

**GLACIAL LAKES CORN PROCESSORS  
GLACIAL LAKES ENERGY, LLC**

**METHOD 2A APPLICATION**

***Method 2A and 2B Application Form***

**I. Application Submission Date:** *April 4, 2011; revised June 16, 2011, June 22, 2011*

**II. Company Contact Information**

a. Company Name: *Glacial Lakes Energy, LLC*

b. Mailing Address:

Address Line 1	<i>301 20<sup>th</sup> Avenue SE</i>
Address Line 2	<i>P.O. Box 933</i>
City	<i>Watertown</i>
State/Province	<i>South Dakota</i>
Zip/Postal Code	<i>57201</i>

c. Main Company Phone Number: *(605) 753-1957*

d. Secondary Company Phone Number: *(605) 882-8480*

e. Fax Number: *(605) 882-8982*

f. Company Website: <http://www.glaciallakesenergy.com/>

g. Primary Method 2A/2B Contact Person:

Name: *Pete Bullene*

Position/Title: *EHS Manager*

Email Address: [pete@glaciallakesenergy.com](mailto:pete@glaciallakesenergy.com)

Office Phone Number: *(605) 753-1957*

Mobile Phone Number: *(605) 695-6726*

h. Fax Number: *(605) 882-8982*

i. Consultant/Third Party Application Preparer:

Name: *Billy VonSee*

Position/Title: *Senior Analyst*

Affiliation/Firm: *Merjent, Inc.*

Email Address: [bvonsee@merjent.com](mailto:bvonsee@merjent.com)

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Office Phone Number: (612) 746-1610

Mobile Phone Number: (612) 850-5081

Fax Number: (612) 746-3679

Consulting Entity's Website: [www.merjent.com](http://www.merjent.com)

- j. LCFS Reporting Tool Organization ID Code (if known):
- k. U.S. Environmental Protection Agency (USEPA) Company ID (if known):
- l. USEPA Facility ID (if known):

**III. Pathway Information**

- a. Pathway application type. Applicants are encouraged to discuss their pathway application types with ARB staff before proceeding. Please check one box only.

Method 2A: Sub-pathway                       Method 2B: New Pathway

- b. Brief description of proposed pathway. Please emphasize the important innovations and/or distinctive characteristics associated with the proposed pathway or sub-pathway.

*This application details Midwest corn ethanol production via a dry mill production process. The facility produces both modified wet and dry DGS simultaneously. Glacial Lakes has calculated the CI value for the facility using a multiple CI pathway, specifically calculating the CI based on the percentage of co-products produced as detailed in the May 27, 2011 memo from ARB*

- c. For Method 2A Applications only:
  - 1. Reference pathway (existing fuel pathway to which the proposed new sub-pathway is most closely related). The carbon intensity of the reference pathway must be higher by at least 5 gCO<sub>2</sub>e/MJ than the carbon intensity of the proposed pathway described in this application. Show all pathway information exactly as it appears in the LCFS Lookup Table:

**Fuel:** *Ethanol from Corn*

**Table 1  
Sub-Reference Pathway Descriptions**

Total Thermal Energy (Btu/gal)	Moisture Content (M%)	Sub-Pathway Description	Direct Emissions (gCO <sub>2</sub> e/MJ)	Indirect LUC (gCO <sub>2</sub> e/MJ)	Denaturant (gCO <sub>2</sub> e/MJ)	Total Carbon Intensity (gCO <sub>2</sub> e/MJ)
29401.25	0-12%	Midwest, Dry Mill, 100% Dry DGS, 0%MDGS, 0%WDGS, @100%NG	60.38	30	0.8	91.18
24001.25	M >12%	Midwest, Dry Mill, 0% Dry DGS, 100%MDGS, 0%WDGS, @100%NG	55.89	30	0.8	86.69

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1. Compositional differences (if any) between the fuel produced by the new sub-pathway and the reference pathway identified in item c, 1, above). *No compositional differences have been identified.*
- d. Final carbon intensity of the proposed pathway or sub-pathway:  
*91.18 gCO<sub>2</sub>e/MJ- dry DGS and 86.69 gCO<sub>2</sub>e/MJ- modified wet DGS*
- e. Annual volume of fuel that would be produced using the proposed new pathway (millions of gallons per year (MGY)): *120,000,000 gallons per year (undenatured)*
- f. Annual volume of fuel produced using the proposed new pathway that would enter the California market: *California sales volumes are to be determined.*
  1. This production volume is expected to be achieved within how many years from the start of production? *Production may be at full capacity by 2012, depending on the California Market demand.*
  2. Does the applicant expect this volume to be achieved by a single or by multiple facilities?
 

A single facility                       Multiple facilities
  3. If the applicant expects this volume to be achieved by multiple facilities, would all facilities be owned by a single firm?
 

Single firm                                       Multiple firms
- g. Lower Heating Value of the fuel to be produced from the new pathway (megajoules per gallon): *CaGREET default value of 80.53 MJ/gal is assumed to apply.*
- h. The range of production volumes over which the proposed pathway carbon intensity value is valid. The values reported below must be supported in the documentation accompanying this application.

<i><b>Production Volume Range</b></i>	<i><b>Fuel Volume (GY)</b></i>
<i><b>Lower boundary</b></i>	<i>96,689,148</i>
<i><b>Upper boundary</b></i>	<i>106,549,379</i>
<i><b>Average volume</b></i>	<i>100,042,082</i>

- i. Please provide any information that may be helpful in determining the land use change impacts (if any) of the proposed pathway. Although it is ARB's responsibility to perform all land use change impact analyses, the applicant may provide any information that may be useful to the ARB in completing that analysis.

*Glacial Lakes Energy, LLC is not aware of any indirect CI impacts as a result of land use changes. The facilities are currently operating at full capacity and no increases to ethanol production are anticipated, no additional corn demand is anticipated. The default value for corn indirect impacts was used (30 g CO<sub>2</sub>e/MJ).*

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**IV. Applicant Submittal Checklist.**

Listed below are the documents and files that may be submitted in support of a method 2A/2B application. Check the box to left of each document or file type included in your submittal. After each submittal category is a check box labeled "includes trade secrets." Check that box if the submittal category contains any information the applicant considers to be a trade secret. In the actual submittal, the specific information falling into the trade secret category must be clearly marked. Additional information regarding the submission of trade secrets can be found in the Instructions above.

- Pathway life cycle analysis report (required).
  - Includes trade secrets*
  
- CA-GREET model results (please submit the full CA-GREET spreadsheet) (required).
  - Includes trade secrets*
  
- All operating permits issued by the local air pollution control authority (required).
  
- One or more process flow diagrams covering the complete production process, including all inputs (feedstocks, process energy, etc.) and outputs (finished fuel, co-products, wastes, etc.) (required).
  - Includes trade secrets*
  
- A comprehensive list of all stationary combustion-powered equipment associated with the production facility. List entries should name the equipment, briefly describe its function, identify the fuels used, and qualify fuel use on a per-gallon-of-finished-fuel- produced basis (required).
  - Includes trade secrets*
  
- Equipment technical specifications.
  - Includes trade secrets*
  
- Production process schematics, technical drawings flow diagrams, maps, or other graphical representations (other than/in addition to the required process flow diagram).
  - Includes trade secrets*
  
- Engineering reports.
  - Includes trade secrets*
  
- Technical papers or journal articles.
  - Includes trade secrets*
  
- Emissions monitoring data or emissions modeling results.
  - Includes trade secrets*
  
- Spreadsheets, data files, and similar files documenting the calculations behind the fuel life cycle analysis.
  - Includes trade secrets*
  
- Other: In the space below, describe any additional submittals. Rationales for documents submitted or omitted may also be provided.
  - Includes trade secrets*

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- I. Verification of Ethanol Production Volume Reports*
  - a. Monthly Summary Report*
  - b. October 2010 Production Records*
  
- II. Utility Expenses*
  - a. Utility Expense Summary for September 2010 through May 2011.*
  - b. Utility Invoices for October 2010.*
  
- III. Distiller's Grain Sales Report for October 2010*