

**RFS2 INDEPENDENT ENGINEERING
REVIEW**

FOR THE

**SABINE BIOFUELS II, LLC
PORT ARTHUR, TEXAS
BIOFUELS PLANT**

PREPARED FOR:

SABINE BIOFUELS II, LLC

2 NORTHPOINT DRIVE, SUITE 660

HOUSTON, TX 77060

REPORT - 5/2/2012

PREPARED BY:

BSI Engineering, Inc.

4225 Malsbary Road, Suite 105

Cincinnati, OH 45242

(513) 201-3100

(513) 201-3190 – Fax

www.bsiengr.com

BSI PROJECT NO. 12105

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This EPA RFS2 Independent Engineers Review for Endicott Biofuels II, LLC for the Sabine Biofuels II, LLC Port Arthur, Texas biofuels plant was conducted by:

Anthony Grgas

Date: May 2, 2012

Anthony Grgas, P.E.
Company: BSI Engineering, Inc.
Title: Senior Process Engineer (Chemical)
State of Ohio PE License Number: 60318, Expires 12/31/2012



Anthony Grgas
5/2/2012

1.0 Executive Summary

Sabine Biofuels II, LLC (“Sabine”) is an affiliate of Endicott Biofuels II, LLC (“Endicott”) and will employ the Endicott Process for the production of high-purity biomass-based diesel. Sabine is a joint venture between Endicott and HollyFrontier Corporation, and is the first facility which will employ this process for biodiesel. Sabine is currently under construction and expected to be completed by late June 2012.



The Sabine site at Port Arthur, Texas is hosted by KMTEX. KMTEX operates a bulk fuels and chemical processing and storage facility at that location. Fuels and chemicals are unloaded to the facility via tank trucks, rail cars, or barges. Fuels and chemicals are sent to fixed roof storage tanks until needed, then piped to distillation units for purification. Product is shipped out of the facility via tank trucks, rail cars, and barge loading or is sent back to storage until it can be transferred. KMTEX as the site host is responsible for providing utilities, infrastructure, and managing the various permitting needs.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Summary

These three units, taken together with the glycerin purification and methanol rectification steps, represent the entire Endicott Process, which has now been patented by the US Patent and Trade Office. It differs dramatically from traditional, first-generation biodiesel processes. They use a homogeneous, base-catalyzed batch process called transesterification (TE). The TE process requires refined, bleached and deodorized edible oils with FFA content below 0.5% in order to function properly. Consuming inedible waste fats and oils to produce fuel via the Endicott Process is preferred.

This report represents a review conducted in accordance with 40 CFR § 80.1450 to evaluate and confirm the accuracy of the information the renewable fuel producer is required to report to EPA. Documents provided to EPA and other governmental agencies by Sabine are listed in the appendix and also provided as attachments were reviewed. As prescribed by EPA, the independent professional licensed engineer visited the site, which was under construction and nearing completion. Photographs are included in this report from the site visit for reference. There were no major findings and all exceptions found are noted in Exceptions section of this report.

2.0 Professional Licensed Engineer Qualifications

The professional licensed engineer (engineer) is uniquely qualified to perform this independent engineering review with over 30 years of professional experience as a process and project engineer in the chemical and petrochemical, renewable fuels, and consulting industries. A resume, P.E. license status report, and copy of the P.E. certificate and statement of eligibility can be found in the appendices.

The professional licensed engineer is in good standing with the state agency and has not been disbarred, suspended, or proposed for suspension or disbarment to the Government-wide Debarment and Suspension regulations, 40 CFR part 32, or the Debarment, Suspension and Ineligibility provisions of subpart 9.4. A statement to this effect is included in the appendices.

3.0 Third Party Independence - 40 CFR § 80.1450(b)(2)(ii)

The engineer conducting this review and the company employing the engineer, which is BSI Engineering, Inc., are not operated by the renewable fuel producer, which is in this case Sabine

Biofuels II, LLC and is not operated by any subsidiary, parent company, or employee of the renewable fuel producer.

The engineer conducting this review and the company employing the engineer (third party) is free of any interest in the renewable fuel producer's business.

The renewable fuel producer is free of all interest in the third party's business.

4.0 Site Visit

The Port Arthur, Texas site was visited by the engineer on March 21, 2012. A plant tour was conducted by Mr. Kenny Erdoes who is Director of Engineering for Sabine Biofuels II, LLC (Sabine). Also in attendance during the plant tour was Mr. Chris Frantz, Principle in the company.

A complete tour of the site and structure was conducted. All major pieces of equipment were in place including the fatty acid distillation unit, the reactive distillation column, the methanol/water rectifier, receivers, heat exchangers, three feedstock storage tanks, two product storage tanks, methanol storage tank, day tanks, two distillate residue tanks, boiler, and barge unloading facilities.

In addition, various other areas of the plant were visited including the electrical room, control room, and the locations of mechanical parts yet to be installed including fatty acid column internals, rectifier column internals, pumps, vacuum pumps, and piping.

There was a great deal of activity taking place by contractors installing equipment and piping during the tour. Photographs taken during the site visit can be found in the appendices.

5.0 Background

The United States EPA has enacted regulations per 40 CFR part 80 – Regulation of Fuels and Fuel Additives, Subpart M – Renewable Fuel Standard. Effective July 1, 2010, renewable fuels producers have procedural requirements to meet in order to establish and maintain the ability to market biofuel products.

Endicott Biofuels, LLC (Endicott), has developed a unique second-generation biodiesel fuel process called the Endicott process that is capable of utilizing a variety of feedstocks, with a wide range of free fatty acid content. Sabine is in the process of building a biofuels plant in Port Arthur, TX to process approximately 118,000 tons/year⁽¹⁾ of fats and oils to produce approximately 30 million gallons/year biodiesel that will employ the Endicott Process. As such, Sabine will be required to comply with Section 80.1450 (b)(1) parts (i), (ii), (iii), (iv) regarding the RFS2 Biodiesel Registration/Re-registration procedures. Specifically, Sabine will need a third-party audit and report by an Independent Chemical Engineer (Engineer) who is a licensed Professional Engineer (PE), and who is employed by an entity having no financial ties to Sabine.

Per the RFS2 requirements, Sabine has provided: (1) a list of potential feedstocks for their plant, which upon completion will be capable of utilizing these feedstocks, without significant modification to the proposed facility or process; (2) a description of the planned facility's renewable fuel production process (the Endicott Process); (3) the type of co-products produced; and (4) a list of

(1) Inedible beef tallow basis

the facility's process energy fuel types and expected locations from which the fuel will be produced or provided.

This report and verification is based upon visits to the Sabine plant site in Port Arthur, Texas and on review of relevant documents. The report (1) separately identifies each item required by paragraph (b)(1) of Section 80.1450; (2) describes how the Engineer evaluated the accuracy of the information provided; (3) states whether the Engineer agrees with the information provided; and (4) identifies any exception between the Engineer's findings and the information provided.

BSI Engineering, Inc. (BSI) was contracted to perform the RFS2 Independent Engineers Review of the Sabine Port Arthur, Texas site and prepared this report. BSI is a consulting engineering firm located in Cincinnati, Ohio whose personnel average more than 25 years of experience in Fatty Acid Methyl Esters (FAME) processing in the chemical, renewable fuels (biodiesel, ethanol), food and pharmaceutical industries. Their engineering staff includes eleven degreed chemical and professional engineers who have executed acid esterification and/or transesterification projects for Cognis, Twin River Technologies (TRT), Dominion Energy and United Wisconsin Grain Producers (UWGP), to name a few. These analogous projects have included development of the process for canola oil to biodiesel, corn oil to biodiesel, and all stages of processing for every different type of fatty acid and fatty acid derivative, for food, pharmaceutical, personal care and fuel grade products.

6.0 Registration Requirements under the RFS2 Program - 80.1450

6.1 Company/Facility Address and ID

Sabine Biofuels II, LLC was assigned the following registration ID numbers by the US EPA:

Facility:

Sabine Biofuels II, LLC
2450 S. Gulfway Dr.
Port Arthur, Texas 77641

Corporate Headquarters:

Sabine Biofuels II, LLC
2 Northpoint Drive
Suite 950
Houston, Texas 77060

Company ID No.:

Pending

Facility ID No.:

Pending

6.2 Fuel Registration Number - 80.1450(b)(1)

The fuel to be produced by Sabine Biofuels II, LLC was assigned the following registration ID number by the US EPA under its Fuels and Fuel Additives Registration System:

EPA Fuel Registration No.:

681612311

Fuel Trademark Name:

G2 Clear™

Biodiesel produced at the Sabine Biofuels II, LLC site in Port Arthur, TX may contain additives that are normal and customarily used in petroleum diesel fuel. Typical additives that may be used include but are not limited to: oxidation stability enhancers, cloud point enhancers, anti-microbial agents, detergent additives and/or corrosion inhibitors. Sabine will only employ additives that are already approved by and registered with the US EPA. Examples of duly-registered fuel additives for those discussed are shown below:

- Lubrizol® 8417U (oxidation stability enhancer produced by Lubrizol Corp.)
- FloZol™ 515 (cloud point enhancer produced by Lubrizol Corp.)
- BD 1030 (anti-microbial agent produced by DRD Additives, LLC)
- Deselex Gold ULS (corrosion inhibitor produced by Afton Chemical Corp.)

EPA Fuel Additive Registration No.:

Not Applicable

7.0 Description of Types of Renewable Fuels - 80.1450(b)(1)(i) (CBI)

***This section contains
CONFIDENTIAL BUSINESS INFORMATION (CBI)***

Utilizing the Endicott process, the Sabine Biofuels II, LLC Port Arthur, Texas facility plans to produce Biodiesel categorized as biomass-based diesel with a D code of 4 manufactured from any of the following feedstocks. This list is not intended to be exhaustive, as their process can consume any lipid stream, regardless of free fatty acid content without any alterations to the facility:

- Vegetable oils (e.g. soybean, canola, cotton, coconut, etc.)
- DDGS corn oil
- Animal fats (e.g. tallow, poultry, choice white grease, yellow grease, etc.)
- Waste greases/oils (e.g. used cooking oil, brown grease, etc.)
- Tall Oil Fatty Acids (TOFA)
- Palm Fatty Acid Distillate (PFAD and FAD)
- Other fatty acid distillates

CONFIDENTIAL BUSINESS INFORMATION (CBI)

- Algae oils
- Acid oils
- Palm sludge
- Other fats and oils

The anticipated production volume from the planned facility is:

- Normal Operating Capacity is approx. 30,000,000 gal/year based on 8,000 operating hours per year
- Max Peak Capacity is approx. 32,850,000 gal/year based on 8,760 operating hours per year

8.0 Description of the Renewable Fuel Processes - 80.1450(b)(1)(ii) (CBI)

*This section contains
CONFIDENTIAL BUSINESS INFORMATION (CBI)*

[Redacted text block]

[Redacted text block]

[Large redacted text block]

*This section contains
CONFIDENTIAL BUSINESS INFORMATION (CBI)*

[REDACTED]

Process Description

Background

Endicott's innovative approach to producing biodiesel re-purposes technologies from other, existing chemical processes which are in use outside of the US in non-fuel and non-energy related industries. These technologies are combined in the patented Endicott Process in a unique manner and are then specifically engineered to the special requirements of the fuels industry.

The various process steps are widely used and well understood. [REDACTED] And, over 477,000 metric tons of methyl ester are produced annually using the Davy reactive distillation process to supply the global natural detergent alcohols markets.

[REDACTED]

CONFIDENTIAL BUSINESS INFORMATION (CBI)

*This section contains
CONFIDENTIAL BUSINESS INFORMATION (CBI)*

[Redacted]

[Redacted]

These three unit operations, taken together with the glycerin treatment and evaporation and the methanol rectification steps, represent the entire Endicott Process. It differs from traditional, first-generation biodiesel processes which utilize a homogeneous, base-catalyzed batch process called transesterification (TE). The transesterification process requires very pure, refined, bleached and deodorized oils with FFA content below 0.5% typically in order to function properly.

[Redacted]

Process Mass Flows

Sabine's facility nameplate capacity 30 million GPY of high-quality biodiesel. The process, unlike other biofuels designs, operates continuously with high reliability, similar to many

CONFIDENTIAL BUSINESS INFORMATION (CBI)

***This section contains
CONFIDENTIAL BUSINESS INFORMATION (CBI)***

--- CONFIDENTIAL BUSINESS INFORMATION (CBI) ---

processes in the refining and chemical industries. Because of this operational similarity, Endicott elected to model its baseline the same way the chemical industry does, assuming 8,000 hours per year of operations. This provides ample time for any minor or major maintenance activities that may be required throughout the year.

Given its tremendous feedstock flexibility, Endicott's business plan assumes that its inventory of fats and oils feedstock will be composed of the most favorably priced commodities drawn from the vast pool of inedible waste fats, oils, and greases. Therefore, it is not feasible to predict in advance what actual feedstock will be used, as this will be dictated by market conditions. [REDACTED]

[REDACTED]

9.0 Co-products Produced from All Feedstocks - 80.1450(b)(1)(iii)

[REDACTED]

[REDACTED]

10.0 Fuel Types and Sources for Biodiesel Production - 80.1450(b)(1)(iv)

The fuel types and fuel sources used for Biodiesel production include:

- **Natural Gas for Steam Generation**

Natural Gas will be used from the local service company to provide steam and heating oil to the process. The name and address of the company supplying natural gas is,

Center Point
P.O. Box 200905
Houston TX 77216-0905

- **Electrical power**

Electrical power will be supplied by the regional power provider for all electrical power requirements. The name and address of the company supplying electricity is,

Entergy
PO Box 8104
Baton Rouge LA 70891-8104

11.0 Records - 80.1450(b)(1)(v)

This section states that any facility that is described in 80.1403(c) and (d) shall provide the following information as described in Section 80.1450(b)(1)(v) (A) – (E).

80.1403(c) states that facilities built before December 2007 are considered grandfathered into RFS2 and do not have to meet a 20% greenhouse reduction, and (d) refers to ethanol plants. The EPA issued a Questions and Answers on Changes to the Renewable Fuel Standard (RFS2) document on March 12, 2010. In Section 4, “Grandfathered Fuel”, the answer to question (iv), states that Biodiesel producers who wish to produce Biodiesel as biomass-based diesel fuel must meet a 50% greenhouse gas reduction requirement. Facilities which are exempted can only produce renewable fuel with a D code of 6. Endicott plans to produce Biodiesel that meets the definition of biomass-based diesel with a D code of 4. Therefore, this Biodiesel facility is not claiming to be grandfathered and is therefore not described in Section 80.1403(c) or (d). As prescribed under Section 80.1450(b)(1)(v)(A), the most recent applicable air permit can be found in the appendix of this report.

12.0 RIN Generation Using Biogas - 80.1450(b)(1)(vi)

This Section is Not Applicable

13.0 Yard Waste Feedstock - 80.1450(b)(1)(vii)(A)

This Section is Not Applicable

14.0 Food Waste Feedstock - 80.1450(b)(1)(vii)(B)

[REDACTED]

15.0 Municipal Waste Feedstock - 80.1450(b)(1)(viii)

This Section is Not Applicable

16.0 Independent Third-Party Engineering Review - 80.1450(b)(2)

The information listed in Section 21.1 of this report and also found in the appendices was provided by Sabine for review by the independent professional licensed engineer. Each document was reviewed and scrutinized for accuracy. Documents were cross-checked with

each other and calculations were performed to validate the numbers stated. Good engineering practices were used by the independent professional licensed engineer, which are accepted in industry. Minor exceptions were found and reported in Exceptions section of this report. All-in-all the independent professional licensed engineer finds that the information provided to the EPA listed in Section 21.1 and attached to be accurate and is in agreement with the information with exceptions as noted.

17.0 Fuel Supply Plan - 80.1450(b)(3)(i)

Natural Gas will be used from the local service company to provide steam and heating oil to the process, and electrical power will be supplied by the regional power provider for all electrical power requirements.

18.0 Exceptions - 80.1450(b)(2)

18.1 General

All documents supplied to governmental agencies by Sabine listed in the appendix of this report were reviewed and exceptions are noted as follows:

18.2 Material Balance Table

- A. Document: Letter
- B. Date: May 12, 2010
- C. To: Mr. Dallas Burkholder, USEPA, Ann Arbor, MI
- D. From: Mr. Chris Frantz, Endicott Biofuels, Houston, TX
- E. Page: 2
- F. Exception: Process mass flows stated in the table was missing the process steam input stream. This table was corrected and the corrected version is in the “Description of the Renewable Fuel Processes” Section of this report. The differences are relatively minor.

18.3 Energy Usage Table

- A. Document: Letter
- B. Date: May 12, 2010
- C. To: Mr. Dallas Burkholder, USEPA, Ann Arbor, MI
- D. From: Mr. Chris Frantz, Endicott Biofuels, Houston, TX
- E. Page: 3
- F. Exception: The natural gas and electrical values stated in the tables have small variations from that determined by the independent engineer. The total estimated natural gas usage was calculated to be 3.9% higher than reported. However, the pitch

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

18.5 Fuel Manufacturer Notification for Motor Vehicle Fuel application

- A. Document: application
- B. Date: February 15, 2012
- C. To: USEPA
- D. From: Mr. Roderick Hayslett
- E. Page: Attachment A
- F. Exception: Add “ – Any other lipid material” to the list

19.0 Confidential Business Information (CBI)

- A. The following documents are considered Confidential Business Information (CBI), labeled such, and Sabine hereby requests that said documents are suppressed from public view:
- B. Process Flow Diagrams (PFD's) in the appendix
- C. Pipe & Instrumentation Diagrams (P&ID's) in the appendix
- D. The Equipment List in the appendix
- E. List of Waste Streams in the appendix
- F. Section 7.0 and its subsections in this report
- G. Section 8.0 and its subsections in this report

(report continues on next page)

20.0 Conclusions

This report represents a review conducted in accordance with 40 CFR § 80.1450 to evaluate and confirm the accuracy of the information the renewable fuel producer is required to report to EPA. Documents provided to EPA and other governmental agencies by Sabine were reviewed and are listed in the appendix of this report. The documents are also provided as attachments. As prescribed by EPA, the independent professional licensed engineer visited the site, which was under construction and nearing completion. Photographs are included in this report from the site visit for reference.

To verify the information provided, the independent professional licensed engineer cross referenced items between documents; performed calculations; ran simulations; made comparisons to known existing fat splitters, glycerine refineries, and biodiesel plants; examined and validated the overall material balance; and validated and compared the reported expected energy usage with historical data. All information provided was reviewed and any exceptions found were noted.

It is the opinion of the independent professional licensed engineer that the Sabine Biofuels II, LLC Port Arthur, Texas plant will operate as reported. There were no major findings and all exceptions found are detailed in the Exceptions section of this report. This conclusion is based upon a review of design information provided by Sabine including PFD's, P&ID's, heat and material balances, documents submitted to EPA, and documents submitted to the Texas Commission on Environmental Quality.

END OF REPORT

Appendices follow

21.0 Appendices

21.1 Independent Engineer Review References

- Fuel Manufacturer Notification for Motor Vehicle Fuel application (EPA Form 3520-12 (05-31-2011)), 5 pages, with Attachment A (1 page), Attachment B (1 page), Attachment C1 (2 pages), Attachment C2 (2 pages), and , Attachment D (1 page)
- EPA Part 79 Fuel and Fuel Additives Registration Certification
- Preliminary Process Flow and Energy Consumption Values (May 10, 2012 Memo)
- Final Endicott Pathway Approval Letter from EPA
- Process Flow Diagrams (PFD's) with Heat and Material Balance (H&M Balance) data.
- Piping and Instrumentation Diagrams (P&ID's)
- List of Feedstocks from Sabine
- List of Waste Streams, rates, and dispositions from Sabine
- List of feeds, products, and by-products from Sabine
- Texas Commission on Environmental Quality, Consolidated Air Quality Permit
- Texas Commission on Environmental Quality, Modeling Audit - KMCO Port Arthur, INC., DBA KMTEX
- Texas Commission on Environmental Quality, Flare Acceptance Letter

21.2 BSI Engineering, Inc. References

Jeff Robertson
CEO
United Wisconsin Grain Producers (UWGP)
W 1231 Tessman Drive
Friesland, WI 53935
(920) 348-5016

John Edelbrock
VP Manufacturing
Color Resolutions International
575 Quality Blvd
Fairfield, OH 45014
(513) 552-7240

Mark Durchholz, P.E.
Senior Manager Technology
Oleochemicals
4900 Este Avenue
Cincinnati, OH 45232
(513) 482-2238

John Kwik, P.E
Dominion Energy, LLC
4202 Fox Fern Court
Beavercreek, OH, 45432
(937) 426-0725

Timothy Richter
Vice President Projects and Project Development
Osage Bio Energy
4991 Lake Brook Drive Suite 250
Glen Allen, VA 23060
(804) 612-8631

21.3 Independent Engineer's Resume

Anthony Grgas, P.E.

Senior Process Engineer (Chemical)

BSI ENGINEERING, INC.

Over 30 years of professional experience as a process and project engineer in the chemical and petrochemical, renewable fuels, and consulting industries. Provided engineering for processes including oil extraction, oil refining, fat modification, oleochemicals, ethanol and biodiesel plants, glycerine refining, acrylic polymer sheet manufacturing, polymer resin production, inorganic chemicals including iodine and precipitated silica manufacturing, and petrochemical refinery units. Experience performing process safety studies, relief valve system design, PHA training, and leading Hazop's.

Project Experience

- Senior process engineer for a cellulosic feedstock based Algae to oil plant conceptual design
- Lead process engineer for a process to recover corn oil from thin stillage
- Lead process engineer on the design of a jet engine test center
- Lead process engineer for a polyurethane plant relocation
- Provided Hazop leader training and acted as a PHA and PHA revalidation leader on multiple projects
- EPA Independent Engineer's Review for a novel biodiesel plant
- Senior process engineer on the detailed design for a renewable fuel based butanol plant
- Senior Process Engineer in the design of a large scale (100MM+ gpy) biodiesel plant
- Debutanizer and deethanizer distillation column design for natural gas purification
- Commissioning and start-up support for a fuel ethanol plant
- Commissioning and start-up support for three separate biodiesel plants with oil pre-treatment facilities
- Plant engineering support for two biodiesel plants
- Lead process engineer on the design of four large scale (60MM+ gpy) corn-to-fuel ethanol plants
- Lead process engineer on the design of a 37 MM gpy wheat-to-ethanol front end engineering package.
- Senior process and project engineer for a manufacturing plant producing film and injection grade polymer resin for food & pharmaceutical plastic packaging. Equipment included continuous & batch processes, reactors, cascading paste lines, fluidized bed dryers, tanks, pumps, vacuum systems, air compressor cooling systems, pollution control equipment (thermal oxidizer, vent scrubbers, bag houses), distillation systems for monomer recovery, waste water treatment, extruders, bulk powder handling and packaging equipment.
- Performed technical studies, front end and detailed designs for a fatty acid manufacturer and large glycerine refining plant, including specifying a thin film evaporator, overhead vacuum condensers, modifications to a glycerine concentrator, product recovery equipment, and vacuum systems.
- Designed a fatty acid removal process for glycerine feedstock.
- Engineering support for an oleochemicals plant
- Process and project engineer for an acrylic polymer sheet manufacturing plant. Work included oversight of the PHA mechanical integrity inspection program, upgrades to a central hydraulic system, upgrades to equipment or systems related to a batch processing chemical plant with proprietary continuous casting machines fed by a process of multiple syrup batch and promotion batch reactors. Designed and installed a butyl acrylate storage tank with vapor recovery system. Performed technical and economic feasibility studies and cost estimates for a multi-million dollar acrylic grinding facility, a co-extrusion line, and an aluminum trihydrate silane treatment unit.
- Maintenance Manager for two oleochemicals plants, managing chemical processes, boilerhouse operations, ammonia refrigeration systems, Therminol systems, Dowtherm vaporizers, plant air compressors and all other utility systems required to operate the plants.
- Coker unit process design, crude unit fractionator process design, oil shale retort process economic study, oil refinery linear program team, ethyleneamines plant process design.

Education and Affiliations

- **Education:** BSChE, University of California at Santa Barbara
- **Registration:** Registered Professional Engineer in California and Ohio
- **Process Safety Engineer:** Procter & Gamble
- **Certified HAZOP Team Leader:** Environment Resources Management (ERM)
- **Affiliations:** Senior Member, American Institute of Chemical Engineers (AIChE)

21.4 Independent Engineer's License Status

Ohio's Engineers and Surveyors Board | License Lookup

<http://www.peps.ohio.gov/LicenseLookup.aspx>

Ohio.gov Professional Engineers And Surveyors Board

License Lookup | Exams | Comity | Renewal | Continuing Education | Companies | Enforcement

You are here: License Lookup

Engineers and Surveyors Board License Lookup

Board Site Links

- Acronyms | Definitions
- Address | Name Change
- Board Members | Staff
- Board Minutes
- Board Opinions
- Calendar | Meetings
- Fees
- Forms
- Laws and Rules
- News Archive
- News Releases
- Newsletters
- Public Hearings
- Reinstatement
- Rosters
- Seals P.E., P.S.
- Verifications

20111026

Ohio eLicense Center

IMPORTANT! If the License Lookup on this page does not work, you may need to open a new window and use the following direct link: <https://license.ohio.gov/lookup/default.asp>.

[> Go here to access the Board's License Lookup Tutorial page]

[> Go here to access the Board's Rules for Assessing Confidential Information]

If you are unfamiliar with the DAS-administered Ohio e-License Center lookup page, or if it's been a while since you performed a search, it may be useful to read the [eLicense Search Hints](#) or review the instructions on our [License Lookup Tutorial](#) page.

IMPORTANT! Do not select all options for your search. Use as few fields as possible. Do not combine name and number search.

When using license number, type number in middle box only; do not use PE, PG or DUAL prefix.

Records with a "YES" in the Disciplinary Action column have further information that is available by contacting the State Board of Registration for Professional Engineers and Surveyors.

Name and Address		[back]
Name	Anthony Grgas, Jr.	
City/State	Cincinnati, OH	

License and Registration Information						
Credential	License Type	Issue Date	Expiration Date	Status	Disciplinary Action	Firm Spec.
PE-60318	Professional Engineer	01/01/2012	12/31/2013	ACTIVE	No	

License lookups using Ohio eLicense reflect an accurate representation of information maintained by the Board. Information accessed through our website is provided as a public service. No user may claim detrimental reliance thereon.

State Board of Registration for Professional Engineers and Surveyors
 50 West Broad Street, Suite 1820 • Columbus, Ohio 43215-5905
 U.S. Toll Free (877) 644-6364 • Columbus Metro (614) 466-3651 • Fax (614) 728-3059 • Ohio Relay Service (800) 750-0750
 EMAIL THE BOARD • pe.s.board@pe.s.ohio.gov

21.5 Independent Engineer's PE Certificate

State of Ohio



Be It Known That

Anthony S. Grgas, Jr.

having submitted satisfactory evidence of fitness as to age, character, ability, education and practical experience in accordance with the provisions of the Ohio Revised Code, is granted this

Certificate of Registration

and is hereby authorized to practice in this State as a

Professional Engineer

as long as this Certificate is not revoked and is renewed according to law.



ISSUED BY THE
OHIO STATE BOARD OF REGISTRATION
FOR PROFESSIONAL ENGINEERS
AND SURVEYORS

SERIAL NO. 60318

In Testimony Whereof we affix our hand
and seal this 28th day of May 1996

Charles J. Hoff

CHAIRMAN

Andrew E. Chamberlain

SECRETARY

21.6 Independent Engineer's Statement of Eligibility

In the Matter of Anthony Grgas performing an EPA RFS2 Independent Engineering Review for the Sabine Biofuels II, LLC Port Arthur, Texas biofuels plant:

I, Anthony Grgas, being duly cautioned and sworn, do hereby state:

1. That I am a professional licensed engineer in good standing with the State of Ohio and have not been disbarred, suspended, or proposed for suspension or disbarment to the Government-wide Debarment and Suspension regulations, 40 CFR part 32, or the Debarment, Suspension and Ineligibility provisions of subpart 9.4.

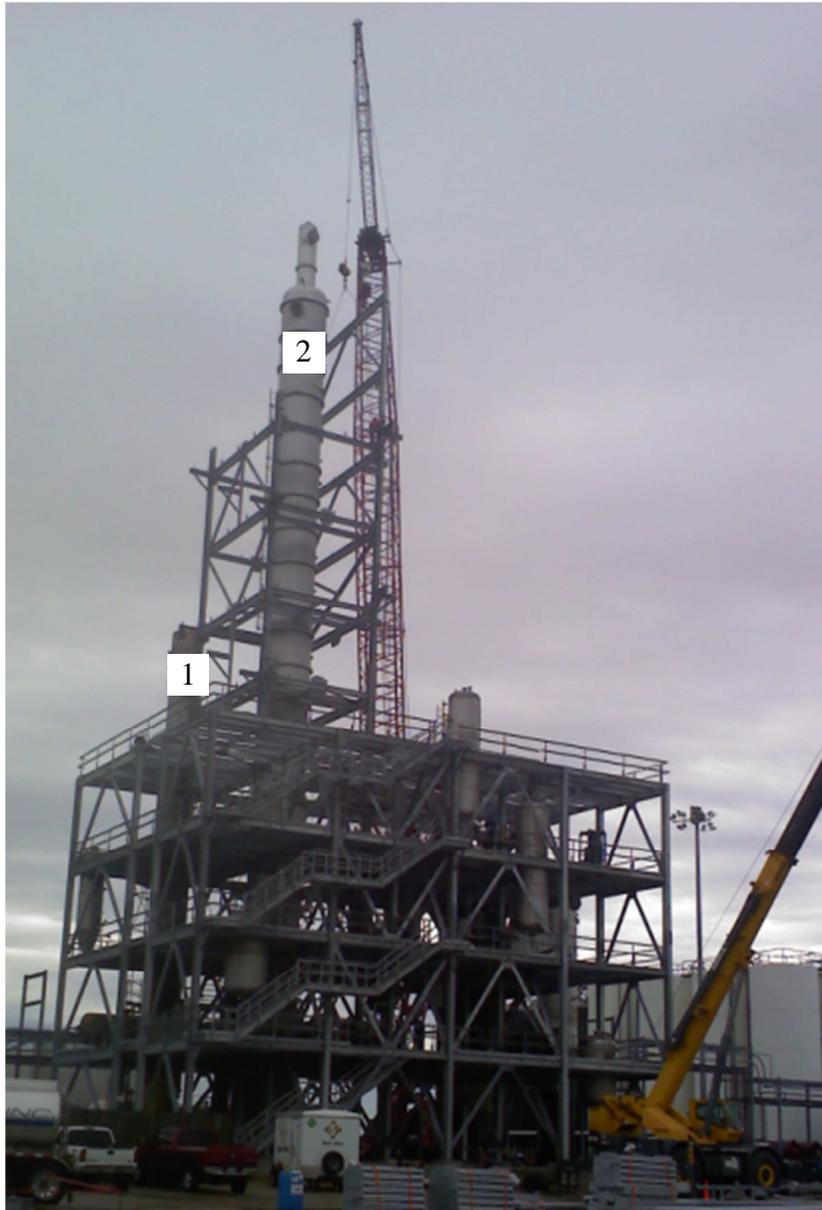
Further affiant sayeth naught:

I, Anthony Grgas, have read the foregoing affidavit and I swear that all of its statements are true to the best of my knowledge and belief.

Anthony Grgas
Anthony Grgas

May 2, 2012

21.7 Photographs Taken During the Site Visit



Sabine Biofuel II, LLC Port Arthur, TX site.
Shown on the left is the methanol distillation column (1) next to
the reactive distillation column (2), and various receivers.



Sabine Biofuel II, LLC Port Arthur, TX site.

██
██

- 21.8 Fuel Manufacturer Notification for Motor Vehicle Fuel application (EPA Form 3520-12 (05-31-2011)), 5 pages, with Attachment A (1 page), Attachment B (1 page), Attachment C1 (2 pages), Attachment C2 (2 pages), and , Attachment D (1 page)**
- 21.9 EPA Part 79 Fuel and Fuel Additives Registration Certification**
- 21.10 Preliminary Process Flow and Energy Consumption Values (May 12, 2010 Memo)**
- 21.11 Final Endicott Pathway Approval Letter from EPA**
- 21.12 List of Feedstocks from Sabine**
- 21.13 List of feeds, products, and by-products from Sabine**
- 21.14 Texas Commission on Environmental Quality, Consolidated Air Quality Permit**
- 21.15 Texas Commission on Environmental Quality, Modeling Audit - KMCO Port Arthur, INC., DBA KMTEX**
- 21.16 Texas Commission on Environmental Quality, Flare Acceptance Letter**
- 21.17 Letter Marking Start of Construction**
- 21.18 Confidential Business Information (CBI)**

Process Flow Diagrams (PFD's)

Pipe & Instrumentation Diagrams (P&ID's)

Equipment List

Waste Streams

Appendices Sections 21.8 thru 21.18 attachments follow

APPENDICES

APPENDIX

20.8

Fuel Manufacturer Notification for Motor Vehicle Fuel application (EPA Form 3520-12 (05-31-2011)), 5 pages, with Attachment A (1 page), Attachment B (1 page), Attachment C1 (2 pages), Attachment C2 (2 pages), and, Attachment D (1 page)

From: (281) 598-2180
Brandi Bailey
Sabine Biofuels II, LLC
2 Northpoint Dr.
Suite 060
Houston, TX 77060

Origin ID: MIFA



J12101112190225

Ship Date: 15FEB12
ActWgt: 0.3 LB
CAD: 4574206/INET3250

Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #

SHIP TO: (202) 343-8754 **BILL SENDER**
FUEL ADDITIVE REGISTRATION/STE 227
U.S. EPA
1310 L ST NW
MAIL CODE 6406J
WASHINGTON, DC 20006

THU - 16 FEB A1
PRIORITY OVERNIGHT

TRK# 7980 6476 0769
9201

ASR
20005
DC-US
DCA

XC BZSA



51231BF53A278

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. Jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Shipment Receipt

Address Information

Ship to:
FUEL ADDITIVE
REGISTRATION/STE 227
U.S. EPA
1310 L ST NW
MAIL CODE 6406J
WASHINGTON, DC
20005-4113
US
202-343-9754

Ship from:
Brandi Bailey
Sabine Biofuels II, LLC
2 Northpoint Dr.
Suite 660
Houston, TX
77060
US
2815982180 221

Shipping Information

Tracking number: 798064760769
Ship date: 02/15/2012
Estimated shipping charges: 32.90

Package Information

Service type: Priority Overnight
Package type: FedEx Envelope
Number of packages: 1
Total weight: 0.25LBS
Declared value: 0.00USD
Special Services: Adult signature required
Pickup/Drop-off: Drop off package at FedEx location

Billing Information

Bill transportation to: MyAccount-020
Your reference:
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income, interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; consult the applicable FedEx Service Guide for details. The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.



U.S. Environmental Protection Agency
Office of Transportation and Air Quality

Form Approval
OMB No. 2060-0150 Approval
Expires 09/30/2013

Leave Blank

**Fuel Manufacturer Notification
for Motor Vehicle Fuel**

* Required field

* 1. Brand name(s) of the motor vehicle fuel covered by this notification (list): (Please separate each brand name by comma)

G2 Clear™

* 2. Company Name:

Sabine Biofuels II, LLC

New Company

Registered Company

3. Company ID:

* 4. Street Address: 2 Northpoint Dr., Suite 660

* City: Houston * Country: USA * State: TX * Province: N/A * Zip: 77060

* 5. Type of Fuel

- (a) Unleaded Premium Gasoline (d) Grade 1-Diesel (g) Renewable Diesel
 (b) Unleaded Regular Gasoline (e) Grade 2-Diesel
 (c) Unleaded Midgrade Gasoline (f) BioDiesel (h) Other (Specify): _____

6. Fuel properties, to the extent known:

	Percent by weight			Methods of Analysis (a) through (f) only
	Highest	Lowest	Average	
(a) Aromatics				
(b) Olefins				
(c) Saturates				
(d) Polynuclear Organic Material				
(e) Sulfur	0.0015	0.0002	0.0015	ASTM D5453
(f) Trace Elements				
Gasoline:				
(g) Reid Vapor Pressure				
(h) Distillation: 10% Point (°C)				
(i) Distillation: End Point (°C)				
(j) Research Octane Number				
(k) Motor Octane Number				
Diesel Fuel:				
(l) Distillation: 90% Point (°C)	360°	355°	360°	ASTM D1160
(m) Distillation: End Point (°C)	394°	360°	7360°	ASTM D1160
(n) Cetane Number or Index	70	50	55	ASTM D613

* 8. Do you know of any analytical technique that can be used to detect the presence of any of the reported additives in this fuel and/or measure their concentration therein?

No Yes If "Yes," attach separate sheet(s) providing the information.

* 9. Do you have any information developed by or for you concerning the mechanisms of action of any of the additives reported; reactions between the additives and the motor vehicle fuel; the identification and/or measurement of the emission products of the additives when used in the motor vehicle fuel; the effects of the additives on all emissions; the toxicity and any other public health or welfare effects of the emission products of the additives; and/or the effects of the emission products of the gasoline additives on the performance of emission control devices or systems?

No Yes If "Yes," attach separate sheet(s) providing summaries and a description of the test procedures used in obtaining the information.

* 10. To the nearest percent, estimated for the third year of production, enter the percent of sales by Petroleum Administration for Defense District (PADD) for the motor vehicle fuel. See instructions for the states in each PADD.

PADD1 _____ % PADD2 _____ % PADD3 50 % PADD4 _____ % PADD5 50 %

* 11. Is this fuel derived only from conventional petroleum, heavy oil deposits, coal, tar sands, and/or oil sands?

Yes No

12. Small Business Provisions - 40 CFR 79.58(d). (See instructions)

A manufacturer of a baseline or non baseline fuel whose average of the previous three years annual sales revenue is less than \$50 million is exempt from the Tier 1 and Tier 2 health-effects testing requirements. A manufacturer of an atypical fuel whose average of the previous three years annual sales revenue is less than \$10 million is exempt from the Tier 2 requirements. If you believe that you qualify for an exemption, enter below your sales revenue for each of the previous three years and the average.

(Note: In cases where subsidiary, divisional, or other complex business arrangements exist, the business entity to which this sales level pertains is the parent company with ultimate ownership. The "ultimate" parent is defined as the uppermost headquarters or topmost company encompassing all related parents, subsidiaries, divisions, branches, or other operating units. This definition follows that used by the Small Business Administration. It also helps to ensure that a company will not subdivide merely to become eligible for an exemption.)

Annual sales revenue 3 years ago:	\$
Annual sales revenue 2 years ago:	\$
Annual sales revenue 1 year ago:	\$
Average of above:	\$

Is the above average for the company named in Item 2?

Yes No If "No," complete the following:

Name of the parent company with ultimate ownership:	
Street Address:	
City:	State: Province: Zip: Country:
Contact Name:	Phone:
Title:	Email:

13. Grouping Information - If you do not qualify for a small business provision, you must be a member of a testing group appropriate for your fuel or supply the appropriate health-effects test information. This fuel is covered by the following testing group:

Group description: Biodiesel

Organizing entity: National Biodiesel Board (NBB)

Contact person: Prefix: Mr. First Name: Donnell Last Name: Rehagen

Telephone: (800) 841-5849 Extension: N/A Fax: (573) 635-7913

Email: info @ biodiesel. org

Address: Street: P.O. Box 104898
 City: Jefferson City State: MO Zip: 65110-4898 Country: USA
 Province: N/A

OR I have attached the appropriate information.

Yes No If "No," attach an explanation.

* 14. Confidential Business Information - You may assert a business confidentiality claim for certain items. If no claim is made, the information may be made available to the public without further notice. All questions of confidentiality will be handled pursuant to 40 CFR 2.

Do you wish to assert a claim of confidentiality for any of items 6 through 13?

* No Yes If "Yes," indicate "Yes" or "No" for each item below:

Item 6:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Item 7:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Item 8:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Item 9:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Item 10:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Item 11:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Item 12:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Item 13: Yes No

15. Attached Information - Are attachments included with this notification?

No Yes If "Yes," list below: - See comments section on pg. 5

No Yes Are the attachments confidential?
 If "Yes," also indicate on attachments.

16. Certification

To the best of my knowledge, the above is complete and correct.

I am authorized by the manufacturer to submit this information.

As per 40 CFR 79.11(g), the U.S Environmental Protection Agency would be notified in writing if certain information in this notification were to change.

This fuel manufacturer will not represent, directly or indirectly, in any notice, circular, letter, or other written communication, or any written, oral, or pictorial notice, or other announcement in any publication or by radio or television, that registration of this fuel constitutes endorsement, certification, or approval by any agency of the United States.

Signature: 	
* Date: <u>02/15/2012</u>	
* Name of Signer Prefix: <u>Mr.</u> First Name: <u>Roderick</u> Last Name: <u>Hayslett</u>	
* Telephone: (<u>281</u>) <u>598-2180</u> Extension: <u>232</u> Fax: (<u>281</u>) <u>598-2181</u>	
Title: <u>Chief Financial Officer</u>	E-mail: <u>rod.hayslett@sabinebiofuels.com</u>
<input type="checkbox"/> Check if the Contact Person is the same as the signer above.	
* Contact Person: Prefix: <u>Ms.</u> First Name: <u>Brandi</u> Last Name: <u>Bailey</u>	
* Telephone: (<u>281</u>) <u>598-2180</u> Extension: <u>221</u> Fax: (<u>281</u>) <u>598-2181</u>	
Title: <u>Office Manager</u>	E-mail: <u>brandi.bailey@sabinebiofuels.com</u>

Comments:

Attachment A: Description of Raw Materials/Catalyst (Feedstocks) Used to Manufacture the Biodiesel

Attachment B: Description of the Manufacturing Process Used to Produce the Biodiesel and the Process for Disposing of the Glycerin and Pitch

Attachment C.1: Test Results from a Representative Sample of the Biodiesel (Beef Tallow) Demonstrating Compliance with the Parameters Specified in ASTM D6751

Attachment C.2: Test Results from a Representative Sample of the Biodiesel (DDGS - Distiller's Dried Grains with Solubles) Demonstrating Compliance with the Parameters Specified in ASTM D6751

Attachment D: Proof of Registration with National Biodiesel Board Granting Access to Tier 1 and Tier 2 Testing and Health Effects Data

Mail the completed form to:

U.S. Environmental Protection Agency
Attn: Fuel Additive Registration/Suite 227
Mail Code - 6406J
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001

Telephone (202) 343-9754
Fax (202) 343-2825
Email: caldwell,jim@epa.gov
Email: solar.jose@epa.gov

This office is operated by a contractor for the EPA.

or, via courier:

U.S. Environmental Protection Agency
Attn: Fuel Additive Registration/Suite 227
Mail Code - 6406J
1310 L Street, NW
Washington, DC 20005-4113

Sabine Biofuels II, LLC Fuels and Fuels Additives Registration - The following contains proprietary information that Sabine Biofuels II, LLC requests not be released to persons outside the Government, except for purposes of review and evaluation.

Fuels and Fuel Additives Registration (FFARs)

ATTACHMENT A:

Description of Raw Materials/Catalyst (Feedstocks) Used to Manufacture the Biodiesel

Sabine Biofuels II, LLC (Sabine) will use as its raw materials a combination of lower-valued fats/oils with an alcohol (e.g. methanol, ethanol, etc.) in order to produce its finished, high-quality G2 Clear™ biodiesel. Because Sabine's strength lies in its ability to process, with impunity, fat or oil feedstocks regardless of their free fatty acid (FFA) content, and without any implications for its high on-stream production rates our product quality, the Company will consume whichever fat/oil feedstocks are most cost-advantaged in the marketplace. A sample of these feedstocks may include, but is not limited to, the following:

- Inedible Beef Tallow
- Crude Vegetable Oils
- Yellow Grease
- Fatty Acid Distillates
- Algae Oils
- Waste Greases/Oils
- Acid Oils

