



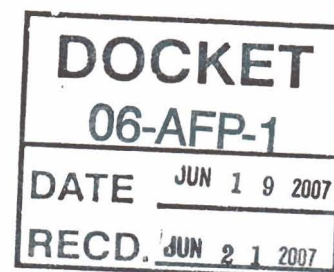
Western States Petroleum Association
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Catherine H. Reheis-Boyd
Chief Operating Officer and Chief of Staff

June 19, 2007

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 06-AFP-1
1516 Ninth Street
Sacramento, CA 95814-5512

Via electronic mail to docket@energy.state.ca.us



Re. Docket No. 06-AFP-1 Alternative Fuels Transportation Plan
WSPA Comments on CEC Final TIAX Full Fuel Cycle Analysis

Dear Commissioners:

Oh behalf of the Western States Petroleum Association (WSPA), we appreciate the ability to provide additional comments on the CEC Final TIAX Full Fuel Cycle Analysis. WSPA is a non-profit trade association that represents the petroleum industry in California and five other western states.

Last week the Commission communicated via e-mail asking for WSPA's input on the final versions of the TIAX Full Fuel Cycle analysis (FCA). Due to the limited time provided, we asked our contractor, ERM, to focus on the Well-to-Tank portion of the analysis. WSPA has several initial comments to provide, and have then outlined ERM's and other comments, along with an attached spreadsheet summarizing the changes between the February 2007 draft and the June 2007 Final TIAX report.

Overall, the TIAX analysis continues to illustrate the uncertainty that exists in the fundamental tool for measuring carbon intensities of various fuels. Most experts agree there is no widely agreed upon FCA method for measuring all global warming impacts of transportation fuels. This is why WSPA continues to advocate for the establishment of a public/private collaborative to assemble a broad-based, representative, and technically competent team of individuals to provide input into the upcoming state fuels actions, and into the development of an accepted and accurate FCA in particular.

In general, it appears TIAX only made minor changes to their analysis and we believe the analysis to still be questionable as a valid tool for policy decision-making. The FCA is a critical part of many current activities in the state – including the Low Carbon Fuel Standard (LCFS) – so we need to be able to feel confident that the model is accurately reflecting how different fuels will impact the state and the ability to deliver reliable and affordable transportation fuels to the consumer. As we all know, the model is only as good as the inputs, and if one element is inaccurate it can significantly change the results. As part of the LCFS, we recommend biennial milestones be scheduled over the implementation period that would assist in ongoing improvements to the FCA methodology which is the underpinning for the state's transportation fuels planning.

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The majority of recommended WSPA/ERM revisions were not addressed in any substantive way. A few assumptions were changed and a small scale sensitivity analysis was done (only 5-6 parameters were run out of approximately 100 in the model). The sensitivity analysis should be much larger and robust.

Most of our comments were consolidated together with other third party reviewers and a generic response was given, which is not satisfactory. WSPA recommends all third-party comments be included in their entirety as an appendix to the report, and the TIAX/CEC responses should be specific to the comments. For example, ERM and Argonne recommend the use of a "Substitution" method rather than the "Allocation" method TIAX used to determine impacts of co-products from ethanol production. TIAX did not make any changes to the final report to address this comment.

ERM Review of Revisions to TIAX FCA

ERM compared the Final Report to the comments and issues that we noted in our March, 2007 Review of the TIAX draft. In general, we found that the Final Report did not incorporate the majority of the changes we suggested could be made in the model, and in those instances where a change was made, it was of small significance. This is outlined in the attached workbook on the worksheet tab called "Comparison Sheet."

The other worksheet tab, labeled "Changes", shows the changes we identified between the Draft and the Final Report, focusing on the WTT portion of the report.

The most significant changes identified by ERM were the following:

1. A sensitivity analysis was included in the Final Report; however, the sensitivity analysis only covers a small fraction of the variables in the model. Hence, it is not comprehensive;
2. Third party review comments were listed and addressed in the Final Report. However, the comments were generally grouped in a few categories, and only general answers were provided. Not all comments were addressed.
3. The WTT greenhouse gas emissions were generally comparable in the Draft Report and in the Final Report. The GHG impact from E85 from Brazilian sugarcane increased by 55%, but all the other numbers surveyed only changed between 1% and 15% (see "Changes"). The Gasoline refining efficiency was reduced by 0.4%, but the Diesel refining efficiency was increased by 0.5%.
4. The corn ethanol plant energy input was reduced; however, the ethanol generated from corn using Natural Gas had the same WTT GHG impact in the Draft Report as in the Final Report.
5. The crude oil shipping distance from the Middle East was reduced by 2000 miles to 5,700 miles; however, this did not affect the WTT GHG impact from Gasoline and Diesel.

Additional Comments

1. TIAX has added renewable diesel as a fuel category and it appears they have performed a comparison of renewable diesel to biodiesel using a Neste-published FCA report. It is not clear if TIAX added a renewable diesel pathway to the actual model (CA-modified GREET) and whether it can be further evaluated. IF TIAX has not updated the actual model, WSPA recommends that they do so.

2. The "EtOH from sugar cane case" was changed to be produced in CA instead of Brazil. This brings up a number of questions -- what is the feedstock (U.S. sugar cane, Brazil sugar cane, molasses, etc.), how is the feedstock getting to CA, where are the EtOH plants to be located, etc. Also, was any consideration given to the economics of EtOH production from sugar? USDA published a study of the economic feasibility of EtOH production from sugar in the U.S. in July 2006 (see <http://www.usda.gov/oce/reports/energy/EthanolSugarFeasibilityReport3.pdf>). Was that reviewed/used by TIAX for its analysis?
3. The energy input to dry mill corn EtOH was changed from 36,000 BTU/gal (which is consistent with GREET for 2010 estimates) to 21,800-32,300 BTU/gal. This seems like a very optimistic improvement in energy input (particularly since it dropped from about 70,000 to 40,000 between 1980 and 2000). What was this based on? Note that "USDA's 2002 Ethanol Cost-of Production Survey" (published in July 2005, see <http://www.usda.gov/oce/reports/energy/EthanolSugarFeasibilityReport3.pdf>) says that new dry mill EtOH plants now use about 30,000 BTU/gal of thermal energy and less than 1 kw-hr of electrical energy (lets say about 3,000 BTU/gal) for a total of about 33,000 BTU/gal.

WSPA looks forward to working collaboratively with the Commission as well as other agencies and stakeholders in the state to develop a defensible FCA tool in the coming months, and are hopeful all our comments will be considered at that time. If you have any questions, please contact me at (916)498-7752 or Gina Grey of my staff at (480)595-7121.

Sincerely,



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David Crane, Governor's Office
Professor Alex Farrell, UC Berkeley
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ERM Comments on TIAx February 2007 Draft and Comparison with TIAx June 2007 Final Report

<i>TIAx Draft, February 2007 (ERM Comments)</i>	<i>TIAx Final Report, June 2007</i>	<i>Change?</i>
Economic considerations regarding fuels, by-products, and feedstocks were not taken into account	No change	No
System boundary was not clearly defined	No change	No
System flow diagram was not included	No change	No
Data used were not clearly and transparently referenced (in the report or in the calculations spreadsheet)	The report includes more data than its predecessor, including some emission factors and a tabulation of the results. Still, all data inputs and assumptions are not included in the report.	Small
3rd party review findings were not included in the report	Brief and general 3rd party review discussion is included. Individual comments from each reviewing party have not been included and addressed, but rather reviewers' comments were lumped into main categories and addressed in a general way.	Small
Supporting information and rationale were not provided to support the procedures for allocating energy, by-products, etc.	No change	No
The Allocation method (based on by-product volume) was used rather than the more accurate Substitution method (based on the replaced products) to determine the positive impact from biofuel by-products	No change	No
TIAx uses lower refinery efficiency values than other sources (CA RFG refining efficiency 84.5%; ULSD refining efficiency 87%); no gasoline/diesel efficiency increases are assumed over time	CA RFG refining efficiency 84.5%; ULSD refining efficiency 87%, which implies a reduction in CARFG (0.4%); increase in ULSD efficiency (0.5%); no gasoline/diesel efficiency increases are assumed over time	Small
Sensitivity/Uncertainty Analysis was not performed	Limited sensitivity analysis; in the WTT study, the sensitivity analysis is performed for refinery efficiency for marginal RFG3, transport distance for marginal RFG3, milling energy for ethanol, feedstock as process energy for ethanol from poplar, and Nat Gas compression efficiency. Given the high number of variables in the model, these five parameters are a very small fraction of the total number of variables.	Small
Land use conversions of forest lands and grasslands for biocrop production (agricultural use) in the U.S. and Internationally were not taken into account	No change	No
Agricultural runoff associated with marginal biofuel crop production was assumed not to affect CA and was therefore not taken into account	No change	No

Water use was not taken into account as biocrops were assumed to be grown in non-irrigated fields.	No change	No
Refinery capacity was assumed not to increase in CA (though expansions are planned)	The report mentions that CA refining capacity could increase modestly, which implies that some of the marginal oil could originate from CA. However, the calculations still assume that all petroleum fuels are extracted and refined in the Middle East, as was the case in the draft report. Therefore, no marginal oil is assumed to come from CA.	No
The model baseline and associated impacts to the Environment were assumed to remain constant over the years	No change	No
Infrastructure and Construction were not taken into account; I&C impacts could be significant for ethanol distribution systems	No change	No
Assumption that all the marginal oil proceeds from the Middle East and is refined in the Middle East	No change; even though the text of the report allows for a modest increase in CA refining capacity, the fuel pathway for Petroleum fuels still assumes that all marginal oil is extracted and refined in the Middle East	No
Nitrous Oxide (N ₂ O) emissions were assumed to be a fixed percentage of total chemical fertilizer used (Corn farming 2%; Farmed trees 1.5%; Biomass farming 1.5%; Soybeans 1.3%; Forest residue 0%). Other N ₂ O emission/uptake pathways, such as use of manure, crop residue, and biological nitrogen fixation, were not taken into account.	No change	No
Flexible fuel vehicles were assumed to be operated on E85 50% of the time, when in reality, they are fueled with regular gasoline 99% of the time	Not determined	Not determined