



Mr. Samuel Wade
Chief, Transportation Fuels Branch
Industrial Strategies Division
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

August 30th, 2018

Re: Comments on Second 15-day Modifications to Regulation Order

Dear Mr. Wade,

White Energy has been and continues to be a strong supporter of low carbon fuels and the Low Carbon Fuel Standard (LCFS). White Energy is a major ethanol producer in the United States that has been able to supply ethanol to the California fuel market for a decade. We believe we have been a steady partner in reducing Greenhouse Gas Emissions with the California Air Resources Board (CARB) and have had fuel pathways in every iteration of the LCFS to date. As the LCFS continues to evolve in order to meet its target reduction by including ever evolving technologies and methodologies, it has in the past been able to maintain a fuel neutral stance.

White Energy would like to state its support for the inclusion of the Carbon Capture Protocol and applaud CARB staff on intense effort that was taken to push this protocol to completion. The finished product is robust and polished with a few final suggested improvements below.

The Carbon Capture and Sequestration Protocol (CCS Protocol) has made definitional changes in the latest versions that now defines the area in which the storage is taking place as the "storage complex", however in defining the system boundary the terms "Sources, sinks and reservoirs (SSRs)" is used to describe the project in total. The term reservoir in a geologic sense can be described as "a place where fluid collects, especially in rock strata..." and in oil and gas refers to where "the subsurface pool of hydrocarbons contained in porous or fractured rock formations." These formations can be described as fields and these fields can be subdivided into individual wells or units (a grouping of wells). In both cases the reservoir can be a very large area covering several hundred miles. By describing the system boundaries using the term "reservoir" instead of "storage complex" a misinterpretation can be made that "storage complex" and "reservoir" are interchangeable terms. In the case of a sequestration project a saline aquifer that would be utilized for storage could be incredibly large. The Illinois Carbon Capture and Storage project (ICCS) utilized the 200 acres while the Illinois Basin in which the saline aquifer exists is orders of magnitude larger than that. When looking at EOR (Enhanced Oil Recovery), the subdivided reservoir is not delineated necessarily by geologic subsurface formations and no single owner typically has 100% ownership or operation of an oil reservoir. Both of these examples highlights the need for clarification on the term "reservoir" in the system boundary definition. CARB staff in the protocol later describes how plume modelling can help define the storage complex for the purpose of guaranteeing 100



years of permanence. It is therefore urgent that CARB issue clarification or corrective language to avoid confusion as to how the system boundary will be defined.

White Energy would also like to express its appreciation for the updates to the CA-GREET 3.0 model with regards to sorghum. CARB's quick response to the EPA's approval of Sorghum Oil as a feedstock for Biofuel D4 RINs as well as its cooperation with the National Sorghum Producers has shown its commitment to maintaining the programs integrity and synergies with other renewable fuels programs.

One final note on CCS, as the technology evolves and projects that are early adopters provide greater data and insight to CARB through mandated reporting and through an overall partnership with staff; it is our hope that the protocol will be given the opportunity to evolve to reflect a performance based standard much like the fuels that enter the program are evaluated.

In closing CARB staff should be commended in the overall work product that was produced under constrained conditions. This rulemaking has demonstrated CARB's leadership and commitment in greenhouse gas reductions while illuminating a path for which other jurisdictions can follow.

Regards,

Kim Do
Director of FP & A
White Energy, Inc.