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February 28, 2017

Samuel Wade  
Branch Chief, Transportation Fuels  
Air Resources Board  
1001 I Street  
Sacramento, CA 95814

(Comment submitted via email to [LCFSWorkshop@arb.ca.gov](mailto:LCFSWorkshop@arb.ca.gov) )

RE: Input Regarding Alternative Jet Fuel

Dear Mr. Wade:

The group of alternative jet fuel producers that I represent (the “AJF Producers”) appreciate the opportunity to provide comments regarding the Low Carbon Fuel Standard (“LCFS”) regulations under consideration by the Air Resources Board (“ARB”), pertaining to the inclusion of alternative jet fuel (“AJF”) in the LCFS on an opt-in basis.

The AJF Producers joining this letter are Neste, Red Rock Biofuels, AltAir Fuels, Velocys, and Fulcrum BioEnergy. Neste is the largest existing producer of renewable diesel for the California market and has the capability to produce alternative jet fuel. Red Rock is developing a production facility capability of producing alternative jet fuel in Lakeview, Oregon. AltAir Fuels is currently supplying alternative jet fuel to United Airlines at Los Angeles International Airport from its production facility in Paramount, California. Velocys provides small-scale modular Fischer-Tropsch technology to alternative jet fuel producers. Fulcrum BioEnergy is developing a facility in Reno, Nevada, and plans to supply alternative jet fuel into the California market.

The AJF Producers are highly supportive of the LCFS program and of ARB’s proposal to facilitate LCFS credit generation through opt-in participation for AJF uplifted in California. The LCFS has proven to be an effective, market-based program that has driven the development and expanded the supply of low carbon fuels in California. By including low carbon alternative jet fuels in the program, ARB will further expand the supply of less carbon-intense fuels and facilitate attainment of California’s greenhouse gas (“GHG”) reduction policies.

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We would also like to recognize the leadership of the airline industry and Airlines for America in supporting the use of low carbon fuels in aviation and facilitating the long-term growth of the AJF industry.<sup>1</sup> The U.S. airline industry has a strong record of greenhouse gas (GHG) emissions reductions. The AJF Producers are confident that the industry's efforts will be enhanced through the establishment of an LCFS credit. There is strong interest among the airlines and AJF producers in producing and utilizing such jet fuel in the California market. Sustainable AJF is a "drop-in ready" fuel product – fully compatible with and capable of replacing petroleum jet fuels – that can be sustainably produced through the processing of waste oils and other low carbon feedstocks, thereby resulting in reduced lifecycle GHG emissions relative to petroleum-based jet fuel.

The production of alternative jet fuel is currently dis-incentivized in California in that low carbon fuel producers can only generate LCFS credits for fuel that displaces conventional ground transportation fuels. The AJF Producers support ARB's proposal to allow low carbon aviation fuel uplifted in California to generate credits under the LCFS. Such an approach would encourage production of low carbon aviation fuel, support the advanced biofuels industry, and provide an additional pool of available credits to contain the costs of the LCFS and facilitate the aggressive reductions that California must achieve under SB 32.

There have already been a series of commercial developments that illustrate the potential of low carbon aviation fuels in California. United Airlines has executed an agreement with AltAir Fuels for the purchase of up to 15 million gallons of renewable jet fuel over a three-year period that began in 2016. AltAir Fuels has created over 100 jobs in the Paramount area and added to the tax base considerably by taking over an idled petroleum refinery. With appropriate treatment of AJF under the LCFS, other facilities would likely follow, making California the hub of AJF production and use. In addition to AltAir Fuels, both Red Rock Biofuels<sup>2</sup> and Fulcrum BioEnergy<sup>3</sup> have announced contracts to supply alternative jet fuel to airlines.

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<sup>1</sup> Airlines for America has been consistently advocating for the inclusion of low carbon aviation fuels in the LCFS. This comment integrates significant portions of the comment submitted by Nancy Young of Airlines for America during the LCFS re-adoption process, dated February 17, 2015.

<sup>2</sup> <https://www.swamedia.com/releases/release-f28fd231382f4e768dbb5130f5782020-southwest-airlines-announces-purchase-agreement-with-red-rock-biofuels?query=red+rock>

<sup>3</sup> <http://fulcrum-bioenergy.com/partners/united-airlines/>

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Allowing bio-jet fuel producers to generate LCFS credits would significantly improve the economics of new and existing facilities by allowing them to generate credits from all transportation fuels produced, while also creating additional compliance flexibility for regulated parties. The AltAir facility, as well as other potential plants utilizing a similar conversion technology, can necessarily produce both diesel and bio-jet fuel. Given that the LCFS is intended to spur investment in facilities producing low carbon fuels that will enable the standard to be met, ARB can amplify the investment signal for these facilities by allowing all of their transportation fuel production to generate credits.

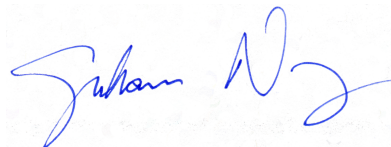
At the same time, we support ARB's general exemption of aircraft fuels from California's LCFS mandates. Subjecting aircraft fuels to annual carbon intensity standards would raise federal preemption issues. However, ARB has the authority to amend the LCFS regulations to create incentives to promote the use of low carbon fuels in aircraft by allowing credit for such fuels. By promoting the voluntary production and use of AJF, ARB would not be regulating aircraft fuels, but rather would simply be creating opportunities for airlines to better support California's GHG objectives.

Notably, allowing AJF to generate LCFS credits would be a measure fully in line with the U.S. Environmental Protection Agency's approach under the Renewable Fuel Standard (RFS) regulations. The RFS explicitly allows for the generation of Renewable Identification Numbers (RINs) for the production of bio-jet fuel, although the RFS does not impose RIN obligations based on the refining or importation of any volume of aviation fuel.

## Conclusion

Thank you for your consideration of our input. Please contact us if any further input would be helpful. We look forward to participating in workshops and providing input to this proceeding.

Sincerely,



Graham Noyes