**Permittee:**
Regen Fuels & Energy, LLC
2980 Faye Road
Jacksonville, FL 32226

**Final Permit No.:** 0310589-001-AC
**Facility ID No.:** 0310589
**SIC No(s).: 29**
**Project: Pyrolysis Plant**

This permit is for the construction of a pyrolysis plant. Regen Fuels & Energy, LLC shall be located at 2980 Faye Road, Jacksonville, Duval County, FL 32226; UTM Coordinates: Zone 17, 445.21 km East and 3367.11 km North; Latitude: 30° 26' 5" North and Longitude: 81° 34' 14" West.

This permit is issued under the provisions of Chapter 403, Florida Statutes (FS) and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, Florida Administrative Code (FAC). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Neighborhoods Department, Environmental Quality Division (Permitting Authority) in accordance with the terms and conditions of this permit.

**Operation Permit Application Due Date:** **August 31, 2014**

**Expiration Date:** **December 1, 2014**

**Neighborhoods Department**
**Environmental Quality Division**

**Robert Steven Pace, P.E., Manager**
**Air Quality Branch**

RSP/DH

## Section I. Facility Information

### Subsection A. Facility/Project Description

This permit is for the construction of a pyrolysis plant for the processing of plastics into No. 2 fuel oil and naphtha. Polyvinyl chloride (pvc) shall not be utilized in this process. Plastic feedstock is loaded into a reactor and heated. The resultant gases are passed through a catalyst and various separation columns and a scrubber to become liquid fuels. A maximum of 8 tons of plastic is loaded into the reactor per 24 hours. The reactor has two chambers. A maximum of 4 tons of plastic is loaded into each chamber and is processed for 12 hours. The chambers are loaded and heated alternately so that two process runs occur each 24 hour period.

The facility is a natural non-Title V source of air pollution because the potential emissions of regulated air pollutants are less than 100 tons per year and the potential emissions of Hazardous Air Pollutants (HAP) are less than 10 tons per year for a single HAP and less than 25 tons per year for total HAPs pursuant to Chapter 62-210, FAC, and Rule 2.301, JEPB.

### Subsection B. Summary of Emission Unit (EU) ID Nos. and Brief Descriptions

| EU No. | EU Description | Control Device |
|---|---|---|
| 001 | Pyrolysis Plant | High Efficiency Cyclone |

### Subsection C. Relevant documents

Air Construction Permit Application received January 22, 2014

## Section II. Facility Wide Conditions

### Subsection A. General Conditions

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and are binding and enforceable pursuant to Section 403.141, FS. The permittee is placed on notice that the Permitting Authority will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Permitting Authority.

3. As provided in subsections 403.987(7), FS, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Permitting Authority rules, unless specifically authorized by an order from the Permitting Authority.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Permitting Authority rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Permitting Authority rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Permitting Authority personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

   a. Have access to and copy any records that must be kept under conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Permitting Authority rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Permitting Authority with the following information:

   a. A description of and cause of noncompliance; and
   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Permitting Authority for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Permitting Authority may be used by the Permitting Authority as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Permitting Authority rules, except where such use is prescribed by Sections 403.111 and 403.73, FS. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Permitting Authority rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Permitting Authority rules.

11. This permit is transferable only upon Permitting Authority approval in accordance with Rule 62-4.120, FAC, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Permitting Authority.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    ( ) Determination of Best Available Control Technology (BACT)
    ( ) Determination of Prevention of Significant Deterioration (PSD)

( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Permitting Authority rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Permitting Authority.
    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by this permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Permitting Authority rule.
    c. Records of monitoring information shall include:

        1. The date, exact place, and time of sampling or measurements;
        2. The person responsible for performing the sampling or measurements;
        3. The date(s) analyses were performed;
        4. The person responsible for performing the analyses;
        5. The analytical techniques or methods used;
        6. The results of such analyses.

15. When requested by the Permitting Authority, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Permitting Authority, such facts or information shall be corrected promptly.

**Subsection B. Specific Conditions**

1. Any revision(s) to a permit (and application) shall be submitted to and approved by the Permitting Authority prior to implementing.
   [Rule 62-4.080(2), FAC, and Rule 2.1401, JEPB]

2. The construction/modification shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction on schedule, the Permitting Authority must be notified in writing sixty (60) days prior to the expiration of the construction permit. A new schedule and request for an extension of the construction permit must be submitted.
   [Rule 62-4.080(3), FAC, and Rule 2.1401, JEPB]

3. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an Air Operating Permit. The permittee shall submit the operating permit application and associated fee to the Department ninety (90) days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate.
   [Rule 62-210.300(2), FAC, and Rule 2.301, JEPB]

4. Permittee shall notify the Permitting Authority fifteen (15) days prior to EU testing.
   [Rule 62-297.310(7)(a)9., FAC, and Rule 2.1201, JEPB]

5. Testing of emissions shall be conducted with the EU operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, the EU may be tested at less than capacity; in this case subsequent EU operation is limited to 110 percent of the test load until a new test is conducted. Once the EU is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.
   [Rule 62-297.310(2), FAC, and Rule 2.1201, JEPB]

6. Copies of the test report(s) shall be filed with the Permitting Authority within forty-five (45) days of completion of testing.
   [Rule 62-297.310(8)(b), FAC, and Rule 2.1201, JEPB]

7. Stack sampling ports and platforms shall not be required.

8. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter emissions from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions include the following:

   a. Reduced speed for vehicular traffic.
   b. Use of dust suppressants or wetting agents.
   c. Use of paving or other asphaltic materials.
   d. Removal of particulate matter from paved roads and/or other paved areas by vacuum cleaning or wetting prior to sweeping.
   e. Covering of trucks, trailers, front end loaders and other vehicles or containers to prevent spillage of particulate matter during transport.
   f. Use of mulch, hydro seeding, grassing and/or other vegetative ground cover on barren areas to prevent or reduce particulate matter from being windblown.
   g. Use of hoods, fans, filters and similar equipment to contain, capture and vent particulate matter.
   h. Enclosure or covering of conveyor systems.
   i. Sprinkling or otherwise wetting of conveyor systems.

   [Rule 62-296.320(4)(c)., FAC, and Rule 2.1101, JEPB]

9. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
   [Rule 62-296.320(2), FAC, and Rule 2.1101, JEPB]

10. The facility shall be subject to City of Jacksonville Ordinance Code, Title X, Chapter 360 [Environmental Regulation], Chapter 362 [Air and Water Pollution], Chapter 376 [Odor Control], and JEPB Rule 1 [Final Rules with Respect to Organization, Procedure, and Practice].

11. The facility shall be subject to JEPB Rule 2, Part Nos. I through VII, and Part Nos. IX through XIV.

12. The permittee shall submit all compliance related notifications and reports required of this permit to:

Neighborhoods Department
Environmental Quality Division
Ed Ball Building, 214 North Hogan Street, Suite 500
Jacksonville, FL 32202
Telephone: (904) 255-7100
Fax: (904) 255-7130

## Section III. Emission Units and Conditions

### Emission Unit No. 001 – Pyrolysis Plant

Emission Unit Description: **Pyrolysis Plant**

Control Device: High Efficiency Cyclone

### Essential Potential to Emit (PTE) Parameters

1. This EU shall be allowed to operate a maximum of 8,760 hours per year.
   [Rule 62-210.200(225), F.A.C., and Rule 2.301, JEPB]

### Emission Limitations and Standards

2. The maximum process rate shall be limited to 4 tons per reactor chamber for each 12 hour batch and 2,920 tons per year of plastics excluding polyvinyl chloride (pvc).
   [Rule 62-210.200, F.A.C., and Rule 2.301, JEPB]

3. The maximum heat input shall not exceed 11.08 x $10^6$ $Ft^3$/year of natural gas.
   [Rule 62-210.200, FAC, and Rule 2.301, JEPB]

4. Natural gas and reactor generated fuels only shall be used in this process.
   [Rule 62-210.200, FAC, and Rule 2.301, JEPB]

5. Visible Emissions (VE) shall be limited to 5% opacity.
   [Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]

6. Emissions of Hazardous Air Pollutants (HAP's) are limited to less than 10 tons per year for a single HAP and less than 25 tons per year for total HAP's.
   [Rule 62-210.200, F.A.C., and Rule 2.301, JEPB]

### Test Methods and Procedures

7. Testing for the demonstration of compliance shall be performed in accordance with EPA RM 9 (as described in 40 CFR 60 Appendix A) for the visual determination of opacity. Testing shall be conducted for a minimum period of 30 minutes.
   [62-297.310(4)(a)(2), FAC, and Rule 2.1201, JEPB]

### Recordkeeping and Reporting Requirements

8. Monthly records of the number of tons of plastic processed shall be maintained on file for a minimum of five (5) years and made available to the Permitting Authority upon request.
   [Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]