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March 15, 1999

Mr. Bill Vance
California Environmental Protection Agency
555 Capitol Mall
Sacramento, California 95814

Re: Written Reply to Comments on Cost-Benefit Analysis of MTBE

Dear Mr. Vance,

We would like to provide the following written reply to the most relevant comments received with respect to our Cost-Benefit Analysis of MTBE.

The focus of the SB521 study was the "Environmental and Health Effects of MTBE". We explored the costs and benefits associated with alternative CaRFG2 formulations (with ethanol and non-oxygenated), but as mentioned in the Executive Summary, a detailed study on each option is required to make a final recommendation on their relative costs and benefits. It is clear from our review of MTBE that the costs of using MTBE significantly outweigh the benefits, and therefore do not justify its continued use. Given that the benefits of MTBE are small and decreasing as emissions control technology of the vehicle fleet continues to improve, and the water treatment costs continue to rise, it makes sense to phase out MTBE in the next few years. The responsible approach is to thoroughly evaluate the alternatives.

We expected to have available to us the gasoline pricing information from the California Energy Commission (CEC) before we had to finish our analysis.

However, the CEC report was delayed many months, and became available after we submitted our final report. We could only use the available information at the time of our study. The results of the CEC report are logically more accurate with respect to pricing of the various gasoline formulations, although there is still some reasonable uncertainty in the CEC results. It should also be made clear that the time frames chosen by the CEC (short = 1-3 years; intermediate = 3-6 years and long-term > 6 years) are somewhat arbitrary. The same numerical results would be obtained if intermediate was defined as 2-4 years, for example. Their models don't really factor this in. Even after considering the CEC results, we believe that there is no significant change in our conclusion that the most expensive option is CaRFG2 with MTBE. CEC was not tasked with considering the water treatment costs. When that is factored in, the MTBE option is the least effective.

Given a longer time frame to conduct the study, we would have prepared a dynamic cost-benefit analysis. This would have allowed us to factor in the fact that MTBE was more useful (thus with higher benefits) at the beginning of the CaRFG2 program, but that its benefits are decreasing with time. In addition, we could evaluate the time-dependent impact of the water treatment costs. Clearly, in a dynamic analysis the water treatment costs of the existing Leaking Underground Fuel Tanks (LUFTs) would be taken into consideration. We see no reason to remove them from our static analysis, since these are real costs associated with the use of MTBE. Considering them "sunk costs" or spreading their cost over the two alternatives, as proposed by some critics of our report, would be incorrect from a cost-accounting perspective. These costs are occurring in 1998, 1999 and future years, not in the past.

The two fuel alternatives considered (CaRFG2 with ethanol and non-oxygenated CaRFG2) can be produced, as evidenced by the fact that they both are currently commercially available. The discussion of whether these formulations are valid or not is not productive. For our cost analysis of the non-oxygenated option we considered toluene as a most probable replacement of MTBE, based on information from Chevron, who is currently producing and selling non-oxygenated CaRFG2 in Northern California. We do not propose to use toluene; we leave it up to the oil refiners to choose the best way to meet the

Predictive Model. Our objective was to determine what would be the major cost implications of this alternative. The suggestion that alkyls be used in place of MTBE is perfectly valid, and should be evaluated with respect to the environmental and health impacts before it is adopted on a wider scale.

We appreciate the opportunity to present our reply to the many comments, and we look forward to a decision based on sound science. We have been extremely impressed with the high level of discussion on this important issue, and the current policy-making process.

Best regards,

Dr. Arturo A. Keller and Dr. Linda Fernandez
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