Florida Department of Environmental Protection

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PERMITTEE

EnviroFocus Technologies, LLC (EFT)
1901 North 66th Street
Tampa, Florida 33619

Authorized Representative: Christopher Swanberg,
Vice President

DEP File No. 0570057-035-AC (PSD-FL-404D)
Lead-Acid Battery Recycling Facility
Reverb Furnace Burner Replacement and Other Miscellaneous Minor Changes
Permit Expires: December 31, 2019
Hillsborough County

PROJECT AND LOCATION

This is the final air construction permit, which authorizes the replacement of the burner on the existing Reverb Furnace (emission unit (EU) 031) along with other miscellaneous minor changes. The EFT facility is in Hillsborough County at 1901 North 66th Street, Tampa, Florida. The UTM coordinates for the site are Zone 17, 364.0 kilometers (km) East and 3093.5 km North. The EFT facility is a Primary Metal industries facility with a Standard Industrial Classification (SIC) Code No. 3341, secondary smelting & refining of nonferrous metals.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and, Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction 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 Tallahassee, Florida

David Lyle Read, P.E.
2017.07.12 10:44:29 -04'00'

For:
Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this written notice of Intent to Issue Air Permit package (including the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the draft permit with 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 the date indicated below to the following persons.

Mr. Chris Swanberg, EnviroFocus Technologies (Chris.Swanberg@GopherResource.com)
Ms. Angela Fogarty, EnviroFocus Technologies (Angela.Fogarty@gopherresource.com)
Mr. Russell Kemp, P.E., Ramboll-Environ (rkemp@ramboll.com)
Ms. Diana Lee, EPC (lee@epchc.org)
Ms. Lynn Scearce, DEP OPC: (lynn.scearce@dep.state.fl.us)

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.

Lynn Scearce 2017.07.12 11:23:27 -04'00'

FACILITY

EnviroFocus Technologies, LLC (EFT) operates a lead acid battery recycling facility, which is in Hillsborough County at 1901 North 66th Street, Tampa, Florida. The EFT facility recycles automotive and industrial lead-acid batteries, as well as other lead-acid bearing scrap materials to produce lead ingots. The process involves several key operations (or steps) including: receiving of batteries and recyclable materials; battery breaking and separation into lead, lead salts, plastic and acid electrolyte; storage and containment of recovered lead and lead waste; acid neutralization and wastewater treatment; lead smelting and refining; casting; and shipping.

The EFT facility consists of the following emissions units (EU). The primary EU effected by this project in highlight in the below table.

EU ID No.	Description
026	**Battery breaking area** including a 1,440 TPD hammer mill, separation equipment, wet impingement scrubber and a 130 ft stack.
028	**Alkaline reagent silo** with a bin filter
030	**Feed dryer** fueled by natural gas (propane backup) to remove moisture from lead and lead salts prior to introduction into the reverb furnace. Includes an 18,000 acfm baghouse that is vented through the combined process (blast and reverb furnace) stack.
031	**Collocated reverb furnace**. Direct emissions controlled by a common: afterburner, process baghouse and SO_2 scrubber exhausting through the 130-ft process stack.
032	**Collocated blast furnace**. Direct emissions controlled by a dedicated afterburner and a common: afterburner, process baghouse and SO_2 scrubber exhausting through the 130-ft process stack.
033	**Furnace tapping, charging and refining**. Process fugitive emissions from the furnace tapping and charging and the 10 refining kettles. Emissions are controlled by the 72,000 acfm (hygiene) baghouse exhausting through the 130-ft hygiene stack.
034	**Combustion gases from Refining Kettles**. (10) natural gas burners with a total capacity of 40 MMBtu per hour providing heat to the refining kettles. Exhaust is vented to 10 small stacks.
035	**Building ventilation** of the totally enclosed lead recycling process to maintain the key operations at a lower than ambient pressure ensuring in-draft through any doorway opening. Emissions are controlled by a 195,000 acfm cartridge collector and exhausted through a 130 ft stack.
036	**Facility grounds and roadways**. Controlled by wet suppression, vacuum sweeping and wheel wash stations.
037	**Emergency generator** rated at 1,000 kilowatts (kW).
038	**Additional building ventilation** that is vented to the 160,000 acfm cartridge collector with secondary HEPA filter to increase the negative pressure within the building exhausting through a 90 ft stack.

PROJECT DESCRIPTION

EnviroFocus is proposing to change the burners on the existing Reverb Furnace (EU 031), install copper cooling for the Reverb Furnace refractory, change the afterburner burner to allow lower turndown, and upgrade to a faster blast furnace skip hoist. In addition, EFT requesting new 12-month rolling annual emission limits for nitrogen oxides (NO_X), carbon monoxide (CO), and sulfur dioxide (SO_2) for the process stack (EU 031) which are lower than the current 30-day rolling average emission limits for these pollutants when these emission limits are annualized. A more detailed description of the project will be given in the Technical Evaluation and Preliminary Determination (TEPD) document included in this package

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).

- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.
- The project includes units subject to applicable New Source Performance Standards (NSPS) in Title 40, Part 60 of the Code of Federal Regulations.
- The project includes units subject to applicable National Emissions Standards for Hazardous Air Pollutants (NESHAP) in Title 40, Part 63 of the Code of Federal Regulations.

Changes made to previous permit as part of this project are highlighted in yellow with additions in double underline text and deletions in ~~strikethrough~~ text. When the final permit is issued for this project, these highlights will be removed and normal text used.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Environmental Protective Commission of Hillsborough County (EPCHC), Air Management Division, 3629 Queen Palm Drive, Tampa, Florida 33619. The telephone number of the EPCHC is 813/627-2600.
3. Appendices: In addition to the permit conditions, the permittee shall comply with the applicable requirements listed in the following Appendices that 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 unless superseded by submittals by the applicant to requests for additional information (RAI) from the Department. 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 finds, independently of this permit, good cause requiring the permittee to conform to new or additional conditions. Therefore, the permittee is required to upgrade the facility such that all battery breaking, material storage and handling, smelting, refining, and casting operations are conducted within totally enclosed building(s) by December 2011 whether or not the permittee installs any of the process equipment (such as a reverberatory furnace, a larger hammer mill or kettles) needed to increase lead production. The enclosed building(s) shall be maintained under negative pressure and vented through control devices designed to limit lead (Pb) emissions to less than:
   (a) Battery breaking area stack - 0.8 mg/dry standard cubic meter (dscm);
   (b) Smelting process stack - 0.3 mg/dscm;
   (c) Tapping, charging and lead refining (hygiene) stack - 0.2 mg/dscm; and
   (d) Building ventilation stacks - 0.05 mg/dscm.
   [Rules 62-4.070(3) and 62-4.080(1)(a), (b) and (c), F.A.C.; 40 CFR Part 50, Section 50.16]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.
   [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit.
   [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C.]

8. Source Obligation:
   a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
   b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   [Rule 62-212.400(12), F.A.C.]

9. Application for Title V Permit: This permit authorizes construction and/or modification of the permitted emissions units and the initial operation of the upgrades for the EFT facility to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

10. Operating Rate During Compliance Testing: Rule 62-297.310(2), F.A.C., which is include in Appendix CTR of this permit, states:

    "Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit."

    This rule requires that an emission unit capacity be limited to a maximum of 110% of the lowest capacity at which the most recent compliance test was conducted for **any pollutant**. If an emission unit is tested at 70% capacity during compliance testing for Pb and at 80% capacity when compliance testing for NO_X is preformed then during normal operation of the emission unit its capacity shall be limited to 77% (70% x 1.1) not 88% (80% x 1.1) until such time that a new compliance test is conducted for Pb at a higher capacity. Upon testing for lead (or any other pollutant), the same capacity analysis shall be performed again to determine the unit capacity limiting pollutant (if any).

    [Rule 62-297.310(2), F.A.C.]

11. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
    a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following

resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix CTR of this permit.

b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 10-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

(1) The name, address and telephone number of the owner or operator of the major stationary source;

(2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix CTR of this permit;

(3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

(4) Any other information that the owner or operator wishes to include in the report.

c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, annual reporting of actual emissions of carbon monoxide (CO), nitrogen oxides (NO_X) and sulfur dioxide (SO_2) is required for the process stack associated with the reverb furnace (EU 031). Emissions of CO, NO_X and SO_2 from the process stack shall not exceed 464 tons per year (TPY), 158 TPY and 202 TPY, respectively. If these limits are exceeded, the presumption is that **Condition 8, Source Obligation**", of this Section shall apply. The permittee may provide a detail explanation as to why they believe the source obligation requirement is not triggered.

[Application 0570057-035-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

A. Lead Smelting

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
032	Collocated blast furnace
030	Feed dryer
031	Collocated reverb furnace

The metallic lead and desulfurized lead salts from the battery breaker area are conveyed to the 40 TPH feed dryer to remove most of the moisture prior to being feed into the reverb furnace. The feed dryer is fueled by 10 MMBtu per hour (MMBtu/hr) natural gas burners (with propane as a backup fuel). PM and Pb emissions from the feed dryer are controlled by a Foster Wheeler shaker type baghouse with a design flow rate of 18,000 acfm at approximately 200 degrees Fahrenheit (°F) before being ducted to the 130-foot process stack.

The reverb furnace is heated using primarily natural gas or propane as a backup fuel. Molten soft lead from the reverb furnace will be conveyed through channels called launders directly to the refining kettles. The reverb furnace is fired by 23 MMBtu/hr burners. Slag from the reverb furnace and other lead bearing scrap materials will be fed to a blast furnace that produces hard lead. Other non-lead bearing fluxes and associated materials, including but not limited to coke, cast iron, silica, limerock, and shredded steel, are also added to the furnace as needed. Metallurgical coke will be combined with slag to help supply fuel for the blast furnace smelting process. Coke breeze may also be added to the slag as a reductant.

The blast furnace produces a slag (i.e., by-product) which will be either reused or reclaimed in the furnace. The slag is first tested using the EPA Methods 1311, 3005a and 6010b for sampling, preparation, digestion and analysis of Toxicity Characteristic Leaching Procedure extracts. If the slag is characteristically hazardous for lead, the material is treated with a stabilizing agent or returned to the furnaces for further reclamation. When the treatment process is chosen, the slag is tested again using the TCLP Methods 1311, 3005a and 6010b. The stabilizing agent is either brought in by a portable Tilt-up Pre-Filled Vertical Silo or pre-filled super sacs from the supplier. Blast and Reverb Operating Collocated: Exhaust gases from both furnaces are ducted to a 10 MMBtu/hr afterburner, followed by a Foster Wheeler shaker type baghouse and a 54,000 acfm wet Sulfur Dioxide scrubber before being combined with the exhaust gases from the feed dryer for final discharge through the 130-foot process stack. Blast Operation Only Mode: Exhaust gases from the blast furnace are ducted to a blast only dedicated afterburner. The dedicated afterburner will require a startup period where the dedicated afterburner burners will be firing while the reverb burners are in high or low fire (dedicated afterburner standby mode). Once the dedicated afterburner reaches required temperature for operating, the reverb burners will be placed in banked mode.

CAPACITIES AND PRODUCTION

1. Furnace Capacities: Any equipment or any other changes authorized as part of this permit, shall not result in any capacity increase of the reverb or blast furnaces. The reverb furnace shall still be limited to a maximum charge rate of is 960 tons per day (TPD) with a maximum capacity of 262,800 tons in any twelve-month consecutive period. The blast furnace shall still have a maximum charge rate of 180 TPD with a maximum capacity of 65,700 tons in any twelve-month consecutive period. [Application No. 0570057-035-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

2. Lead Production: Any equipment or any other changes authorized as part of this permit, shall not result in any lead production increase. The maximum lead produced from the EFT facility shall continue not exceed 150,000 tons in any consecutive twelve-month period. [Application No. 0570057-035-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

MONITORING REQUIREMENTS

3. Annual Emissions of CO, NO_X and SO_2: As required by **Specific Condition 11** of Section 2, the permittee shall submit, after the project is completed, annual reports for a period of 10-years dealing with annual emission of CO, NO_X, and SO_2 based on CEMS data for the process stack to prove that this project did not

exceed the PSD significant emission rate for these pollutants. [Application 0570057-035-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

NEW CONSTRUCTION

4. Reverb Furnace: The permittee is authorized to make the following changes to the reverb furnace (EU 031).

   a. *Burners*. That permittee is authorized to replace the current 23 million British thermal units per hour (MMBtu/hr) reverb furnace burner with 30 MMBtu/hr burner. [Application No. 0570057-035-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

   b. *Copper Cooling Panels*. The permittee is authorized to add copper cooling panels behind the refractory in several high-wear areas in the reverb furnace. Water flowing through copper blocks shall be used to cool the refractory. [Application No. 0570057-035-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

   c. *Furnace Afterburner Burner*. The permittee is authorized to replace the burner of the common blast and reverb furnaces afterburner chamber with a like-kind replacement from a heat capacity standpoint (maximum of 10 MMBtu/hr) that, however, allows for a lower turndown ratio. The permittee is authorized to replace the current burner that has a turndown range from 1.5 to 10 MMBtu/hr with a burner that has a turndown range of 0.5 to 10 MMBtu.
   [Application No. 0570057-035-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

5. Blast Furnace: The permittee is authorized to replace the existing blast furnace skip hoist with a faster unit. The new hoist shall be no more that 30 percent faster, i.e., reduce travel time by 30 percent, than the replaced hoist. [Application 0570057-035-AC]

CHANGES TO PERMIT NO. 0570057-030-AC (PSD-FL-404C)

The below changes are made to the following specific conditions of Permit No. 0570057-030-AC (PSD-FL-404C)

8. Reverb Furnace Fuel: Natural gas is the primary fuel for the reverb furnace burners. Propane may be used as a backup fuel. A combination of the fuels shall not exceed a total heat input of ~~201,480~~ 262,800 MMBtu to the reverb furnace burners during any consecutive twelve month period.
[Application No. 0570057-020-AC; Rules 62-210.200(PTE) and 62-212.400(10)(c), F.A.C.]

13. NO_X Emission Standard: NO_X emissions from the feed dryer shall not exceed 0.21 lb/MMBtu and 2.1 pounds per hour (lb/hr) as demonstrated by a combined 42.2 lb/hr 30-day rolling CEMS average on the process stack. NO_X emissions from the blast furnace and reverb furnace shall not exceed 0.80 lb/ton and 0.80 lb/ton of material charged, respectively, as demonstrated by a combined 42.2 lb/hr 30-day rolling CEMS average on the process stack. NO_X emissions from the process stack shall not exceed 158 tons per year (tpy) on a 12-month rolled month CEMS average basis. [Application No. 0570057-03~~0~~5-AC; Rules 62-4.070(3), 62-210.200(PTE), ~~and~~ 62-212.400(10)(c), F.A.C.; and PSD Avoidance]

14. CO Emission Standard: CO emissions from the feed dryer and blast furnace and reverb furnace shall not exceed 204.7 lb/hr as demonstrated by a combined 30-day rolling CEMS average on the process stack. CO emissions from the process stack shall not exceed 464 tpy on a 12-month rolled month CEMS average basis.
[Application No. 0570057-03~~0~~5-AC; Rules 62-4.070(3); ~~and~~ 62-210.200(PTE), F.A.C.; and PSD Avoidance]

15. SO_2 Emission Standard: SO_2 emissions from the feed dryer, blast furnace and reverb furnace combined with SO_2 emission from the hygiene stack shall not exceed 202.24 lb/hr as demonstrated by a combined 30-day rolling CEMS averages on the hygiene and process stacks. SO_2 emissions from the process stack shall not exceed 202 tpy on a 12-month rolled month CEMS average basis.

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[Application No. 0570057-03~~0~~5-AC; Rules 62-4.070(3); ~~and~~ 62-210.200(PTE), F.A.C.; and PSD Avoidance]