

Required Document No.1 – Method 2B Application

IV. COMPANY INFORMATION

Application Submission Date: December 30, 2015 (Revised)	
Company Name: Fulcrum Sierra BioFuels, LLC	
Mailing Address: 4900 Hopyard Rd, Suite 220	
City: Pleasanton	
State / Province: CA	Postal/Zip Code: 94588
Country (if outside of the U.S.): USA	
Contact Person: Jeanne Benedetti	
Title: Vice President	
Phone: 925-224-8248	Fax: 925-730-0157
Mobile Phone: 925-785-0651	Email Address: jbenedetti@fulcrum-bioenergy.com
Company Website URL: www.fulcrum-bioenergy.com	
U.S. EPA Company ID:	
Facility (Plant) Geographical Coordinates: Latitude: Longitude: or Universal Transverse Mercator (UTM) Coordinates: UTM Zone: NAD, Zone 11 Easting (E): 286.10 KM Northing (N): 4377.90 KM	

V. FACILITY INFORMATION

Facility No	Facility Name	Facility Address	City	Zip Code	State or Province	Country
1	Sierra BioFuels - Biorefinery	3600 Peru Dr	McCarran	89434	NV	USA
2	Sierra BioFuels - Feedstock Processing Facility	350 Saddle Ct	Mustang	89434	NV	USA
3						

V. FACILITY INFORMATION (Cont'd)

Facility No	Contact Person Name	Title	Phone/Fax	Mobile Phone	Email	US/EPA Facility ID	Nameplate Capacity (MGY)
1	Jeanne Benedetti	Vlce President	925-224-8248	925-785-0651	jbenedetti@fulcrum-bioenergy.c		10
2	Jeanne Benedetti	Vice President	925-224-8248	925-785-0651	jbenedetti@fulcrum-bioenergy.c		
3							

Note: If you have more than three facilities, please attach extra sheets.

VI. CONSULTANT INFORMATION

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Consultant's Name: Life Cycle Associates - Stefan Unnash	
Position/Title: Managing Director	
Consultant Company Address: 884 Portola Road, Suite A1	
City: Portola Valley	
State / Province: CA	Postal/Zip Code: 94028
Phone: 650-461-9048	Fax:
Mobile Phone: 650-380-9504	Email Address: unnash@lifecycleassociates.com
Consultant's Company Website URL: www.lifecycleassociates.com	
VI. CONSULTANT INFORMATION	

VII. PATHWAY INFORMATION

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a. Enter pathway application type. Applicants are encouraged to discuss their pathway application types with ARB staff before completing this section. Please check one box only.	
<input type="checkbox"/> Method 2A: Pathway	<input checked="" type="checkbox"/> Method 2B: New Pathway
b. Please provide a brief description of the proposed pathways, emphasizing the important innovations and/or distinctive characteristics associated with the proposed pathway or sub-pathway. All proposed Method 2A or 2B pathways must be listed in part VIII.	
Fulcrum Sierra BioFuels, LLC is constructing and will own and operate a commercial scale MSW to renewable diesel fuel facility where a sophisticated feedstock processing system shreds, screens, and sorts the MSW producing a MSW-derived feedstock and recovers materials that can be recycled. The feedstock is converted into Fisher-Tropsch diesel with a reduction in GHG emissions of 76.5% when compared to petroleum and a CI of 21.41 g CO ₂ e/MJ	
VII. PATHWAY INFORMATION	

VIII. METHOD 2 PATHWAY INFORMATION

1. For Method 2A applications, enter all reference pathway information. The “reference pathway” is the existing fuel pathway to which the proposed new sub-pathway is most closely related. The carbon intensity (CI) of the proposed pathway described in this application must be lowered by at least 5 gCO_{2e}/MJ than the carbon intensity of the reference pathway. Show all pathway information exactly as it appears in the LCFS Lookup Table. If you have more than five reference or proposed pathways, please attach extra sheets.

Reference Pathway(s):

Fuel Type	Pathway ID	Brief Pathway Description	Carbon Intensity (CI) Values (gCO _{2e} /MJ)		
			Direct Emissions	Land Use or Other Indirect Effect	Total CI Values

VIII. METHOD 2 PATHWAY INFORMATION (Cont'd)

2. Enter the proposed fuel pathway information in the following table. The carbon intensity (CI) of the proposed pathway described in this Method 2A or 2B application must be lowered by at least 5 gCO_{2e}/MJ than the carbon intensity of the reference pathway identified in item 1 above.

Proposed Pathway(s):

Fuel Type	Brief Pathway Description	Carbon Intensity (CI) Values (gCO _{2e} /MJ)		
		Direct Emissions	Land Use or Other Indirect Effect	Total CI Values
FT Diesel	Gasification of MSW to produce a Fisher-Tropsch (FT) Diesel	37.47	0	37.47

3. Compositional differences (if any) between the fuel produced by the new proposed pathway or sub-pathway and the reference pathway identified in item 1 above.

IX. PATHWAY SUPPLEMENTAL QUESTIONS

Annual volume of fuel produced using the proposed new pathway that would enter the California market (MGY):
10

If the facility is not currently operating at full production capacity, when is full operational capacity expected?
2018

Does the applicant expect this volume to be achieved by a single or by multiple facilities?

A Single Facility Multiple Facilities

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

A Single Firm Multiple Firms

Lower Heating Value (LHV) of the fuel to be produced from the new pathway (MJ/gal):
122,800

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>Production Volume Range</i>	<i>Fuel Volume (MGY)</i>
<i>Lower Bound</i>	8
<i>Upper Bound</i>	11
<i>Average Volume</i>	10

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.

The use of MSW as a feedstock to produce FT diesel has no indirect land use change.

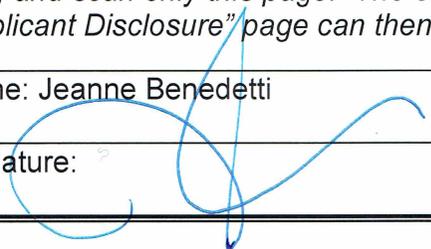
X. APPLICANT SUBMITTAL CHECKLIST

<p>Listed below are the documents and files that may be submitted in support of a Method 2 application. Check the box to the left of each document or file type included in your submittal. After each submittal category is a check box labeled “includes confidential business information (Title 17, CCR, § 95486(f)(3)(B)1). Check that box if the submittal category contains any information the applicant considered to be a trade secret. In the actual submittal, the specific information falling into the confidential business information category must be clearly marked. Additional information regarding the submission of trade secrets can be found in the Instructions above.</p>	
<input checked="" type="checkbox"/>	<p>Pathway life cycle analysis report (required).</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>CA-GREET model results (please submit the CA-GREET spreadsheet) (required).</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>All operating permits issued by the local air pollution control authority (required).</p>
<input checked="" type="checkbox"/>	<p>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).</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>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 fuel or fuels used, and quantify fuel use on a per-gallon-of-finished-fuel-produced basis (required).</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>Equipment technical specifications.</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>Production process schematics, technical drawings flow diagrams, maps, or other graphical representations (other than/in addition to the required process flow diagram).</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>Engineering reports.</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>
<input checked="" type="checkbox"/>	<p>Technical papers or journal articles</p> <p style="text-align: center;"><input checked="" type="checkbox"/> <i>Includes confidential business information</i></p>

X. APPLICANT SUBMITTAL CHECKLIST (Cont'd)

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<input type="checkbox"/>	Emissions monitoring data or emissions modeling results. <input type="checkbox"/> <i>Includes confidential business information</i>
<input checked="" type="checkbox"/>	Spreadsheets, data files, and similar files documenting the calculations behind the fuel life cycle analysis. <input checked="" type="checkbox"/> <i>Includes confidential business information</i>
<input checked="" type="checkbox"/>	All operating permits issued by the local air pollution control authority (required).
<input type="checkbox"/>	Other: In the space below, describe any additional submittals. Rationales for documents submitted or omitted may also be provided. <input type="checkbox"/> <i>Includes confidential business information</i>

XI. APPLICANT DISCLOSURE

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<p>By my signature below, I confirm that, to the best of my knowledge, the fuel pathway CI for which I am applying accurately reflects the actual pathway CI for that fuel, and that I will only label fuel volumes with this CI when the actual CI is equal to or less than the approved LCFS pathway CI.</p> <p><i>Instructions:</i> Please complete the "Name," "Title," and "Date" fields below. Then print, sign, and scan only this page. The completed application form and separate signed "Applicant Disclosure" page can then be submitted electronically to ARB.</p>	
Name: Jeanne Benedetti	Title: Vice President
Signature: 	Date: 12/30/2015 (Revised)