**NexSteppe**

**Comments to the California Air Resources Board**

**Modified Text and Availability of Additional Documents and Information for the Proposed Re-Adoption of the Low Carbon Fuel Standard**

NexSteppe Inc. (NexSteppe) appreciates the opportunity to submit comments on the Low Carbon Fuel Standard Proposed 15-Day Regulation Order (LCFS). NexSteppe, headquartered in South San Francisco, California, is a developer and producer of high performance sweet sorghum and biomass sorghum hybrids. Our sweet sorghum hybrids are grown as feedstocks for advanced ethanol (as a supplement to sugar cane) and our biomass hybrids as a feedstock for cellulosic ethanol on a worldwide basis.

We commend the collaborative nature of CARB’s rulemaking process. We have reviewed the LCFS and offer the following comments:.

1. We note that in Table 7 of the LCFS there is no default pathway for new cellulosic feedstock crops being converted to ethanol nor for sugar crops being converted to ethanol (similarly to sugar cane). The only feedstock listed is corn stover, a feedstock that is not optimized for ethanol production and is not available in many parts of the United States. We do not believe that the cellulosic ethanol industry will be able to supply sufficient fuel at competitive prices using only corn stover as a feedstock- and the omission of all other cellulosic feedstock crops from this table disadvantages many of the feedstocks that will be used in the production of cellulosic ethanol. Examples of those feedstocks would be biomass sorghum, arundo donax, switchgrass, miscanthus, woody biomass among others.
2. In Table 5 there is an iLUC number quoted for “sorghum ethanol.” We assume that this refers to ethanol derived from the grain of the sorghum plant—not ethanol produced from the cellulosic sugars present in biomass sorghum or the free sugars present in sweet sorghum. We request that this iLUC value be accordingly limited to grain sorghum.
3. Under Section 95488(d)(2) the LCFS proposes to issue “provisional certification of a fuel pathway application” but only in the event that the facility has been “in full commercial production for one full calendar quarter.” We interpret this as requiring any cellulosic ethanol facility (regardless of how long it has been in operation) to report data for a full calendar quarter of operation with any new feedstock before a provisional certification is issued. To put this in perspective; we would estimate that to operate a 30 million gallon per year commercial cellulosic ethanol facility for 90 days would require nearly 100,000 dry tons of feedstock—or in the case of biomass sorghum— approximately 4,000 to 5,000 hectares of production. The story would be similar for other feedstocks—switchgrass, miscanthus, arundo donax etc. We do not see how, under this requirement, any producer could reasonably be expected to add new feedstocks to its supply chain given the significant cost of such a trial. The proposed regulation entrenches feedstocks and appears to create a significant barrier to the adoption of new feedstocks.
4. We also note that the LCFS appears to require two years of “full commercial production.” For reasons driven by cost, land required for storage of biomass and risk many cellulosic ethanol producers will use a mix of feedstocks delivered on a “just-in-time” basis. The same will occur in cane-to ethanol plants that adopt sweet sorghum as a supplementary feedstock. In these scenarios one feedstock will be used for only part of a year—if “two years of commercial production” were in fact to be required (aggregating that part of any year in which a feedstock is used) we anticipate that provisional status would persist for some feedstocks anticipated by the LCFS. Indeed, if a plant were to use a mix of biomass sorghum, corn stover, switchgrass and wood chips (a supply chain design that is not uncommon) it would take nearly 8 years for any feedstock to move off provisional status. If cellulosic ethanol plants want to use new feedstocks as they become available during the course of their operational life it’s possible that they could be on permanent provisional status.
5. In order to solve this problem we request that CARB consider issuing “feedstock-only” pathways that would allow existing conversion plants to implement new feedstocks without the one calendar quarter or two-year requirement. Feedstock only pathways would allow the rapid and broad adoption of new, innovative feedstocks with pre-determined cabon intensity scores without years of uncertainty connected to provisional LCFS credits.

We hope that you find these comments useful and look forward to working with CARB

on the implementation of the LCFS. Please do not hesitate to contact us if we can be of any assistance in this matter.

Respectfully submitted,

NexSteppe Inc.

400 East Jamie Court

South San Francisco, CA 94080

ATTN: John Van de North

(650) 887-5712

jvandenorth@nexsteppe.com