

Submitted Electronically to:

docket@energy.state.ca.us

California Air Resources Board

and

California Energy Commission

DOCKET 06-AFP-1	
DATE	_____
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In the Matter of:)	Docket No. 06-AFP-1
Informational Proceeding and Preparation)	
of the State Plan to Increase the Use of)	
Alternative Transportation Fuels)	
_____)	

Comments on State Alternative Fuels Plan

Submitted by: Robert E. Reynolds
Downstream Alternatives, Inc.
1657 Commerce Drive, Suite 20 B
South Bend IN 46628
Phone: 574-233-7344
Email: rreynolds-dai@earthlink.net

Comments on California State Alternative Fuels Plan Docket No. 06-AFP-1

Introduction

These comments on California's State Alternative Fuels Plan (AFP) are being submitted to the docket by Robert E. Reynolds, President Downstream Alternatives, Inc. Due to travel I will not be able to join the October 24, 2007 workshop in person or by phone. As a member of the AB 1007 Ethanol Stakeholders group I have already reviewed the draft "California Biomass and Biofuels Production Potential" and provided my comments to California Energy Commission (CEC) staff. These comments focus on the Draft State Alternative Fuels Plan – Chapter 3: "Ethanol Story Line" and the Draft State Alternative Fuels Plan Economic Analysis"

State Alternative Fuels Plan Economic Analysis

I only have one comment on this document. On page 2, table 1, footnote 3: It is stated in reference to E85 that "E85 distribution infrastructure based on cost to go from E5.7 to E10". I find this statement somewhat confusing. I believe the intent here would be for the \$1 Billion dollars in distribution infrastructure to be for the cost to go from E5.7 or E10 to E85. The intent here needs to be clarified.

State Alternative Fuels Plan Chapter 3: Ethanol Story Line:

My comments on this section are listed by section title and page number below.

Section E85 Blends:

Page 77. Although it is discussed later in the report, it might be appropriate to mention here that some automakers have chosen not to certify their FFV's to California emissions standards.

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Currently not all FFV's offered in the U.S. are available in California. This makes Scenario C very optimistic.

Page 78: While the 6.985 billion gallons for Scenario C is just above current (July 2007) U.S. ethanol production, it would be only about 60% of the capacity once plants currently under construction are brought on line (by mid 2009). Obviously, production will be higher still by 2022. Also the figures are for E85 consumption and it is unclear if the 6.985 billion gallons is E85 or total ethanol. If it is 6.985 billion gallons of E85 then this is only 5.94 billion gallons of denatured ethanol.

Mid Level Blends:

While a mid level blend such as E30 is a novel approach, it could only be used in FFV's. However, it would still require new UL listed pumps because current dispensers are only listed for up to E15. This would require much more infrastructure improvements to accomplish the same ethanol volumes that could be achieved with fewer properly placed E85 retail outlets. Again, the reference to using 1/3 of the ethanol currently produced, should be contrasted with the supply that will be available in 2009 (double 2006).

State of Technology and Markets:

Page 83: The table lists all FFV's available in the U.S. It would be useful to indicate which models are available as California emissions certified. As an example for 2008 (the table does not include the 2008 model year, which is available), the Dodge Avenger FFV is not California emissions certified.

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Page 84: The octane of E85 is only 96-98 $((R+M)/2)$. The often cited 105 is incorrect. Both calculations and testing yield numbers in the 96-98 range. This also affects how much performance advantage is available for E85. The energy content of “denatured” ethanol is 78,000 to 78,300 btu/gallons. ⁽¹⁾ This results in E85 having an energy content of 87,000 btu/gallon or 76% that of gasoline. ⁽²⁾

Longer Chain Advanced Biofuels:

Page 86: Note that the referenced Arco blending (reference103) was tertiary butyl alcohol (TBA) alone and / or in combination with methanol (i.e. oxinol blend). The properties of TBA and butyl alcohol (biobutanol) may vary.

Permeation Effects:

Page 88: The statement that “an increase in ethanol content to 10 percent will increase permeation emissions” is incorrect. While 5.7V% ethanol permeation emissions are higher than E0 the E10 blend actually had lower permeation emissions than the E5.7 in the CRC study (of which I was a Steering Committee Member). E20, however, did have higher permeation emissions than E0, E5.7, and E10.

(1) RFA 960501: Fuel Ethanol Industry Guidelines, Specifications, and Procedures

(2) Ibid

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Scenario Costs:

Page 91: The low blend scenarios above E15 would have increased infrastructure costs if pumps certified only to the E15 level had to be replaced.

Incentives:

While it is no doubt true that U.S. domestic ethanol producers want to continue the ethanol import tariff, the congressional intent of the tariff is to offset the blend credit (now VEETC Credit) for which the imports qualify and for which U.S. taxpayers would be paying to subsidize a foreign product that is already subsidized by its own government.

Summary:

Page 95: No support is offered for the statement that “Modest refinery ... capitol investments will allow E10 to enter the market between 2010 – 2012. Although the Air Resources Board has characterized this as such, some refiners have indicated that these investments (further sulfur reduction) are not modest. Moreover, the majority of new ethanol capacity will come on line in 2008 and 2009. If California refiners wait until 2010, the supply may indeed have already been directed (and possibly contracted) to other markets to enable continued operation of these plants.

Also the reference to “wet mill production with the residue fed to nearby cattle” is not quite correct. The plants would likely be dry mills, however, the Distillers, Grains and Solubles (DGS) could be sold to nearby cattle, thereby avoiding the drying step to dry it to Distillers Dried Grain and Solubles (DDGS).

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Distribution and Fueling Infrastructure:

Page 101: While it is true that it is difficult to transport isopentane to terminals the more important issue is that the terminals do not normally have pressurized storage available to store such products.

The statement that “costs of retro fitting or establishing a new fueling facility could range from \$100,000 to \$250,000 per station” seems high in the case of a retrofit. A retrofit normally implies use of an existing tank precluding the installation of a new one. Above ground retrofit costs are only \$15,000 to \$20,000 in most of the U.S. so I doubt they would be much more than \$40,000 to \$50,000 per station in California.

Price of E85:

Page 102: It should be noted that the auto technology cited, variable valve timing, and turbocharging can add significant vehicle costs especially on lower price point vehicles. Such additional costs may or may not be acceptable to the purchaser of an FFV.

Incentives:

Page 103: The 30% credit for infrastructure installation under EPACT is capped at \$30,000 per installation.

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Summary of Potential Actions to Increase E85 Use:

Page 104: The “greatest limitation” of expanding E85 is not “the supply of ethanol.” Ethanol supply will surpass 12 billion gallons by 2009. The greatest limitation is the lack of infrastructure and the relating small FFV population at present.

Mid Level Blends and other Advanced Biofuel Components:

Page 105: I disagree that new pump dispensers would not be needed for E30. The UL listing on current pumps and dispensers is for up to E15.

Other Advanced Biofuel Components: Longer Chain B10-Alkaides or Butanol:

Page 108: In the second line there is the number 19 after the word produced. Perhaps this was to have been a reference number?

It should be verified that biobutanol does not qualify for VEETC because when the original federal excise tax incentives were written they did indeed apply to “renewable alcohols.”

Ediesel:

Page 109: It might be helpful to explain that the current focus of Ediesel is to use it in centrally fueled fleets where necessary safety precautions can be better controlled.

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Closure:

Despite the above corrections, suggestions and observations, I am in agreement with the “Actions Needed” except I would add to that “steps should be taken to initiate E10 blending in 2008.”

I appreciate the opportunity to submit these comments. The state, as well as ARB Staff and Board Members and CEC Staff and Commissioners are to be commended for all the thought and work that has been put forth on this effort.