September 26, 2011

Re: Method 2A Application 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 pathway for our East Energy Adams ("EE Adams") ethanol plant located near Adams, Nebraska. 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. We simultaneously produce a mix of distillers grains co-products comprised of dry distillers grains solubles (DDGS) and modified distillers grains solubles (MDGS). During the production period upon which our new pathway is based, our distillers grains co-product mix averaged 65% DDGS and 35% MDGS. We have also begun to extract corn oil that is used as animal feed and biodiesel feedstock.

The CARB LCFS regulations stipulate that only pathways lower in carbon intensity value than the main pathway 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 summarized below, 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]

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 88.43 gCO2e/MJ.

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

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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:	E Energy Adams, LLC	Houston BioFuels Consultants, LLC
Name:	Andrew Johansen, Risk Manager	Mr. Logan Caldwell, Consultant
Telephone number:	1-402-988-4655	1-281-360-8515
e-mail address	ajohansen@eenergyadams.com	lc@hbioc.net
Mailing Address	13238 East Aspen Road Adams, NE 68301	5707 Ridge Vista Drive Kingwood, TX 77345

Sincerely,

Andrew N. Johansen, *Risk Manager*

Attachments

Section Number and Contents

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

II. EE Adams Plant Information

III. Table of CA-GREET Model Inputs for EE Adams Pathway

IV. Basis for the Input Values

V. CA-GREET Model Output and Analysis of Results

VI. Production Range of EE Adams Pathway

VII. Sustainability of EE Adams Pathway

VIII. Impact on Land Use

IX. Documents supporting Annual Quantities of Corn, DGS, Ethanol, Natural Gas and Power

I. WTW Diagram of EE Adams Sub-Pathway of the Midwest Corn Ethanol Pathway

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

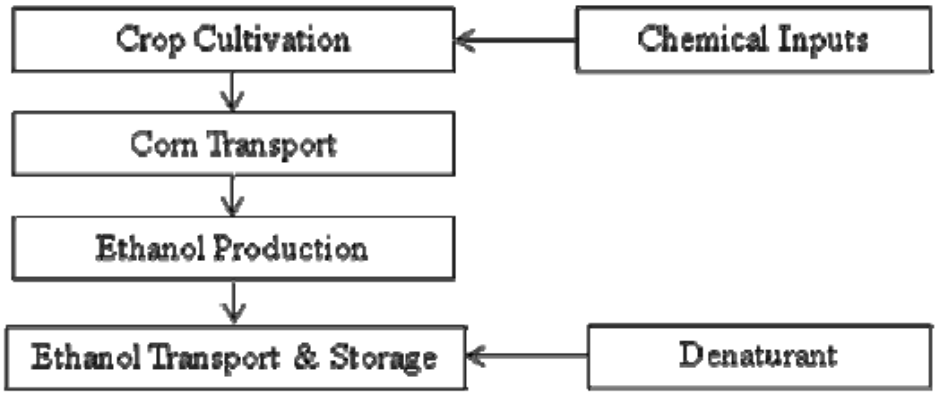


Figure 1. WTT Components for Ethanol Transported to California

[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. EE Adams Plant Information

EE Adams Plant Info

1. EPA Facility ID Number - 70093
2. Plant Location - Adams, NE
3. History – Built in 2006/07 and started operations in October 2007
4. Capacity Notes – 65,000,000 million gallons per year nameplate capacity
5. Technology – Fagen/ICM
6. Feedstock Type – Corn
7. Product - Ethanol
8. Co-Products – Dried Distillers Grain with Solubles, Modified Distillers Grain with Solubles, Corn Oil, Carbon Dioxide
9. Process fuel – Natural Gas
10. Power supply – Electricity

11. Process Flow Description – The following description and diagram of the dry mill process is from the ICM Inc. web site.

Delivery/Storage

Grain is delivered by truck or rail to the ethanol plant where it's loaded in storage bins designed to hold enough grain to supply the plant for 36-38 days.

Milling

The grain is screened to remove debris and ground into course flour.

Cooking (Hot Slurry, Primary Liquefaction, and Secondary Liquefaction)

During the cook process, the starch in the flour is physically and chemically prepared for fermentation.

Hot Slurry

The milled grain is mixed with process water, the pH is adjusted to about 5.8, and an alpha-amylase enzyme is added. The slurry is heated to 180–190°F for 30–45 minutes to reduce viscosity.

Primary Liquefaction

The slurry is then pumped through a pressurized jet cooker at 221°F and held for 5 minutes. The mixture is then cooled by an atmospheric or vacuum flash condenser.

Secondary Liquefaction

After the flash condensation cooling, the mixture is held for 1–2 hours at 180–190°F to give the alpha-amylase enzyme time to break down the starch into short chain dextrins. After pH and temperature adjustment, a second enzyme, glucoamylase, is added as the mixture is pumped into the fermentation tanks.

Simultaneous Saccharification Fermentation

Once inside the fermentation tanks, the mixture is referred to as mash. The glucoamylase enzyme breaks down the dextrins to form simple sugars. Yeast is added to convert the sugar to ethanol and carbon dioxide. The mash is then allowed to ferment for 40-50 hours, resulting in a mixture that contains about 15% ethanol as well as the solids from the grain and added yeast.

Distillation

The fermented mash is pumped into a multi-column distillation system where additional heat is added. The columns utilize the differences in the boiling points of ethanol and water to boil off and separate the ethanol. By the time the product stream is ready to leave the distillation columns, it contains about 95% ethanol by volume (190-proof). The residue from this process, called stillage, contains non-fermentable solids and water and is pumped out from the bottom of the columns into the centrifuges.

Dehydration

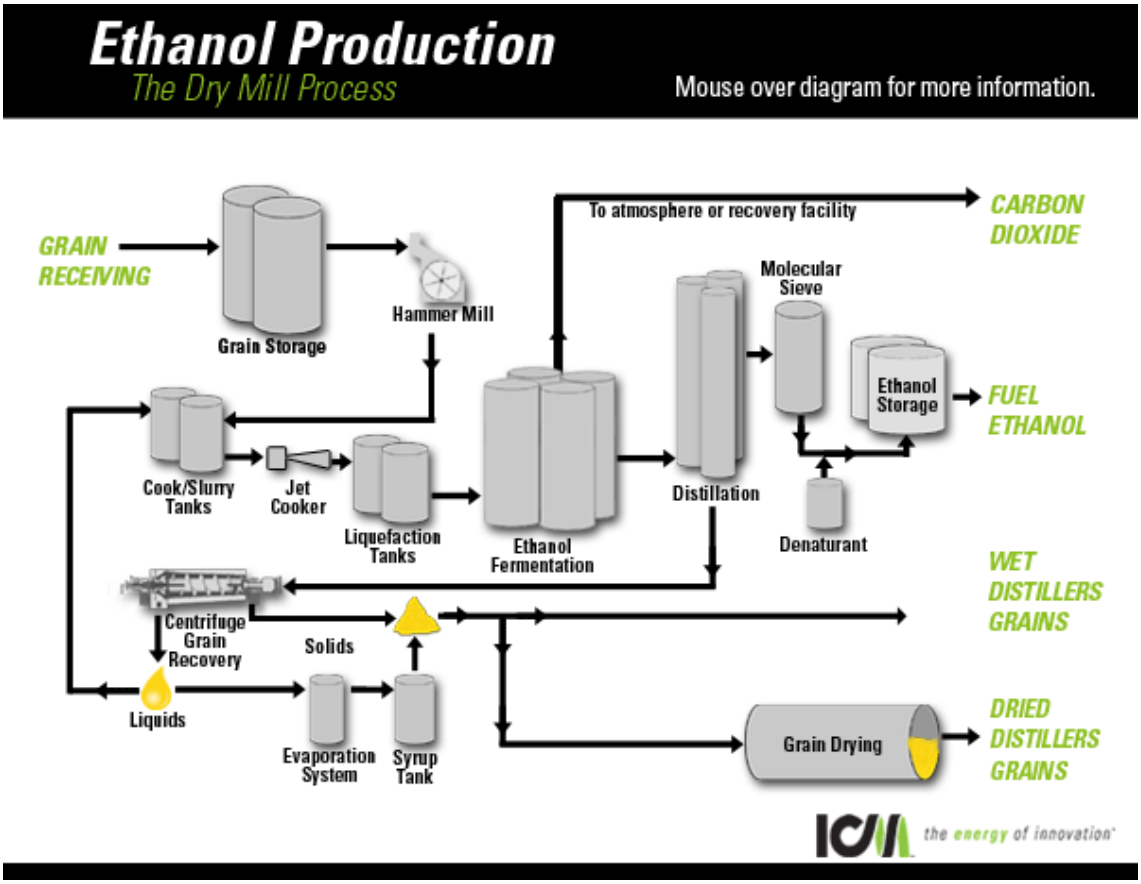
The 190-proof ethanol still contains about 5% water. It's passed through a molecular sieve to physically separate the remaining water from the ethanol based on the different sizes of the

molecules. This step produces 200-proof anhydrous (waterless) ethanol.

Ethanol Storage
Before the ethanol is sent to storage tanks, a small amount of denaturant is added, making it unfit for human consumption. Most ethanol plants' storage tanks are sized to allow storage of 7–10 days' production capacity.

12. Process Block Flow Diagram

Source: ICM Inc.



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

For legibility, the energy and material balance for the EE Adams ethanol plant is contained in a separate pdf file accompanying the electronic version of this application and is a separated document in the printed, hard copy version of this application**. However, because the energy and material balance contains Confidential Business Information, it is not included in this non-confidential version of the application.**

14. Latest version of the plant's air permit. In a separate document/electronic file accompanying this application due to its size, please find the latest version of the plant's air permit from the state of Nebraska. This permit contains information about the equipment in the plant that generates emissions from the combustion of fuel.

III. Table of CA-GREET Model Inputs for EE Adams Pathway - Confidential Business Information

Table 1: CA-GREET Model Inputs for the EE Adams Pathway

CA-GREET Model Sheet Name	Cell number	Default Pathway Value	EE Adams Pathway Value	Units	Description	Comments
Fuel_Prod_TS	L277	36,000	Confidential Business Information	btu/gal	Corn Ethanol Plant Energy Use, Dry Mill	With modern plant, lower power use
Fuel_Prod_TS	D277	2.72	Confidential Business Information	gal/bu	Ethanol yield of Corn Ethanol Plant, Dry Mill	With modern plant, optimized yield
Inputs	C247	10.19%	Confidential Business Information	%	Share of process energy for Electricity	With modern plant, lower power use
Inputs	C254	32,330	Confidential Business Information	btu/gal	Process fuel, 100%	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 Information	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 September 2010 through August 2011, 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 EE Adams 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 EE Adams ethanol plant ethanol is 88.43 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	187,342	1,656,770		
VOC		16.768	55.519	17	72		
CO		151.276	31.385	151	183		
CH4	25	17.400	73.663	17	91	2,276.8	2.16
N2O	298	41.743	0.400	42	42	12,564.9	11.91
CO2	1	15,064	41,354	15,071	56,426	56,425.9	53.48
Sub-total lifecycle CI before denaturant and lt. vehicle combustion						71,267.6	67.55
Denaturant and lt. vehicle combustion effects factor							0.80
Total Lifecycle CI before ILUC with denaturant and lt. vehicle combustion effects included							68.35
Indirect Land Use Change Factor (ILUC)							30
Total CI of Pathway including Indirect Land Use Change							98.35

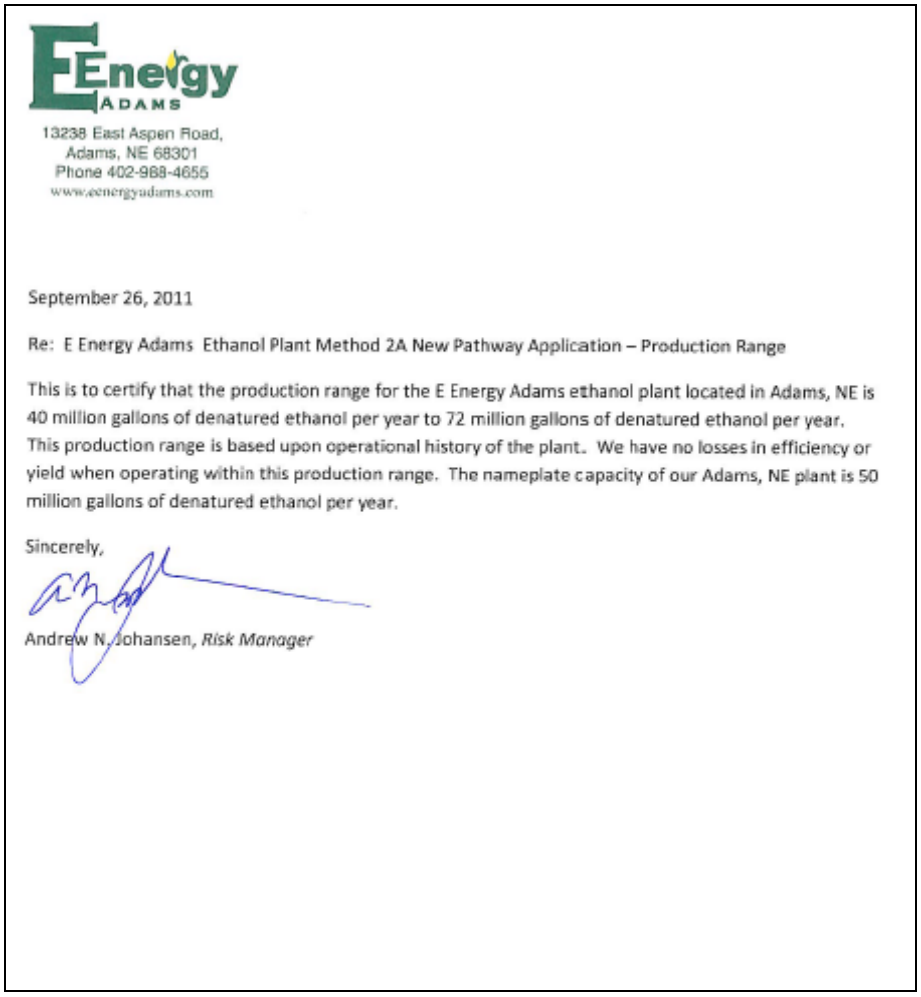
Note: The calculated result of this pathway prior to making the input changes for the EE Adams ethanol plant is 67.55 gCO2e/MJ. This matches the Corn Ethanol WTW Analysis result of 67.6 gCO2e/MJ (Table B. GHG Emissions Summary for Dry and Wet Mill Corn Ethanol, page 5) before the denaturant and light vehicle combustion factor of 0.8 gCO2e/MJ is added.

Table 4: EE Adams, Adams, Nebraska Ethanol Plant CI Calculation based on the CA-GREET Model Output

EE Adams Ethanol Plant Sub-Pathway of the Midwest Dry Mill Ethanol Plant, 65% DDGS/35% 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**
		US Avg Corn	65% DDGS/35% MDGS	Corn w/ loss	Total Corn + EtOH		
Total energy		186,970	1,323,261	187,064	1,510,325		
VOC		16.743	54.378	17	71		
CO		151.052	24.235	151	175		
CH4	25	17.374	56.654	17	74	1,850.9	1.75
N2O	298	41.682	0.296	42	42	12,515.6	11.86
CO2	1	15,042	31,379	15,049	46,428	46,428.4	44.01
Sub-total lifecycle CI before denaturant and lt. vehicle combustion						60,795.0	57.63
Denaturant and lt. vehicle combustion effects factor							0.80
Total Lifecycle CI before ILUC with denaturant and lt. vehicle combustion effects included							58.43
Indirect Land Use Change Factor (ILUC)							30
Total CI of Pathway including Indirect Land Use Change							88.43

VI. Production Range of EE Adams Pathway

The new pathway should be applicable to the EE Adams facilities for at least 80% to 144% of nameplate capacity of 50,000,000 million gallons per year, which corresponds to the range of from 40,000,000 to 72,000,000 million gallons per year.



E Energy ADAMS

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September 26, 2011

Re: E Energy Adams Ethanol Plant Method 2A New Pathway Application – Production Range

This is to certify that the production range for the E Energy Adams ethanol plant located in Adams, NE is 40 million gallons of denatured ethanol per year to 72 million gallons of denatured ethanol per year. This production range is based upon operational history of the plant. We have no losses in efficiency or yield when operating within this production range. The nameplate capacity of our Adams, NE plant is 50 million gallons of denatured ethanol per year.

Sincerely,

Andrew N. Johansen, *Risk Manager*

VII. Sustainability of EE Adams Pathway

The EE Adams 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. Documents Supporting Annual Quantities of Ethanol, Corn, Distillers Grains, Corn Oil, Natural Gas and Power –Confidential Business Information

Table 5: Summary of Inputs and Outputs during Production Period
and the 12 months prior to the Production Period

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

Documents authenticating the amounts shown in the table above are included on the following pages. First shown is a letter from Mr. Andrew Johansen, EE Adams Risk Manager, attesting to the data used in this application. Following are copies of the invoices for the utility bills (natural gas and power) covering the Production Period and 12 months prior to the Production Period. **Because the invoices contain confidential business information, they are not shown in this non-confidential version of the application support document.**

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September 26, 2011

Re: E Energy Adams Ethanol Plant Method 2A New Pathway Application – Accuracy of Data in New Pathway Application.

This is to certify that the quantities of corn, undenatured ethanol, distillers grains with solubles, corn oil and utilities summarized in the E Energy Adams ethanol plant applications for a new pathway are true and accurate. These quantities represent the true and accurate production, feedstock use and utility consumption of our plant located at 13238 East Aspen Rd, Adams, Nebraska and owned by E Energy Adams.

Sincerely,

Andrew N. Johansen, *Risk Manager*