

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking to Implement the
Commission's Procurement Incentive Framework and
to Examine the Integration of Greenhouse Gas
Emissions Standards into Procurement Policies.

The California Energy Commission

R.06-04-009
(Filed April 13, 2006)

Docket 07-OIIP-01

**COMMENTS OF CLEAN ENERGY
FUELS CORPORATION**

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Pursuant to Rules 1.9 and 1.10 of the California Public Utilities Commission's ("Commission") Rules of Practice and Procedure, Clean Energy Fuels Corporation ("Clean Energy")¹ hereby files these comments in response to the Administrative Law Judges' Ruling Requesting Comments on Type and Point of Regulation Issues for the Natural Gas Sector issued on November 28, 2007 (the "Ruling"), and the Administrative Law Judge's Ruling Extending Deadline for Comments and Incorporating Responses to Staff Data Requests on Natural Gas Issues issued on December 10, 2007.

I. INTRODUCTION

Clean Energy's Comments address only one of the many questions that the Ruling requested comments on; that is, Question Number 5 (b.) at page 4 of the Ruling which focuses on "Natural gas combustion by natural gas vehicles." Clean Energy supports the

¹ Clean Energy, a customer of PG&E, SoCalGas and SDG&E, is the largest provider of vehicular natural gas and liquefied natural gas ("LNG") in North America operating more than 170 natural gas refueling stations in eleven states and two provinces in Canada. Clean Energy has substantial refueling operations in northern and southern California and has been a leading force in improving environmental quality in California by helping reduce emissions, including greenhouse gas ("GHG") emissions associated with conventional petroleum-fueled motor vehicle use in the State. Clean Energy has a broad customer base in the refuse, transit, shuttle, taxi, police, intrastate and interstate trucking, airport and municipal fleet markets with tens of thousands of vehicles fueling at strategic locations in the United States and Canada. Its operations have also contributed to reducing California's excessive dependence on petroleum-based fuels in the State's transportation sector. Clean Energy is a publicly traded company with its shares traded on the NASDAQ under the ticker symbol "CLNE."

recommendation made by the Division of Ratepayer Advocates (the "DRA") in its July 12, 2007 "Preliminary Staff Recommendations for Treatment of Natural Gas Sector Greenhouse Gas Emissions" (Attachment "A" to Administrative Law Judges' Ruling Regarding Comments on Staff Natural Gas Proposal and Notice of Prehearing Conference issued on July 12, 2007). "Staff Recommends...that emissions from natural gas vehicles be considered by ARB as part of the transportation sector" (pages 2-3). In its report, the DRA acknowledges the potential for increased sources of natural gas in some market sectors to reduce GHG emissions in other sectors, citing the example of bio-methane capture at livestock feedlots (page 11). As will be shown later in these comments, significant reductions in overall GHG emissions in California can also be achieved as a result of the increased use of natural gas in California's transportation sector. As a result of fuel use displacement, the increased use of natural gas in California's transportation sector will lead to an overall reduction in GHG emissions because compressed natural gas ("CNG") and liquefied natural gas ("LNG") fueled vehicles have a much more favorable GHG emission's profile than gasoline or diesel-fueled vehicles. Increased use of natural gas in transportation results directly in a reduction in petroleum fuel consumption in contrast to what otherwise would be the case.

Recognition of the fact that increased use of natural gas in transportation helps California achieve its overall GHG emissions reduction targets is the policy rationale underlying the DRA's recommendation that natural gas use for transportation should be outside of the scope of the policies that will be implemented as one of the result of the natural gas phase of this proceeding. Rather, as the DRA recommends, GHG emissions associated with natural gas use for transportation should be addressed by the California Air Resources Board (the "CARB") as a part of the overall framework of emissions regulations that will be applicable to the transportation sector in the context of the CARB's Low Carbon Fuel Standard ("LCFS") proceeding.

It is important that California's utilities not be directly or indirectly penalized for the increased use of natural gas that results from their successful efforts to accelerate the market penetration of natural gas vehicles in their service territories and in California as a whole. It is critically important not to be creating perverse incentives in the regulatory framework. Since, as will be shown later in these comments, California's transportation sector, in the aggregate, produces almost half of the State's overall GHG emissions, significant displacement of

petroleum use in transportation by alternate fuel vehicles is necessary if California is to achieve its overall GHG emissions reduction goals. For the same reasons, Clean Energy also advocates that the increased use of electricity as a transportation fuel to displace petroleum fuel use should be excluded from the scope of the decisions that will be issued as a result of this proceeding.

Even though the regulation of emissions arising from increased natural gas and electricity use in transportation to displace petroleum fuel use should be administered by the CARB, it is important that there be a mechanism in place to assign emissions reduction credits under a cap and trade program, if adopted, to those entities which are causing the increased natural gas and electricity use to be achieved for transportation purposes and through whose meters the increased volumes are being metered. The overall purpose of a cap and trade program, of course, is to ensure that the lowest cost emissions reduction opportunities are those which are actually implemented in order to minimize the overall economic costs to the State in achieving any emissions reduction goal.

Clean Energy's view is that natural gas vehicles ("NGVs") will prove to be among the lowest cost tools for achieving through petroleum displacement significant overall GHG emission reductions in California. NGVs are the only alternate transportation fuel vehicles that offer customers and consumers the prospect of fuel cost savings over time which can be significantly greater than the first cost disadvantage of the vehicles. From the standpoint of minimizing the economic costs to California of achieving GHG emissions reductions, it is important that low cost sources which can deliver significant GHG emissions reductions be included in any cap and trade program to provide a supply of credits that will tend to reduce the overall market price of emissions credits. By doing so, the overall cost of achieving GHG emissions reductions will be minimized, a critical policy objective for the State.

In addition to establishing emission regulations associated with the increased use of natural gas and electricity in transportation, the CARB (or some other appropriate agency) will need to assign or otherwise make available emission reduction credits linked to the increased use of natural gas and electricity as a transportation fuel, since the displacement of petroleum use in transportation by less polluting natural gas and electricity immediately results in significant GHG emission reductions and also immediately contributes to achieving the LCFS' 10% carbon content in transportation fuel reduction goal. For increased natural gas and electricity transportation fuel usage which falls below the volume threshold needed to achieve eligibility for

receiving GHG emission reduction credits, other market participants, possibly California's gas and electric utilities, should be permitted to aggregate loads on behalf of those smaller customers so those customers can capture the emissions credit incentives their contribution to GHG emissions reduction would otherwise qualify them for.

II. BACKGROUND ON CALIFORNIA'S GHG EMISSIONS AND PETROLEUM FUEL DEPENDENCE REDUCTION POLICY GOALS

As a result of recent State legislative policy decisions (AB 32 and AB 1007), California has assumed a leadership role for the nation in tackling the serious challenges presented by GHG emissions and excessive dependence on petroleum-based fuels. It has established aggressive targets both for the reduction of GHG emissions and the displacement of petroleum use in California's transportation sector by alternate transportation fuels, which in the case of some fuels such as natural gas and LNG offer significant potential GHG emission reductions in addition to their petroleum fuel displacement benefits.

On June 1, 2005, Governor Schwarzenegger signed Executive Order S-03-05 that established the following highly aggressive targets for GHG emission reductions:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels;
- By 2050, reduce GHG emissions 80% below 1990 levels.

On January 18, 2007, Governor Schwarzenegger signed Executive Order S-01-07 that established the LCFS for California setting a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020.

To make significant progress toward achieving these targets, all sectors of the California economy, public and private, and particularly the State's energy utilities, working cooperatively and in unison will need to take aggressive actions to reduce GHG emissions in the domains where they can each make a material difference.

III. THE PROBLEM OF EXCESSIVE PETROLEUM DEPENDENCE

Despite the almost complete failure of the Federal government to adequately address the oil dependency problem, the significance of this issue has been clearly recognized in California and aggressive goals have already been established to address California's contribution to the

problem. In August, 2003, the California Energy Commission ("CEC") and the CARB recommended in their joint report titled, "Reducing California's Petroleum Dependence" (P600-03-005F, August, 2003), reported to the legislature that California should adopt a goal of 20% non-petroleum fuel use in transportation by 2020 increasing to 30% by 2030 (page 17). Overall, "as directed by statute, and based on the analysis in this report, the two agencies recommend that California adopt a policy to reduce gasoline and diesel fuel demand to 15 % below 2003 demand levels by 2020 and maintain that level for the foreseeable future" (page 12). The specific means identified by the CEC and CARB for achieving the goal of reducing petroleum dependence are the accelerated market penetration of alternate fueled vehicles and increased vehicle fuel efficiency.² Since then, the CEC has been tasked with developing a plan to identify how best to achieve these aggressive goals. The resulting Joint Committee Report was recently approved by the CEC and CARB.

As shown in Figure 1, by far the largest share of GHG emissions in California are produced by the now petroleum fuel-dominated transportation sector. As the data in the Figure show, 41% of California's GHG emissions are from the transportation sector with 23% produced by industrial facilities. More than 40% of the GHG emissions from industry, however, are associated with petroleum refining. Refinery emissions primarily result from the production of transportation fuels. When refinery emissions are added in, the transportation sector in total accounts for about 50% of California's GHG emissions (see Figure 1).

² Reducing California's Petroleum Dependence, page 3.

Figure 1- Sources of California's Greenhouse Gas Emissions



Source: Slide 3 of a presentation by Julie Fitch, the Commission's Director of Strategic Planning, distributed at an Energy Efficiency Workshop in R.06-04-010, held on May 4, 2007.

IV. ALTERNATIVE TRANSPORTATION FUELS CAN CONTRIBUTE SIGNIFICANTLY TO GHG EMISSION REDUCTION

It is important to recognize that some alternate transportation fuels, especially CNG and LNG can contribute to significant reductions in transportation sector GHG emissions in California. A recent full fuel-cycle energy consumption and emissions analysis commissioned by the CEC and the CARB as a part of the AB 1007 initiative shows that alternate transportation fuels, most prominently CNG and LNG, offer significant promise in reducing GHG emissions by displacing petroleum-based fuel use in the transportation sector.³

As shown in Figure 2, the only transportation fuel which offers a more favorable GHG emissions profile than CNG and LNG is hydrogen, which won't become a commercially viable

³ See Figure 2.

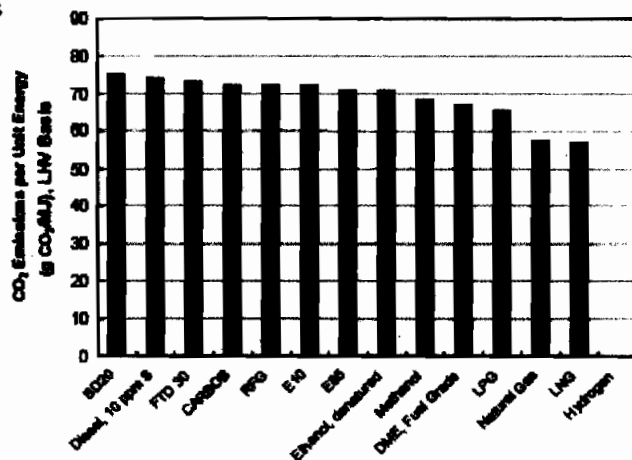
transportation fuel for decades.⁴ Furthermore, CNG and LNG offer a more favorable GHG emissions profile than low sulfur (i.e., 10 parts per million or lower sulfur content) diesel and reformulated gasoline, and other alternate transportation fuels such as bio-diesel and E10 (i.e., 10% ethanol blend with gasoline) and "E85" ethanol/gasoline blends.

Figure 2 – Carbon Content of Transportation

Fuels

Alternative fuels have lower carbon content in fuel relative to heating value and result in lower CO₂ emissions

- Need to account for fuel cycle and vehicle energy use in comparing CO₂ emiss



TIAX

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Source: Page 8 of TIAX, "Full Fuel Cycle Analyses for AB 1007," presented at CEC-ARB Workshop on Developing a State Plan to Increase the Use of Alternative Transportation Fuels on March 2, 2007.

⁴ See Pages 81 and 138 of the U.S. Department of Energy's Energy Information Administration (DOE/EIA) 2007 Annual Energy Outlook, which forecasts no significant hydrogen use in transportation through 2030.

The CEC's "well to wheels" analysis concluded that natural gas provides up to a 30% reduction in greenhouse gas emissions for light-duty vehicles and as much as a 23% reduction for medium-to-heavy-duty vehicles in contrast to reformulated gasoline and low sulfur diesel fueled vehicles.⁵

V. THE EXCESSIVE PETROLEUM DEPENDENCE PROBLEM IS JUST BEGINNING TO RECEIVE THE ATTENTION IT MERITS

The "Reducing Petroleum Dependence" report cited previously concluded that:

"California faces a future of increasing petroleum dependence, supply disruptions, and price volatility." "A vibrant California economy depends on secure, reliable, and affordable sources of transportation fuels. The recent war in Iraq underscores the importance of reducing California's and the nation's growing dependence on unstable foreign oil sources. Although these concerns are long-term, the state must take action now to avoid the adverse consequences of California's growing petroleum dependence." . . . "To avoid the adverse consequences of California's dependence on petroleum, the state must adopt measures to improve transportation energy efficiency and expand the use of non-petroleum fuels. Furthermore, supporting the use of non-petroleum fuels should allow for a smooth transition away from petroleum dependence in the transportation sector. There are steps that government can take in the near-term. The most effective strategies to reduce demand for petroleum, however, require long lead times to fully implement. Therefore, urgent focus on these issues is needed now."⁶

The nation's and California's economies' excessive dependence on petroleum, increasingly supplied from imported sources is one of the biggest crises facing California and the nation as a whole. Despite the increasing awareness of the magnitude and seriousness of this problem, as projections developed by the DOE/EIA show, the problem is expected to persist for the foreseeable future. As with the challenge of achieving GHG reductions, aggressive steps are likely only to mitigate slightly the imported petroleum dependence situation. Clearly, aggressive actions are needed given the magnitude and intractability of these problems.

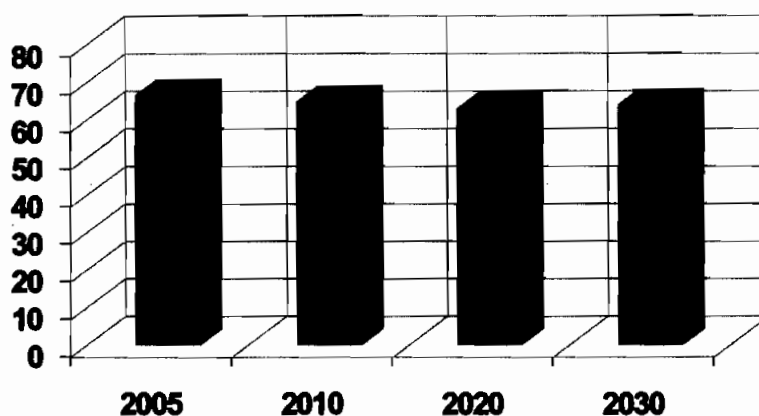
⁵ TIAX, "Full Fuel Cycle Assessment Wells to Wheels Energy Inputs, Emissions, and Water Impacts," prepared for the CEC (CEC-600-2007-003), Table 3-11, page 3-19.

⁶ Source: "Reducing California's Petroleum Dependence," Joint Agency Report of the CEC and the CARB (P600-03-005F), August 2003, pages 1-3.

VI. THE HIGH DEPENDENCE ON IMPORTED PETROLEUM SUPPLY IS ONLY ONE FACET OF THE EXCESSIVE PETROLEUM FUEL DEPENDENCE PROBLEM

Figure 3 shows, based on the DOE/EIA's 2007 AEO, that despite current high oil prices, U.S. dependence on petroleum imports is projected to remain at inordinately high levels through 2030 despite the unfortunately half-hearted and weak initiatives that so far have been implemented at the national level to address the increasingly well understood imported oil dependence problem. The challenge of continuing excessive dependence on imported supplies is primarily the result of the inexorable decline in the share of petroleum needs supplied from domestic crude oil production combined with continuing increases in demand for transportation fuels resulting from ongoing population and economic growth. At present, California's petroleum dependence problem is a mirror image of that facing the nation as a whole, but over time it will become relatively more severe since future California oil production will supply a smaller share of the State's petroleum product consumption than will be the case for the nation as a whole.

Figure 3. Imports as a % of Total U.S. Crude Oil Supply



Source: 2007 EIA AEO, High Oil Price Case, page 177.

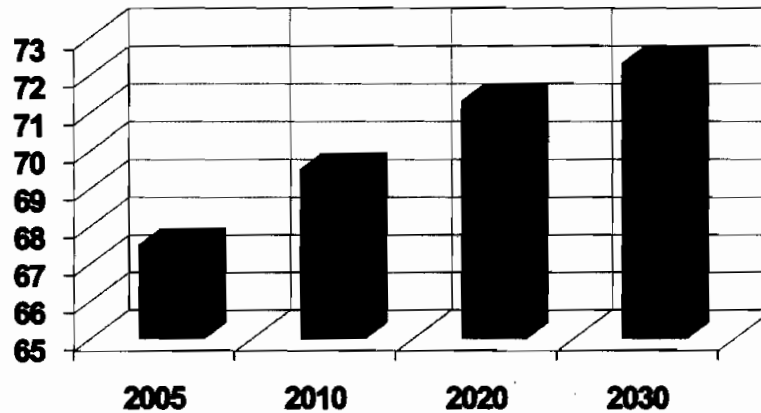
In contrast to the two-third's dependence on imported petroleum that California and our nation as a whole are experiencing today, it is important to recognize that at the time of the Arab Oil Embargo of 1973, the United States relied on imported crude oil supplies for just 26% of its total crude oil supplies. (U.S. DOE/EIA, "Monthly Energy Review," April 2007, page 46). Despite all of the fervent proclamations about achieving "Energy Independence," our nation and California have become much more, not less, vulnerable in the intervening 34 years and this undesirable situation is expected to remain largely unchanged for the foreseeable future.

VII. THE TRANSPORTATION SECTOR'S PETROLEUM DEPENDENCE IS THE SOURCE OF THE OVERALL PETROLEUM DEPENDENCE PROBLEM

The transportation sector's reliance on petroleum-based fuels is the primary factor in the petroleum dependence problem. As shown in Figure 4, nationally the transportation sector accounts for by far the largest share of petroleum use in the overall economy and this share is projected to continue to increase through 2030. In California, the transportation sector accounts for an even greater share - about 96%,⁷ of total petroleum use. This is true because California does not use residual fuel oil for electric power generation nor heating oil for residential space heating as is the case in some other parts of the country.

⁷ See, Governor's Low Carbon Fuel Standard White Paper, January 8, 2007, page 2.

**Figure 4. Transportation Sector % of
Total U.S. Petroleum Consumption**

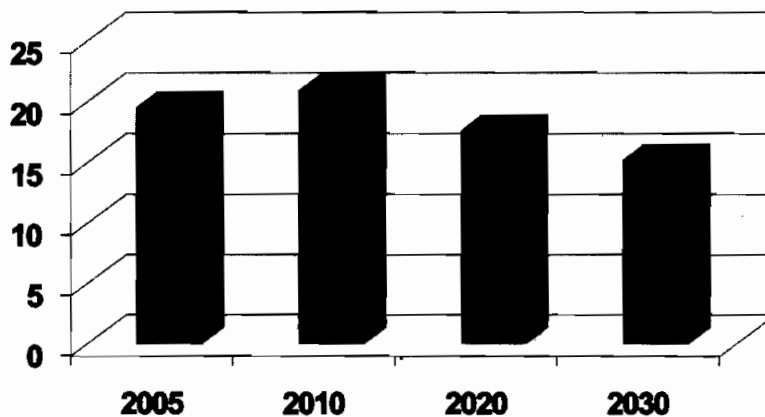


Source: 2007 EIA AEO, High Oil Price Case, pages 177 and 180.

**VIII. EVEN WITH SHARPLY INCREASED DEMAND FOR NATURAL GAS AS A
TRANSPORTATION FUEL, OUR DEPENDENCE ON IMPORTS FOR
NATURAL GAS IS EXPECTED TO DECLINE OVER TIME**

In contrast to the extremely high level of U.S. and California dependence on imported crude oil supplies, Figure 5 shows the EIA's projections of the share of U.S. natural gas consumption served by imported supplies. As the data indicate, in 2005 imported supplies of natural gas amounted to about 19.5 % of total consumption and almost all of these imports were from secure Canadian sources. The extent of natural gas import dependence is projected to decline over the forecast period to 15.2% as Canadian imports decline due to resource depletion and as LNG imports comprise an increasingly larger share of total U.S. natural gas imports. Sharply increased use of natural gas as a transportation fuel will not alter the fact that U.S. dependence on imported natural gas supplies as a percentage of consumption will decline over the forecast period.

Figure 5. Imported Supplies as a % of Total U.S. Natural Gas Consumption

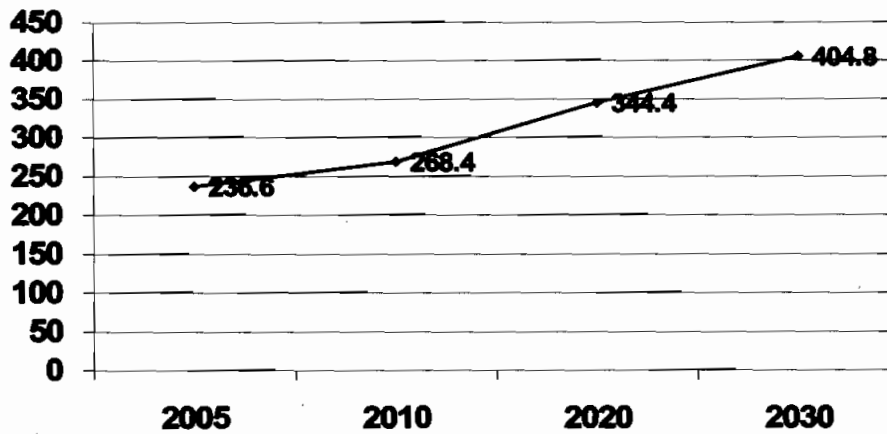


Source: 2007 EIA AEO, High Oil Price Case, page 177.

IX. OTHER ADVERSE ECONOMIC CONSEQUENCES OF THE PETROLEUM DEPENDENCE PROBLEM

Extremely high gasoline and diesel prices increase the amount of money consumers and businesses must spend on transportation fuel and reduces the amount of money available for other discretionary consumption expenditures that more directly support domestic economic growth. Another important dimension of the imported petroleum dependence problem is the adverse impact high levels of dependence on costly imported petroleum has on the nation's balance of trade and balance of payments accounts. As shown in Figure 6, the forecast costs of petroleum imports are expected to grow dramatically in future years. The cost of imported petroleum comprises a substantial proportion of the massive annual balance of trade and payments deficits our country has been running in recent years. The U.S. dollars which are paid to suppliers of imported oil flow to Middle Eastern countries some of which are providing financial support for terrorist activities targeted against us. Our heavy dependence on imported oil makes our international adversaries stronger and more dangerous and the United States financially weaker and more vulnerable to supply disruptions.

Figure 6. Cost of U.S. Crude Oil and Petroleum Product Imports (Billions of 2005\$)



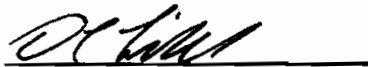
Source: 2007 EIA AEO, High Oil Price Case, page 185.

In turn, the ongoing balance of trade and payments deficits largely caused by imported oil dependence lead to a persistent weak dollar compared against the currency values of the United State's major trading partners, which leads to increased domestic inflationary pressures reflected in the prices of goods and services imported into the U.S. Since world oil prices are denominated in U.S. dollars, the depreciation in the value of the dollar resulting from ongoing balance of trade and payments deficits also can create an incentive for oil producers to try and offset the reduction in the purchasing power of their oil revenues through higher oil prices.

X. CONCLUSION

Clean Energy advocates that it is essential that regulators and market participants clearly understand the close linkages between the GHG emissions and excessive petroleum dependence problems and their adverse consequences; they represent two sides of the same coin. The good news in all of this is that through the promotion of the accelerated market penetration of alternate transportation fuels, especially natural gas, public policy at both the State and Federal levels can effectively address and contribute to the solution of both of these problems at the same time.

Respectfully submitted,



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December 17, 2007

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of this Comments of Clean Energy Fuels Corporation on all parties of record in proceeding R.06-04-009 by serving an electronic copy on their email addresses of record and by mailing a properly addressed copy by first-class mail with postage prepaid to each party for whom an email address is not available.

Executed on December 17, 2007, at Woodland Hills, California.



Michelle Dangott

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