Florida Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

FINAL PERMIT

PERMITTEE

Rational Energies MC Inc.
12200 Middleset Road, Suite 300
Eden Prairie, MN 55344

Authorized Representative:
Mr. Ian Mackay, Chief Technology Officer

Air Permit No. 0810232-001-AC
Permit Expires: 07/15/2013
Site Name: Manatee County Facility
Minor Air Construction
Project Name: Initial Construction

This is the final air construction permit, which authorizes the initial construction of a pyrolysis processing system utilizing recovered plastic to produce SynCrude. The proposed work will be conducted at the Manatee County Facility (Standard Industrial Classification No. 2869). The facility will be located in Manatee County at 6555 18th Street East in Sarasota, Florida. The UTM coordinates are Zone 17, 347.73 km East, and 3034.38 km North. As noted in the Final Determination provided with this final permit, no changes or only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements and Facility-wide Specific Conditions

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by

the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida

_____ _____

Cindy Zhang-Torres, P.E. Effective Date
Air Permitting Manager

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination, the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

Mr. Ian Mackay, CTO, Rational Energies MC Inc.
imackay@rationalenergies.com

Mr. Lynn Robinson, P.E., Southern Environmental Sciences, Inc.
lrobinson@sesfla.com

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____ _____

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

Project Description and Proposed Emissions Units

For the initial construction of a pyrolysis processing system utilizing recovered plastic to produce SynCrude. This project will create the following emissions units.

Facility ID No. 0810232	
ID No.	Emission Unit Description
001	Dryer
002	Pyrolysis Process
003	SynCrude Loadout

NOTE: *Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.*

Exempt Emission Units/Activities

- Sixteen (16) process burners fired with only natural gas, which are used as an indirect heat source for Emission Unit No. 002 – Process Pyrolysis. Each burner has a maximum heat input rate of 1.5 MMBTU/hr., which results in the sixteen (16) burners having a total combined maximum heat input rate of 24 MMBTU/hr. Waste heat from the burners may be vented through an air-to-air heat exchanger associated with the dryer (E.U. No. 001) and/or through a heat exchanger to two (2) exempt SynCrude storage tanks before being exhausted to the atmosphere by a common vent.
  [Rule 62-210.300(3)(a)34.g., F.A.C. – Fossil fuel steam generators, hot water generators, and other external combustion heating units with heat input capacity less than 100 MMBTU/hr.]

- Unconfined particulate matter emissions from paved roads.
  [Rule 62-210.300(3)(b)1., F.A.C.]

- Two (2) Horizontal Above Ground SynCrude Product Storage Tanks each having a maximum design storage capacity of 19,000 gallons and receive a maximum combined total of 3.71 MMgals. of SynCrude per any consecutive 12-month period as limited by Emission Unit No. 002 – Pyrolysis Process.
  [Rule 62-210.300(3)(b)1., F.A.C.}

- Cummins, Model GTA28 CC, 4-cycle spark ignited 600 HP (or equivalent) emergency generator fired with only natural gas and subject to the requirements of 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition of Internal Combustion Engines.
  [Rule 62-210.300(3)(a)35., F.A.C. – Stationary Reciprocating Internal Combustion Engines]

- Unconfined particulate matter emissions from outside bulk plastic and non-bulk plastic storage, handling, and feed operations.
  [Rule 62-210.300(3)(b)1., F.A.C.]

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a natural minor source of air pollution.

PERMIT HISTORY/AFFECTED PERMITS

No previous permits

SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC CONDITIONS (FINAL)

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District's Air Resource Management Section. The Southwest District's mailing address and phone number is:

   Florida Department of Environmental Protection
   Southwest District Office
   Air Resource Management Section
   13051 North Telecom Parkway
   Temple Terrace, Florida 33637-0926
   Telephone: 813-632-7600

   All documents related to applications for permits shall be submitted to the above address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District Office's Air Resource Management Section (see above mailing address and phone number).

3. Appendices: The following Appendices are attached as part of this permit:
   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and
   d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
   [Rule 62-4.080, F.A.C.]

6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
   [Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. Federal Regulatory Requirements: The facility shall comply with the following:

   a. This facility is subject to 40 CFR 60, Subpart VVa – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, which is adopted by reference in Rule 62-204.800, F.A.C.

   b. Since the facility qualifies for the exemption of 40 CFR 60.480a(d)(2), the facility is only required to maintain records as required by 40 CFR 60.486a(i). 40 CFR 60.480a(d)(2) states, "Any affected facility that has the design capacity to produce less than 1,000 Mg/yr. (1,102 tons/yr.) of a chemical listed in 40 CFR 60.489 is exempt from 40 CFR 60.482-1a through 40 CFR 60.482-11a."

   c. An analysis demonstrating the design capacity of the affected facility shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480a(d).

   [Rule 62-204.800(8), F.A.C.]

8. Application for Non-Title V Air Operation Permit: This permit authorizes construction of the permitted emissions unit(s) and initial operation to determine compliance with Department rules. A Non-Title V air operation permit is required for continued operation of the permitted emissions unit(s). The permittee shall apply for the Non-Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation of this facility. Commencing operation means setting into operation of any emissions unit for any purpose. To apply for the Non-Title V air operation permit, the applicant shall submit the following:

   a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;

   b. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;

   c. a copy of the initial compliance test report(s) required by Specific Condition No(s). A.11. and B.14., if not previously submitted; and

   d. copies of the most recent month of records/logs specified in Specific Condition No(s). A.12., B.15., and C.5., if not previously submitted with the most recent emission compliance test report(s) where applicable.

   The application shall be submitted to the Permitting Authority.
   [Rules 62-4.030, 62-4.050, and 62-4.220, F.A.C.]

A. EU No. 001 - Dryer

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
001	Dryer: The dryer receives recovered bulk plastic and/or non-bulk plastic. The bulk plastic (primarily baled and/or un-baled agricultural plastic film) is stored outside in piles. From the storage piles the bulk plastic is placed on an outside receiving platform, which then transfers the bulk plastic to a conveyor belt. The conveyor belt transfers the bulk plastic to a shredder inside the building, which shreds the plastic to approximately 3 inches. The shredder transfers the shredded bulk plastic by conveyor belt to the dryer. Non-bulk plastic (a mixture of sand and high density polyethylene, such as bottle caps) is fed into a receiving bin attached to the outside of the processing building, which then transfers the non-bulk plastic to a separate conveyor. The conveyor belt transfers the non-bulk plastic to a screen (sizer) inside the building. The screen separates debris/sand from the non-bulk plastic, which is later sent off-site (e.g., landfill). The screen transfers the non-bulk plastic to a conveyor belt, which then transfers the non-bulk plastic to the dryer. When recovered plastic is processed in the dryer, waste heat from the exempt sixteen (16) process burners is routed to the dryer where the waste heat passes through an air-to-air heat exchanger that heats the air inside the dryer to dry the plastic. The dryer also separates debris/sand from the dried plastic, which is later sent off-site (e.g., landfill). The dryer produces a maximum of six (6) tons of dried plastic per hour based on a daily average, a maximum of 44 tons of dried plastic per day, and 16,060 tons of dried plastic per calendar year. Emissions from the dryer are controlled by a baghouse before being exhausted to the atmosphere by the baghouse's stack at a design flow rate of 7,000 acfm. Dried plastic from the dryer is transferred by a loading conveyor belt to a densifier. The densifier process runs until just below the melting temperature of the plastic. At this point, approximately 15 gallons of water is injected into the densifier to quench and cool the process. The heat turns the water to vapor, which is passed through a filter to catch plastic particles that were carried away with the water vapor. The water vapor is discharged from the filter along with any insignificant amount of plastic particles and vented inside the building. The densified plastic is discharged into a hopper by a conveyor belt before the densified plastic is placed in storage inside the building. *Note, the bulk plastic and non-bulk plastic outside storage, handling, and feed operations along with the sixteen (16) process burners are exempt activities as described in Section 1 above.*

A. EU No. 001 - Dryer

PERFORMANCE RESTRICTIONS

A.1. Permitted Capacity: The dryer shall produce (output) a maximum of:

a. six (6) tons of dried plastic per hour based on a daily average; and

b. 44 tons of dried plastic per day (equivalent to 16,060 tons/yr.).

{Permitting note: See Appendix D, Condition 1, for Operation Rate during Testing requirements.}
[Rule 62-210.200(PTE), F.A.C.]

A.2. Authorized Raw Material Feed: The dryer shall not process any plastic that is considered to contain polyvinyl chloride (PVC), which is accomplished by visually inspecting the plastic prior to being transferred to the dryer. Incidental amounts of plastic containing PVC may occur in the material fed to the dryer.
{Permitting Note: Examples of PVC containing material are plastic leather or "pleather", the coating of electric wire, PVC piping, personal electronic coverings, vinyl siding, plastic signs, etc.}
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

A.3. Restricted Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

A.4. Baghouse Emission Control Device Visible Emissions (VE) Limitation: In order to provide reasonable assurance of proper operation and maintenance of the baghouse particulate matter emission control and ensure ongoing compliance with Condition No. 2. in Section 4. of Appendix C regarding Circumvention, visible emissions (VE) from the baghouse's exhaust shall not exceed 5% opacity (on a 6-minute average basis).
[Rules 62-4.070(3) and 62-210.650, F.A.C.]

TESTING REQUIREMENTS

A.5. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the visible emissions limitation of Specific Condition No. A.4. The initial test shall be conducted no later than 90 days after initial operation of the emissions unit.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

A.6. Compliance Tests After Initial Testing: During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the visible emissions limitation of Specific Condition No. A.4.
[Rule 62-297.310, F.A.C.]

A.7. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310, F.A.C.]

A.8. Test Method(s): Required tests shall be performed in accordance with the following reference method.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above method is described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other method(s) may be used unless prior written approval is received from the Department.
[Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

NOTIFICATION REQUIREMENTS

A.9. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.
{*Permitting Note: The notification should also include the relevant emission unit ID No(s)., test method(s) to be used, and pollutants to be tested.*}
[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

A.10. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of this emissions unit, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.
[Rule 62-4.070, F.A.C., and Rule 62-210.200, F.A.C., (Definition of Commence Operation)]

RECORDS AND REPORTS

A.11. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The test report shall include the actual hourly production rate of dried plastic during the test period and a copy of the daily records for the day the test was conducted.
[Rule 62-297.310(8), F.A.C.]

A. EU No. 001 - Dryer

A.12. Daily Records: The permittee shall daily record the following:

a. Facility name, Facility ID No., and Emission Unit No.

b. Date (month/day/year).

c. Hours the dryer dried plastic.

d. Amount of dried plastic produced, in tons.

e. Daily average production rate of dried plastic, in tons per hour.

f. For each working shift the operator shall certify the visual inspection required by Specific Condition No. A.2. was performed.

The daily records shall be completed with five (5) business days. The records shall be kept at the facility for the most recent three (3) years and made available to the Department upon request.
[Rule 62-4.070(3), F.A.C.]

B. EU No. 002 – Pyrolysis Process

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	The pyrolysis process is a batch-continuous operation. From storage, dried densified plastic is placed into a loading hopper for loading into individual direct contact cartridges (DCC) used in four (4) identical process units. Each of the four (4) process units consist of: - 4 direct contact cartridges (DCC) - 4 plastic reclamation units (PRU), one per DDC - 4 process burners each fired with natural gas at a maximum heat input rate of 1.5 MMBTU/hr., one per DCC/PRU unit - a quench tower - a coalescing vessel - an overhead condenser - a chiller - a cooling system - a heat exchanger Approximately 1,100 lbs. of dried densified plastic is placed into a DCC. The DCC is sealed, connected to the vapor condenser system, and placed into a PRU. Each DCC is heated indirectly by its dedicated exempt PRU process burner by blowing hot air into the cavity surrounding the DCC. The plastic in the DCC is heated to approximately 800 °F. A slight vacuum is pulled in the DCC to remove oxygen. As the DCC heats up, the plastic begins to melt and turn into a vapor as the long polymer chains begin to break. About 5% of the plastic is turned to ash in the process and sent to a landfill, while the other 95% is turned into vapor and pulled by the vacuum to the quench tower. At this point the vapors come into contact with cooling water which causes a majority of the vapors to cool and condense. The condensed oil, or SynCrude, enters the coalescing vessel where the SynCrude and water separate. SynCrude is collected off the top and sent to two (2) exempt SynCrude storage tanks. The water is collected off the bottom for recirculation in the cooling system. The vapors that are not condensed in the quench tower are sent to an overhead condenser where a chiller is used to condense the remaining condensable portion of the vapors. The non-condensable vapors are expected to be methane, ethane, propane, and butane. The condensed portion is sent to the exempt SynCrude storage tanks and the non-condensables, representing about 15% of the vapors generated in the DCC, are sent to a common thermal oxidizer that serves all four (4) process units for destruction before being exhausted to the atmosphere. The thermal oxidizer is fired with natural gas as an auxiliary fuel at a maximum heat input rate of 1.2 MMBTU/hr. to maintain a minimum operating temperature of 1,700 °F in order to a achieve a minimum VOC destruction efficiency of 90%. The batch-continuous operation is further described as follows: Individual batches (the filled DCCs is placed in the PRUs) have staged start times so that the back end processing equipment is constantly receiving product (SynCrude) and acts in a continuous manner.

	Each DCC/PRU has a process cycle of approximately 4.8 hours in length. The process cycle is started by allowing heated air from the PRU process burner to contact the plastic filled DCC cartridge. Upon heating, vapors representing the product stream are emitted to the condensing system shared by the 4 DCCs/PRUs in the process unit. The process cycle continues until vapor emission is completed. DCC/PRU process cycles are run in sequence across a total of 16 DCC/PRU units (4 DCC/PRU units for each of the 4 process units) in this installation, each DCC/PRU unit started approximately 18.75 minutes after the previous DCC/PRU unit. This means that 18.75 minutes after the 16th and final DCC has been loaded into the PRU the first DCC has been removed and replaced and the process begins again. The process time includes the removal of the DCC from the PRU and the installation of the next DCC. There are at least 32 DCCs so that when one cartridge is removed a cartridge that is already filled with plastic can be immediately placed in one of the 16 PRUs. Note, the approximate 4.8 hour batch process time in not constant and may be a little less or a little more and it depends on how much plastic is in each DCC. The 4.8 hour process time corresponds to 1.83 tons/hr. of plastic being processed on a daily average, which correlates to 44 tons/day and 16,060 tons/yr. of plastic being processed. From the plastic that is processed, a maximum of 423.5 gals./hr., 10,164 gals./day, and 3.71 MMgals./yr. of SynCrude are produced and transferred to the two (2) exempt SynCrude storage tanks.

PERFORMANCE RESTRICTIONS

B.1. Permitted Capacity: The pyrolysis process shall have a maximum input rate of 1.83 tons/ hr. of densified plastic based on a daily average, which is equivalent to 44 tons of densified plastic/day and 16,060 tons of densified plastic/yr.
{Permitting note: See Appendix D, Condition 1, for Operation Rate during Testing requirements.}
[Rule 62-210.200(PTE), F.A.C.]

B.2. Operational Requirement: The auxiliary fuel for the thermal oxidizer shall only be natural gas.
[Rule 62-210.200(PTE), F.A.C.]

B.3. Operational Requirement: Whenever any DCC containing plastic is being heated and/or vapors from a DCC are being vented to the thermal oxidizer, the thermal oxidizer's combustion zone shall be operating and maintained at a minimum temperature of 1,700 °F.
[Permitting Note: The Department considers the VOC destruction efficiency of the thermal oxidizer to be at least 90% when it is operating at a minimum temperature of 1,700 °F.}
[Rule 62-210.200(PTE), F.A.C.]

B.4. Operational Requirement: Whenever any DCC containing plastic is being heated and/or vapors from a DCC are being vented to the thermal oxidizer, all the equipment associated with condensing vapors shall be operating properly (as described above).
[Rule 62-210.200(PTE), F.A.C.]

B.5. Restricted Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSION STANDARDS

B.6. Thermal Oxidizer Emission Control Device Visible Emissions (VE) Limitation: In order to provide reasonable assurance of proper operation and maintenance of the thermal oxidizer and ensure ongoing compliance with Condition No. 2. in Section 4. of Appendix C regarding Circumvention, visible emissions (VE) from the thermal oxidizer's exhaust shall not exceed 5% opacity (on a 6-minute average basis).
[Rules 62-4.070(3) and 62-210.650, F.A.C.]

B.7. VOC Emission Limitations: VOC emissions from the thermal oxidizer shall not exceed 0.74 lbs./hr. (equivalent to 3.24 tons/yr.).
[Rule 62-296.320(1), F.A.C.; Permit Application dated 06/24/2011]

TESTING REQUIREMENTS

B.8. Initial Compliance Tests: In order to confirm the emission factors contained in the air pollution construction permit application for this permit correctly calculated the emissions unit's potential emissions and to demonstrate initial compliance with the VE and VOC emission limitations, the exhaust from the thermal oxidizer shall be tested for VE, NOx, CO, VOC, HCl, and metal HAPs emissions. The initial tests shall be conducted no later than 90 days after initial operation of the emissions unit.
{Permitting Note: Future required emission tests and the frequency of the emission tests shall be determined by the Department when processing the facility's application for an air pollution operation permit.}
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

B.9. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310, F.A.C.]

B.10. Test Method(s): Required tests shall be performed in accordance with the following reference method(s).

Method(s)	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources (The method shall be based on a continuous sampling train.)
25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

Method(s)	Description of Method and Comments
26A	Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources – Isokinetic Method
29	Determination of Metals Emission From Stationary Sources

The above method(s) are described in Appendix A of 40 CFR 60 (or list proper test method reference in 40 CFR 61, 40 CFR 63, or other approved sources) and are adopted by reference in Rule 62-204.800, F.A.C. No other method(s) may be used unless prior written approval is received from the Department.
[Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

B.11. Thermal Oxidizer Temperature Monitoring Requirement: The temperature of the thermal oxidizer's combustion chamber shall be continuously monitored and continuously electronically recorded on-site. The recorded data shall be marked either manually or electronically to indicate the thermal oxidizer's combustion zone minimum operating temperature of 1700 °F is being properly maintained whenever any DCC containing plastic is being heated and/or vapors from a DCC are being vented to the thermal oxidizer.
[Rule 62-4.070(3), F.A.C.]

NOTIFICATION REQUIREMENTS

B.12. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.
{*Permitting Note: The notification should also include the relevant emission unit ID No(s)., test method(s) to be used, and pollutants to be tested.*}
[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

B.13. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of this emission unit, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.
[Rule 62-4.070, F.A.C., and Rule 62-210.200, F.A.C., (Definition of Commence Operation)]

RECORDS AND REPORTS

B.14. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The test report shall include the actual hourly input rate of densified plastic during the test period and a copy of the daily records for the day the test was conducted. [Rule 62-297.310(8), F.A.C.]

B.15. Daily Records: The permittee shall daily record the following:

a. Facility name, Facility ID No., and Emission Unit No.

b. Date (month/day/year).

c. Operating hours of the pyrolysis process, as determined when any of the process burners is operating.

d. Amount of densified plastic processed, in tons.

e. Daily average input rate of densified plastic, in tons per hour.

The records shall be completed with five (5) business days. The records shall be kept at the facility for the most recent three (3) years and made available to the Department upon request. [Rule 62-4.070(3), F.A.C.]

B. EU No. 003 – SynCrude Loadout

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
003	SynCrude from the two (2) exempt SynCrude storage tanks is warmed electrically or from a heat exchanger associated with the 16 exempt process burners to approximately 130 – 150 °F before being transferred through a common header to a tanker truck. Vapor emissions from the tanker truck during the transfer are routed back to the storage tank(s) by a vapor recovery system. The fuel transfer is controlled by a Scully Overfill Protection System (or equivalent). The system is a machine-to-machine interface that controls the fuel transfer operation. The system has two (2) main components: a control panel and an interface plug, which is connected to a compatible interface unit and receptacle installed on each tanker truck. The system's controller uses a programmable read only memory (PROM) integrated circuit. The PROM cannot be changed, adjusted, or modified by plant personnel. Failure of the PROM disables the transfer of SynCrude.

PERFORMANCE RESTRICTIONS

C.1. Permitted Capacity: A maximum of 3,710,000 gallons of produced SynCrude per any consecutive 12-month period shall be transferred from the two (2) exempt storage tanks to tanker trucks.
[Rule 62-210.200(PTE), F.A.C.]

C.2 Operational Limitation: Only one (1) tanker truck may be loaded at any one time.
[Rule 62-4.070(3), F.A.C.]

C.3. Restricted Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

NOTIFICATION REQUIREMENTS

C.4. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of this emission unit, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.
[Rule 62-4.070, F.A.C., and Rule 62-210.200, F.A.C., (Definition of Commence Operation)]

RECORDS

C.5. Monthly Records: The permittee shall monthly record the following:

a. Facility name, Facility ID No., and Emission Unit No.

b. Date (month/day/year).

c. Amount of SynCrude transferred to tanker trucks, in gallons.

e. The most recent consecutive 12-month total amount of SynCrude transferred to tanker trucks, in gallons.

The records shall be completed by the end of the following month. The records shall be kept at the facility for the most recent three (3) years and made available to the Department upon request.
[Rule 62-4.070(3), F.A.C.]