Louis Dreyfus Commodities Grand Junction LLC Telephone 515-738-2800
1149 U. Avenue
Grand Junction, IA 50107

February 15, 2011

Re: Method 2A Application – Excluding Confidential Business Information

California Air Resources Board
Stationary Source Division
Criteria Pollutants Branch - 6th Floor
1001 I Street
P.O. BOX 2815
Sacramento, CA 95812

To: The Executive Officer:

Herewith, please find our application and supporting documents for a fuel lifecycle GHG emissions pathway using the Method 2A application process described in "Establishing New Fuel Pathways under the California Low Carbon Fuel Standard Procedures and Guidelines for Regulated Parties" report by ARB (California Air Resources Board) issued on March 25, 2010.

We seek a new pathway for our Grand Junction ethanol plant located in Grand Junction, Iowa. At our facility, we produce ethanol from locally grown corn. Our facility uses natural gas for its process energy and electricity from the local grid. Approximately 97% of our distillers grains co-product is dried distillers grains solubles (DDGS) and the remainder is modified distillers grains solubles (MDGS) with a nominal 50% by weight moisture content.

The CARB LCFS regulations stipulate that only pathways lower in carbon intensity value than the main pathway that they deviate from can use the Method 2A application. Our pathway is a sub-pathway of the Corn Ethanol (Midwest; Dry Mill; Dry DGS, NG) Pathway because, except for the points of deviation described in our application, our pathway is identical to the Corn Ethanol (Midwest; Dry Mill; Dry/Wet DGS, NG) Pathway described in the Detailed California-Modified GREET Pathway for Corn Ethanol Well-to-Wheel (WTW) lifecycle analysis.[1]

[1] Detailed California-Modified GREET Pathway for Corn Ethanol Well-to-Wheel (WTW) lifecycle analysis, Version 2.1, published February 27, 2009.

We have used the CA-GREET Model 1.8b to calculate the lifecycle greenhouse gas emissions from this sub-pathway. Based on the input changes to the model described in the attachments, the carbon intensity value of this new pathway is 91.24 gCO2e/MJ. This CI intensity value and our production volumes more than meet the "5-10" substantiality rule and the other requirements of a new pathway.

The following sections to this application provide the details and documentation of our application for a new pathway under Method 2A. Portions of the following information that we consider Confidential Business Information have been clearly marked as such, *but are not included in this non-confidential version of the application. In this version of the application, the points where elements of Confidential Business Information have been removed from the text or accompanying tables are indicated so as to inform the public that the complete application to the ARB contained additional information to support this application, but that such information is considered by us to be Confidential Business Information.*

We request your approval and would be glad to answer any questions you may have about our application. Following please find the names and contact information of the persons who are available to answer any questions about our application. Please note that Houston BioFuels Consultants LLC are assisting us with the application and may be contacted if you have questions or comments about our application

Affiliation:	Louis Dreyfus Commodities Grand Junction LLC	Houston Biofuels Consultants LLC
Name:	Bruce Chapin Vice President	Mr. Logan Caldwell, Consultant
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Bruce R. Chapin
Vice President

Attachments

Attachments

Section Number and Contents

I. WTW Diagram of LDC Grand Junction Sub-Pathway of the Corn Ethanol (Midwest; Dry Mill; Dry DGS, NG) Pathway

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I. WTW Diagram of LDC Grand Junction Sub-Pathway of the Midwest Corn Ethanol Pathway

Figure 1: WTW Components of the LDC Grand Junction Pathway are Identical to the Corn Ethanol (Midwest; Dry/Wet Mill; Dry DGS, NG) Pathway[2]

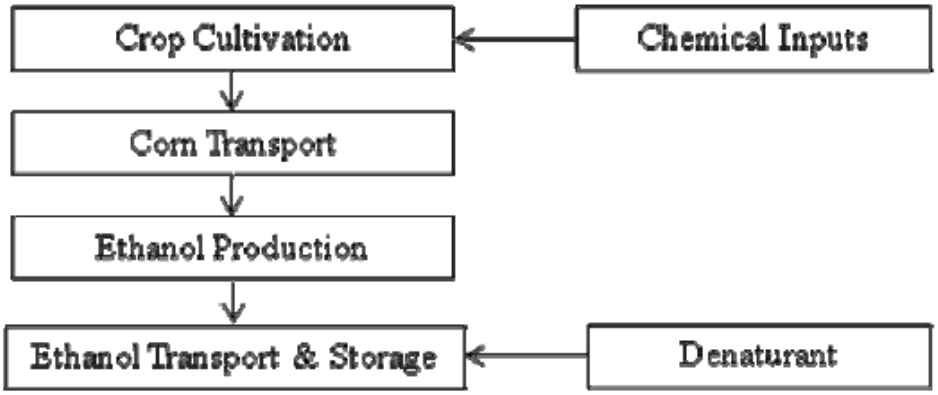


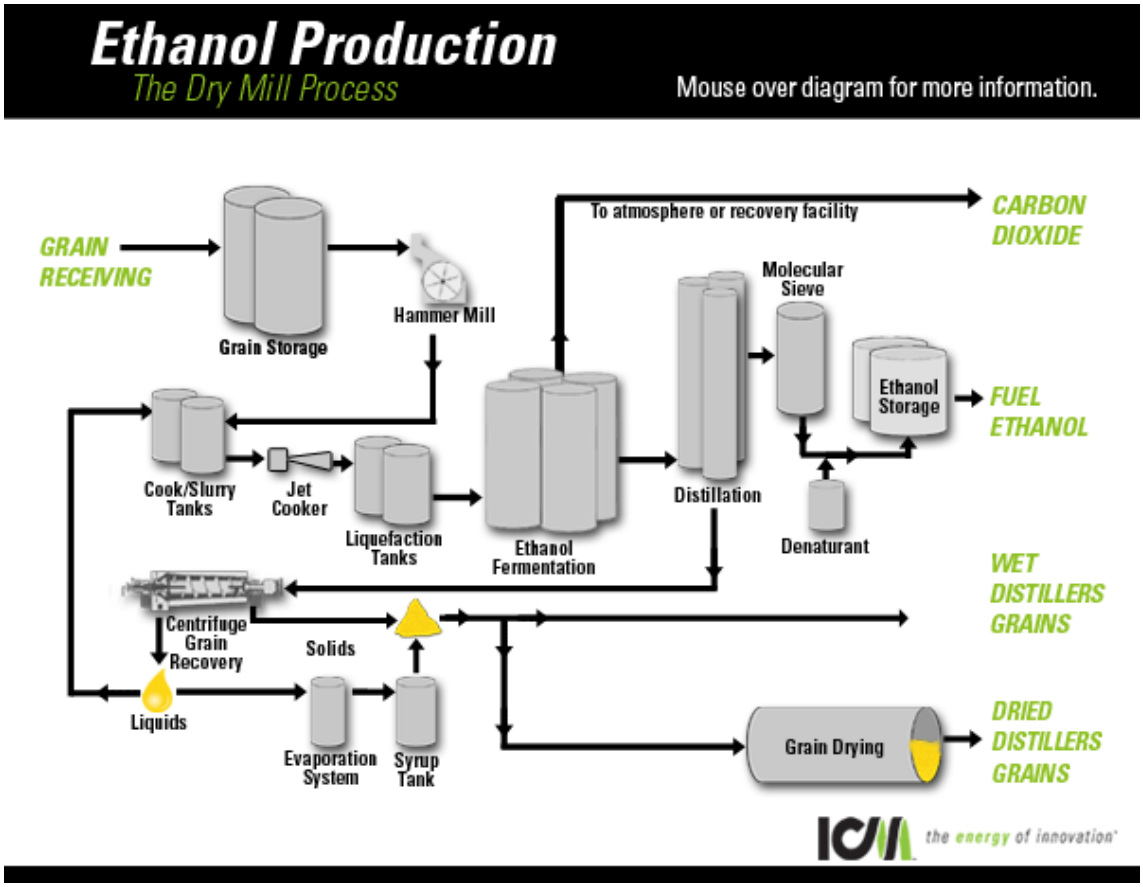
Figure 1. WTT Components for Ethanol Transported to California

[2] Detailed California-Modified GREET Pathway for Corn Ethanol Well-to-Wheel (WTW) lifecycle analysis, Page 4, Version 2.1, published February 27, 2009.

II. LDC Grand Junction Plant Information

1. EPA Facility ID Number - EPA number 3137; EPA Facility ID number 70139.
2. Plant Location – 1149 U Ave; Grand Junction, IA 50107
3. History – The plant began grinding corn on 04/26/09 and has been in operation since then.
4. Capacity Notes – Capacity is 125 million gallons per year (MGY) of denatured ethanol. The original nameplate capacity was 110 MGY.
5. Technology – The plant was designed by Fagen and the technology is from ICM Inc.
6. Feedstock Type - Corn
7. Product - Ethanol
8. Co-Products – 97%weight dry distillers' grains with solubles with 10% moisture (DDGS) and 3%weight Modified Distillers Grains with solubles with 50% moisture (MDGS) (the percentage is on a dry-matter basis for both co-products)
9. Process fuel – Natural Gas supplied by Constellation Energy,
10. Power supply – Electricity supplied by Alliant Energy.
11. Process Flow Description – please refer to the following diagram.

Source: ICM Inc.



12. Latest version of the plant's air permits. The current permits are included as separate documents and electronic files.

13. Energy and Material Balance - **Confidential Business Information**

The material and energy balance for the LDC Grand Junction ethanol plant is shown on the following page**. However, because it contains Confidential Business Information, it is not included in this non-confidential version of the application.**

III. Table of CA-GREET Model Inputs for LDC Grand Junction Pathway - Confidential Business Information

Table 1: CA-GREET Model Inputs for the LDC Grand Junction Pathway

CA-GREET Model Sheet Name	Cell number	Default Pathway Value	LDC Grand Junction, IA Pathway Value	Units	Description	Comments
Regional LT	C2	U.S. Average	Midwest	n/a	Region for Analysis	Using Midwest corn and Midwest power
Fuel_Prod_TS	L277	36,000	Confidential Business Informaiton	btu/gal	Corn Ethanol Plant Energy Use, Dry Mill	With modern plant, lower power use
Fuel_Prod_TS	D277	2.72	Confidential Business Informaiton	gal/bu	Ethanol yield of Corn Ethanol Plant, Dry Mill	With modern plant, optimized yield
Inputs	C247	10.19%	Confidential Business Informaiton	%	Share of process energy for Electricity	With modern plant, lower power use
Inputs	C254	32,330	Confidential Business Informaiton	btu/gal	Process fuel	Shown here for reference only. This cell is calculated based on cell L277 in Fuel_Prod_TS and Inputs C247
Inputs	C258	1.08	Confidential Business Informaiton	kwh/gal	Electricity used for ethanol production	Shown here for reference only. This cell is calculated based on cell L277 in Fuel_Prod_TS and Inputs C247

IV. Basis for the Input Values - Confidential Business Information

The input values presented in this application are based on the period from February 2010 through January 2011, the "Production Period". Since the input values are in terms of per gallon of anhydrous ethanol, the total of each utility value has been divided by the total gallons of anhydrous ethanol produced during the Production Period.

Table 2: Calculation of the Input Values

Table 2 is considered Confidential Business Information and is not included in this non-confidential version of the application.

V. CA-GREET Model Output and Analysis of Results

The LDC Grand Junction pathway carbon intensity value is a sub-pathway of the Midwest, Dry-Mill, 100% DDGS Co-product, 100% natural gas fuel ethanol plant pathway. The carbon intensity value of the base pathway is 98.4 gCO2e/MJ. The carbon intensity value of the LDC Grand Junction ethanol plant ethanol is 91.24 gCO2e/MJ.

Table 3: CI of Existing Midwest Dry Mill, 100% DDGS, 100% Natural Gas Fuel Pathway

CARB Lookup Table Reference Pathway: Midwest Dry Mill Ethanol Plant, 100% DDGS, NG Fuel Pathway							
		CA-GREET Model Output					
	IPPC factors	Corn	Ethanol	Calculations to convert Output to g/CO2e/MJ			
	gCO2e/g	*Btu or Grams per mmbtu of Fuel Throughput*				gCO2e/mmbtu	**gCO2e/MJ**
		US Avg Corn	100% DDGS	Corn w/loss	Total corn + EtOH		
Total energy		187,247	1,469,428	187,434	1,656,863		
VOC		16.8	55.5	17	72		
CO		151.3	31.4	151	183		
CH4	25	17.4	73.7	17	91	2,277.0	2.16
N2O	298	41.7	0.4	42	42	12,571.0	11.92
CO2	1	15,064	41,354	15,079	56,433	56,433.4	53.49
Sub-total lifecycle CI before denaturant and lt. vehicle combustion						71,281.4	67.57
Denaturant and lt. vehicle combustion effects factor							0.80
Total Lifecycle CI before ILUC with denaturant and lt. vehicle combustion effects included							68.37
Indirect Land Use Change Factor (ILUC)							30
Total CI of Pathway including Indirect Land Use Change							98.37
Note: The calculated result of this pathway prior to making the input changes for the LDC Grand Junction, IA ethanol plant is 67.57 gCO2e/MJ. This matches the Corn Ethanol WTW Analysis result of 67.6 gCO2e/MJ (Table B. GHG Emissions Summary for Dry and Wet Mill Corn Ethanol, page 5) before the denaturant and light vehicle combustion factor of 0.8 gCO2e/MJ is added.							

Table 4: LDC Grand Junction Ethanol Plant CI Calculation based on the CA-GREET Model Output

LDC Grand Junction IA Ethanol Plant Sub-Pathway of the Midwest Dry Mill Ethanol Plant, 97% DDGS/3% MDGS, NG Fuel Pathway							
		CA-GREET Model Output					
	IPPC factors	Corn	Ethanol	Calculations to convert Output to g/CO2e/MJ			
	gCO2e/g	*Btu or Grams per mmbtu of Fuel Throughput*				gCO2e/mmbtu	**gCO2e/MJ**
		Midwest Corn	97% DDGS/3% MDGS	Corn w/ loss	Total Corn + EtOH		
Total energy		192,088	1,365,155	192,280	1,557,435		
VOC		16.803	54.701	17	72		
CO		151.469	25.552	152	177		
CH4	25	18.139	61.748	18	80	1,997.6	1.89
N2O	298	41.718	0.311	42	42	12,536.9	11.88
CO2	1	15,362	33,854	15,377	49,231	49,230.8	46.66
Sub-total lifecycle CI before denaturant and lt. vehicle combustion						63,765.4	60.44
Denaturant and lt. vehicle combustion effects factor							0.80
Total Lifecycle CI before ILUC with denaturant and lt. vehicle combustion effects included							61.24
Indirect Land Use Change Factor (ILUC)							30
Total CI of Pathway including Indirect Land Use Change							**91.24**

VI. Production Range of LDC Grand Junction Pathway - Confidential Business Information

The new pathway should be applicable to the LDC Grand Junction facilities for at least 90% (100,000,000 gallons per year) to 113% (125,000,000 gallons per year) of Nameplate Capacity.

Discussion

This is the version of the letter that does not contain confidential business information. Another version containing confidential business information was submitted with the confidential version of this application support document.

VII. Sustainability of LDC Grand Junction Pathway

The LDC Grand Junction facility was designed and constructed using well-established modern designs and equipment and is managed by professional staff well-qualified to assure that over time the energy efficiency of and emissions from the facility do not deteriorate. Any deterioration would result in a less profitable business. Thus the sustainability of the plant is well aligned with the business objectives of the owners.

VIII. Impact on Land Use

There is negligible difference between the land use of this sub-pathway and that of the Corn Ethanol (Midwest; Dry Mill; Dry DGS, NG) Pathway described in the Detailed California-Modified GREET Pathway for Corn Ethanol Well-to-Wheel (WTW) lifecycle analysis.[3].

[3] Detailed California-Modified GREET Pathway for Corn Ethanol Well-to-Wheel (WTW) lifecycle analysis, Version 2.1, published February 27, 2009.

IX. Inputs and Outputs during the Production Period and Documents supporting the Monthly and Annual Quantities – Confidential Business Information

Table 5: Summary of Inputs and Outputs during "Production Period"

Table 5 is considered Confidential Business Information and is not included in this non-confidential version of the application.

The monthly utility bills authenticating the amounts of natural gas and electricity shown in the table above are on the following pages. **The pages showing the utility bills are not included in this non-confidential version of the application.**

For the first month of the production period, the electricity consumed is based on the pro-rata amount of the utility bills that began in the middle of the preceding month. For the last month of the production period, the electricity consumed is based on the pro-rata amount of the utility bill that began in the middle of the last month and ended in the middle of the following month.

Table 6: Pro-Rata Monthly Power Consumption for a Fraction

of the First and Last Month of the Production Period

Table 6 is considered Confidential Business Information and is not included in this non-confidential version of the application.

Table 7: Summary of the Monthly Power Consumption based on Utility Invoices

Table 7 is considered Confidential Business Information and is not included in this non-confidential version of the application.