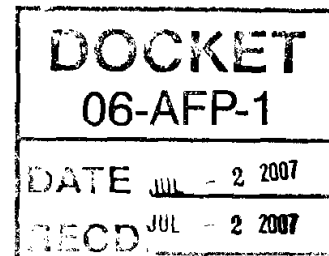


July 2, 2007

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Jackalyne Pfannenstiel, Chair,
California Energy Commission
1516 9th Street
Sacramento, CA 95814



Copy:

James Boyd, CEC
Tim Olsen, CEC
Robert Sawyer, CARB

Regarding: CEC June 27th Special Business meeting regarding AB1007-docket
06-AFP-1

Dear Commissioner Pfannenstiel :

I am pleased to have the opportunity to respond to the June 27th California Energy Commission special business meeting regarding the Assembly Bill 1007, Alternative Transportation Fuels plan review.

I am also very pleased about the CEC's resolution recognizing that we are far from done, and that the Commission will remain open for further inputs in refining the plan.

I submitted comments dated June 8th after the May 31st workshop, and several of them received appropriate visibility from other participants on June 27th, principally the need for a much more complete land use assessment. Compromising food production or the environment in California and around the world is simply not an option.

The need for Transparency was again brought up by participants as a critical issue in this planning process, which I cannot emphasize enough.

Regarding Commissioner Boyd's remarks about waste cellulosic ethanol, I distinctly remember from one workshop in the last year that, without even considering the energy cost of collecting all California waste, and assuming the cellulosic technology is proven, we could only displace 10% of today's petrol use. Again this supports the conclusion discussed on June 27th that vehicle efficiency improvement is extremely critical.

Vehicle efficiency has been a major topic in my comments to several AB1007 workshops, as I believe the comparative efficiencies noted by TIAX for conventional, hybrid and plug-in hybrids are seriously in error. I have requested the data and model

used from people at the CEC, CARB and TIAX, but nothing has been provided. If you could please provide a contact to obtain this information it would be greatly appreciated. Please consider this letter a formal request for this information. Transparency of the data and modeling is critical for peer review. Note, even the NREL hybrid and plug-in milestone report of November 2006 is far short of accurately assessing the alternatives.

The first discrepancy in vehicle efficiency is represented in reports I previously distributed to the CEC and CARB that show vehicle efficiency for all vehicle classes could at least be doubled in California by converting to the presently available hybrid technology, with small increases in full life cycle vehicle cost.

Prioritization of energy alternatives has been absent in the AB1007 plan, which should be corrected. Hybrid technology is “off the shelf”, applies to all categories of vehicles, requires no infrastructure changes, and offers this significant efficiency improvement. Accordingly, I believe hybrid technology should be a priority.

The second discrepancy in vehicle efficiency assessment is regarding plug-in hybrids. In spite of an incredible amount of enthusiasm in the community for plug-in's, there is little scientific merit for them in California. Not only is TIAX's comparative vehicle efficiency inaccurate, but also the energy efficiency accounting for the necessary electric power is scientifically unfounded.

As we move ahead with a long term plan for electric power in California by using more renewables-many of which are intermittent, eliminating coal, anticipating the loss of Northwest hydroelectric, and leveling the grid with a number of necessary first-defense techniques other than “plug-in's at night”, the remainder of production will likely be natural gas fired, a mix of combined cycle and peakers (Life would be different if we could accomplish what France has done with nuclear electric power, but I doubt this will happen in California). Note, these electric power issues were discussed in many CEC workshops in the last year.

When an additional electric grid load is proposed such as electric cars, there is no scientific or mathematic basis to use the best-case electric power production efficiency, or even the average efficiency to supply the additional load, as there will be no surplus of electric power. Mathematically it is necessary to use the incremental energy efficiency of the additional electric power resource, which is likely to be natural gas fired, both combined cycle and peaker plants, both night and day.

And in fact the efficiency of the mix of natural gas fired electric power for plug-in's is similar to a natural gas fueled hybrid car after accurately accounting for the losses, as noted in previous reports. So why not just make a natural gas powered hybrid? (Note, again transparency in electric power efficiency data does not exist, so this conclusion can only be estimated).

Additionally, EV's and plug-in's in fact have major battery challenges. Viability from a full-life energy cycle standpoint for battery powered vehicles is essentially reached when

a manufacturer is willing to sign up to make millions of cars with at least a ten year 150,000 mile warranty for the battery. Theory, laboratory experiments and prototypes only amount to a feasibility study.

There are also large infrastructure requirements for plug-in's, for example, a place to plug them in, and significant addition grid demand. We need to be considering as a priority options that apply to at least 50% of vehicles on the road, not just vehicles for a few environmentalists.

I have serious concerns about natural gas supplies and reserves in North America, issues that have not been addressed in AB1007 proceedings in spite of natural gas being considered an alternative vehicle fuel. Additionally, the CEC Natural Gas Market Assessment report, May 2007, surprisingly makes no mention of the alternative vehicle fuel demand for natural gas, nor does it offer an assessment of North American reserves. This issue needs to be addressed for the 2007 IEPR. I believe that long-term natural gas supplies for California are an extremely serious risk that could devastate California if our supplies fall short.

Lastly, as discussed in the June 27th meeting, the AB1007 challenge is incredibly complicated, and we have much work to accomplish. In fact the weight of protecting the "Planet" is on our shoulders, begging for both technical and political leadership. Moving ahead, the CEC should emphasize both short-term opportunities, and long term planning.

Sincerely,



Bob Giebeler
Senior member, Institute of Electrical and Electronic Engineers,
San Francisco Executive Committee