

22 December 2014

California Energy Commission
Stephanie Bailey, IEPR author
Dockets Office, MS-4

Re: Docket No. 14-IEP-1

1516 Ninth Street

Sacramento, CA 95814-5512

Sent via docket@energy.ca.gov; **and via**
Stephanie.Bailey@energy.ca.gov

California Energy Commission

DOCKETED

14-IEP-01

TN # 74234

DEC 22 2014

Re: Docket No.14---IEP---1 – Draft 2014 Integrated Energy Policy Report Update.
Neste Oil Comments

To whom it may concern,

Summary

Neste Oil appreciates the opportunity to provide comments on the California Energy Commission's ("CEC") Draft 2014 IEPR Update ("Report"). We had not originally planned to comment until the public workshop/public hearing process has begun. However, given the written comments submitted to the 2015 IEPR docket on Dec. 8, 2014, (the last day to submit) by the California Biodiesel Alliance¹ and the National Biodiesel Board (NBB)², Neste Oil feels compelled to respond in order to assure information about bio-based diesel fuels in the 2015 IEPR docket is correct.

We trust the CEC will include these comments in the docket since they are offered as a direct rebuttal to incorrect assertions about renewable diesel fuel (submitted on the last day of the comment period) made by producers of its main competitor in the marketplace, Fatty Acid Methyl Ester (FAME) biodiesel.

Neste Oil first would like to acknowledge the work of the CEC staff. The Report is a broad and comprehensive document covering a significant swath of the state's energy policy. Neste Oil will limit its comments to the section of the report dealing with transportation energy use, liquid biofuels (specifically renewable diesel), which is one of Neste Oil's primary products, and our view of its potential role in future California transportation. Specifically, we will address Chapter 5's subsection on Biofuels, which begins on page 97 of the Report.

¹ http://www.energy.ca.gov/2014_energy_policy/documents/2014-11-24_workshop/comments/California_Biodiesel_Alliance_Comments_on_IEPR_Update_2014-12-08_TN-74135.pdf

² http://www.energy.ca.gov/2014_energy_policy/documents/2014-11-24_workshop/comments/National_Bio_Diesel_IEPR_Update_Comment_Letter_2014-12-08_TN-74136.pdf

Neste Oil - Houston

1800 West Loop South, Suite 1700
Houston, Texas 77027-3219 USA
Tel. (713) 407-4400 Telefax (713) 407-4480

Neste Oil has NEXBTL renewable hydrocarbon diesel refineries in Finland, Rotterdam and Singapore. Neste Oil is the world's largest producer of renewable hydrocarbon diesel and a supplier of commercial volumes of bio-based LCFS-compliant diesel fuel to California.

Discussion

In its comments submitted to the docket, the California Biodiesel Alliance makes several assertions about renewable hydrocarbon diesel fuel that are not supported by fact, citation, reference or data. For example, they state, "We are aware that the Truck and Engine Manufacturing Association has recently verbalized their intent to limit RD's use to blends of not more than 20% with petroleum diesel. Other OEMs are beginning to make statements about limiting blends to between 5 -- 20 percent until more data is made available."

This assertion lacks any citation or reference to any public statement issued regarding this matter by the Truck and Engine Manufacturing Association or any individual OEM. Moreover, it is just plain wrong. Neste Oil has worked with passenger car, commercial vehicle and bus OEMs successfully for many years, accompanied by years' worth of research data that directly contradicts these assertions.

In their 2013 Worldwide Fuel Charter³, the OEMs indicate that cleaner burning diesel fuel should not contain more than 15% aromatics. This is equivalent to a blend containing 57% essentially zero aromatics product like renewable diesel and 43% diesel fuel containing the maximum 35% aromatics allowed in the ASTM D975 standard for diesel fuel. That same report states that engine and vehicle manufacturers widely support the development of HVO fuels as a way to increase diesel fuel's renewable, low carbon content without the concerns associated with methyl ester fuels.

Because traditional diesel fuel consists mainly of aromatics and paraffins, reducing the concentration of dirtier burning aromatics causes the concentration of cleaner burning paraffins like those contained in renewable hydrocarbon diesel to increase. Because the hydrocarbons contained in renewable hydrocarbon diesel is chemically indistinguishable from similar hydrocarbons that occur naturally in crude oil, or that have been created in typical refining processes, the OEMs essentially approved more than 50% blends of renewable hydrocarbon diesel fuel for use in their cleaner burning diesel formulations.

CARB ULSD containing 10% aromatics is equivalent to a blend containing 71% renewable hydrocarbon diesel and 29% diesel fuel containing the maximum ASTM D975 35% aromatics.

The renewable hydrocarbon diesel industry will intensify its efforts to educate Caterpillar concerning the benefits of renewable hydrocarbon diesel, if, in fact, the NBB claims about Caterpillar are true. Our contacts with the OEMs indicate renewable hydrocarbon diesel is their

³ http://www.acea.be/uploads/publications/Worldwide_Fuel_Charter_Sed_2013.pdf

preferred biofuel. At this time we are unaware of the other OEMs who are contemplating blending limits.

In its comments submitted to the docket on the last day of the comment period, the NBB claims: “Unfortunately in today’s marketplace, there is no uniform definition for renewable diesel, and many producers are introducing products into fuels that do not meet the current diesel fuel specifications. Within D975, diesel fuel is required to be a hydrocarbon, but allowed to include additives to improve performance or biodiesel up to 5% by volume.”

Here are the facts:

- Renewable diesel is CARB diesel, recognized as such by CARB and the California Water Quality Control Board.⁴ While the definition of renewable diesel may vary from state to state, it is well defined in California, where it is required under the LCFS regulations to be derived from renewable feedstocks, meet the ASTM D975 standard and other US EPA registration requirements. As such, it is required to be hydrocarbon oil as defined in ASTM D975.
- Renewable diesel is a fungible hydrocarbon.
- D975 covers all hydrocarbons and not only petroleum products; no additional specifications need to be added to D975 to cover renewable diesel.
- CARB diesel allows 10% max aromatics – While there were some reported problems with rings, seals or gaskets in the early 1990’s when California switched to Ultra Low Sulfur Diesel fuel, there are no current reported problems because the engine manufacturers changed the materials almost 20 years ago.
- Renewable diesel has higher energy content than FAME biodiesel.
- Renewable diesel has slightly lower energy content than CARB diesel on a volumetric basis – but that does not necessarily correlate with higher fuel consumption; other variables such as load, driving habits, engine vintage and technology play important roles in fuel consumption.
- Standard lubricity additives and FAME may be added to renewable hydrocarbon diesel – same as with CARB diesel.
- Renewable hydrocarbon diesel reduces NOx emissions, whereas FAME biodiesel increases NOx emissions. FAME may be a specific product but its properties vary depending upon its feedstock. For example, soy based FAME causes a bigger increase in NOx emissions than does animal fat based FAME. Regardless of feedstock source, renewable hydrocarbon diesel tends to reduce NOx emissions.

Conclusion

As the Report notes, California’s transportation fleet of 26 million passenger vehicles and light trucks, as well as 1 million medium- and heavy-duty trucks, run primarily on liquid fuels – 13 billion gallons of gasoline and 3.4 billion of diesel fuel in 2013. Burning these fossil fuels creates

⁴ <http://www.arb.ca.gov/fuels/lcfs/20130731arbwaterboardjointstatementrd.pdf>

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greenhouse gas emissions (GHG) as well as particulate matter (PM) and oxides of nitrogen (NOx).

As the Report further notes and Neste Oil supports, “Biofuels will play a critical role in reducing carbon emissions from the transportation sector and are a key element in the Energy Commission’s portfolio approach to a low-carbon transportation future.” (p.97) The Report also notes that “biodiesel and renewable diesel could increase three-to-six fold by 2020 to displace part of the 3.6-billion-gallon-per-year diesel fuel market as a fuel blend in trucks and buses.”(p.97) “Over the next 10 years, biofuels have the potential to displace significant quantities of petroleum fuels cost-effectively.” (p.98)

Neste Oil concurs with these CEC statements and remains committed to the California market. Because Neste Oil’s renewable hydrocarbon diesel is a true drop-in fuel (ASTM D975, the same spec as petroleum diesel fuels), the potential for expansion of the displacement of petroleum diesel is limited only by the supply of the fuel. Drop-in fuels such as renewable hydrocarbon diesel are positioned to offer the greatest immediate environmental benefit because they cause the least disruption to the economy. Because of its drop-in capability, renewable hydrocarbon diesel also has the greatest chance of acceptance of any biofuel on the market.

The increased use today of renewable hydrocarbon diesel to provide interim, cost-effective environmental benefits will also give other, more complex and expensive technologies the chance to gain develop and gain traction in the marketplace. In the interim, renewable hydrocarbon diesel provides an onramp to low-carbon transportation for all sectors of the economy as a way to participate in greenhouse case reduction, especially those in disadvantaged communities who cannot afford to buy advanced technologies. Since there is no blend cap (as in traditional biodiesel limits of B5 or B20), renewable hydrocarbon diesel can be used by all types of diesel-powered vehicles, from fuel-efficient light-duty cars and trucks that are gaining in popularity to the medium- and heavy-duty trucks that are the workhorses of the freight system.

Neste Oil encourages the CEC and the State to develop additional incentives to promote the use of renewable hydrocarbon diesel in California to accelerate its climate and air quality goals.

NESTE OIL US, INC.



Dayne Delahoussaye

CC: Janea Scott, Lead IEPR Commissioner on Transportation, California Energy Commission **via email**
Floyd Vergara, Chief, Industrial Strategies Division, California Air Resources Board **via email**
Michael McAdams, Executive Director, Advanced Biofuels Association **via email**
Tom Fulks, Principal, Mightycomm Sacramento **via email**