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DATE: November 24, 2008

Via Email
Bob Fletcher
California Air Resources Board

Subject: BP America Comments on CARB's
Draft Regulation For the California Low Carbon Fuel Standard
October, 2008

Dear Bob:

BP submitted comments to CARB's Proposed Concept Outline for the California Low Carbon Fuel Standard Regulation in May of this year. In this current correspondence we would like to address issues raised in the October 2008 Draft Regulation as well as take the opportunity to emphasize key points of our May 9 letter which we believe have not been adequately address by CARB staff.

Lifecycle Reductions
With respect to the new information brought forward in the October 2008 Draft Regulation, while the issue of how or whether AFCI reductions will be credited along the entire fuel lifecycle appears not yet to be fully resolved by CARB staff, we are concerned about what we perceive as an intention to limit the ability of regulated parties to make reductions in, and receive credit for, AFCI improvements along the entire fuel lifecycle.

The Draft Regulation refers to invariables and to thresholds for significance that may significantly limit incentives and credit for reductions in components of the full fuel lifecycle. Further, in public workshops, CARB staff has made statements that suggest they are considering limiting the ability of regulated parties to be credited for actions at refineries that reduce AFCI.

As the LCFS is a lifecycle approach to reducing the carbon intensity of transportation fuels, we believe that a core principle of the LCFS should be that if a party is regulated on carbon emissions along the entire lifecycle, they should have the opportunity to reduce carbon intensity along the entire lifecycle – and to take credit for that reduction.

We believe a program that contemplates regulating along the entire lifecycle but not allowing emission reductions to be credited along the entire lifecycle is not only unreasonable and unfair, but shortsighted in the view of what will be required to solve the enormous challenge of global climate change.

By all accounts, fossil fuels will make up a large part of California's energy mix for decades to come. This is no less true in the transportation sector. Even if the LCFS works as planned, some 80% of the California transportation fuel mix will be made up of conventional fossil fuels in 2020. The US Energy Information Administration estimates that in 2030, the US energy mix will be made up of more than 80% fossil fuels. In order to solve climate change, we will not only need to move toward lower carbon alternatives, but we will also need to find ways to use fossil fuels in a manner that results in fewer GHG emissions. To do that, we will need policies that incentivize these reductions – and that credits regulated parties for these reductions. We need policies that encourage and reward innovation in reduced emissions at *all* points in the lifecycle.

Some would argue that the upstream or processing/production portion of the lifecycle is relatively small – and that few opportunities for emission reductions exist. However, California's longer term GHG emission reduction goals (80% by 2050) *require* that there be significant innovation and transformation of our energy systems. To design regulations based on a view of current technology belies this hard truth. We believe there will be breakthroughs not only in lower carbon fuel alternatives – but in processes that allow use of fossil fuels in a way that results in fewer GHG emissions. Carbon capture and storage is only one example of such a breakthrough technology. It is inconceivable that CARB would disallow a regulated party from taking credit for a greatly reduced fuel carbon intensity that would result from a carbon capture and storage project at a refinery – or for that matter from any other significant emission reduction project.

LCFS/AB32 Interaction

We have heard CARB staff say that regulated parties could instead take credit for such emission reductions under the greater AB32 program. However, this approach would ignore the fact that AB32 and the LCFS are separate regulations that, for a portion of emissions, regulate these same emissions separately through two different programs. If an action can be taken that meets the requirements of both of these separate programs – then these actions must be credited under *both* programs. There is simply no other reasonable way to approach addressing the interaction of AB32 and the LCFS. If you did not allow credit under both programs, a regulated party could be subject to the perverse outcome of crediting one program and "pretending" that emission or AFCI reductions did not occur in the other program – when they actually did.

Crediting both AB32 and LCFS compliance as co-benefits for a single action which reduces emissions *and* AFCI in the area of regulatory interaction also creates greater potential to encourage higher cost, potentially game-changing technologies to be developed and deployed. It creates extra incentive to comply with AB32 by reducing facility emissions directly rather than through trading or the use of offsets – thereby addressing Environmental Justice concerns of AB32.

Method 2 Thresholds
We are concerned about what appears to be an unreasonably high threshold for significance in order for process-specific data to be used as an alternative to GREET default values. While it is not completely clear what the Draft Regulation requires, it appears that at least a 10% improvement on the fuel's overall AFCI is required in order to qualify process-specific data. While we understand the need to balance wise use of administrative resources with allowing flexibility to regulated parties – we believe this high threshold misses the mark on getting this balance right. This threshold essentially requires that in order to meet the significance threshold, a qualifying action would have to single-handedly fulfill a regulated party's entire 10 year compliance obligation.

Moreover, we do not agree with CARB's proposal to make refinery efficiency an invariant parameter. For reasons discussed earlier in this document, CARB should encourage and credit improvements in refinery efficiency. Excluding refinery efficiency is inconsistent with CARB's policy goals for the low carbon fuel program.

We understand CARB's desire to balance flexibility with wise use of available resources - and to avoid gaming of the system, but believe there are better ways to strike this balance. These could include favoring of prospective investments in efficiency and/or past investments (such as CHP) that provide significant differentiation in performance.

Given the uncertainty around the design of the LCFS, its feasibility, and the cost of compliance, it would be unwise to close off compliance options that could be potentially lower cost and higher feasibility. At this point, we believe the threshold for significance should err on the side of inclusion, rather than exclusion of AFCI reduction opportunities.

Point of Compliance
BP has supported the point of LCFS compliance at the production or import facility, although contractual arrangements that provide for transfer of the compliance obligation with the product are acceptable. We continue to believe that aligning the point of regulation for gasoline and diesel blends with the place at which product is manufactured or imported is essential to a workable LCFS. This point of regulation is consistent with both the Federal Renewable Fuel Standard and the California RFG program. It also enhances enforcement by providing certainty in terms of the identity of the regulated party. Provisions could be included to permit transfer of the compliance obligation when there is a clear contractual relationship, but the default case should always be the point of manufacture or import.

CARB has proposed - and some other potentially obligated parties have apparently supported - the idea that the point of regulation should move downstream as product ownership or custody changes. This could create a disconnect between the California and Federal programs that attempt to utilize the same RIN system. It would also seem to greatly complicate compliance and enforcement efforts by requiring tracking of product as it moves through the fungible distribution system.

We are unclear as to CARB's rationale for this approach. Given the apparent difficulty of enforcing such a standard, BP suggests that further discussions are needed between CARB, including its Enforcement Division, and those that would be subject to the proposed rule.

Early Reduction Credits

BP has encouraged CARB to consider allowing actions taken prior to the implementation of the LCFS be allowed to obtain LCFS credits that can be used for their compliance once the LCFS is implemented. We believe that allowing early reduction credits for such actions will promote earlier implementation of activities reducing GHGs - helping to ensure a successful LCFS program.

Biofuels

BP believes that biofuels can provide many benefits including energy supply security, reducing greenhouse gas (GHG) emissions and supporting rural economies. We fully support the development of the biofuels industry in a sustainable manner and target our investments in a way that avoids putting undue additional pressure on global resources including land, water and biodiversity. We are committed to the rapid development and commercialization of biofuels which do not compete with food and which have significantly lower lifecycle carbon performance when compared to fossil fuels. Our investments and projects reflect this commitment and include:

June 2006: BP committed 500 Million dollars to the establishment of the Energy Biosciences Institute, at the University of California Berkeley and the University of Illinois Urbana Champagne and Lawrence Livermore National Lab. This institute is a world class research institution focused on next generation feedstocks, advanced biofuel molecules and other applications of biotechnology to energy.

June 2006: BP announced their partnership with DuPont to develop and commercialize biobutanol - an advanced biofuel molecule that is compatible with existing infrastructure and with an energy density closer to that of gasoline.

May 2008: BP took a 50% stake in Tropical Energia S.A. a sugarcane ethanol joint venture, to construct two 115 million gallon ethanol plants in Brazil. The first plant commenced production of low carbon biofuels in the summer of 2008.

July 2008: BP initiated a strategic partnership with Verenium, a cellulosic ethanol technology company with R&D Facilities in California. Our initial investment of 90 million dollars will facilitate accelerated research and commercialization of cellulosic ethanol production in the US.

We are confident that biofuels will be a substantial source of low carbon fuels for transport in the future and will continue to encourage its sustainable growth. We anticipate continuing a full pipeline of biofuel projects in our 3 areas of strategic focus: Brazilian Sugarcane, Advanced Molecules and Cellulosic Biofuels.

Biofuels Import Tariffs

As a global principle BP supports free trade. We believe that markets unfettered by inappropriate country-level barriers are able to deliver the lowest cost products to global consumers in the most reliable way.

When it comes to biofuels we believe that the production of ethanol in Brazil should not be unduly hindered by trade policy. Sugarcane ethanol is a low carbon biofuel available in volume for compliance in the early years of the LCFS. We encourage California to acknowledge the opportunity that Brazilian sugarcane ethanol offers for LCFS compliance. Such an acknowledgement would be a strong signal to policy makers in Washington that California is serious about achieving the GHG mitigation goals laid out in the LCFS and AB32.

Indirect Land Use Change

BP has a number of concerns with the current ILUC analysis methodology employed by CARB. This is an extremely complex area of research that is still in its infancy. Current analytic tools and models are unsophisticated, and data are unreliable and scarce. Imposing ILUC GHG factors now, based on data and models which are still very uncertain, risks jeopardizing the realization of significant improvements in land utilization which biofuels may be able deliver to the agricultural sector in the future. BP believes that, with the right incentives, investment and research into new biofuel feedstocks and technologies could result in efficiency gains in the agricultural sector overall. This could potentially lead to improved land utilization and less pressure on land in the long run.

Despite significant concerns, BP understands that, as a precautionary measure, the Air Resources Board may decide to implement ILUC GHG emissions factors even though they are based on the outputs of uncertain and inadequately validated models and data. Our concern is that, in spite of good intentions, this approach may have perverse effects, for example inappropriately penalizing, and therefore delaying the development of beneficial biofuels, if data or modeling assumptions are subsequently shown to be wrong.

However, where regulators do decide to proceed in this way, BP believes that it is important that the emissions factors be designed to encourage those biofuels which are bringing significant net benefits. The following is a summary of how we believe this could be accomplished:

- *Fully transparent input assumptions and model mechanisms*: Stakeholders must have access (beyond GTAP's general "open source" format) to the detailed modeling assumptions and input data used, and must have sufficient time to review and respond to these assumptions before final regulations are adopted. For example, the magnitude of indirect emissions predicted by the models can vary widely as a consequence of assumed elasticities. A list of all such elasticities and other relevant input assumptions should be published along with the range of emission values that result from sensitivity analyses.
- *Model Validation/Uncertainty*: Models employed as the basis of regulation should be properly validated and the range and types of uncertainty within

these models should be clearly characterized. Validation techniques might include but are not limited to modeling known historical outcomes to check for accuracy, or comparing outputs of similar models measuring the same question

- *ILUC emissions factors should be feedstock specific*: Early copies of the LCFS rule have listed the same ILUC value for feedstocks that are grown on very different types of land. Because different feedstocks have different optimal land use patterns, any indirect land use change effect would need to be specific to that feedstock.
- *ILUC emissions factors should reward better practices*: Those companies willing to invest in biofuels crops in a way that reduces or eliminates ILUC (for example by planting on marginal land) should have an option within the program to differentiate themselves and qualify for an appropriately lower emissions factor. Clear criteria and certification and verification procedures should be established by regulators in order to demonstrate this distinct performance.

Conclusion

In conclusion, we would like to re-emphasize several points from our May 9, 2008 letter which we believe have not been addressed by the October Draft Regulation.

Cost Effectiveness and Feasibility

First, it is important that CARB's regulation include a realistic assessment of the feasibility and the cost (in $/ton GHG) of achieving the required AFCI reductions. Our May 9 letter voiced our concerns regarding the feasibility of both the gasoline and diesel targets – especially given the restrictions CARB is placing on certain potential compliance pathways (ie light duty diesel displacing gasoline), the introduction of ILUC factors, the severe limitations on the availability of vegetable oil to meet the diesel AFCI requirement and uncertain timelines for other technologies related to the production of biomass based diesel. All of these developments only serve to further reduce the feasibility of a standard which the UC Report already referred to as "ambitious but achievable". This is why we recommended, and still believe that, CARB should start with a gasoline AFCI reduction requirement that is ambitious but achievable and that makes use of *all* potential compliance pathways, and should delay consideration or implementation of a separate diesel AFCI reduction requirement.

It is worth recognizing the concerns regarding the attainability of GHG intensity reduction targets under similar regulatory initiatives elsewhere in the world. In the EU, Member States are proposing reducing the 2020 10% GHG emission reduction target in Article 7a in the Fuels Quality Directive from 10% to 6%, in order to more properly align this target with the biofuels target within the Renewable Energy Directive, recognizing that biofuels are the primary means to achieve such a target, and given the likely timing of commercial availability of advanced / 2nd generation biofuels.

Fuel Neutral Approach

Second, it is of utmost importance to the success of the LCFS that it maintain a fuel-neutral approach. We remain extremely concerned about the obvious bias against the use of diesel fuel in the light duty fleet as a compliance option. CARB staff has not been able to articulate any reasonable, consistent justification for the fact that they are unwilling to allow use of this pathway. While the UC report on the LCFS concluded that the feasibility of a 10% reduction in AFCI was "ambitious but achievable" – they did so while assuming a significant role for light duty diesel. Given the points raised earlier in this letter about the fact that solving climate change will require not only breakthroughs in alternatives fuels, but the need to use fossil fuels in a manner that results in fewer GHG emissions – we believe CARB's current bias against diesel as a replacement for gasoline in the light duty fleet would be a setback in the battle against climate change.

Take The Time To Get It Right

Lastly, we believe many important issues about the design of the LCFS remain unresolved. It is vitally important that CARB get the initial design of the LCFS correct – and that the LCFS succeed in achieving its goals. By succeed, we mean that the LCFS delivers GHG reductions in fuels at a reasonable cost, that it does not inhibit the ability of California consumers to access the fuel they need, and that it encourages and rewards low carbon fuels innovation. It is more important that the LCFS be done right than be done quickly. We believe that the Early Action designation has placed an unreasonable and unrealistic time constraint on the design of a successful LCFS regulation.

In light of the many significant, leveraging and still emerging uncertainties around the design and feasibility of the LCFS, including potential unintended consequences of various compliance pathways, we urge CARB to reconsider the Discrete Early Action designation of the LCFS. CARB should take the time necessary to establish a deliberate approach in designing and implementing this complex, first-of-its-kind regulation. We believe a timeline more consistent with implementation of the greater AB32 program would be more realistic and because it has been acknowledged that few AFCI reductions would occur in early years – this adjusted schedule would not come at the expense of delay of significant progress in emission reductions.

Please feel free to contact me should you wish to discuss these recommendations in more detail. We anticipate contacting you in the near future to set up a meeting to further discuss some of the issues we have raised.

Sincerely,

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