Western States Petroleum Association
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February 13, 2009

Manisha Singh
Stationary Source Division
California Air Resources Board
P.O. Box
Sacramento, CA 95814
Via electronic mail

Re. **Western States Petroleum Association's Comments on ARB's LCFS Program -January 30, 2009 Workshop**

Dear Ms Singh:

Attached are the Western States Petroleum Association's (WSPA) comments on the most recent ARB release of LCFS program documents. WSPA is a non-profit trade organization representing twenty-eight companies that explore for, produce, refine, distribute and market petroleum, petroleum products, natural gas and other energy products in California and five other western states.

WSPA's comments address not only the material provided at ARB's January 30 LCFS workshop, but also reemphasize several issues contained in our previous comment letters. We have included many previous comments since WSPA has not yet received an explanation from ARB as to whether or how our previous comments have been addressed. In general we are disappointed with ARB's apparent decision to ignore or disagree with the majority of our prior comments without an attempt to discuss the issues with our industry – the industry which is impacted the most and is directly responsible for implementation of the LCFS program.

We have several general comments captured in this cover letter followed by detailed comments. For ease of reference, general comment headings are bulleted here with details within.

- LCFS program needs substantially more work before the adoption hearing
- Need clear commitment in regulation for adequate periodic regulatory review with public process
- Inadequate economic analysis
- Harmonization with other GHG/fuels programs
- Guarantee of an adequate, reliable and affordable transportation fuel system

LCFS Program Needs Substantially More Work Before the Adoption Hearing

We are approximately one month away from submittal of the ARB documents to OAL and release to the public. Our overall impression is there are many open or only partially addressed facets of the program.

ARB staff continues to hold public workshops, but the workshops merely present summary slides of conclusions on a number of aspects of the program. There are no detailed explanations of the assumptions or calculations behind the results. It is impossible for the public to comment effectively.

In addition, there are many references to the "staff still quantifying, latest documents do not reflect comments, we are evaluating this issue, preliminary results will be published upon completing review, etc." It is clear to WSPA at this point in time that the LCFS Program needs substantially more work to ensure good science is applied to the regulation, and to verify that it is sufficiently complete.

During the January 30 workshop, staff produced a slide listing the issues that require additional effort. They were: early years cap, fee schedule (we request clarification of what this is), incentivizing carbon capture & sequestration, calculation of violation days, California average crude mix vs. others, method 2A & 2B, and physical pathway. Also, every other facet of the staff materials contains references to additional basic work that needs to be done, not just the finishing touches.

In particular, some very major aspects of the program are still incomplete or unresolved. These include defining a feasible pathway, the treatment of different crude oils, indirect land use factors for biofuels, and lifecycle assessments and pathway documents for a number of alternative fuels.

WSPA is concerned that one of the key elements of the program, the carbon intensity lookup table B1, was distributed at the January 30 workshop with different numbers than had been displayed on ARB's website as the "new" numbers just 10 days beforehand. We have no confidence that the fuel carbon intensity numbers are anywhere near completion. Our industry cannot, therefore, determine if there are viable low carbon intensity fuels we can use to comply with the program – even in the initial years.

In addition, WSPA believes ARB staff recognizes the program is not ready for early implementation since they released a LCFS compliance schedule that has no requirement for carbon intensity reductions in the year 2010. The whole year will be merely a reporting year with compliance not beginning until 2011.

The agency appears poised to adopt a shell of a regulation with the hope that changes, many of them potentially very significant, can be accomplished by the end of 2009 and in future years. The new regulatory schedule, in fact, indicates the April Board hearing is only the first time in 2009 when the LCFS will be addressed, since in December 2009 there will be a "completion of the April LCFS rulemaking process" and an "update to the regulation."

WSPA believes this bifurcated rulemaking approach is confusing, unnecessary and clearly indicative of the inadequate state of the proposed regulations. We believe CARB should ensure all the work is adequately done during the 2009 period and one adoption hearing be held in December, or at such point in time when an appropriate and complete package is ready.

<u>Need Clear Commitment in Regulation for Adequate Periodic Regulatory Review with Public Process</u>

The LCFS is an exceptionally challenging rulemaking because the feasibility of achieving the goal of a 10% reduction in carbon intensity by 2020 will require fuel and/or vehicle technologies that do not currently exist. As a result, WSPA feels it is imperative that ARB include, at a minimum in the Resolution but preferably in the regulatory language, a clear description of a mandatory periodic program review including a full public process.

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WSPA feels very strongly that the LCFS regulation should require a periodic review on the order of every three years, not just one review in 2012, as has been proposed by staff. In addition, we request the reviews be public processes, not just performed by the Executive Officer or ARB staff with no public input or review.

We also request that the regulation contain language specifying the scope and content of the reviews so there is no ambiguity about what the review is meant to cover. The reviews should evaluate the program's progress against the targets and make adjustments as necessary.

Any economic and environmental issues that have arisen should also be analyzed. Some of the aspects that should be addressed in the periodic reviews are:

- any technology advances;
- an assessment of the supply and rate of commercialization of fuels and vehicles;
- the program's impact on the state's fuel supplies;
- the program's impact on state revenues and consumers; and,
- identification of hurdles or barriers (i.e. permitting issues, research funds, etc.) and recommendations for appropriate remedies.

It is important the periodic reviews be done in a timely fashion and that the industry be given adequate time to adjust to any regulatory changes. The periodic reviews should be conducted by key agencies and stakeholders including but not limited to ARB, CEC, fuel providers, and engine and vehicle manufacturers.

Inadequate Economic Analysis

One of the elements we find particularly lacking is an adequate economic analysis of the program. We are also disappointed this critical element of the regulatory process has only now begun to be discussed with the public as the documents are due to be released for the 45 day review before the adoption hearing.

The staff proposal to create an Economic and Environmental Workgroup early in the process never materialized. We think this has been detrimental to the process. WSPA believes the economic analysis summarized at the January 30 workshop is inadequate, and we question the cost assumptions and conclusions. An economic analysis is so core that it requires visible and credible support.

We have appended our contractor's initial overview comments on this issue for a second time since we would like to keep emphasizing his points. In general, he highlighted the following:

"… three issues that CARB needs to consider carefully in performing its economic analysis of the Low-Carbon Fuel Standard (LCFS):

- *Uncertainty*
- *The appropriate baseline against which to measure costs*
- *Alternative scenarios necessary to understand the cost of the LCFS*

The economic impacts of the LCFS could be among the most significant of any element of CARB's AB 32 Scoping Plan. Moreover, it is possible that adjustments to the design of the LCFS could

significantly reduce its cost and the economic risks that it poses. Therefore, sound and comprehensive economic analysis is immensely important in order to inform CARB's decisions in implementing the LCFS."

Cost-effectiveness of the program is critical – not only legally for the state of California but also in case the program is applied elsewhere within the nation or internationally. A program that is devised in such a manner as to be uneconomic and unworkable will not only encumber and risk the viability of California's transportation fuel system, but will have the same impact on any area that adopts it.

WSPA requests that ARB engage the same peer review team that reviewed the AB32 Scoping Plan in order to receive constructive input and lend transparency and credibility to staff's work.

Harmonization with Other GHG/Fuels Programs

ARB needs to explain in the LCFS regulation how it anticipates handling the LCFS program and the Transportation Fuels under a Cap & Trade program that has been imported into the Scoping Plan from the WCI. Does the state expect to have separate LCFS and cap and trade components for transportation fuels? How are both these programs going to relate to the federal EISA or RFS2 requirements? How are the California GHG/LCFS programs going to relate to the RFS2 and to any future federal climate change programs including a LCFS, when they are adopted?

The answers to such questions could have a significant impact on the ability of WSPA member companies to comply with multiple programs. It is only through clear discussion of these questions that stakeholders can effectively respond to the draft LCFS regulations in a meaningful, value-added and all-encompassing fashion.

Crediting AB 32 cap and trade refinery GHG reductions to the LCFS is another issue requiring further discussion. Will AB 32 GHG emission reductions be allowed to be used to comply with future LCFS requirements? Will AB 32 reductions be reflected in future default carbon intensity values for gasoline and diesel? Does ARB foresee changing any limitation on the use of excess LCFS credits in complying with the AB 32 requirements?

ARB has said an adjustment will need to be made to the AB32 Scoping Plan due to the double crediting of electricity GHG reductions for the AB 1493 Pavley regulations. ARB also needs to describe clearly how those adjustments will be made and how they intend to make consistent changes for any double-crediting between the LCFS, Pavley and AB32 programs for other fuels.

One of the goals of the AB 32 and LCFS programs is to reduce petroleum use significantly by 2020. Estimates in the document are the programs will result in a 25% gasoline reduction and more than 15% diesel reduction. If true -- will the associated refinery GHG reductions from cutting back production be credited to the cap/trade program?

ARB and the CEC are implementing plans to spend approximately $200MM/year for several years to help reduce GHG and other emissions under AB118. Since AB 118 funds are not to be spent to help parties comply with existing laws, regulations, etc, how will the resulting surplus GHG emissions be accounted for under the Scoping Plan and the LCFS?

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Guarantee of an Adequate, Reliable and Affordable Transportation Fuel System and Fuel Supplies

We want to reiterate WSPA's fundamental concern that California and its citizens will be negatively impacted by any adverse consequences on the state's transportation fuel system as a result of implementation of the LCFS.

Since the LCFS includes very new compliance and enforcement concepts, the state needs to be more aware of the complications that will likely arise in the implementation of the program. The state also needs to examine the risks inherent in imposing such significant changes on the state's transportation fuel system.

The ARB must acknowledge the importance of ensuring adequate and reliable energy supplies, including transportation fuels, during the implementation of the LCFS. In addition, ARB needs to work with other California agencies such as the CEC to ensure that the state's transportation fuel supply requirements will be met, and there will not be any negative economic impacts on consumers and businesses.

We recognize that transportation fuels, the vehicles that use the fuels, and the vehicle-miles-traveled (VMT) all play a part in contributing to a reduction in GHG emissions from the transportation sector. This sector, however, is also very important to ensuring the economic health and welfare of the state and its citizens, and deserves careful thought, the use of sound science and careful planning in the implementation of a LCFS program.

There is only one month remaining before the ARB staff documents are released to the public and less than three months remain until the adoption hearing. There are many other states and areas of the world watching California's actions.

WSPA is extremely concerned about the situation. We question whether sufficient time, thought and good science has been and can be applied in the time remaining that is dedicated to develop a workable, effective LCFS under the current timeframe.

We will continue to work with ARB and request that our comments be considered seriously. As always, WSPA is available to discuss our comments with you and we welcome an opportunity to discuss staff's responses to our earlier comments and concerns.

If you have any questions regarding our comments, please contact me or Gina Grey at 480-595-7121.

Sincerely,

c.c. Linda Adams, CalEPA

Cindy Tuck, CalEPA

Dan Pellissier, CalEPA

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WESTERN STATES PETROLEUM ASSOCIATION'S COMMENTS ON CARB'S LCFS PROGRAM REVISED DRAFT LCFS REGULATION

ECONOMIC ANALYSIS

The issues of life cycle analysis, economic analysis, periodic program review, and technical feasibility are interconnected. Ensuring that a quality economic analysis is performed is a key to the development of a successful LCFS program.

First, WSPA would like to register our disappointment with the LCFS process relative to economic and environmental issues. ARB never convened the Environment & Economic Working Group.

ARB should have worked on the initiation of the economic & environmental analyses on a parallel track with the other workgroups. At a minimum, the workgroup could have engaged in a discussion of and potential agreement on the appropriate methodology and process.

Instead, the analysis is being rushed at the end of the staff LCFS program development and is inadequate. Moreover, it appears from the material shared to date that ARB has reached conclusions on the economic impacts of the LCFS program without first conducting a thorough analysis.

In addition, ARB staff is not sufficiently trained in economics in order to perform an appropriate analysis.

We question staff's capability to make a critical evaluation of an outside feasibility study, and whether they have the engineering research capability to evaluate whether some speculative processing technology can be implemented within a given cost estimate. For example, WSPA and other stakeholders need to see the underlying work that leads to ARB's assumption that low carbon fuels that do not now exist will be available at lower costs than conventional fuels.

WSPA points out recent studies indicate the federal program capital cost is potentially $11 trillion, so we question the very low estimates provided by ARB. We note that ARB's outline doesn't include new alternative fuel infrastructure expenses or the cost of alternative fuel plants.

Our economist, Jud Jaffe's, comments are provided in Appendix 1. He highlights that ARB's initial economic analysis for the LCFS rule should include the following:

- Final LCA numbers prior to completion of the economic analysis;
- Identification of tonnage reductions that are attributable to the gasoline program, and reductions attributable to the diesel program;
- Cost estimates (in $/ton) for each of these two sets of reductions, for each year of the program;
- Comparable estimates for cost of reductions if there was only one combined gasoline-diesel reduction requirement;
- For the proposed reductions for the first three years of the program before the first review, ARB must determine whether the proposed reductions can be achieved with currently available materials and technologies, and the cost estimates based upon those materials and technologies; and,

- For each periodic review, necessary adjustments to life cycle analysis are made, and the upcoming four years' proposed reductions are tested for feasibility based upon then currently available materials and technologies.

We believe an independent third party economist, or better yet a team of economists similar to what the state did for the AB32 Scoping Plan, is needed to assess the LCFS. In addition, we request that this peer review be conducted well in advance of the hearing so there can be adequate public review and discussion of the review contents. The team of peer reviewers should also be asked to present a summary of their findings at the adoption hearing.

Cost-Effectiveness – ARB Focus on "Out Years"

WSPA has frequently stated the need for a thorough cost effectiveness and feasibility review of the LCFS program. ARB is required to provide these analyses under AB32 for any Early Action measures.

ARB's current analysis of fiscal impacts seems to be focused on the out years of the program (i.e., towards 2020). Given this is the most speculative timeframe in terms of the nature and availability of the required technology, it is relatively easy for staff to postulate on successful scenarios for complying with the LCFS.

ARB should make different forecasts for the early years (nominally 2010-2015) than for the later years (nominally 2015-2020). The difference between the two would be the planned program reviews: in the early years (i.e., before the program reviews have an opportunity to have much of an impact) ARB needs to demonstrate that sufficient quantities of required low CI fuels *using currently available technology* will be available to meet the proposed goals. In the later years, the regulations need to reflect the greatest possible commitment (through the program reviews) to updating the feasibility analyses based on what actually transpires between now and then.

ENVIRONMENTAL ANALYSIS

I. Multimedia Evaluation Now Required Under Health & Safety Code § 43830.8

Starting in 1999, the California legislature required multimedia evaluations in order to obtain a full and independent assessment of the range of potential environmental impacts of any newly proposed fuel regulations across all media, including air, water, and soil.

At a minimum, all multimedia evaluations must address, among other items: "Emissions of air pollutants, including ozone forming compounds, particulate matter, toxic air contaminants, and *greenhouse gases*." Health & Safety Code, § 43830.8(c)(1) (emphasis added). By its terms, the required multimedia evaluation applies to the greenhouse gas (GHG) impacts of fuel regulations, including the LCFS which is primarily designed to reduce GHG emissions.

Under the detailed provisions of Health & Safety Code § 43830.8, ARB must conduct a multimedia evaluation before adopting a motor vehicle fuel regulation such as the low-carbon fuel standard (LCFS). Specifically, under Health & Safety Code § 43830.8, ARB may not adopt any regulation that establishes a specification for motor vehicle fuel unless that regulation, and a multimedia evaluation conducted by affected agencies and coordinated by ARB, are reviewed by the independent California Environmental Policy Council ("Council").

ARB is permitted to adopt a regulation without a multimedia analysis only if following an initial evaluation of the proposed regulations, the Council "conclusively determines that the regulation will not have any significant adverse impact on public health or the environment." *Id.* at § 43830.8(i). The Council has not made this conclusive determination regarding the LCFS and has no basis for making such a determination.

II. The LCFS Should be Subject to a Multimedia Evaluation

ARB staff currently proposes to avoid the California statutory requirements for performing a multimedia analysis by asserting that the LCFS is not a fuel "specification." ARB Presentation, *Requirements for Multimedia Evaluation and the Low Carbon Fuel Standard (LCFS)* (October 15, 2008) ("*LCFS Multimedia Presentation*"), at p. 4. According to ARB staff, the requirement to reduce carbon intensity does not establish a motor vehicle fuel "specification," because such a requirement is not a "detailed description of the design and materials used to make something." *Id.* at p. 5 (citing Oxford American Dictionary).

However, carbon intensity is a criterion or "specification" to which motor vehicle fuels must comply. The LCFS will change specifications of California reformulated gasoline and diesel and will require fuel additives to be added or taken out and new fuels to be used statewide. ARB Draft LCFS Regulation, Section 95422 ("[T]he transportation gasoline and diesel fuel for which a regulated party is responsible in each calendar year must meet the average carbon intensity standards set forth in this section . . . ").

ARB is not permitted to avoid the statutory requirements under Health and Safety Code, § 43830.8 to perform a multimedia evaluation by simply labeling the LCFS a "standard" as opposed to a "specification." Any attempt to do so is contrary to the legislative mandate in AB 32 that ARB must comply with existing fuel regulations in satisfying its obligations under AB 32. Health & Safety Code, § 38598(b) ("Nothing in this division shall relieve any state entity of its legal obligations to comply with existing law or regulations.").

ARB staff promises that ARB will perform a multimedia analysis if and when ARB either adopts a new fuel specification (such as one for biodiesel or biobutanol) or amends an existing fuel specification (such as natural gas or E85). *LCFS Multimedia Presentation*, at 9. According to ARB, in order to implement the "spirit" of Health and Safety Code § 43830.8, "[ARB] staff will conduct a functionally equivalent assessment for the LCFS rulemaking." *Id.* at 8.

Such an approach fails to address upfront the adverse environmental impacts that are associated with producing fuels that can meet the carbon intensity requirements under the LCFS. Such an approach also ignores the possibility that ARB may never conduct a multimedia evaluation of all of the LCFS fuels pathways. It completely ignores the possible interaction between alternative fuels pathways that might produce cumulative impacts.

Examples of multimedia impacts are described in the University of California Study, which concluded that increased biofuel production will result in adverse water and land use impacts. *University of California Study: A Low Carbon Fuel Standard for California* ("*UC Study*"):

- *Part 2: Policy Analysis*, at 74: Noting the numerous sustainability issues associated with biofuels, such as degraded air and water quality, soil erosion, loss of biodiversity,

loss of wilderness and natural habitats, increased concentration of land holdings and land appropriation.

- *Part 1: Technical Analysis*, at 72: "Transportation fuels have environmental impacts beyond greenhouse gas emissions [that include] land-use change, ground- and surface-water contamination, criteria and toxic combustion emissions, environmental impacts of perturbations to the complex nitrogen cycle, soil erosion and loss of soil nutrients, pesticides, water depletion, and environmental impacts of electricity."

- *Part 1: Technical Analysis*, at 8-9: "[A]ir quality, water use and quality, loss of habitat, soil erosion . . . will become more important if biofuel production and use expand . . . ."

- *Part 2: Policy Analysis*, at 75: "We also recommend that the state conduct independent periodic assessments of the sustainability impacts of the LCFS policy."

More recently, ARB prepared a California Environmental Quality Act (CEQA") Functionally Equivalent Document that analyzed the potential adverse environmental impacts of the Proposed Scoping Plan. *CEQA Evaluation of Environmental Impacts, ARB Climate Change Proposed Scoping Plan, Volume III, Appendix J* ("*FED*"). In the *FED*, ARB highlighted the impacts to air and water quality, and land use planning associated with the biofuels pathway of the LCFS.

Specifically, ARB concluded that production of food crop for biofuels may create new emission sources for acquiring feedstock, increase water demand, and impact water quality given increased use of chemicals and fertilizers to grow crops. *Id.* at J-28, J-66. In addition, ARB determined that there are "potential land resource issues associated with the biofuels pathways, such as conservation of forestlands, pastureland, and food or fiber to fuel crops." *Id.* at J-54.

Further, in each of the sections discussing the impact of the LCFS on a particular media (*i.e.*, air, water and land), ARB determined that additional analysis of these issues will be required as part of the LCFS regulatory process:

- *FED*, at J-27: "The LCFS regulatory proposal will contain a more detailed analysis of the potential air quality impacts";

- *FED*, at J-66, J-67, J-97: Noting that water quality and resources issues will be further discussed and analyzed in the LCFS regulatory development process;

- *FED*, at J-54: Stating that land resource issues associated with the use of biodiesel, ethanol and hydrogen "will be further evaluated in the LCFS regulatory development"; and,

- *FED*, at J-56: "[T]he potential impact of the loss of production of food and fiber may be significant, and would require further environmental analysis."

Thus, it is clear that ARB has yet to evaluate sufficiently the environmental impacts associated with increased use of biofuels, and that further CEQA analysis is necessary as part of the LCFS regulatory process. However, the statutory requirement to comply with CEQA (Public Resources Code, § 21000 *et seq*.), and the regulation of fuels (Health and Safety Code, § 43830 *et seq*.) are separate and distinct.

Compliance with CEQA is therefore not a substitute for the statutory requirement to complete a multimedia evaluation when adopting a motor vehicle fuel specification, and any attempt by ARB to do so would be improper.

Although ARB has begun a multimedia evaluation for biodiesel, and completed a limited evaluation for ethanol several years ago, other fuels that could comply with the LCFS, such as hydrogen, and natural gas have not undergone full multimedia evaluations. ARB will need to undertake multimedia evaluations for these remaining potential pathways to determine if any such fuel can qualify as an available pathway for compliance with the LCFS.

In addition, we question whether the earlier limited multimedia evaluation for ethanol needs further evaluation to incorporate other feedstock pathways and processing; beyond the singular assumptions made earlier.

III. Failure to Complete a Multimedia Evaluation Up Front Will Delay the Development of LCFS-Compliant Fuels

The proposed ARB staff approach to conducting multimedia evaluations after adoption of the LCFS will cause uncertainty. It will also hinder the development of the full range of LCFS-compliant fuels.

Specifically, uncertainty as to whether a fuel will satisfy a multimedia analysis will delay development of such fuels based on concerns about allocating any significant resources to the commercialization of a fuel that could ultimately fail such analysis. Likewise, the cost of developing fuels will increase if LCFS-compliant fuels are developed that ultimately fail to satisfy the requirements of a proper multimedia evaluation.

Thus, ARB should conduct multimedia evaluations *now* for all of the likely LCFS-compliant fuels in order to encourage investment in and development of a full and competitive range of such fuels. The deadline for implementing early action measures under AB 32, such as the LCFS, is fast approaching, and any delay in the development of LCFS-compliant fuels will further add to the many challenges and risks of implementing AB 32 successfully.

We appreciate that ARB is currently conducting a MMA for biodiesel (FAME only) and that reportedly a renewable diesel MMA is also underway. The Tier 1 report for the FAME biodiesel was recently made available for review. Tier 2 and 3 reports are still pending. The document, by design, covers an enormous amount of information and its release was delayed several months as the various agencies worked on the draft. This document and the time and resources it took, emphasizes the need to get started on any other MMA that needs to be done prior to the implementation of the LCFS. Whether or not various agencies have the resources available to deal with upcoming MMA's is also a real concern that ARB needs to address in their rule package to their Board.

COMMENTS ON PORTIONS OF THE DRAFT REGULATION

[Note: Many of the regulatory section numbers have been revised recently, however we have not been provided with a new, complete regulation. As a result, WSPA reference to regulatory sections may be inaccurate.]

Full Text of Proposed Regulation

At ARB's last workshop staff distributed only sections of the regulation which had been revised recently. This led to a great deal of confusion. WSPA requests that ARB release online a full version of the revised regulation with all of the correct section numbers.

95420. Definitions and Acronyms

Please note our comments on section 95424 regarding definitions of producer/production facility.

Importer:
( ) "Importer" means the person who owns an imported product when it is received at the import facility in California.
( ) "Import facility" means, with respect to any imported liquid product, the storage tank in which the product was first delivered from outside California into California, including, in the case of liquid product imported by cargo tank and delivered directly to a facility for dispensing the product into motor vehicles, the cargo tank in which the product was imported.

Under the current CBG rules, import facility has a broader definition and allows the use of protocols where a vessel can be considered the import facility instead of a "storage tank". We'd request similar flexibility under this rule as well.

WSPA also asks ARB to include in the LCFS a provision that allows staff to develop protocols to cover many aspects of the LCFS.

(24) "Regulated party" means a person who is subject to the LCFS pursuant to section 95424(a), and must meet the low carbon fuel standards in section 95422. Section 95424 defines the regulated party for an oxygenate (e.g. ethanol) as the producer or importer of the product. Therefore they appear to be subject to the standards in 95422. Is this understanding correct?

95420. Applicability of the LCFS

- WSPA continues to encourage ARB to revise the draft program design to focus on a gasoline-only program in the early years, with the potential to expand as the ability to comply is assessed during ARB's periodic reviews. As indicated later in our comments, ARB has not been able to demonstrate there will be sufficient volumes of low carbon intensity fuels for the diesel pathway, for example.

  During the regulatory process we often find ARB stating that no alternative options were presented so they indicate this is justification for moving forward with their singular approach. We would ask that ARB at least analyze the "gasoline-only" program as an option and provide the details of the analysis. One reason given by ARB staff to reject this scenario is that it will not provide the same number of CO2 tons of reductions. For two reasons this is a superficial and unsupportable excuse.
  - First, the major goal of the LCFS is to promote technology advancement – something that focusing on tons of CO2 reduction would not do. If the assessment says that the LCFS will provide fewer tons the Scoping Plan could be revised.
  - Secondly, there is little evidence provided by ARB that the current program, especially the diesel pathway, is technically feasible so the tons of CO2 credited to the ARB current

proposal is an illusion and it is unjustified to require that an alternative program be required to meet an unrealistic comparison.

- If ARB insists on moving forward with a flawed approach that includes more than gasoline during the program's initiation, this section of the draft regulation still does not adequately define exactly what fuels fall under the LCFS, but just lists several transportation fuels (e.g. electricity is not among those listed). WSPA suggests verbiage as follows, which is copied from ARB's Supporting Documentation (3rd and 4th paragraphs on page 4).

  For the LCFS, transportation fuel means any fuel used or intended for use as a motor vehicle fuel, other than racing fuel. In addition, transportation fuel includes diesel fuel used or intended for use in nonvehicular sources other than interstate locomotives, aircraft, and marine vessels (except harborcraft). .....

  The definition of transportation fuels essentially covers the types of use that are subject to ARB's current standards for gasoline and alternative fuels. In California, "motor vehicle" is defined broadly to include off-road construction and farm vehicles. In addition, "transportation fuel" includes diesel fuel used in non-vehicular sources that are currently covered by ARB's standards for ultra-low sulfur diesel fuel (ULSD). This includes all applications other than locomotives that are not subject to ARB's diesel fuel standards for intrastate locomotives, and marine vessels that are not subject to ARB's diesel fuel standards for harborcraft. Since this broader pool of diesel fuel is all currently subject to the same ARB ULSD standards, there has been no need to segregate different batches being used for vehicular versus covered non-vehicular applications.

- Consistent with the above, we believe that CARB ULSD which complies with the LCFS for use in LDDVs needs to be treated the same way electricity or natural gas is treated. Specifically, diesel's inherent fuel efficiency needs to be credited the same way electricity is proposed to be treated. ARB staff and even Board members are quoted in the public as attesting that the LCFS is fuel neutral, that all fuels are treated the same and the industry gets to pick the fuels they use to comply. Obviously, that is not true given the current LCFS proposal.

Regarding the exemptions found in 95420(b)(1) or 95421(c)(1), we don't fully understand this concept. ARB should provide examples of what "non-biofuels" are subject to this exemption (LNG, CNG, electricity, hydrogen, etc?).

Section 95421. Applicability

Credit Generation Opt-in Provision for Specific Alternative Fuels

WSPA is very concerned and confused by this new addition to the regulation. We believe it is premature to presume the fuels listed will have a full fuel-cycle carbon intensity that meets the compliance schedules through 2020. This does not portray a purported equal or fuel neutral treatment by ARB. In other sections ARB works to ensure the market for LCFS credits will not be manipulated by traders and other non-obligated parties. Why is ARB treating electricity generators differently than other parties?

We do not understand nor do we agree with the proposal that the regulated party for those fuels must meet the requirements of the LCFS only if they choose to generate credits. We are concerned there

may be several reasons (e.g. AB118 funding program restrictions or aversion to reporting requirements) that may encourage these alternative fuel parties to not bother with the program credits and our industry will be unable to comply. They could continue to supply fuels to vehicles but would be outside the LCFS program.

We request this additional section 95421(b) be deleted.

Exemption for Specific Alternative Fuels

WSPA is concerned with the amount of fuel being designated as the volumetric limit for an alternative fuel that is exempted from the program. This seems to be a high volume allowed especially when one considers the anticipated small penetration rate of vehicles utilizing these fuels. We do not support any transportation fuel being exempted from the LCFS regardless of the volume.

In addition, the inclusion of LPG as an exempted fuel in relation to the other alternative fuels does not appear to be valid.

We request that this provision be deleted.

Compliance Schedule

- WSPA generally supports the backend loaded compliance curve proposed by ARB. However, we are concerned about the feasibility of meeting the 2015 to 2020 interim targets because these are based on projections of new technology developments needed to meet the target. Because of the difficulty in predicting advances in technology we believe triennial reviews of the program must be carried out and the interim target feasibility be assessed. As stated earlier, these reviews should be made a requirement in the LCFS regulation. Additionally, we recommend ARB include some comparative analysis showing ARB's compliance schedule in comparison with the federal EISA schedule. Furthermore, the fact the European Fuels Directive reduced their LCFS target for transportation fuels from 10% to 6% due to a concern over feasibility. It is our understanding that if the EU Commission finds, through its own periodic reviews, that a 10% reduction is feasible it would likely be reinstated. This same analysis and flexibility should be addressed in the California LCFS program documentation.

- Unfortunately, without all of the carbon intensity numbers being completed (including land use considerations) we have to reserve our comments even for the early years of the program. At this point we cannot conclude whether the schedule is too stringent or not.

- Moreover, once ARB has completed the carbon intensity value calculations for fuels, the agency still needs to evaluate the feasibility of the program.

- WSPA notes staff has altered the compliance schedule to only require reporting during 2010 which makes 2011 the first year of carbon intensity reductions. WSPA believes this is a prudent step given the complexity of the regulations and the short timeframe industry will have to prepare. We seek confirmation that while 2010 only requires reporting regulated parties could still realize credits for reductions made in 2010 and bank such credits for future use.

- In supporting its draft regulation for the California low carbon fuel program, ARB lays out compliance scenarios that contemplate the availability of over 2.24 billion gallons of advanced

renewable fuels and over 560,000 advanced vehicles (battery, plug-in hybrid, and fuels cell) in California in 2020. These expectations are unrealistic.

ARB's projection that 560,000 advanced vehicles will be available for sale in California in 2020 appears unsupported and, in fact, contrary to the Energy Information Administration's (EIA) forecast. National growth trends do not appear to support 560,000 advanced vehicles in California by 2020.

Table 1, below, reflects the EIA's 2008 Annual Energy Outlook (2008 AEO) forecast of sales in the Pacific Region of unconventional light-duty vehicles in 2020. This forecast is based on the latest data and national economic model, and factors in the effects of the 2007 EISA updates to the federal renewable fuel standard (RFS) and the corporate average fuel economy (CAFÉ) standard.

As shown in Table 1, the 2008 AEO projects the sales of electric hybrids, fuel cell, and gaseous and electric light-duty vehicles in the Pacific Region to grow from a total of about 50 thousand to around 380 thousand between 2006 and 2020. That growth trend will not support sales anywhere near 560,000 advanced vehicles in California in 2020.

Table 1. Sales of Unconventional Light-Duty Vehicles by Fuel Type 2006-2020, Pacific Region

	2006	2020
Total	52,400	380,200
Electric hybrid	50,500	375,300
Gaseous technology	1,900	1,600
Fuel cell and electric	0	3,300

Source: Department of Energy, Energy Information Administration, 2008 Annual Energy Outlook, Supplemental Data, Table 46, June 2008.

ARB says the 560,000 advanced vehicle projection is consistent with the penetration schedule used to develop their 2008 ZEV regulation. ARB's ZEV program, first adopted in 1990, has as its first objective the promotion of electric vehicle technology. While major technology advances have occurred, the program has been amended four or five times over the past 18 years because the vehicles have not shown up in the marketplace. ARB has consistently overestimated the availability of electric vehicles and the state of technology and underestimated the cost.

ARB's projection that 2.24 billion gallons of advanced renewable fuel will be available for sale in California in 2020 appears unsupported and contrary to current figures. That amount significantly exceeds California's historical share of the national transportation fuels market.

The federal Energy Independence and Security Act of 2007 (2007 EISA) aggressively expands the federal Renewable Fuels Standard and provides a list of financial and other incentives for the production and use of these fuels. It mandates aggressive sales volumes of renewable fuels, advanced biofuels, and cellulosic biofuels.

The 2007 EISA mandates the sale in 2020 of at least 15 billion gallons of advanced biofuels, of which at least 10.5 billion gallons must be cellulosic biofuel. California typically uses 10 or 11

percent of the nation's transportation fuels. Consequently, it is difficult to see how California would be able to attract 2.24 billion gallons in 2020, since that would be about 15 percent of the national requirement.

On the other hand, if California was to continue getting the same share of renewable fuels as it does today the nation would have to produce over 22.4 billion gallons of advanced biofuels by 2020 for us to obtain our 2.24 billion gallons. This needs to be incorporated into both the economic assessment of the rule and the technical feasibility of the rule package.

Compliance Scenarios

- CARB needs to account for the incremental cost of vehicle technologies assumed in some of the scenarios that go beyond what is required by the ZEV mandate (and even the ZEV mandate numbers are tenuous given the number of times the regulation has been modified over the years). This doesn't appear to have been accounted for, and for some of the technologies that ARB is looking at (fuel cells, plug-ins, etc.), it is hard to argue that they would arrive solely as a result of AB1493.

- Most compliance scenarios string together a series of assumptions and assertions without any apparent technological validity. Staff seems overly optimistic that the "right" fuels and vehicles will be available in the timeframes considered. We recommend ARB clearly outline all of the assumptions and assertions used in their analysis along with an assessment of how the compliance schedule could change if different scenarios are chosen.

- "Conventional" corn ethanol is assumed to be phased out between 2010 and 2015/2017 in favor of corn ethanol at 10% and 20% below CARBOB in carbon intensity. At the same time, federal requirements for corn ethanol continue at a very high level – 15 Bgpy.

  Given the bulk, if not all, of the corn ethanol under the federal RFS2 will be grandfathered into that program without regard for carbon intensity, it's difficult to see how ARB's assumptions will come to fruition without massive "shuffling" of any volume of low-CI corn ethanol that is available into California. Even in that case, ARB needs to provide some substantiation that sufficient volumes of such low-CI corn ethanol will exist to enable compliance.

- All gasoline scenarios rely on a fairly significant influx of "advanced technology" vehicles using hydrogen and electricity as fuel. Scenarios 1 and 2 assumed 560,000 by 2020; larger numbers are assumed for Scenario 3 (1 million) and Scenario 4 (2 million). The 560,000 is presumably based on the 2008 ZEV regulation.

  Given the ZEV regulation has been constantly altered since it was first adopted in 1990 to scale back the requirements in the absence of battery technology breakthroughs, how can ARB staff be certain that these vehicles will materialize? How can Scenarios 3 and 4 even remotely be considered technologically or economically feasible? This further supports the need for reviews every three years that take into account the reality of the situation at future points in time.

- Scenarios 1 and 2 assume 15.8 million gge of hydrogen in 2020; Scenario 3 assumes 24.8 million gge, and Scenario 4 assumes 49.6 million gge. What is the basis for these assumptions in terms of demand and the required infrastructure? What is the basis for the technological feasibility of these implementation rates? What is the cost-effectiveness of this approach to carbon control?

- The Diesel scenarios (5, 6, and 7) rely on significant volumes of advanced renewable diesel to meet the 2020 requirements. It is assumed that this fuel is derived from waste and has a carbon intensity of 20 g CO2e/MJ. What is this based on and what technology is envisioned to produce this fuel?

- Diesel Scenario 7 assumes introduction of plug-in hybrids to the heavy-duty fleet. What is the technological and economic feasibility of this approach? Again, the LCFS compliance pathway is dependent on technology innovation so it is essential ARB conduct progress and forecast reviews every three years.

95422. Applicable Standards for Alternative Fuels

- WSPA is concerned about the assignment of responsibility to the fuel provider to somehow be knowledgeable about a fuel's end use so as to make the choice of applicable standard (gasoline or diesel) clear to ARB. WSPA recommends ARB (including Enforcement Division personnel) hold further discussion with the industry on this point.

- On page 7 WSPA agrees it makes sense to have alternative fuels comply with the standard (gasoline/diesel) that the fuel will essentially replace (e.g., LDV/MDVs get gasoline; HDVs get diesel). However, will there be guidance in the regulation on how to allocate fuels that could go into both applications (e.g., natural gas)?

- WSPA reiterates our position that any fuel used to comply with the LCFS must meet all applicable local, state and federal standards for that fuel. If such standards do not exist they should be developed to ensure there are no issues with emissions, vehicle drivability, or materials compatibility.

- ARB's document does not address one of the critical issues that has not yet been resolved for biofuels and for future fuels – which is the lack of UL certification at the retail and possibly terminal levels.

95424. Requirements for Regulated Parties

<u>Regulated Parties/Point of Regulation</u>

- WSPA believes the LCFS regulations must create a level playing field between obligated parties and oxygenate and biodiesel producers. In addition, the LCFS regulations should not conflict with the U.S. EPA RFS regulations if possible. WSPA requests the proposed regulations should be changed so the LCFS obligation moves with title transfer of oxygenates and biodiesel if it has not already been blended into gasoline or diesel. This would be similar to the U.S. EPA RFS program where the RINs are attached to the renewable fuel until an obligated party or a oxygenate blender or a biodiesel blender takes title of the renewable fuel. The U.S. EPA had several reasons for setting up the RFS program in this manner, which are discussed in the preamble of the proposed rulemaking (Fed. Reg. Vol. 71, #184) of the RFS regulations. This change would directly encourage the purchase of low carbon fuels and discourage the purchase of high carbon fuels by the obligated parties and make the LCFS regulations more workable.

WSPA recommends there be no separate treatment of parties that are producers or importers and parties that are non-producers or non-importers and that ARB treats all parties as producers or importers. As with the transfer to a producer/importer the obligation should transfer to non-producer/non-importer unless the producer/importer agrees to retain the obligation via written notification. Moving the obligation downstream of the production/import facility if the fuel transfers title aligns the obligation with the ability of the regulated party to take action to comply. If ARB chooses to retain the distinction between producers/importers and non-producer/non-importer then WSPA suggests as an alternative that ARB revise the definition of producer and production facility in the LCFS regulations as described below.

"Producer" means any person who owns, leases, operates, controls or supervises a California production facility.

"Production facility" means a facility in California at which gasoline, diesel or CARBOB is produced or at which biodiesel is added to diesel.

While these changes in definitions may meet the objective it is not our preferred approach as we believe this may lead to confusion resulting from different definitions for producer and production facility in the proposed LCFS regulations and existing CBG regulations.

- Pg14. Section 95424 (a)(2)(B)(4) As with the transfer to a producer/importer the obligation should transfer unless the producer/importer agrees to retain the obligation via written notification.

- The point of compliance for natural gas and electricity lies with the entity responsible for the quality of the fuel. Within the liquid fuel market everyone shares in the responsibility for the quality of the fuel as it is moved downstream of the production or import facility. As such it is unclear where ARB intends to enforce the LCFS on such natural gas and electric fuel providers. ARB should be more specific on where exactly ARB would intend to enforce the LCFS on such fuel providers.

- Refiners use very efficient processes to produce electricity in their refineries. Often some of this electricity is provided to the grid and will likely be used in future ZEVs or plug-in hybrids. Is it possible for a refinery to be considered the fuel provider for part of their electricity if they meet the applicable LCFS requirements for other electricity providers?

- (D) Effect of Transfer by a Regulated Party of Gasoline to be Blended with Additional Oxygenate.

  The proposed rule appears to assume that the party transferring the gasoline knows whether or not the new owner plans to add additional oxygenate to it. This is not likely the case. We don't believe it is reasonable to impose additional requirements on the regulated party (transferor). This section needs to be revised to only address the party that chooses to buy gasoline and add additional oxygenate to it.

Reporting Requirements

- WSPA members are concerned with the proposed requirement for quarterly reports as required by section 95424(c)(3). Quarterly reports could be onerous and may be unnecessary. ARB needs to

provide additional reasons for why such reports are necessary and why annual reports are not sufficient.

- (c)(3)(A)(1) Quarterly Reporting: Requires the regulated party to provide to the Executive Officer "…the product transfer document…". It would be helpful if ARB made it clear that what they want is the information from the product transfer document not a copy of the actual document.

- Clarification requested – are there implications in section 95423(c)(3) "Annual Compliance Reports" if third parties (such as brokers that do not hold title to credits) are involved in credit transactions and would they potentially have reporting requirements?

- Table 4 – We recommend deletion of unnecessary data reporting requirements (component blend data in particular). Also ARB needs to clarify how and if data can be kept business confidential.

- We do not understand why electricity seems to be given special treatment in Table 4. There are several categories such as feedstock information as well as production process where they do not have to supply any information.

- Need to specify fuels for Table 4 - it appears that under ARB's definition of blend stock, a refiner would be obligated to report the blend components in CARBOB. We have suggested the LCFS be consistent as possible with current CBG reporting requirements.

  Since the CI of CARBOB is based on an industry average we question the need for reporting such requirements. We therefore don't believe this is necessary and the definition of blend stock, for Table 4 only, should be adjusted to delete this requirement. ARB should specify that for Table 4, the blend stocks that make up CARBOB, CARB and CARB diesel need not be reported.

<u>Determination of Compliance</u>

- Violations and Penalties - WSPA supports a tiered structure but opposes the term non-compliance. This non-compliance provision is essentially a deficit carryover and should be defined as such, not as non-compliance.

- Several issues concerning enforcement have been discussed briefly by ARB but not resolved. For example, what level of accuracy will ARB need in order to enforce the LCFS standards, including the % reduction in CI as it relates to all the various fuels that will be subject to the LCFS.

  This needs to be part of the discussion before the LCFS rules are adopted not afterward. As such we encourage that future workshops deal with such enforcement issues specifically. WSPA has several issues concerning how ARB is enforcing its current rules that need to be included in this discussion.

95425. LCFS Credits and Deficits

- **Early credit generation**.
  In earlier drafts, ARB staff indicated regulated and exempted parties cannot generate LCFS credits from voluntary actions prior to 2010. It is assumed that encouraging early and real GHG emission reductions is an admirable goal and we hope ARB would support such actions if a viable and

enforceable means could be developed to regulate it. Now that the compliance schedule has been altered to contain just reporting in 2010 and intensity reductions starting in 2011, we believe there is increased opportunity for regulated parties to generate early credits for early action.

For illustrative purposes, some possible actions that a regulated or exempted party could take to create early credits might include:

- Contract for the delivery of sugar-cane ethanol instead of corn-based ethanol.
- Blending of biodiesel or renewable diesel in CARB ULSD; and,
- Increasing the amount of ethanol in gasoline where the ethanol has a lower CI than what had been used.

WSPA would like an opportunity to discuss possible early credit compliance processes with ARB.

- **Capping of Early Credits.**
  WSPA believes it is very important that ARB not limit the amount of credits any one party can generate and bank for future sales or use.

  In addition, ARB should not, as has been proposed, require regulated parties to divulge publicly detailed information regarding how many credits they have. Making such information public will likely have significant adverse impacts on parties seeking to buy and sell credits. For example, if a regulated party is substantially short credits and this were made public, it could result in the regulated party having to pay a much higher price for credits driving up the cost of compliance, and potentially the price of fuel to consumers.

  Likewise, there should be no discounting in the value of early credits**.**

- **Use of GHG Credits from Outside of the LCFS**.
  As worded in the draft regulation, it appears that actions taken to comply with any federal program including the Renewable Fuels Standards might not be allowed to be used to help a party comply with the LCFS. We hope this is not ARB's intention, and recommend the wording be clarified.

  For example, if a LCFS regulated party generates RINs under the RFS program for actions taken in California would those actions be allowed to be credited toward LCFS compliance? What if the party created excess RINs compared to the RFS requirements – can those credits be used for LCFS compliance?

- **Not Allowing Offsets from Non-regulated Fuels**.
  ARB is proposing that LCFS credits cannot be generated from fuels not subject to the LCFS (e.g. aviation fuels, certain marine fuels). We believe this is not a good policy decision. Fuel providers should be encouraged to look for voluntary actions outside of the regulated scope of the LCFS to generate GHG credits. We recommend ARB allow regulated parties to enter into agreements or protocols with ARB that would encourage technology development through the generation of LCFS credits. For example, this might include a refiner agreeing to use a renewable fuel blend in the ocean going vessels that operate in and out of California, or providing an aviation fuel that uses a renewable feedstock. ARB could use a process similar to the one above for generating early credits or allow for a Memorandum of Understanding under the proposed rules.

- **Disclosure of Credit Balances**
  We would be concerned if ARB required LCFS credit balances be made public as this could distort LCFS credit market issues.

- **Double Regulation**
  Clarification is needed concerning how refinery improvements that are made under AB-32 are reflected in the carbon intensities of gasoline and diesel. As with other fuels' improvement in fuel production, efficiency should be recognized in the LCFS.

- **Electricity Provider Credits**
  ARB proposes to give electricity providers a significant LCFS credit if they can show they provided electricity to motor vehicles due to the high efficiency of electric motors.

  We support several of ARB's proposed provisions as they apply to electricity.

- We support the proposal that electricity providers cannot estimate the electricity they provide but must provide some way to measure the electricity used in a motor vehicle.

- We support the diversification of fuel sources used in California.

WSPA has some questions and concerns as well:

- We understand electricity providers are required by law to supply the necessary electricity to meet their customers' needs. If so, why do they get any credit for providing something they are mandated to provide anyway? They are also required to meet the Renewable Portfolio Standards. AB 32 proposes they meet a 33% requirement by 2020.

- Why does providing a metering device allow utilities to get LCFS credits? ARB has argued that since they have to provide some type of metering devices it is appropriate to provide them the LCFS credit. Essentially all fuel suppliers provide some type of metering devices when refueling.

  If additional vehicles come on line that use diesel, gasoline, LPG, CNG or hydrogen – the fuel providers will all have to provide some type of additional metering devices at their own expense – and they are not assured that they will get any return on the money they invest in the infrastructure as will the utilities. We don't believe the utilities take much financial risk in providing such devices compared to private industry.

- Will the LCFS credit be adjusted downward to compensate for the RPS that utilities are required to meet? Will they only get credit if they exceed the RPS?

- In turn, will the LCFS credits they generate by providing electricity to vehicles be allowed to be used to comply with their RPS requirements as well?

- Many oil companies provide electricity to the grid. If oil/energy companies provide "metering devices" for electricity can they get credit too – up to the amount of electricity they provide to the grid?

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- In addition, auto companies are mandated to meet the Pavley GHG regulations. The GHG emission reductions from the use of ZEV's are captured under the Pavley rules. ARB has said they will have to adjust the AB 32 emission inventory to compensate for this double counting.

  No details on how that adjustment is planned have been provided. Can ARB provide us those details and the assumptions they made when making the estimate? In particular, what was the CI of the electricity used in refueling the vehicles, and, did ARB use the same CI in the Pavley Rules as it did for the LCFS?

- Finally, did ARB use the same CI for electricity when estimating the CI for other fuels that will be required to use incremental amounts of electricity under the LCFS?

95425. Determination of Carbon Intensity Values

Land Use Change

- It is paramount that ARB work with EPA to align on a methodology across state and national programs that is based on sound science rather than propose one approach versus another. It is possible that ultimately this issue needs to be resolved on a global basis to ensure a globally consistent and harmonized approach, to avoid unnecessary and nonproductive shuffling of biofuels.
- Regarding the Land Use Analysis chart (ARB staff presentation on 10/16- slides 21, 22) – a) did ARB consider cumulative impacts of any of these potential changes (it appears just high and low for each, holding others constant)?, and b) what analysis was done to determine the ranges chosen for the input variables?, and c) ARB's averaging approach assumes each scenario is equally probable - is this realistic?
- WSPA requests more details on the LUC numbers. How many acres of what type of land were converted for CBE (acres/100 gallons ethanol)? What are the effects of intensification on the efficiency of corn production and N2O conversion? Can ARB show these details in their backup document?

Indirect Land Use Change

To correctly account for all of the indirect effects resulting from an increase in ethanol production, ARB should factor in all of the resulting impacts, not just the change in land crop production. We question why ARB has not accounted for the effect of world wide intensification in their analysis. We point out the UC analysts called on ARB to include the effects of intensification.

WSPA requests that ARB evaluate potential net changes in GHG emissions from world-wide food production due to the phenomenon of intensification. If so, this incremental GHG impact should be assigned to the incremental ethanol production that would be the reason for these changes.

As another example of a factor that should be considered, the EPA in their evaluation included reductions in cattle production and subsequent reduction in emissions which ARB has chosen not to include in their scope. Given the critical nature of ILUC to the LCFS, we would recommend ARB perform the most thorough analysis possible.

Crude Oil

- WSPA requests more transparency in the Crude Recovery section in the CARBOB and ULSD pathways. In particular, it would be beneficial to disclose the individual Recovery Efficiency factors for the component crudes used to develop the weighted CA Recovery Average of 92.7%.

- WSPA continues to support the concept that all crude oil should be given the same average value. If ARB differentiates between crude it will only result in shuffling of crude oils to comply with the program and will certainly result in additional GHG emissions. As such, we reiterate our recommendation that all crudes be given the same average CI value.

Alternative Methods

- WSPA supports a practical opt-in process that is designed to encourage innovation to produce lower carbon intensity fuels. It should ease the burden on applicants to the extent possible, while providing the ARB with the assurance that accurate values are being generated.

- WSPA would like confrmation that ARB will not allow regulated parties to develop their own EERs.

- GREET contains forecasts of efficiency improvements for certain pathways, which implies that the carbon intensity changes over time. Will the default CARBOB intensity change with calendar year, or will it be static? How about the CI lookup table? Will those estimates be a function of calendar year or will they be static?

- Staff believes that GREET input values for industry average practices should be assumed for data that are difficult to obtain and report. Who decides what constitutes “difficult to obtain and report”? Who decides what goes into the “invariant data” list? ARB needs to explain the reasoning behind the concept of the invariant list since we do not support it at this time.
- Unrestricted public use of data submitted under an alternative method seems excessive and could potentially result in the disclosure of trade secrets or other competitively sensitive information. There should be a provision to keep competitively sensitive data confidential. We need additional details regarding the staff presentation on January 30 regarding this issue, as well as time for our membership to review.

95426. Requirements for Multimedia Evaluation

ARB should provide its legal analysis of the applicability of H&S section 43830.8 to ARB’s adoption of the LCFS regulation. This could avoid the question of how staff's proposed "functionally equivalent" LCFS multimedia assessment would work.

For example, will ARB be submitting it to the California Environmental Policy Council for their review? Why perform "real" multimedia assessments later if ARB is going to perform a "functionally equivalent" multimedia assessment upfront now?

In ARB’s "functionally equivalent" LCFS multimedia assessment:

a) How will ARB address emissions of all air pollutants, including ozone forming compounds, particulate matter, and toxic air contaminants as well as emissions of greenhouse gases resulting from each pathway?

b) How will ARB address potential contamination of surface water, groundwater, and soil resulting from each pathway?

c) How will ARB address disposal or use of the byproducts and waste materials from the production of the fuel resulting from each pathway?

Why not address these multimedia issues as much as possible up front to facilitate the implementation of the LCFS, lower its cost and avoid mistakes?

95427. Definitions

ARB is inappropriately using ASTM D6751 and D4608 in reference to B100 and E100 as finished fuels in the opening paragraph. Both of these specifications are for the use of each respective material as a blend stock to be added to a petroleum base, e.g. B5 and E10. They are totally inadequate as finished fuel specifications for either B100 or E100.

ARB needs to revise the use of "blend stock" for Table 4. We understand the intent but ARB should use a term such as "base fuel" instead of blend stock. This is important because, as written, producers would have to report volumes, carbon intensities, etc. of commodities (i.e. alkylate, reformate, butane, etc.) that are blended to make base fuels that may be subsequently blended with alternative fuels.

We recommend ARB use the term "base fuel" in Table 4 or state for Table 4 that blend stocks reported are not blend stocks that go into CARB, CARBOB, or CARB Diesel unless these blend stocks are actually added at the rack. For example, a regulated party would just report volumes of CARB, CARBOB, Ethanol and other renewable fuels, volumes of CARB diesel, E100, E85.

ARB's definition of "crude oil" includes GTL and CTL as "non-conventional" crudes. Our industry would consider these as products or blend stocks and not define them as "non-conventional" crude oils.

Section 95429. Regulation Review

The language offered at the January 30 workshop is woefully inadequate. WSPA feels very strongly that the LCFS regulation should require a periodic review on the order of every three years, not just one review in 2012.

In addition, we request the reviews be public processes, not just performed by the Executive Officer or ARB staff with no public input or review.

Third, we request that the regulation contain language specifying the scope and content of the reviews so there is no ambiguity in what the review is meant to cover. The reviews should evaluate the program's progress against the targets and make adjustments as necessary. Any economic and environmental issues that have arisen should also be analyzed. Some of the aspects that should be addressed in the periodic reviews are:

- any technology advances,
- an assessment of the supply and rate of commercialization of fuels and vehicles,
- the program's impact on the state's fuel supplies,
- the program's impact on state revenues and consumers, and,
- an identification of hurdles or barriers (i.e. permitting issues, research funds, etc) and recommendations for appropriate remedies.

It is important the periodic reviews be done in a timely fashion and that the industry be given adequate time to adjust to any regulatory changes. The periodic reviews should be conducted by key agencies and stakeholders including but not limited to ARB, CEC, fuel providers, and engine and vehicle manufacturers.

APPENDIX A. (no longer Appendix A) Calculations of Energy Economy Ratios (EER)

WSPA submitted to ARB on February 4 a cover letter and a report by our contractor E.E.A. on the EERs.

APPENDIX B Carbon Intensity Look-up Table – Method 1

ARB lists CI values for "CARBOB average crude to CA refineries" and "ULSD average crude to CA refineries". Based on ARB's staff response to a question at the last workshop, can ARB clarify that these CI's are also to be used for imported CARBOB and ULSD. Does the same hold true for biodiesel and renewable diesel that may be imported into California or actually produced in California?

WSPA is concerned that changes made by ARB to their GREET model could result in a subsequent modification of their rules/regulations/standards without going through the public process which would appear to be a violation of the California Administrative Procedures Act. For example, we find it concerning that the numbers in Table B1 that was distributed at the January 30 workshop are different from the numbers posted for the pathways on ARB's website ten days prior. We do not understand why there are differences or how many more revisions are anticipated.

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APPENDIX 1

ANALYSIS GROUP
ECONOMIC, FINANCIAL and STRATEGY CONSULTANTS

To: California Air Resources Board

From: Judson Jaffe, Vice President, Analysis Group, Inc.

Date: December 17, 2008

Re: Comments on the Low-Carbon Fuel Standard Proposed Economic Analysis

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These comments briefly address three issues that CARB needs to consider carefully in performing its economic analysis of the Low-Carbon Fuel Standard (LCFS):

- Uncertainty
- The appropriate baseline against which to measure costs
- Alternative scenarios necessary to understand the cost of the LCFS

The economic impacts of the LCFS could be among the most significant of any element of CARB's AB 32 Scoping Plan. Moreover, it is possible that adjustments to the design of the LCFS could significantly reduce its cost and the economic risks that it poses. Therefore, sound and comprehensive economic analysis is immensely important in order to inform CARB's decisions in implementing the LCFS.

1. Uncertainty

Developments in transportation fuel markets over the past few months underscore the tremendous uncertainty associated with the cost of regulations such as the LCFS. While CARB's staff currently expects the cost of low-carbon fuels to be effectively comparable to that of conventional fuels, there is a substantial probability that this will not be the case. Changes in the cost of conventional fuels or in the cost of low-carbon fuels could easily alter the annual cost of meeting the LCFS target by billions of dollars.

Importantly, the implications of this uncertainty for the cost of the LCFS are not symmetric. If conventional fuels turn out to be less costly or if low-carbon fuels turn out to be more costly than anticipated, then the LCFS may be far more costly than CARB projects. On the other hand, if conventional fuels turn out to be more costly or if low-carbon fuels turn out to be less costly than anticipated, then the LCFS's target may be met *even without* the LCFS in place. That is, in this latter scenario, any "savings" associated with the use of low-carbon fuels may be realized regardless of whether or not the LCFS is implemented, such that the LCFS would have no incremental economic impact. As a result, the cost of the LCFS in the former scenario *will not be* counterbalanced by cost savings in the latter scenario.

In essence, the LCFS may require something that would occur anyway if low-carbon fuels turn out to be as inexpensive as (or even less expensive than) CARB anticipates. But, the LCFS may lock California in to the use of costly low-carbon fuels if CARB's projections turn out to be wrong. It is important for CARB to analyze the implications of this asymmetric risk for the "expected value" of the LCFS program's cost — that is, for the average cost of the LCFS program taking into account all possible future scenarios.

In assessing uncertainty, it is important that CARB evaluate the extent to which costs may differ from its primary projection, and the likelihood of such scenarios. This requires considering the underlying determinants of the cost of the LCFS (e.g., the cost of conventional and low-carbon fuels) and the uncertainty surrounding those determinants. CARB should present the findings from numerous scenarios that appropriately reflect the degree of uncertainty in these key determinants of the cost of the LCFS.

In response to peer review comments on its economic analysis of the Scoping Plan, CARB explored uncertainty in its estimates by simply *assuming* that costs and savings from the Scoping Plan might differ by particular arbitrary percentages from its primary projections. CARB did nothing to assess how likely such deviations would be, and whether deviations could be even greater than CARB assumed. Therefore, CARB's analysis did nothing to inform policymakers about the true economic risks associated with the particular regulations that it has proposed. Its analysis would be akin to evaluating the value of a corporate bond by *assuming* a particular likelihood of default, rather than by actually evaluating the likelihood of such a default based on the economic condition of the specific company in question.

LCFS places a rigid requirement on the transportation fuel market that could prove to be extremely costly under certain future scenarios if low-cost low-carbon fuels do not emerge in sufficient supply. Thus, a critical issue that CARB will need to address is whether to adopt particular cost-containment mechanisms and, if so, what kind of mechanisms it should adopt.[1] To help inform CARB's decisions with respect to these issues, it is important for an economic analysis of the LCFS to assess the likelihood of those scenarios in which costs are higher than expected, and to assess how much higher costs could be. To offer an analogy, one cannot make a reasoned decision about whether or not to purchase flood insurance without considering the likelihood of a flood and the extent of property damage that would be caused by such a flood. Likewise, CARB cannot make a reasoned decision about whether to adopt a cost-containment mechanism, and about the kind of mechanism to adopt, without a rigorous assessment of the uncertainties introduced by the LCFS.

2. The Appropriate Baseline Against Which to Measure Costs

A key issue in the measurement of the LCFS's economic impact is the determination of an appropriate baseline of how transportation fuel markets would evolve in the absence of the LCFS. In particular, it is critical that this baseline be consistent with CARB's projections of fuel prices. That is, if CARB believes that low-carbon fuels will be less costly than, or as costly as, conventional fuels even in the

absence of the LCFS, the baseline should reflect that low-carbon fuels would be adopted even in the absence of the LCFS. Alternatively, if CARB does not believe this would be an appropriate baseline,

[1] CARB could adopt one or more of a variety of cost-containment mechanisms. As just one example, CARB could codify a periodic program review with clearly established conditions for making adjustments to program design and/or targets.

it needs to offer a rigorous assessment of why low-carbon fuels would not be adopted in the baseline even if they are less costly than conventional fuels.

As was mentioned above, if low-carbon fuels would be adopted in the baseline in the event that they are less costly than conventional fuels, this has critical implications for the cost of the LCFS. In such a case, the LCFS would have no economic impact if low-carbon fuels are less costly than conventional fuels, whereas it would lock California in to the use of costly fuels if low-carbon fuels turn out to be more costly than expected.

3. Alternative Scenarios Necessary to Understand the Cost of the LCFS

Assessing the cost of the LCFS relative to the business-as-usual baseline should be a key element of CARB's analysis. However, CARB should also measure the cost of the LCFS relative to at least two alternative scenarios: a less stringent carbon-intensity requirement, and achieving comparable emission reductions through an economy-wide cap-and-trade system.

It is my understanding that the specific carbon intensity required under the LCFS was not selected based on the result of an economic analysis. Therefore, both CARB and Californians should be made aware of the incremental cost of meeting that particular carbon-intensity target, relative to the cost of meeting slightly less stringent carbon-intensity targets. This is particularly relevant because it is difficult to argue that the transformative effect of the LCFS will be undermined if the LCFS requires, for example, a 9% reduction in the carbon-intensity of fuel rather than a 10% reduction. If slight adjustments to the carbon-intensity target can significantly affect the LCFS's cost without affecting its transformative impact on transportation fuel markets, both CARB and Californians more broadly should be made aware of that.

Similarly, even if the LCFS were not implemented, AB 32's 2020 emissions target would still be met as a result of the economy-wide cap-and-trade system that CARB is proposing to implement under the Scoping Plan. Therefore, CARB should evaluate the cost of implementing the LCFS relative to an alternative scenario in which LCFS is not implemented and the necessary emission reductions are achieved through the cap-and-trade program. While the LCFS clearly has policy objectives beyond just GHG reductions, given the ability to achieve the GHG reductions through reliance on the cap-and-trade system alone, CARB should understand the cost of achieving the LCFS's additional objectives.

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