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California Air Resources Board – LCFS Program
1001 I St.
Sacramento, CA 95814

March 2, 2017

Dear ARB Staff,

The following document authored by White Energy, Inc. is in response to California Air Resources Board staff request for stakeholder participation on proposals for rule making under the LCFS program. On January 25th, 2017 staff released a discussion paper encompassing Ethanol stakeholders and followed-up on the release with a workshop on January 31st.

White Energy has reviewed the discussion paper and is submitting the following document in response to questions posed by staff and concerns that we as a large fuel producer for the state of California have.

Regards,

A handwritten signature in black ink, appearing to read "Grant Johanson", written over a horizontal line.

Grant Johanson, Interim CEO

Potential Changes for Consideration:

Simplification of the Tier 1 Calculator for Starch Derived Ethanol Pathways:

“Staff is seeking stakeholder feedback on development of the simplified CI application data summary form.”

Figure 1

Producer Operational Data Summary		Applicant: ABC Company			Feedstock Production Location: U.S.		Ethanol Production Location:			
CI Results	Corn Ethanol CI, g/MJ	73.59 (example CI)			Sorghum Ethanol CI, g/MJ	74.15 (example CI)				
	Volume, gal	75,729,361			Volume, gal	15,839,199				
Process:										
Data Years										
Step 1) Select Feedstock Production Region										
Select Regional Electricity Mix for Feedstock Production: 7-MROW Mix										
Monthly Data	Beginning Corn Inventory	Corn Used (calculated)	Corn Received	Ending Corn Inventory	Corn Transport	Beginning Sorghum Inventory	Sorghum Used (calculated)	Sorghum Received	Ending Sorghum Inventory	Sorghum Transport
Unit	Bushels	Bushels	Bushels	Bushels	Miles	Bushels	Bushels	Bushels	Bushels	Miles
Month 1	1,000,000	1,330,000	1,330,000	1,000,000	By HDT Truck					By HDT Truck
Month 2	1,000,000	1,300,000	1,200,000	900,000	50					50
Month 3	1,000,000	1,400,000	1,400,000	1,100,000	By Rail					By Rail
Month 4	1,000,000	1,300,000	1,400,000	1,300,000	1,400	500,000	300,000	1,000,000	600,000	1,400
Month 5	1,000,000	839,000	839,000	1,000,000		500,000	2,400,000	2,000,000	400,000	
Month 6	1,000,000	800,000	1,300,000	1,500,000		500,000	750,000	700,000	450,000	
Month 7	1,000,000	1,500,000	1,500,000	800,000						
Month 8	1,000,000	1,500,000	1,500,000	1,000,000						
Month 9	1,000,000	1,280,000	1,280,000	700,000						
Month 10	1,000,000	1,290,000	1,290,000	1,200,000						
Month 11	1,000,000	1,550,000	1,550,000	1,000,000						
Month 12	1,000,000	850,000	1,450,000	1,500,000						
Month 13	1,000,000	1,400,000	1,300,000	900,000						
Month 14	1,000,000	1,300,000	1,300,000	1,000,000						
Month 15	1,000,000	1,440,000	1,300,000	890,000						
Month 16	1,000,000	1,300,000	1,300,000	1,000,000						
Month 17	1,000,000	1,251,000	1,300,000	1,056,890						
Month 18	1,000,000	1,645,450	1,300,000	662,540						
Month 19	1,000,000	1,030,000	1,300,000	1,250,000		500,000	600,000	1,000,000	700,000	
Month 20	1,000,000	1,420,000	1,400,000	988,000		500,000	1,470,000	1,500,000	530,000	
Month 21	1,000,000	1,755,000	1,400,000	653,000		500,000	510,000	700,000	590,000	
Month 22	1,000,000	1,200,000	1,200,000	1,235,640						
Month 23	1,000,000	1,500,000	1,500,000	1,000,000						
Month 24	1,000,000	1,500,000	1,500,000	900,000						
Total or Average	24,000,000	31,630,330	32,235,000	24,536,070		3,000,000	6,630,000	6,900,000	3,270,000	
Beginning + Receipt - Ending = Usage										
Proposed										
Beginning +Receipts + gain - loss = Usage										
					Loss	Gain				
Month 1	1,000,000	1,330,000	1,330,000	1,000,000						
Month 2	1,000,000	1,300,000	1,200,000	900,000	0					
Month 3	1,000,000	1,400,000	1,400,000	1,100,000	0	100000				
Month 4	1,000,000	1,300,000	1,400,000	1,300,000	100000	0				
Month 5	1,000,000	539,000	839,000	1,000,000	300000	0				
Month 6	1,000,000	800,000	1,300,000	1,500,000	0	0				
Month 6	1,000,000	500,000	1,500,000	1,500,000	500000	0				
Month 6	1,000,000	500,000	1,500,000	1,500,000	500000	0				
Month 6	1,000,000	280,000	1,280,000	1,500,000	500000	0				
Using Purely example numbers given the mismatch of Beginning and Ending inventory leads to speculation of some type of Gain or Loss										
This Gain or Loss of inventory may not be use and could be due to a number of factors such as sale of feedstock to another party or miscalibration										
this logic would apply as well to production as both are required to calculate a yield number for the calculator.										

White Energy proposes the following change illustrated in **Figure 1**. Staff has proposed that feedstock usage and product production be a calculation based upon Usage = Beginning Inventory + Receipts – Ending Inventory and Production = Beginning Inventory + Sales – Ending Inventory. It is White Energy’s opinion that the formulas should account for Shrink (gain/loss) due to a number of quantifiable real world scenarios that could affect any or all of the variables in the formulas described by CARB Staff.

Usage = Beginning Inventory + Receipts + gain – loss

Production = Beginning Inventory + Receipts + gain – loss

The method described above minimizes impacts of gain and loss on other parts of CI calculation such as yield if a loss or gain has been recorded.

Accounting Methodologies for Allocating Fuel Volumes by FPC

“Staff is seeking stakeholder feedback on potential requirement to include the accounting methodology for allocating FPCs in their monitoring plan.

Would third-party verifier assessment of feedstock consumption on a quarterly basis help to minimize risk of credit adjustments at the conclusion of an entire verification period?”

White Energy proposes that staff consider a prior month look back allocation for ease of current production allocation method it is not only necessary to have accounting for total production of a fuel producers production but critical in allowing for verification of imported fuels into California. (see **Figure 2**)

Accounting for daily through put of grain can be cumbersome and inaccurate due factors outside of the facilities control. The Facility does as a course of month-end accounting processes, true up with our vendors on what is received and billed to what is in inventory and finalize a usage number. This process is not immediate and can take a few days after the end of the month to reconcile. In the interim we have shipments that are going out because of ongoing production and on site storage restraints that cannot wait for finalization of the grain usage for the current month to assign CI values. The benefit of a month look back allows the facility to continue its operations and sales while being able to assure customers of the CI value it will be getting in a 24 rolling verification method. This method also prescribes to the concept put forth by staff of a steady state production scenario in staffs overall philosophy of simplifying T1 CI calculations.

Grain Usage % Formulas

Prior Month Corn Usage % = Corn Usage Prior Month / Total Prior Grain Usage

Prior Month Milo Usage % = Milo Usage Prior Month / Total Prior Grain Usage

Distillers’ Production % Formulas

Prior Month WDG Production % = WDG Produced * Average Dry Matter Content

Total Prior Distillers’ Grain Production on a dry basis

Prior Month DDG Production % = $\frac{\text{DDG Produced} * \text{Average Dry Matter Content}}{\text{Total Prior Distillers' Grain Production on a dry basis}}$

Total Prior Distillers' Grain Production on a dry basis

Gallon Allocation Formula

Gallons Produced Allocated = Gallons Produced * Grain Usage % * Distillers' Production %

Example:

Gallons Produced in the day = 325,000 gallons

Total Grain Utilized Prior Month = 3,500,000 bushels

Total Corn Utilized Prior Month = 2,000,000 bushels

Total Milo Utilized Prior Month = 1,500,000 bushels

Total Wet Distillers' Produced Prior Month at 35% Dry Matter = 40,000 tons

Total Dry Distillers' Produced Prior Month at 88% Dry Matter = 13,779 tons

Total Distillers' Produced on a dry basis Prior month = $40,000 * .35 + 13,779 * .88 = 26,125.52$ tons

Prior Month Corn Usage % = $2,000,000 \text{ bu} / 3,500,000 \text{ bu} = 57.1428\%$

Prior Month Milo Usage % = $1,500,000 \text{ bu} / 3,500,000 \text{ bu} = 42.8571\%$

Prior Month WDG Production % = $\frac{40,000 * 35\%}{26,152.52} = 53.5875\%$

26,152.52

Prior Month DDG Production % = $\frac{13,779 * 88\%}{26,152.52} = 46.4125\%$

26,152.52

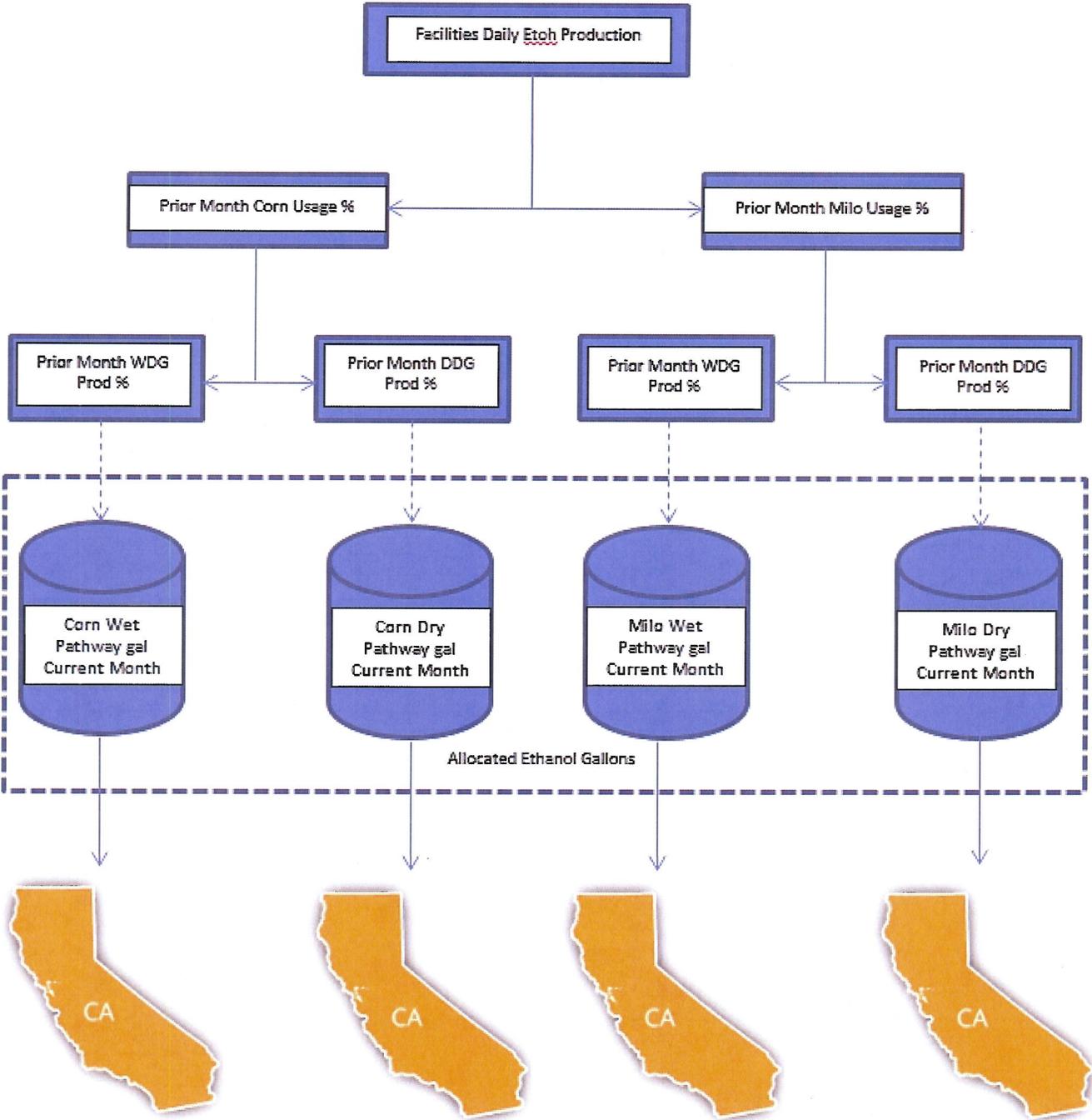
Corn Wet Pathway Gal = $325,000 * 57.1428\% * 53.5875\% = 99,519.5433$ gals

Corn Dry Pathway Gal = $325,000 * 57.1428\% * 46.4125\% = 86,194.5567$ gals

Milo Wet Pathway Gal = $325,000 * 42.8571\% * 53.5875\% = 74,639.6575$ gals

Milo Dry Pathway Gal = $325,000 * 42.8571\% * 46.4125\% = 64,645.9175$ gals

Figure 2



Consideration of Multiple Pathways for Dry, Modified and Wet DGS:

“Staff is seeking stakeholder feedback from producers who would opt to apply for multiple pathways associated with varying DGS drying levels. We request suggestions for requirements to ensure operational data and reported volumes associated with each DGS drying level are verifiable.”

White Energy unequivocally supports separated pathways for Wet, Modified, and Dry Distillers’. This separated pathway methodology incentivizes the facilities to make drying decisions based on economic factors that include CI premiums for low energy produced gallons. When CI premiums are high the plant will be more willing to leave dryers idle in order to maximize the premium and reduce overall GHG emission associated with fuel production.

In order to calculate the different pathways dryer gas metering needs to be recorded and provided and average moisture for each of the co-products is needed. The allocation of production gallons into separated pathways is described in more detail in **Figure 2** of this document. Staff should provide guidance on natural gas measurement requirements to insure that fuel producers correctly report energy usage related to each co-product type.

Consideration of User-Specific Inputs for Feedstock Transportation:

“Staff is seeking stakeholder feedback on the appropriate default transport distances for corn and sorghum, and the modes offered.

If stakeholders prefer facility-specific inputs for feedstock transport distance, we request suggestions for verification protocols to ensure transport distances can be confirmed both during initial CI validation and on an ongoing basis.”

White Energy believes that the ability to change feedstock transportation distance can incentivize sourcing from areas closer to the fuel production facility and lower overall CI score. Due to the complicated relationships a fuel producer could have with providers of feedstock to the facility it is suggested that a default value be assigned for transport distance when the information is unavailable or unobtainable from the feedstock vendor. We suggest that when a distance can be obtained by the fuel production facility and they choose to use non default distances that it be a weighted average of the distances they were able to obtain and default values for the distances not obtained to arrive at an overall average for CI calculation.

Potential Amendments to Verification:

Staff is seeking feedback on holding the following entities responsible for verification: producers, importers (for out-of-state producers who do not opt-in to be regulated parties), and exporters.

Staff is seeking feedback on the potential verification points identified in Tables 3 and 4.

To inform site visit frequency and verification period (quarterly, annual, triennial) for starch-derived ethanol verification, staff is seeking stakeholder feedback regarding the frequency in which points most likely to impact compliance can potentially change. Are there critical

verification points that may change frequently, versus verification points that are unlikely to change during the course of normal ethanol production and delivery?

Is remote monitoring by a third-party verification body sufficient to detect potential fraud in the supply chain and thereby substitute for more frequent site visits at the production facility?

White Energy supports staff's efforts to implement a verification protocol in the LCFS program that will help to bring assurance to the program.

It is White Energy's opinion as an ethanol producer that is not an opt-in facility; that responsibility for volumes be solely placed on the importer (marketer). White Energy's ability to provide production data for the ethanol and sales from the facility to the marketer is easily obtainable, but as a non-opt-in entity we cannot know with any certainty, if imported volumes from our facility are correctly being reported by the marketer and therefore the point of verification on volumes should solely lie in the fuel importers hands. White Energy will have, as a course of business, provided the marketer with production and sales numbers to verify total volumes sold to the importer and given the allocation method described in **Figure 2** can provide CI ratings to each gallon that should allow the importer to report correctly.

Staff should consider using a targeted audit method when considering verification. Staff should consider that the marketer (opt-in entity) should be scrutinized more heavily for volumes imported and that those volumes are easily verifiable by comparing gallons sold from the production facility through the marketer. Gallons should not exceed production for the period being verified unless accounting for in transit volumes which should be identifiable by the marketer in normal course of business.

Site visits to the facility should be no more frequent than once a year or when/if new technology is put into place that would dramatically reduce CI ratings for fuel produced. Beyond verifying that the plant is still operating and physically examining records there would be no additional value to staff to make more than an annual visit.

Suggestions have been put forth in earlier workshops that an allowable variance without enforcement action should be part of the verification program. It is White Energy's belief that this should be the case to insure smooth ongoing operations and continued participation and growth in the program. White Energy believes that a true-up for small finding should be allowed by CARB's verification arm without enforcement action if both parties are in agreement. It is also White Energy's belief that should the verification body, using the simplified CI model determine a discrepancy in the fuel's reported CI rating that the producer have the option to appeal and utilize the full CA Greet 2.0 model to do so.