-in to become the initial regulated party for the fuel under the following conditions and requirements:

- Opt-in parties must generate LCFS credits only through the act of bringing fuel into the state, not simply from producing it. This is vital to maintain the integrity of LCFS credit generation.
- An opt-in party can only sell product to another party who is either another opt-in party outside of California or a regulated party inside of California. An opt-in party is not allowed to sell product to a company who has not opted-in or who is not a regulated party.
- Sales from the opt-in parties to other regulated parties would be treated like any other in-state fuel transaction.
- Opt-in parties should be the initial regulated party for all of the fuels they deliver to California, subject to all reporting and recordkeeping requirements, as long as no previous party in the ownership chain has opted-in as the initial regulated party for the fuel.
- An opt-in party must provide product transfer documentation that clearly states the product being delivered to California should not be subsequently “imported” by another party, since the original LCFS credits will be generated and claimed by the opt-in party as the initial regulated party.
- Such opt-ins should carry a requirement for mandatory registration of all production facilities used to supply product to California.

- ARB should publish a list of all parties that have elected to opt-in so that regulated parties in California are aware of their status.
- Significant changes to regulated party definitions of importer and producer will require that the Guidance Document be revised to reflect these changes. WSPA requests a Compliance Workshop be held by CARB soon.

WSPA can support provisions that reflect the principle that opt-ins carry all of the responsibilities of being a regulated party and not just the rights, and we believe that certainty is provided by: 1) clearly knowing who bears the initial responsibility for a specific quantity of fuel; and 2) knowing whether obligation for such product is being passed on as part of the transaction.

Section 95480.2 (b) Persons Eligible for Opting Into the LCFS Program

Request the blue wording below be added as follows:

(b) An out-of-state producer of oxygenate for blending with CARBOB or gasoline, or biomass-based diesel for blending with CARB diesel, who is not otherwise already subject to the LCFS regulation as an importer. An opt-in regulated party under this subsection may retain the compliance obligation, for a specific volume of fuel or blendstock, provided the fuel had been delivered into California for the use as a motor fuel; and provided that person sells the fuel to another regulated party, and the retention of the compliance obligation is specified in a written contract.

Section 95480.2 (c) (2) - Persons Eligible for Opting Into the LCFS Program

WSPA also requests the blue wording below be added to section 95480.2 (c) (2) as follows:

(2) The demonstrations in (1)(A) through (E) above must be made for the specific volume of fuel upon which the person first elects to opt into the LCFS. For subsequent volumes of fuel for which the person is claiming to be the regulated party pursuant to this subsection (c), the person must retain documentation to support the demonstrations required in (1)(A) through (E) and must submit such documentation to the Executive Officer within 30 [working/business?-ARB] days upon request. An opt-in regulated party under this subsection may retain the compliance obligation for a specific volume of fuel or blendstock; provided that person sells the fuel to another regulated party and the retention of the compliance obligation is specified in a written contract.

ARB acknowledges that the extension of the ethanol LCFS transfer “upstream” of CA could increase errors where the same parties are reporting the credits for a single volume of fuel. Section 95480.4 lists a seriatim for assigning the credits to the correct owner. This section is written as if this can be detected in real-time and reconciled within 30 days. A section should be included to address the situation of duplicate credits used for annual compliance reporting.

Section 95480.4. Multiple Parties Claiming to Be the Regulated Party for the Same Volume of Fuel.

This section begins with the following underlined wording:

There can only be one regulated party for a specific volume of fuel at any given time. In the event that more than one person has registered with ARB as the regulated party for the same volume of fuel, the following provisions shall apply:

- (a) All LCFS credits generated from the volume of fuel at issue shall be made inaccessible to the regulated parties and placed by the Executive Officer into a holding account, including any such credits that have already been transferred to another person prior to being notified by the Executive Officer that the holding action has taken place;
- (b) The regulated parties for a credit placed in a holding account pursuant to (a) shall not sell, offer for sale, trade, or otherwise transfer such a credit to another person until the holding action has been lifted by the Executive Officer;
- (c) The Executive Officer shall lift the hold on a LCFS credit within 30 working days after initially placing the hold, and shall release the credit to a regulated party based on the following procedure in descending order of priority;

WSPA requests the rest of this section be replaced with the blue wording below:

1. CARB shall first document the chain of transactions from initial producer to final regulated in-state party and determine whether the LCFS regulations governing these transactions dictate the holder of the credit. CARB will then review and give deference to any agreements between parties that, by the time ownership to the fuel or blendstock is transferred, specify by enforceable written contract pursuant to section 95484 the person to which the credits ultimately have been transferred and obligated. In the absence of contractual arrangements that resolve the dispute, CARB will review other product transfer document to determine whether these documents resolve the dispute.
 2. In the event the contract or product transfer document conflict with the regulation, the regulation takes precedent. In the event that the contract conflicts with another product transfer document, the contract will take precedence. Mutually agreed upon revisions to the contract, with appropriate documentation, will supersede the original contract language.
 3. In the absence of relevant contractual language or other product transfer documentation, the obligations would transfer when a party that has obligations for a fuel sells to another regulated party. If they are sold to a non-regulated party, then the obligations are retained.
- (d) Out of state entities must be able to demonstrate that their fuel was physically delivered into CA and be able to provide contractual evidence that their fuel was sold into CA without the counterparty receiving obligations in order for an out-of-state entity to receive disputed credits.

Section 95481 Definitions

Overall, WSPA is concerned with the revisions staff has suggested making to a number of the definitions, and whether this will lead to unintended consequences. We believe there is a lot more work that needs to be done by staff to clarify the definitions and the interpretations of the definitions, and how all of this will mesh together without undue complications and potential for liability or inadvertent noncompliance.

WSPA requests ARB add the blue wording as follows:

- ~~(3645)~~ “Producer” means, with respect to any liquid fuel, the person who owns the liquid fuel when it is supplied from the production facility. “Producer” includes an “out-of-state oxygenate or bio-mass based diesel producer,” which is a producer that has its production facility located outside California and chooses to opt in under the provisions for oxygenates or biomass-based diesel in 95480.2(b).

As a continuation of prior WSPA comments, we would suggest that the definition of the term “Product Transfer Document”, or “PTD” be defined in the regulation in 95481 consistent with the definition in the Guidance Document 1.0.

“Product Transfer Document”, or “PTD” means a document or combination of documents that authenticates the transfer of ownership of fuel from the transferor to the transferee. The PTD may include, but is not limited to, one or more of the following: contract, invoice, bill of lading, RFS2 product transfer document, meter ticket, and rail inventory sheet. The PTD should be a document or combination of documents that is commonly used and accepted in the industry for the subject fuel. If multiple documents are used for an authentication, each document must contain information that identifies their association to each other.

Section 95484 (a)(6) Regulated Parties for Electricity

In an effort to improve access to credit generation for regulated parties and help parties interested in electricity infrastructure avoid becoming a regulated party by contracting through a third party/agent.

WSPA requests the blue wording be deleted/added as follows:

- (B) For transportation fuel supplied through public access EV charging equipment, the third-party non-utility Electric Vehicle Service Provider (EVSP) or Electrical Distribution Utility that has installed the equipment, or ~~had~~ an agent ~~that has~~ installed the equipment, and who has a contract with the property owner or lessee where the equipment is located to maintain or otherwise service the charging equipment, is eligible to opt-in as the regulated party.
- (C) For transportation fuel supplied to a fleet of three or more EVs, a company operating a fleet (fleet operator), ~~or its contractually designated agent~~, is eligible to be a regulated party. If the fleet operator is not the regulated party for a specific volume of fuel, or has not otherwise fully complied with the requirements of this subarticle, the Electrical Distribution Utility is eligible to opt-in as the regulated party with EO approval. For transportation fuel supplied to a fleet of less than three EVs, the Electrical Distribution Utility is eligible to be the regulated party. To receive credit for transportation fuel supplied to an EV fleet, the regulated party must include in annual compliance reporting an accounting of the number of EVs in the fleet.
- (D) For transportation fuel supplied through private access EV charging equipment at a business or workplace, the business owner, ~~or its contractually designated agent~~, is eligible to be a regulated party. If the business owner is not the regulated party for a specific volume of fuel, or has not fully complied with the requirements of this subarticle, the Electrical Distribution Utility is eligible to opt-in as the regulated party with EO approval. To receive credit for transportation fuel supplied through private access EV charging equipment at a business or workplace, the regulated party must:

Section 95484 (b)(2) Mandatory Use of the Reporting Tool

WSPA generally supports staff’s proposal to make use of the LRT mandatory; however, care must be taken to ensure that sufficient flexibility is preserved. The requirement to use the LRT cannot result in regulated parties either being forced to provide information not required by the regulations, or prevented from submitting required data. Either scenario would constitute an underground rulemaking.

In addition, there have already been many instances in which we have worked with staff to identify and resolve situations in which the LRT was not yet configured to handle data necessary for compliance. Despite the best efforts of all involved, we anticipate such situations will continue to occasionally arise in the future. An example would be ensuring that the crude reporting in the LRT be consistent with the regulation and associated regulatory advisories. Given the long lead times required for LRT changes, it is important that there be enough flexibility to allow for “workarounds” to supplement the data that is provided via the LRT.

Section 95484(b)(3)(A)4 Reporting Requirements

Specific Quarterly Reporting Requirements

Staff has not explained in the ISOR the purpose in reporting petroleum intermediates. While we infer staff wishes to understand the volume of petroleum intermediates imported into California, staff must first justify how it reasonably plans to use the data and manage likely different specific descriptors used by the various refiners for the wide range of petroleum intermediates. In addition, some intermediates (or a fraction of a particular intermediate) may go into products that are not subject to the LCFS such as jet fuel, etc. We recommend this section be deleted.

WSPA requests the words “petroleum intermediate” be deleted.

- 4- The volume of each petroleum blendstock, ~~petroleum intermediate~~, and petroleum finished fuel (in gal) imported into California during each quarter. All

RIN Retirement

WSPA supports the removal of the regulatory language at 95484(c)(3)(A)4 which required regulated parties to report “all Renewable Identification Numbers (RINs) that are retired for facilities in California.”

Table 3. Summary Checklist of Quarterly and Annual Reporting Requirements.

Parameters to Report	Gasoline & Diesel fuel	CNG & LNG	Electricity	Hydrogen Or Hydrogen Blends	Neat Ethanol or Biomass- Based Diesel Fuels
**The CI of the fuel or blendstock ($CI_{reported}^{XD}$) <u>Volume of each petroleum blendstock, x, and petroleum finished fuel imported into California (gal)</u>	*	*	*	*	*
Amount of each fuel used as gasoline replacement (MJ)	x	x	x	x	x

Section 95484(b)(4)(B)(1)

(B) A producer of CARBOB, gasoline or diesel fuel must report, for each its refineries, the data listed below:

1. volume (in gal) and marketable crude oil name (MCON) of all crude oil supplied to the refinery in the current compliance period that was produced in California;

The annual refiner reporting requirements in 95484(b)(4)(B)(1) and (2) for refiner identification of California Market Crude Oils being produced or not produced using thermal enhanced oil recovery should be deleted. Refiners should only be required to report the MCON of the California Crude supplied to the refinery. Like MCON's for imported Crude, it should be CARB's responsibility through a clear and transparent process to identify which California MCON crudes it considers TEOR and which it does not.

Refiners will not necessarily know if the crude oil was produced using TEOR methods. Suppliers may withhold the requested data as "confidential business information" in a crude oil transaction. The requirement to report crude oils as California TEOR is not possible since California MCONs are not identified by TEOR production methods, and the reporting requirement should be removed from the proposed regulations.

Section 95485 (3)(C)

Energy Economy Ratio (EER) Revisions

WSPA has a number of comments on the EER revisions that are being proposed by ARB staff. These are summarized below.

Heavy-Duty CNG/LNG Vehicles – ARB staff is proposing to assign an EER of 1.0 to heavy-duty, natural gas, compression-ignition engines, while maintaining the current EER of 0.9 for heavy-duty, natural gas, spark-ignition engines.

According to the October 2011 Staff Report, the value of 1.0 for compression-ignition engines is based on "recent ARB certification data" showing that the energy efficiency of heavy-duty compression-ignition engines burning CNG and LNG "is the same as that of heavy-duty diesel fueled engines of comparable size and horsepower." However, those data, and staff's analysis of those data, were not included in the staff report for public review and comment. Nor, to the best of our knowledge, were they presented during the workshops leading up to the Staff Report. Therefore, it is difficult to provide meaningful comments on the appropriateness of an EER of 1.0 for CI natural gas engines without being able to review the data and analysis upon which that value was based. This is a significant shortcoming of the Staff Report.

According to the March 2009 staff report for the April 2009 LCFS Board Hearing, the current EER of 0.9 was based on data from a stoichiometric spark-ignited engine that met ARB's 2010 NO_x and PM standards because it was anticipated that this technology would be reflective of 2010 and newer engines. It would have also been useful for ARB to summarize these data in the Staff Report in order for the public to provide meaningful comments on the proposed changes to the regulation.

That said, WSPA supports the bifurcation of the EERs for heavy-duty natural gas engines as the two technologies (compression-ignition and stoichiometric spark-ignition) have

fundamentally different efficiencies. However, assigning fuel volumes used by the two technologies could be a significant challenge, particularly for fuel dispensed at public refueling stations. Has ARB developed a methodology to allocate fuel volumes between compression-ignition and spark-ignition technologies? If so, what is that methodology?

More importantly, WSPA continues to believe that a more appropriate EER for heavy-duty spark-ignited natural gas engines (which are assumed to displace diesel fuel) is in the range of 0.7. This was suggested in WSPA's comments submitted during the 45-day comment period for the April 2009 LCFS hearing, and it was supported by an analysis of available test data performed by Energy and Environmental Analysis (EEA), which was also submitted in WSPA's comments (see Appendix 4 of WSPA's April 21, 2009, at http://www.arb.ca.gov/lists/lcfs09/277-wspacommentsonlcfsreg_409combined.pdf).

As noted on page C-11 of the March 2009 LCFS staff report:

“There is widespread use of CNG in heavy duty vehicles. Most of this use is in transit buses. Therefore, there is a substantial amount of data on the fuel economy of CNG relative to diesel in transit buses. Most of this data show a significant fuel economy penalty for CNG relative to diesel, ranging from about 10 percent to about 25 percent, depending on driving cycle. However, many of the CNG engines used in transit buses are older model years. Improvements to CNG engine efficiency have been achieved in more recent model year engines.” (Emphasis added.)

The passage above notes that most of the CNG use is in transit buses that have a significant fuel economy penalty relative to diesel buses. It therefore makes no sense to assign these vehicles an EER of 0.9 when the reality is closer to 0.7. Restating the concern we raised in our April 21, 2009, comments with respect to natural gas EERs: Establishing an overly optimistic EER that is not representative of the existing heavy-duty CNG fleet sets up a mechanism in which LCFS credits can be generated that are not justified or real.

In fact, if the appropriate EER was applied to the CNG carbon intensity value from the LCFS Look-up Table for the existing fleet of CNG buses, the effective carbon intensity for this fuel/technology combination would be greater than that of diesel fuel, i.e.,

$$\text{CI (North American CNG)} = (68.00 / 0.7) = 97.14 \text{ gCO}_2\text{e/MJ}$$

Thus, these vehicles should not be part of the “Opt-In” classes of vehicles and fuels because they incur a debit for every year of the program, and this is overlooked as a result incorrectly assessing their efficiency relative to the diesel engines they displace.

Further, ARB staff is proposing to allow gas companies to opt-in to the LCFS program in cases where CNG fueling station owners elect not to opt-in to the program. As noted in the October 2011 Staff Report, this is to ensure that LCFS credits are not “orphaned” if fueling station owners decide not to participate in the program. However, this proposal only increases the possibility of the generation of dubious paper credits based on natural gas buses that have higher well-to-wheel GHG emissions per mile than the diesel buses they displace.

Light-Duty PHEV/BEV EERs - ARB staff is proposing to modify the EER for electricity used for plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs). The revised EER is based on fuel economy label estimates reported by the U.S. EPA for the Chevrolet Volt

(93 miles per gasoline gallon equivalent [mpgge] on electricity) and the Nissan Leaf (99 mpgge). One of WSPA's primary concerns with ARB's initial assessment of the EER for electricity was related to properly accounting for in-use operation, specifically noting in our April 21, 2009, comments:

“Comparisons must be made based on *on-road fuel economy* rather than fuel economy derived from FTP-based laboratory testing. This is particularly important for battery electric vehicles which can be significantly impacted by ambient temperatures, use of air conditioning and heating, road grade, and other factors not typically accounted for in laboratory testing. EEA's analysis accounted for some of these effects by using fuel economy adjustment factors recently developed by EPA to better reflect on-road operation when fuel economy is reported on fuel economy labels.” (Emphasis in original.)

The latest CARB analysis uses current fuel economy label data, which are based on “5-Cycle” testing that better reflects on-road performance. This is definitely a step in the right direction. Nonetheless, CARB should monitor on-road fuel economy of electric vehicle technology and make adjustments to EERs where necessary.

However, WSPA disagrees with ARB staff's selection of the reference vehicle when assessing the EER of the Chevrolet Volt. ARB has chosen the Chevrolet Cruze as the reference vehicle in this case, which has a fuel economy of 28.3 mpg. Thus, ARB has estimated an EER of 93 mpgge / 28.3 mpg = 3.29. A more direct, and a more appropriate, way to estimate the EER for a PHEV is to simply take the ratio of fuel economy under gasoline mode versus electric-only mode. As noted above, the electricity-only fuel economy is reported on the label to be 93 mpgge, while the label value for gasoline mode is 37 mpg which results in an EER of 2.5 for PHEVs (i.e., 93 mpg/37 mpg). This approach has a significant technical advantage because there is no need to try to match vehicle attributes (i.e., performance, mass, cabin volume, etc.) because it is the same vehicle.

The above point regarding the appropriate reference vehicle for PHEVs was discussed during the October workshop. ARB staff indicated that they believed the reference vehicle should be a conventional gasoline vehicle. However, by using a conventional gasoline vehicle as the reference vehicle, ARB is effectively assigning credit to the hybrid powertrain of PHEVs. Since conventional hybrid vehicles (i.e., those that are not recharged with grid electricity) do not receive a credit via the EER, a PHEV operating in gasoline mode should not either.

Section 95485 – LCFS Credits and Deficits

Denatured ethanol energy density should be added to Table 4 since it is used in the LRT.

Section 95486(a)(4) Determination of Carbon Intensity Values.

WSPA requests the wording in blue be deleted:

- (4) A regulated party who has purchased ethanol or biomass-based diesel but is unable to determine the carbon intensity of that fuel may petition the Executive Officer to use a default carbon intensity value. The Executive Officer may grant a regulated party permission to use a default value only if the regulated party demonstrates that the use of Methods 1 and 2 are not available for the volume of fuel and that the fuel cannot be sold outside of California. The term “unable to be determined” is defined, for purposes of this provision, as follows:

Section 95486(a)(5) Average Carbon Intensity Requirements

In updating to a 2010 baseline, the CI of the ethanol blended into CARBOB also needs to be updated. The 2006 baseline assumed a mix of 80% Midwest Average ethanol and 20% California Dry Mill Wet DGS ethanol. CEC data from 2010 on ethanol volumes should be used to update the 2010 baseline value.

Section 95486 (b)(2)(A)

Carbon-Intensity Values for CARBOB and Diesel Fuel – Crude Oil Treatment

- WSPA continues to strongly support an approach to crude oil that does not differentiate between their carbon intensities. We support a simple crude equivalency approach that does not discriminate between crude oils (so-called Option 6). The reasons for this are:
 - 1) It simplifies an already complex regulation and provides certainty to the standards to be achieved,*
 - 2) It provides overall certainty and stability to the marketplace, and reduces the cost impact of the regulation,*
 - 3) It eliminates crude differentiation and any potential negative marketplace impacts such as the initiation of CA crude oil exports due to the policy,*
 - 4) It focuses the intent of the LCFS program on the development of low carbon and innovative alternative fuels,*
 - 5) It provides for equal treatment of all refineries – including out-of-state and international refineries,*
 - 6) It avoids the difficulties and complexities regarding CI accounting of imports of products, intermediates or blendstocks,*
 - 7) It eliminates the need for development and use of complex crude CI accounting systems,*
 - 8) It helps alleviate discrepancies between countries where detailed information is known about crude production processes, and countries where very little accurate data is available,*
 - 9) It totally eliminates crude shuffling attributed to the program,*
 - 10) It eliminates potential negative impacts on California and US energy security,*
 - 11) It allows jurisdictions in crude producing areas to manage GHGs (such as existing Canadian federal and provincial GHG regulations) without concern over competitive disadvantages,*
 - 12) If the LCFS spreads to other jurisdictions/regions (22 states currently contemplating), it sets a simple and positive precedent for treatment of crudes in those areas, rather than having jurisdictions try to determine how to deal with a CA average approach versus another crude oil approach elsewhere that creates variations in gasoline and diesel CI values.*
- We do not support the staff's proposed California Average approach nor any of the other optional approaches that were investigated by staff. In particular, we oppose the individual refiner crude oil approaches.
- The ISOR does not include a key discussion on the competitive impacts of all of the optional crude treatment approaches. One of the key changes in the California industry average approach is the sharing of the penalties to the California refining industry due to California industry crude oil selections. The ISOR does not include any competitive analysis of the California refining industry (refining capacity, market share, etc). It also does not discuss that this is a precedent-setting penalty mechanism. WSPA requests that this analysis be performed and included in the documentation for this hearing.

- ISOR discusses complex topics like crude treatment with unclear language resulting in poor communication. As an example, in the economic analysis section, it refers to in-basket HCICOs. HCICOs only exist in Option 1.
- There also seems to be a process issue in that the Regulatory Amendments has a new baseline based on 2009. In the 15 day change to amendment period, staff plans to update the baseline to 2010. The simplified basis for the 2009 baseline is a set of assumptions/default CIs at the country level. It is inferred that the update to the 2010 baseline will be based on ARB's new crude model at the MCON level. Likewise, the only option for a crude CI is now the ARB model (referred to as savings from running Method 2B). At a minimum, the 2010 baseline must be on the same basis as the annual update. It is irresponsible to claim improved accuracy before the new model is peer/industry reviewed. The same verifiable data issues still exist for developing any crude CI which consultants like IHS CERA and Jacobs have discussed.
- Section 95486 (b)(2)(A)(1) "descriptions of CIs", uses "crude used" as the basis for the annual calculation. This is inconsistent with the additional data requirements of crude supplied/imported.
- Section 95486 (b)(2)(A)(2) descriptions of the basis for distributing the incremental deficit is unclear. It refers to "CARBOB and CARB Diesel supplied" which could be interpreted differently from Section 95486 (b)(2)(A)(1) description of "CARBOB and CARB Diesel produced or imported". The use of more precise terms of "production" or "compliance obligation" to identify the basis would provide better clarity.

California Average Crude Oil Approach

Although WSPA does not support the California Average crude oil approach, we would like to provide comments in case this approach is adopted by the Board.

- The ARB proposed likely notification of revised annual crude averages in the 3rd quarter every year and applying the values to fuel produced 3 months later, is too short for planning. We urge ARB to provide at least 6 months advance notice of any revisions to the California crude average.
- WSPA requests ARB consider a three-year rolling average for evaluating the California average as this would avoid potential extraordinary variability in crude slates with impact to the California average. In order to maintain the current 2014 application year for ARB's approach, this averaging would be phased in over time.
- Since the 2012 California average calculation that would be used in incremental deficit calculations in 2014 will involve an Adam Brandt tool that is not yet final or peer-reviewed, and the final tool may involve calculation methodology changes - changes to the average because of the calculation method changes (vs. updated crude CIs or crude slate changes) it should be accompanied by adjustments in the compliance targets.
- Innovative technology incentive proposal - ARB has a stated guiding principle of promoting innovation for emission reduction activities and has proposed within its "California average" crude treatment approach to provide credits for purchase of crude from production facilities that have implemented innovative methods, such as CCS, to reduce emissions from crude recovery. However, the approach as proposed by ARB in the regulatory amendments unfairly provides these innovative methods (or "CCS") credits to those refiners using these "CCS" crudes at the expense of other refiners not using these "CCS" crudes.

The unfair penalty in the form of incremental deficits arises from ARB's proposal to calculate the annual California average crude carbon intensity on a "pre-CCS" basis. This artificially raises the annual average CI of crudes used in California above the true actual average. For a refiner using a "CCS" crude, the credit received would provide an incentive and overcome the artificially raised annual average crude CI penalty, but those refiners not running the CCS

crude, for any number of reasons, would unfairly have to pay the penalty of increased deficit generation because the annual average California crude CI was artificially raised.

ARB has justified the calculation of the annual average California crude CI on a “pre-CCS” basis to prevent double counting of credits from the innovative technology. This may be an ARB objective, but it should not come at the expense of unfairly penalizing those refiners not running the “CCS” crude. Notwithstanding WSPA’s consistent position that there should be no differentiation between crudes within the LCFS, ARB should revise the credit generation rules staff has proposed for innovative technologies, such as CCS, so any incentives for these innovative technologies do not come at the expense of penalties for other obligated parties.

Specifically ARB should not calculate the annual average California crude CI on a “pre-CCS” basis. If ARB is going to continue with a “California Average” approach, ARB should calculate this annual average California crude CI based on the best estimates of the CI’s of the individual crudes used in California, not a “pre-CCS” CI. ARB’s concerns about incentives for innovative methods, such as CCS, creating potential double counting of credits should not come at the expense of penalties to refiners that are not using a “CCS” crude. These concerns can be addressed in future amendments.

Section 95488. Banking, Trading and Purchase of Credits

WSPA supports a LCFS credit trading process where clearing of trades is simple, all participants in each transaction are required to report, where required information is processed in the LRT, and where periodic aggregated reports are generated to assess program health and provide participants general market information.

WSPA supports most of staff’s recommendations and proposed changes to the regulation including:

- WSPA agrees with the Staff’s comments in the draft LCFS 2011 Program Review report (page 155) that it is premature to allow non-regulated parties (speculators, etc.) to participate in the LCFS credit trading market at this time.
- The clarification of the distinction between credits and deficits, and the separation of their respective calculations.
- The new work in 95488 to define the credit transfer process, inclusive of the new, temporary credit transfer form and the longer term (should be done as soon as possible) plan to incorporate all credit trade information in the LRT system.
- The new work in 95488 to define and implement the carry back credit concepts both on a temporary and longer term basis. However, we do not believe there should be any distinction on credit generation date; e.g., 2012 credits should be able to be used for 2011 reconciliation. A company who needs carry back credits should be able to purchase credits from a company who generated those credits in following year 1Q provided the company filed their report with ARB prior to the annual compliance report deadline. Staff should also delete the proposed section 95488(a)(3)(C) restrictions on “Carry Back Credits”, because there is no need to restrict use, identify number and source of credits, or be forced to meet 100% of compliance obligation just because credits were purchased in this window.
- The mandatory credit retirement provisions to cover compliance obligations and the public disclosure proposal to periodically release aggregated trade data only, inclusive of the number of credits traded, and number of trades on a quarterly basis.

WSPA disagrees with the following provisions:

- Section 95488(b)(2) (page 98): We propose some "statute of limitations" on the time CARB has to "review and adjust" credits. Without this type of provision, CARB could conceivably adjust or revoke credits that are up to 5 years (or more?) old. We recommend a 1 to 2 year time limit.
- The need for specification of which credits are to be retired to meet mandatory retirement obligations under 95488(d), whether by the Regulated Party or by ARB. All credits are in units of MTCO₂eq. It does not make any difference which tons are used. Therefore section 95488(d)(2) regarding "retirement hierarchy" which so far is unspecified should be eliminated.
- ARB staff also mentioned during the discussion the possibility of specifically identifying credits with unique ID numbers or by some other method (see Section 94588(b)(2)). WSPA sees no need for this added work. It is unnecessary, will require detailed tracking systems and associated manpower, and it supplies no helpful information to a market that trades credits for metric tons of CO₂eq. The suggested use of unique identification numbers for credit tracking is similar to the original RIN program under RFS1 which proved to be unworkable and was abandoned by the U.S. EPA. There is no reason to expect that such a program under the LCFS would be any less problematic. CARB should not consider adding this unnecessary complexity to the LCFS. A credit trade transaction confirmation number linking the buyer and seller for the particular transaction is acceptable, but a unique ID number for the credits themselves is unnecessary.
- ARB staff has also suggested that the LCFS credit tracking mechanism will be used to ensure that the buyer of a credit is ultimately responsible for the validity of the credit. We strongly believe that this is misplaced. We believe that the responsibility of validating a credit is best with the original regulated party (the importer or the in-state producer) that first generated the credit. The initial regulated party has the direct responsibility (for in-state producers) or the contractual relationship (importer) needed to validate a credit. Placing the responsibility for credit validation on the first regulated party results in a responsibility party for every credit, and ensures the integrity of the system. If a credit was later determined to be invalid, the change should be placed on the balance of the original producer or importer.

Placing the responsibility on subsequent credit buyers creates additional problems. First, it would now be a requirement to disclose to all LCFS credit buyers the identity and plant location for the credit. This is generally information that would be kept confidential. Additionally, the credit buyer would then need to verify the validity of the original generation of the credit, although they have no contractual relationship with the original producer. It is unclear what documentation the credit buyer would need to obtain from the credit seller to adequately defend the validity of the credit. The original transaction BOLs, copies of contracts, and invoices are all documents that the original regulated parties possess, but are not something that would be shared to the credit buying party.

- Did staff really intend for the terms in the *Credit Balance* equation to not be tied to a specific compliance year? This would seem to result in those terms being cumulative, correct? Does staff really expect regulated parties to report cumulative quantities (which in future years could potentially be billions of metric tons of credits that have been accounted since the beginning of the program) for the terms in the *Credit Balance* equation?

WSPA believes that all of the terms in the *Credit Balance* equation at 95488(a)(2) should be specified to be applicable to the current compliance period. A *Credits^{CarriedOver}* term should also be added to the *Credit Balance* equation, with the specification that it is equal to the final credit balance from the previous compliance year.

Other inconsistencies include:

- Staff's proposal to require regulated parties to provide price information associated with the trading of credits in 95488(c)(1)(B) and the draft "credit transfer form". The price of credits traded between two companies is not relevant to a regulated party's compliance with LCFS carbon intensity reductions requirements. All references/requirements for any price information regarding credit trades and the fuels used to generate the credits for the credit trade needs to be removed from the proposed regulation and associated draft reporting forms.
- Section 95488 (a)(4), reference to "negative credit balance" needs to be corrected.

95488(c)(1)(C)3a Banking, Trading and Purchase of Credits

WSPA requests the blue wording in the section below be added:

(C) Requirements for the Purchase of a Credit.

3. Recording of a Credit Transfer. The Executive Officer will record the transfer request, and will update the account balance of the Seller and Buyer to reflect the proposed. Within 5 business days of receiving a Credit Transfer Form, the Executive Officer shall, either:
 - a. Process and approve the transfer request, notify both the seller and the buyer of the approval, and update the account balances of the Seller and Buyer with an identifiable LRT transaction line item to reflect the proposed, provided the Executive Officer determines all required information was submitted and it accurately reflects the parties' positions at the time of the proposed transfer; or

Appendix G – Credit Transfer Form/Credit Allocation Form

With regard to the "Credit Transfer Form" in Appendix G of the documents ARB staff has submitted for the regulatory amendment proposal, the following changes should be made.

1. Each page of the Credit Transfer Form should be labeled "Confidential Business Information".
2. On Page G-3, in Section 4 Credit Transfer Details – "Quarter in which credits were generated" should be deleted. This information is not required in the proposed regulatory amendment and is not necessary.

Closing

WSPA would like to reiterate the five requests of the Board for the hearing:

- **ARB has conceded the original crude oil screening approach was going to have unintended negative consequences such as crude shuffling. Staff is now proposing a new approach that WSPA does not support called the California Average. WSPA strongly recommends ARB replace their current California Average proposal with a Crude Oil Equivalency approach that does not discriminate between crude oils.**
- **WSPA requests the Board ask staff to include an annual review of the program's health that would include a public process and a formal report to the Board. At a minimum, topics to be included in the analysis would be the feasibility of the program in terms of low CI fuel and credit**

availability as well as costs and other possible adverse impacts of the program. This review would be required to incorporate analysis conducted by the California Energy Commission on current and projected energy supply and costs impacts.

- WSPA requests the Board ask staff to analyze a "trigger" mechanism for insertion in the regulation (NOT an alternative compliance mechanism) that would get triggered if certain criteria are reached in the program. Needs to be a priority topic at the beginning of 2012.
- WSPA requests the Board ask staff to initiate a thorough analysis of alternatives to transportation sector GHG emissions reductions. Based on experience and knowledge gathered to date we believe there may be less costly alternative approaches than a LCFS program. If the state wants to promote select technologies and fuels it can be done in ways that are not structured like the LCFS.
- Initiate a thorough analysis of the potential cumulative impacts on the cost and availability of transportation fuels and on the sector in California from numerous climate change regulations being implemented by ARB.

WSPA is not asking that the LCFS be abandoned at this time. We're asking that ARB conduct annual reviews of the program's feasibility and costs and make adjustments if needed. That is not a request to weaken the LCFS program.

What will weaken and destroy the LCFS is a program that is constructed on too aggressive a timeframe for the realistic availability of low carbon fuels and vehicles and infrastructure, fuel markets that are disrupted, and California suffering economic burdens it can ill afford.

Sincerely,

A handwritten signature in blue ink, appearing to read "Cathie Boyle".

c.c. President pro Tempore Darrell Steinberg
Senate Republican Leader Bob Dutton
Speaker John Perez
Assembly Republican Leader Connie Conway
Nancy McFadden, Executive Secretary, Office of the Governor
Cliff Rechtshaffen, Senior Advisor, Office of the Governor
Matt Rodriquez, Secretary, California Environmental Protection Agency
Mary Nichols, Chairwoman, California Air Resources Board
James Goldstene, Executive Officer, California Air Resources Board
CARB Board
CEC Commissioners