TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

EnviroFocus Technologies, LLC

Lead-Acid Battery Recycling Facility

Facility Upgrade and Production Increase

Hillsborough County

DEP File No. 0570057-020-AC
PSD-FL-404

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Special Projects Section

August 7, 2009

I. APPLICATION INFORMATION

A. Applicant name and address

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

Authorized Representative: Mr. John Tapper, Chief Operating Officer

B. Processing schedule

August 13, 2008	Department received application from EFT.
September 12	Department sent a request for additional information (RAI) to EFT.
October 14	Department received response to RAI from EnviroFocus.
November 3	Department representatives met with applicant, consultant and U.S. Environmental Protection Agency (EPA) to discuss project and regulations.
November 12	EPA issued final rule revising the National Ambient Air Quality Standard for lead (Pb).
November 14	Department sent a second RAI to EFT.
November 25, 26	A Department representative met with EFT and visited facility in Eagan, Minnesota (MN) operated by affiliate, Gopher Resource Corporation (GRC).
February 13, 2009	Department received partial response to second RAI from EFT.
February 17	Department received modeling files in support of response to second RAI.
March 18	Department send a third RAI to EFT.
April 3	Department received response to third RAI from EFT.
April 14	Department representative met with company consultant to discuss modeling issues.
May 8	Department received revised truck traffic modeling information in further support of RAI response received April 3, 2009.
August 7	The Intent to Issue Air Permit was distributed.

C. Facility location

Refer to Figure 1. EFT operates a lead acid battery recycling facility, which is located 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 site is located 70 km south from the Chassahowitzka National Wildlife Area; the nearest Federal Prevention of Significant Deterioration (PSD) Class I Area.

The EFT property is bounded on the south side by the CSX railroad tracks oriented northeast to southwest. A large rail road switchyard operated by CSX is located further south and is a prominent feature visible in the photograph on the right hand side of Figure 1. The EFT facility entrance, scales and battery breaking building as seen from the outside are shown in Figure 2 below. Process details and related photographs are shown in sections further below.

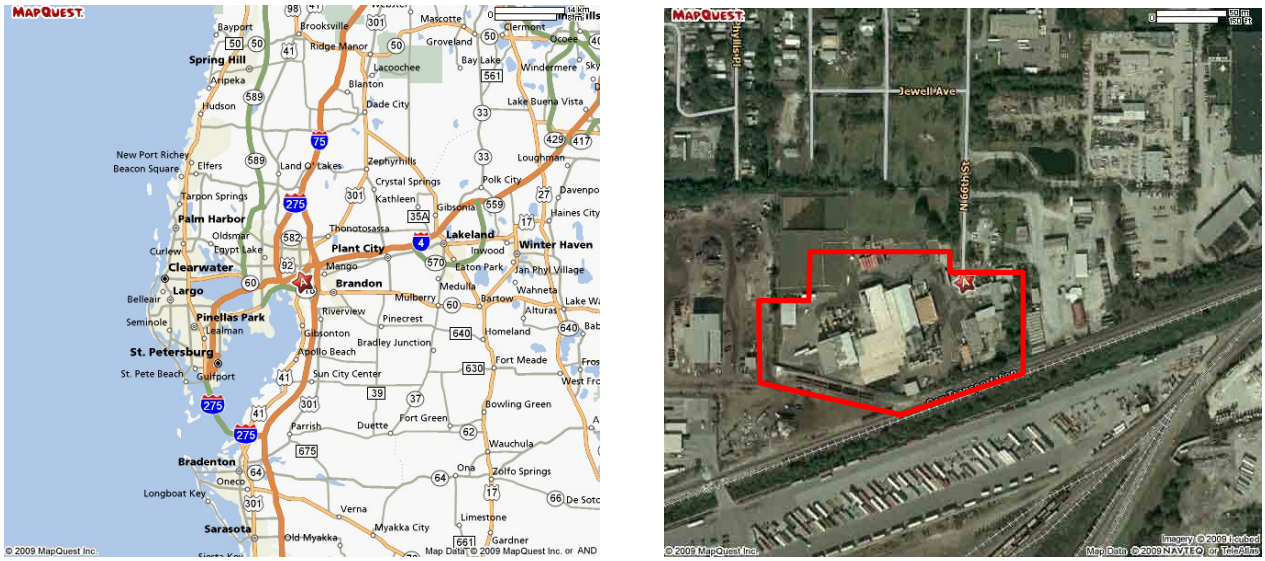

Figure 1. EFT facility location in Tampa and an aerial view of the facility and environs.

Figure 2. EFT facility entrance, shipping and receiving scales, battery process area.

There are industrial areas east and west of the EFT property, such as the one on the left hand side of Figure 3 that are related to scrap metal recycling. There is a residential area located generally northwest of the facility, within 100 meters (m) of the EFT facility boundary and within 250 m from the main process. Some nearby homes and a mobile home park are shown in the middle photographs. Kenly Elementary School is located at 2909 North 66th Street approximately 500 m north of the EFT facility boundary and about 750 m from the main process.

Figure 3. Adjacent scrap yard, nearby homes, mobile home park, Kenly Elementary School.

D. Standard industrial classification codes (SIC)

Industry Group No.	33	Primary metal industries
Industry No.	3341	Secondary smelting & refining of nonferrous metals

According to theNational Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart X for Secondary Lead Smelting a *Secondary lead smelter* means any facility at which lead-bearing

scraps material, primarily, but not limited to, lead-acid batteries, is recycled into elemental lead or lead alloys by smelting.

In this review, the term "lead" will be used within the context of raw and intermediate materials as well as product. When emitted, lead is a hazardous air pollutant (HAP) and its chemical symbol (Pb) will be used in the context of air pollution control and measurement.

E. Regulatory classifications

The EFT facility is subject to 40 Code of Federal Regulations (CFR), Part 60 – Standards of Performance for New Stationary Sources (NSPS). The facility and project are subject to 40 CFR 60, Subpart L - NSPS for Secondary Lead Smelters. A proposed emergency diesel engine is subject to 40 CFR 60, Subpart IIII - NSPS for Compression Ignition Internal Combustion Engines.

The EFT facility is a "Major Stationary Source" as defined in Rule 62-210.200, Florida Administrative Code (F.A.C.). The project triggers the rules for the Prevention of Significant Deterioration (PSD) pursuant to Rule 62-212.400, F.A.C. and requires a Best Available Control Technology (BACT) determination.

The EFT facility is a Title V or "Major Source" of air pollution as defined in Rule 62-210.200, F.A.C., because the potential emissions of at least one regulated pollutant exceeds 100 tons per year (TPY). Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter ($PM/PM_{10}/PM_{2.5}$), sulfur dioxide (SO_2), volatile organic compounds (VOC) and sulfuric acid mist (SAM).

The EFT facility is also a "Major Source of HAP" because it has the potential to emit, in the aggregate, 10 TPY of any one HAP, 25 TPY of any combination of HAPs, or any lesser quantity of a HAP as established through EPA rulemaking.

The EFT facility is subject to 40 Code of Federal Regulations (CFR), Part 63 – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories. The facility is subject to 40 CFR 63, Subpart X - NESHAP for Secondary Lead Smelting. A proposed emergency diesel engine is subject to 40 CFR 63, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE).

II. PROPOSED PROJECT SUMMARY

A. Current process description

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.

Figure 4 shows a greatly simplified diagram of the lead-acid battery recycling process with particular attention to the battery breaking and separation step. The lead-acid battery life cycle and additional details of the process as practiced at GRC (the model for the future EFT project) are shown at the following GRC links:

www.gopherresource.com/lead_cycle.asp

www.gopherresource.com/lead_process.asp

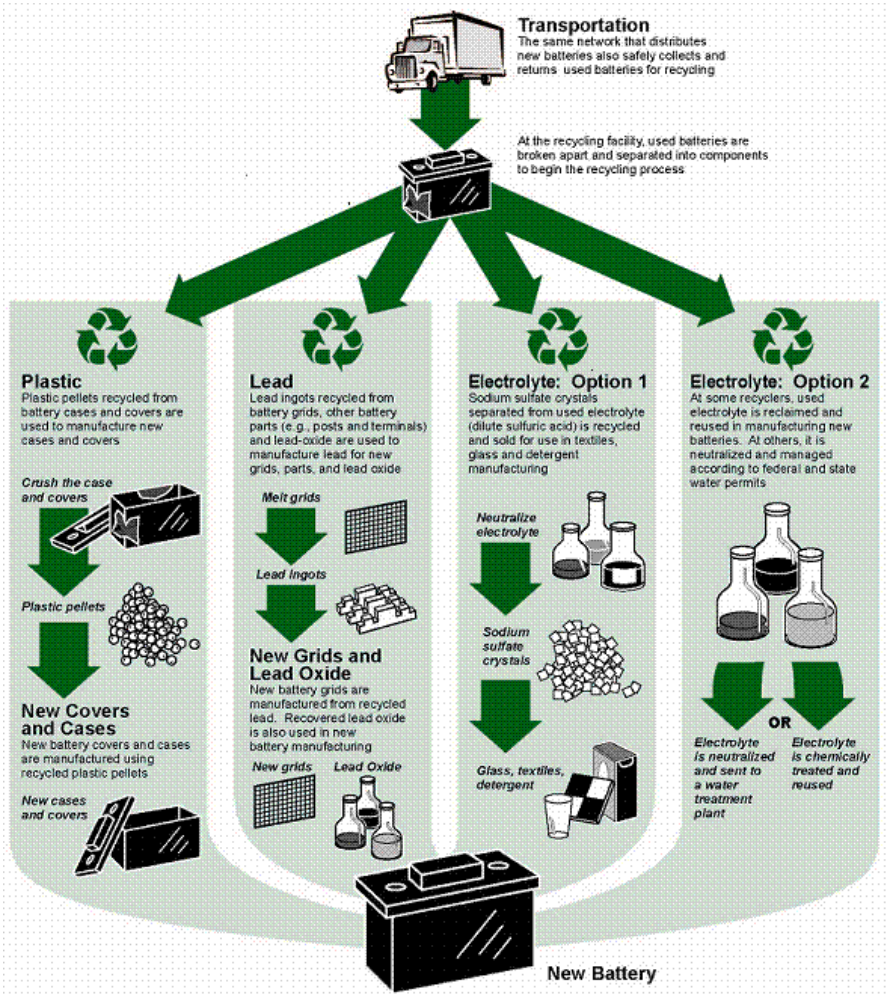

Figure 4. Lead-acid battery recycling process.

<u>Summary of existing emissions units at EFT</u>

The following table is a list of the emissions units (EU) and control equipment located at EFT.

Table 1. Current emission units and pollution controls devices.

EU ID Number	Description	Current Pollution Control Device
None	Battery breaking area (BBA)	None
001	Blast furnace	Afterburner & 35,000 acfm* baghouse
004	Tapping & charging	18,000 acfm hygiene baghouse
008	Soda ash silo	Bin vent filter
009	Facility grounds & roadways	Wet suppression
011	Refining kettles (four @ 75 tons each)	25,000 acfm refinery baghouse
013	Refining kettle heater exhaust	Natural gas or propane
015	Materials storage and handling area (MSHA) and blast furnace enclosure	65,000 acfm cartridge collector

* Actual cubic feet per minute (acfm)

Figure 5 is an aerial view from the north of the EFT facility. The four key stacks and some of the key process areas are shown and related back to the EU listed in the table above.

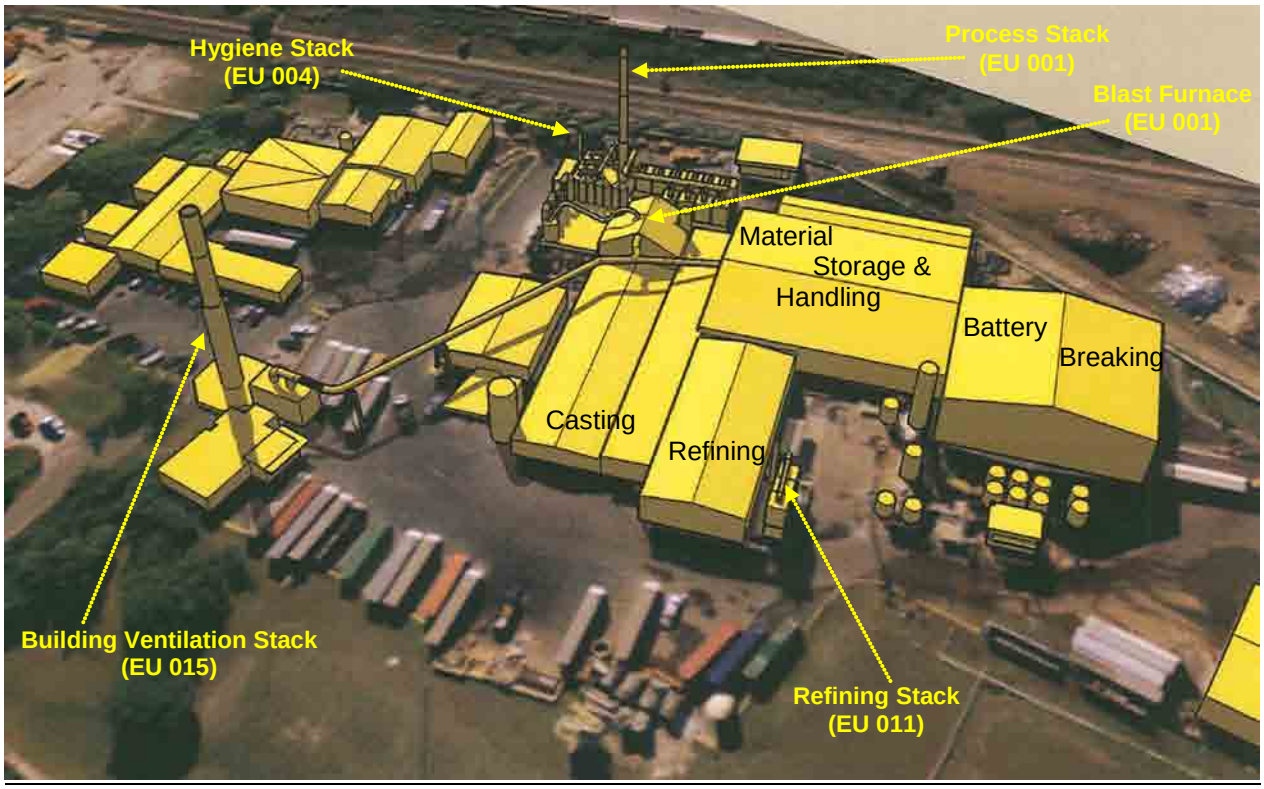

Figure 5. Aerial view of present operation at EFT from the north towards CSX railroad yard.

Lead battery receiving and breaking

Battery breaking area (BBA) means the plant location at which lead-acid batteries are broken, crushed, or disassembled and separated into components. Refer to Figure 6. Spent batteries, such as shown on the pallets in the left hand photograph, are delivered by trucks to the BBA located inside a building that has an opening on at least two sides to the ambient air. The staging portion of the BBA is shown in the middle photograph. The batteries are transferred by conveyor to a battery breaker (a large hammer mill) visible on the top right hand side of last photograph in the figure. The acid is drained and the crushed material then passes through countercurrent flotation and separation equipment (visible in the same photograph) that separates the metallic lead, plastic and lead salts, or muds.

Figure 6. Received lead batteries, staging and conveyance, hammer mill and wet screening.

Baghouse dusts and on-site treatment plant sludge are slurried and fed through the battery breaker and comprise some of the lead muds.

The control room within the BBA is shown on the left hand side of Figure 7 along with one of the separation tanks. Acid drained from the shredder is stored in the tank shown in the middle photograph of Figure 7 and shipped off-site. The case material is separated from the lead-bearing components, washed, and the recovered plastic chips are shipped to customers in tractor trailers, such as shown in the right hand side of the figure. The lead salts are slurried with soda ash (Na_2CO_3) in the desulfurization tanks forming solid lead carbonate ($PbCO_3$) and sodium sulfate (Na_2SO_4) solution. The $PbCO_3$ is filtered and the press cake is also sent to the MSHA. The remaining Na_2SO_4 solution is combined with other process waters, treated and sent to the sanitary sewer system.

Figure 7. Settling tank & control room, sulfuric acid storage, trailer awaiting load of plastics.

Materials storage and handling area (MSHA) means any area of a secondary lead smelter in which lead-bearing materials (including, but not limited to, broken battery components, reverberatory (reverb) furnace slag, flue dust, and dross) are stored or handled between process steps including, but not limited to, areas in which materials are stored in piles, bins, or tubs, and areas in which material is prepared for charging to a smelting furnace. MSHA does not include areas used exclusively for storage of blast furnace slag.

The metallic lead, lead salts, small amounts of plastic, and rubber are conveyed to the MSHA storage and handling area shown on left hand side of Figure 8. The area was totally enclosed in October 2008. Shredded lead is shown in the middle photograph of Figure 8 that was taken within the material storage and handling area. The photograph on the right hand side shows (from left to right) the storage sections for silica, scrap iron, lead-bearing slag and lime rock.

Figure 8. MSHA; shredded lead in storage; material bins for silica, iron, slag and lime rock.

Smelting

Smelting means the chemical reduction of lead compounds to elemental lead or lead alloys through processing in high-temperature (greater than 980 °C) furnaces including, but not limited to, blast furnaces, reverb furnaces, rotary furnaces, and electric furnaces.

Blast furnace means a smelting furnace consisting of a vertical cylinder atop a crucible, which lead-bearing charge materials are introduced at the top of the furnace and combustion air is introduced through tuyeres at the bottom of the cylinder, which uses coke as a fuel source and is operated at such a temperature in the combustion zone (greater than 980 °C) that lead compounds are chemically reduced to elemental lead metal.

The main operation occurs in the blast furnace located within the building in the photograph on the left hand side of Figure 9. A total enclosure was recently installed that surrounds the blast furnace area with permanent walls that connect to the existing roof. An inner shroud, similar to a chimney, extending from the roof to a height of approximately 15 feet (ft) above the floor now surrounds the blast furnace.

Figure 9. Blast furnace area from outside, weighing and charging, bottom of blast furnace.

A new negative air filtration system was installed in 2008 that removes approximately 32,500 acfm from the blast furnace enclosure. The negative air filtration system includes a “horseshoe” type ventilation hood from which another 32,500 acfm is drawn from the perimeter of the opening between the material charging storage area and the blast furnace area.

The raw materials described above together with coke, furnace fluxes and refining kettle dross are weighed and charged via a skip hoist through doors at the top of the blast furnace as shown in the middle photograph.

The blast furnace shown on the right hand side of Figure 9 is an oval shaped vessel that is 36 inches by 72 inches. The coke and blast air convert the charged materials into molten lead. The picture was taken on a day when maintenance was conducted on the furnace.

Leaded materials, various fluxing agents and coke are added to the top of the furnace using various “menus” depending on the types of available leaded materials. The molten lead flows down through the layers of feed into a crucible at the bottom of the furnace. A pulled crucible is shown on the right hand side of Figure 10. A layer of molten slag comprised primarily of calcium, silica and iron floats on top of the molten lead. This slag is periodically tapped into pans as shown on the left hand side of Figure 10. The molten lead is drained into water cooled molds in 2-ton sized “buttons” seen in the middle photograph. The buttons can be shipped “as is” or charged into the refining kettles as described below. A significant amount of slag is produced, some of which is reused. Most is shipped to a landfill after testing.

Figure 10. Blast furnace tapping, 2-ton buttons, holding kettle can be moved to refining area.

Process gasses from the blast furnace pass through an afterburner to destroy CO and VOC. The afterburner is shown in the left hand photograph in Figure 11. The process gasses then pass through several cooling loops visible in the second photograph. Sodium bicarbonate ($NaHCO_3$) is blown into one of the cooling loops to partially control SO_2. Dust and fumes containing PM/PM_{10} and Pb emissions are collected in the 10-compartment process baghouse shown in the same photograph and exhausted via the tall (150 ft) stack partly visible in the second photograph.

Figure 11. Afterburner; cooling loops, baghouses, stacks; negative air baghouse with stack.

The fugitive emissions from the blast furnace charging and tapping, as well as the skip hoist are captured by hoods and enclosures. Some of the gasses are exhausted via the 3-compartment 18,000 acfm hygiene baghouse and the 60-ft hygiene stack, also visible in the second photograph.

The horseshoe hood creates a null air flow at the opening between the MSHA building and the smelting building to prevent drawing lead bearing dust from the MSHA into the blast furnace enclosure area. The ducts from the two removal points, visible in the third photograph, are joined in a single 56-inch duct. The large duct transfers the gases to the large 65,000 acfm cartridge collector (based on nano-fitration principles) and the 130-ft stack shown in the photograph on the right hand side of Figure 10.

Refining and casting

Refining kettle means an open-top vessel that is constructed of cast iron or steel and is indirectly heated from below and contains molten lead for the purpose of refining and alloying the lead. Included are pot furnaces, receiving kettles, and holding kettles.

In the refining area, the lead from the blast furnace is currently charged into one of the facility's four refining kettles along with alloying agents and fluxes appropriate for the type of finished lead to be produced. The photograph on the left hand side in Figure 12 shows the four existing 75-ton refining kettles.

Figure 12. Refining kettles and ducts, gas burner on kettle at GRC, ingot casting machines.

Each refining kettle is indirectly heated by a natural gas burner similar to the one shown in the middle photograph (taken at Gopher Resource Corporation (GRC)). The refined lead is tapped from the kettles and cast into lead alloy products such as ingots and blocks using the equipment and labor as shown in the photograph on the right hand side.

The first photograph in Figure 13 is of product ingots. The second photograph shows stacks of refined ingots, as well as larger refined blocks ready for shipment.

Figure 13. Individual ingots, stacks of ingots and larger blocks, refining baghouse and stack.

Sodium nitrate ($NaNO_3$) and sulfur are added as fluxing agents during refining to aid in the removal of certain metals, such as antimony (Sb), depending on the product specifications. Direct refining kettle emissions are ducted to a plenum, vented through a 25,000 acfm baghouse and exhausted via the 60-ft refinery stack shown in the right hand photograph in Figure 13. Emissions from the refining kettle burners are exhausted separately from the direct kettle emissions through small dedicated stacks.

Figure 14 is a series of photographs to provide the reader with an idea of some other outside features of the operation. The first shows a covered but largely open storage area for some of the materials used in the process. The surrounding pavement is wetted down for Pb-laden dust suppression.

Figure 14. Storage area and wetted pavement, watering truck, wet sweeper truck, wet brush.

The two middle photographs show the complementary dust suppression vehicles including a watering truck and a wet sweeper truck. A close-up of a brush is shown in the right hand photograph.

Figure 15 is a set of photographs related to the existing operation showing some of the computer screens introduced by EFT since they acquired the facility. Good process control and feedback produces a more efficient and cleaner operation and greatly aids in recordkeeping and reporting.

Figure 15. Screens for bicarbonate injection, blast furnace, negative pressure air filtration.

B. Project overview

EFT submitted an application for an air construction permit to upgrade the operations and expand the production capacity of its lead-acid battery recycling facility from 32,000 to 150,000 TPY of lead. The project includes the following key actions:

- Relocate the BBA and the MSHA from west to east of the smelt area and totally enclose. Replace the existing battery breaker with a larger nominal 50 tons per hour (TPH) hammer mill having a maximum capacity and limitation of 60 TPH.
- Install a dedicated wet impingement scrubber with a dedicated 130-ft stack on the BBA for SAM, PM/PM_{10} and Pb control.
- Replace the existing soda ash silo with a soda ash receiving silo and two soda ash process silos with associated bin vent baghouses and stacks.
- Install a 15 TPH reverb lead furnace utilizing dried feed to produce soft lead.
- Install channels (launders) heated by small natural gas-fueled pipe burners to convey molten lead from the new reverb furnace to the refining kettles.
- Keep the 3 TPH blast furnace for hard lead production using reverb slag and other lead bearing waste materials.
- Replace the afterburner with a larger unit for the collocated reverb and blast furnaces, followed by an expanded process baghouse and a process SO_2 wet scrubber exhausted through a new 130-ft combined process stack.
- Install a natural gas-fueled (propane backup) 40 TPH feed dryer for use with a new reverb furnace.
- Provide separate hooding for the feed dryer and a dedicated 18,000 acfm baghouse vented to the new 130-ft combined process stack.
- Enlarge the four 75-ton refining kettles to 100-ton kettles.
- Add four 100-ton refining kettles and two 150-ton holding kettles.
- Replace and install additional natural gas (with propane backup) burners to heat the ten kettles.
- Install three small stacks for the combustion product exhaust from the ten kettle burners.

- Increase dross removal from the refining area to the raw materials charging area.
- Consolidate and expand hooding and ducting for tapping, charging and direct refining kettle exhausts into a process fugitive emissions system.
- Install a new 72,000 acfm process fugitive emissions baghouse and a new dedicated 130-ft stack to replace the separate existing hygiene and refining baghouses and stacks.
- Install additional facility baghouse dust conveyance and slurrying equipment to return the material to the process via the battery breaker.
- Install a propane vaporizer with a small stack.
- Install natural gas-fueled (propane backup) slurry heaters and small stacks.
- Construct a plastics plant to convert plastic from the battery casings into pellets for sale.
- Install four plastics pellet bins and a small stack for the plastics plants.
- Expand the ventilation system from 65,000 to 195,000 acfm. Increase the cartridge collector filter capacity to match the increase and exhaust via the existing 120-ft stack.
- Implement total enclosure and general ventilation that maintains the key operations at a lower than ambient pressure to ensure in-draft through any doorway openings.
- Install a 500 kilowatts (kW) emergency diesel generator and a small stack.

As previously mentioned, the GRC facility in Minnesota is the basic model for the planned project at EFT. GRC has collocated blast and reverb furnaces (defined below). The addition of a reverb furnace at EFT is the key project feature that will make it possible to greatly increase lead production.

Reverb furnace means a refractory-lined furnace that uses one or more flames to heat the walls and roof of the furnace and lead-bearing scrap to such a temperature (greater than 980 °C) that lead compounds are chemically reduced to elemental lead metal.

Collocated blast and reverb furnaces means operation at the same location of a blast furnace and a reverberatory furnace with the volumetric flow rate discharged from the blast furnace being at equal to or less than that discharged from the reverberatory furnace.

The GRC facility also features indoor chemical storage and total enclosure of key operations including the BBA, MSHA, smelting, refining and casting. *Total enclosure* means a roofed and walled structure with limited openings to allow access and egress for people and vehicles.

The photographs in Figure 16 were taken by a Department representative who visited the GRC facility in November 2008.

Figure 16. Reverb furnace, chemical storage, totally enclosed raw materials storage area.

Although the inside operations are of a rough nature, the activities are separated from the environment making it possible to more efficiently contain, collect, treat and vent emissions than the present EFT arrangement.

The GRC business presently has a more modern, clean and safe look than the EFT business. Figure 17 contains exterior photographs of the GRC facility. The upgraded and expanded EFT facility will have a similarly modern appearance on the outside.

Figure 17. Overview of GRC, office building, enclosed operation, good ducts and baghouses.

The steps to totally enclose the key operations at the EFT facility will be conducted in phases beginning with the physical expansion of the complex of builds towards the east (the left) as shown in red within the rendition on the left hand side of Figure 18. The expanded area will primarily consist of warehouses, the new BBA, the new plastics plant and the new MSHA.

Figure 18. Building expansion, enclosure of smelting and refining areas, finished goods area.

The middle frames show the enclosure of the smelting and refining areas. The rendition on the right shows the completed building complex. The positions of the new baghouses and stacks are not shown with the exception of the building ventilation stack.

A video showing the progressive expansion and enclosure of the smelting and refining areas is available at the following link:

www.dep.state.fl.us/Air/emission/construction/hillsborough_county/timeline.wmv

C. Emissions from key operations

Following are the main pollutants emitted from each of the key operations:

BBA: $PM/PM_{10}/PM_{2.5}$, SAM, Pb.

MSHA: $PM/PM_{10}/PM_{2.5}$, Pb.

Feed dryer: $PM/PM_{10}/PM_{2.5}$, Pb, NO_X, CO.

Smelting: $PM/PM_{10}/PM_{2.5}$, Pb, CO, VOC, NO_X, SO_2, other metal HAP.

Refining, tapping and charging (process fugitive emission sources*): $PM/PM_{10}/PM_{2.5}$, Pb, NO_X, SO_2, other metal HAP.

Building ventilation: $PM/PM_{10}/PM_{2.5}$, Pb.

Natural gas burners: $PM/PM_{10}/PM_{2.5}$, NO_X, CO.

* *Process fugitive emission source* means a source of emissions at a secondary lead smelter that is associated with lead smelting or refining, but is not the primary exhaust stream from a smelting furnace, and is not a fugitive dust source. Process fugitive sources include, but are not limited to, smelting furnace charging points, smelting furnace lead and slag taps, refining kettles and dryer transition pieces.

{This is an industry term not to be confused with fugitive emissions as defined in Rule 62-210.200 (Definitions), F.A.C.}

Table 2 is a list and description of the EU in accordance with the future facility configuration.

Table 2. List and descriptions of EU after the project.

EU ID Number	Description
021	Battery breaking area including a 50 ton per hour (TPH) hammer mill, separation equipment, plastics plant, wet impingement scrubber and a new 130 ft stack.
022	Feed dryer fueled by natural gas (propane backup) to remove moisture from lead and lead salts prior to introduction into new reverb furnace. Includes an 18,000 acfm baghouse that will be vented through the combined process (blast and reverb furnace) stack.
001	Collocated blast furnace. Direct emissions controlled by common afterburner, common wet SO_2 scrubber, common process baghouse and combined 130-ft process stack.
023	Collocated reverb furnace. Direct emissions controlled by common afterburner, common wet SO_2 scrubber, common process baghouse and combined 130-ft process stack.
011	Furnace tapping, charging and lead refining. Process fugitive emissions from furnace tapping and charging and 10 refining kettles. Includes a 72,000 acfm process fugitive emissions (hygiene) baghouse and 130-ft stack.
008	Soda ash silos. (3) with bin filters and stacks.
009	Facility grounds and roadways. Controlled by wet suppression, vacuum sweeping and wheel wash station.
013	Combustion gases from (10) natural gas burners with a total capacity of 40,000,000 Btu per hour (mmBtu/hr) providing heat to the refining kettles. Exhaust is vented to 10 small stacks.
015	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. Includes a 195,000 acfm cartridge collector and 130 ft stack.
024	Plastics plant pellet silos (4) for truck and train loading. Each silo will have a bin filter and a small stack. The plastics plant is vented via the building ventilation system.
025	Propane vaporizer (1) and soda ash slurry heaters (2).
026	Emergency generator rated at 500 kilowatts (kW).

D. Facility wide emission estimates

Table 3 is a list of baseline actual and future potential emissions of PSD-pollutants from the EFT facility.

Table 3. Past actual and estimated future potential emissions from the EFT facility in TPY.

Pollutants	Baseline Actual Emissions	Future Potential Emissions	Net Emissions Increase	PSD Significant Emission Rate	PSD Triggered? Yes/No
CO	813	912	99	100	No
NO_X	35	204	169	40	Yes
$PM/PM_{10}/PM_{2.5}$	24	65	41	25/15/10	Yes
SAM	4.4	6.5	2.1	7	No
Pb	0.97	0.96	-0.01	0.6	No
SO_2	853	892	39.0	40	No
VOC	60	16	-44.0	40	No
Mercury (Hg)*	0.012	0.018	0.006	0.1	No

* Hg is a PSD-pollutant per state rules, but not per federal rules.

Table 4 is a list of future HAP emissions from the EFT facility.

Table 4. Future HAP emissions from the EFT facility estimated by the applicant.

Pollutants	Past emissions (TPY)	Future Emissions (TPY)
Pb	0.97	0.96
Hg	0.012	0.018
Antimony (Sb)	Not estimated	0.009
Arsenic (As)	Not estimated	0.32
Cadmium (Cd)	Not estimated	0.033
Hydrogen chloride (HCl)	Not estimated	0.22
Carbon disulfide (CS_2)	29.4	5.0
Total HAP	> 30	6.56

The listed future emission estimates are based on emission tests conducted at the GCR facility that is the basic model for the EFT project. Past emissions of some of the metal HAP from the EFT facility are not known with any accuracy and are not listed except for Pb and Hg.

EFT's estimate of 29.4 TPY of CS_2 is based on testing conducted on a facility with a blast furnace. Despite the future HAP emission estimates, there is insufficient rationale at this time to classify the future EFT operation other than a major source of HAP on the basis of potential to emit and on past operations.

III. RULE APPLICABILITY

A. State Regulations

The project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the F.A.C. This project is subject to the following rules in the F.A.C.

Table 5. Key applicable state regulations.

Chapter	Description
62-4	Permitting Requirements
62-204	Air Pollution Control (Includes Adoption of Federal Regulations)
62-210	Stationary Sources – General Requirements
62-212	Stationary Sources – Preconstruction Review (including PSD Requirements)
62-213	Operation Permits for Major Sources of Air Pollution
62-296	Stationary Sources – Emission Limiting Standards
62-297	Stationary Sources – Emissions Monitoring

B. Federal Regulations

This project is also subject to certain applicable federal provisions regarding air quality as established by the EPA in the CFR and summarized below.

Table 6. Key applicable federal regulations.

Title 40	Description
Part 60	Standards of Performance for New Stationary Sources (NSPS)
Part 63	National Emission Standards for Hazardous Air Pollutants (NESHAP)

The key emission limits from the referenced federal standards are given in Tables 7, 8 and 9. The values apply together with limitations at least as stringent based on BACT or avoidance of PSD and BACT.

Table 7. Pb and total hydrocarbons (THC) limits for process sources - collocated reverb furnace and existing blast furnace as applicable to EFT.

Furnace configuration	Pb compounds (mg/dscm)[3]	THC (ppmvd)[1]	Citation 40 CFR 63, Subpart X
Both furnaces operating	2.0	20 ppmvd	§63.543(a),(c).
Only the blast furnace[2]	2.0	360 ppmvd	§63.543(a),(c)(1).

1. THC emission limits are expressed in parts per million by volume, dry, as propane at 4 percent carbon dioxide (ppmvd @ 4% CO_2) to correct for dilution, based on a 3-hour average.
2. The blast furnace at EFT is an existing source that commenced construction or reconstruction on or before June 9, 1994.
3. Pb compounds emission limits are expressed as milligrams per dry standard cubic meter (mg/dscm).

Table 8. Summary of Pb standards for process fugitive sources.[2]

Process fugitive emission source	Control device Pb compound emission limit (mg/dscm)	Enclosed hood or doorway face velocity (fpm)	Citation 40 CFR 63 Subpart X
Control Option I			
Smelting furnace and dryer charging hoppers, chutes, and skip hoists	2.0	300 [1]	§63.544 (b), (c).
Smelting furnace lead taps and molds during tapping	2.0	300 [1]	§63.544 (b), (c).
Smelting furnace slag taps and molds during tapping	2.0	300 [1]	§63.544 (b), (c).
Refining kettles	2.0	250 [1]	§63.544 (b), (c).
Dryer transition pieces	2.0	350 [1]	§63.544 (b), (c).
Dryer	2.0		§63.544 (d).
Control Option II			
Enclosed building ventilated to a control device	2.0		§63.544 (b), (c).

1. Enclosure hood face velocity in feet per minute (fpm) applicable to those process fugitive sources not located in an enclosed building ventilated to a control device.
2. At EFT process fugitive emissions will be exhausted through the new hygiene baghouse and stack.

EFT asserts that Control Option II applies to their project rather than Control Option I because the building will be entirely enclosed and ventilated to a control device. However, the emissions controlled by the complete enclosure are those not already controlled by Option I. The Department believes that Option I applies and will request that EPA advise on this matter during the comment period.

The issue is somewhat academic because (as discussed further below) the Department is requiring adherence to the provisions of Control Option I through the BACT process but with more stringent Pb limitations. The Department is also requiring the total enclosure of the building coupled with ventilation of the remaining air through a different control device and stack.

In addition, measures related to fugitive emissions from the BBA, the MSHA, plant roadways and process points not specifically listed above, are given in 40 CFR 60, Subpart X, § 63.545 - Standards for Fugitive Dust Sources. These are primarily reasonable precautions and the only quantified measure is that Pb emissions from any building or enclosure ventilation system shall not exceed 2.0 mg/dscm (0.00087 gr/dscf).

Table 9. PM and visible emissions (VE) limits for blast and reverb furnaces.

Furnace type	PM		VE	Citation 40 CFR 60, Subpart L
	(mg/dscm)	(gr/dscf)	(% opacity)	
Reverb or blast furnace	50	0.022	20	§ 60.122 (a).

1. PM emission limits are expressed mg/dscm and the equivalent as grains per dry standard cubic foot (gr/dscf).

C. Description of PSD Applicability Requirements

The Department regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) program, as described in Rule 62-212.400, F.A.C. A PSD review is only required in areas that are currently in attainment with the National Ambient Air Quality Standard (National AAQS) for a given pollutant or areas designated as "unclassifiable" for the pollutant.

The EFT Lead-Acid Battery Recycling Facility is a Major Stationary Source with respect to the PSD Rules because it is a "Secondary Metal Production Plant" which is one of the facility categories with the PSD applicability threshold of 100 tons per year of a PSD pollutant. [Rule 62-210.200(195)(a)1., F.A.C.]

The EFT project is a Major Modification of a Major Stationary Source because there will be a net emissions increase greater than the significant emission rate (SER) of at least one PSD pollutant. The SER means a rate of pollutant emissions that would equal or exceed the values described in Rule 62-210.200(280)(a)1., F.A.C. SER values relevant to the project are listed in Table 3 above. Specifically, the project will result in emissions increases equal to or greater than the respective SER for NO_X and $PM/PM_{10}/PM_{2.5}$.

D. PSD and BACT Review Requirements

PSD review requires an Air Quality Analysis consisting of: an air dispersion modeling analysis to estimate the resulting ambient air pollutant concentrations; a comparison of modeled concentrations from the project with National AAQS and PSD increments; an analysis of the air quality impacts from the proposed project upon soils, vegetation, wildlife, and visibility (Air Quality Related Values – AQRV); and an evaluation of the air quality impacts resulting from associated commercial, residential, and industrial growth related to the proposed project. [Rule 62-212.400(5) through (9), F.A.C.]

For each pollutant with a net emission increase exceeding the respective SER, the applicant must propose the BACT as defined in Section 62-210.200(40), F.A.C. and in accordance with procedures described in Section 62-212.400(10), F.A.C.

IV. DRAFT BACT DETERMINATION

A. BACT Determination Procedure

BACT is defined in Paragraph 62-210.200(40), FAC as follows:

(a) An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account:

1. Energy, environmental and economic impacts, and other costs;

2. *All scientific, engineering, and technical material and other information available to the Department; and*

3. *The emission limiting standards or BACT determinations of Florida and any other state; determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.*

(b) If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation.

(c) Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

(d) In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63.

According to Rule 62-212.400(4)(c), F.A.C., the applicant must at a minimum provide certain information in the application including:

(c) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine BACT including a proposed BACT;

According to Rule 62-212.400(10), F.A.C., the Department is required to conduct a control technology review and shall not issue any permit unless it determines that:

(a) The owner or operator of a major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emissions standard and standard of performance under 40 CFR Parts 60, 61, and 63.

(b) The owner or operator of a new major stationary source shall apply best available control technology for each PSD pollutant that the source would have the potential to emit in significant amounts.

(c) The owner or operator of a major modification shall apply BACT for each PSD pollutant which would result in a significant net emissions increase at the source. (This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.)

B. $PM/PM_{10}/PM_{2.5}$ BACT Determination

A summary of the BACT proposal for $PM/PM_{10}/PM_{2.5}$ submitted by EFT for the key operations is presented in Table 10. The proposal regarding Pb is included because of the importance to insure the project does not trigger PSD for that pollutant.

Table 10. Applicant BACT proposal for $PM/PM_{10}/PM_{2.5}$ and Proposed Pb Limits.

Stack	Also Includes	$PM/PM_{10}/PM_{2.5}$ (gr/dscf)	Pb (mg/dscm)	Controls
BBA	Plastics plant extrusion	0.005	0.80	Impingement Scrubber
Smelting (process stack)	Dryer	0.005	0.30	Baghouses Afterburner Caustic scrubber
Process fugitive emissions (hygiene stack)	Refining, tapping, charging	0.005	0.20	Baghouse
Building total enclosure (building ventilation stack)	fugitive emissions all building areas	0.005	0.05	Cartridge Collector
Soda ash silos (bin vent outlets)	For receiving and distribution	0.005	Not applicable	Baghouses

The proposed values for PM are less than 25% of the 40 CFR 60, Subpart L limit that applies to the smelting. Depending on the stack, the Pb proposal is between 2.5 to 40% of the maximum achievable control technology (MACT) limit that applies to smelting and to process fugitive emissions.

The value of the BACT proposal is not just in the proposed emission limits from the recognized sources such as the BBA, smelting and process fugitive emissions. The total building enclosure increases the capture efficiency and pulls in a greater volume of air that contains dust and Pb that would otherwise leave the building as fugitive emissions. The overall level of control is beyond what is practiced at any secondary lead smelter and insures that, unlike the historical operation, fugitive emissions are kept to an absolute minimum. The total enclosure part of the proposal is the linchpin in the strategy to control Pb emissions and ambient concentrations.

The proposal is more stringent than any BACT determinations for lead smelting facilities given in the RACT/BACT/LAER Clearinghouse (RBLC), including the Gopher Resource Corporation (GRC) facility in Egan, Minnesota. The Department accepts the proposal by EFT as BACT for $PM/PM_{10}/PM_{2.5}$.

C. NO_X BACT Determination

The future sources and quantities of NO_X emitted and BACT proposals from the various operations at EFT are listed in Table 11.

The most important source is thermal NO_X generated in the new reverb furnace due to combustion of natural gas in the indirect heating of the charge. The blast furnace burner is much smaller in terms of capacity and NO_X emissions. The manner by which combustion occurs (layered coke within the charge) apparently evens out the heat in such a manner that it tends to minimize thermal NO_X formation.

The BACT NO_X analysis by EFT for the listed emission units is presented in pages 16 through 26 of the application submitted in August 2008 and which is available at the following link:

www.dep.state.fl.us/Air/emission/construction/hillsborough_county/PSD.pdf

The new reverb furnace will be responsible for 105 of the 169 TPY of the NO_X increase due to the proposed project. Thus most of the focus is on the possibilities of control on that emission unit.

Table 11. Sources and quantities of NO_X emitted and Applicant BACT proposals by emission unit.

Emission Unit	Future Actual Emissions (TPY)	Comments Cause of NO_X, Exhaust Stack	Proposed Control	Proposed Limit
Feed dryer	9.2	Natural gas combustion, filtered then vented via process stack	Good combustion	0.21 lb/mmBtu
Reverb furnace	105	Natural gas combustion, afterburner, filtered, scrubbed, then vented via process stack	Air/oxy/fuel burners and furnace draft control	0.6 lb/ton material charged
Blast furnace	13.1	Coke combustion, afterburner, filtered, scrubbed, then vented via process stack	Furnace draft	0.4 lb/ton material charged
Kettles - refining	62.8	Intermittent niter addition, filtered, then vented via hygiene stack	None	
Kettles combustion	8.8	Ten small natural gas burners. Vented via three small stacks	Good combustion	
Propane vaporizer	1.1	Small propane burner, vented via short stack	Good combustion	None
Emergency generator	2.4	Diesel-fueled engine vented via short stack	Combustion design	6.9 grams/brake horsepower-hour
Slurry heaters	1.4	Small natural gas burner, vented via short stack	Good combustion	None
Total (to nearest ton)	**204**	**Increase is 169 TPY**		

According to EFT, The two most effective options are low NO_X burners (LNB) and furnace draft control (FDC). LNB are configured to minimize the formation of thermal NO_X by using flame patterns that eliminate hot spots and/or by substituting oxygen for air to minimize the nitrogen available for thermal NO_X formation. FDC refers to minimizing air infiltration through the various openings, such as tap and slag holes, so that there is less air available for conversion to NO_X, as furnace draft control. Additionally, this has the added benefit of reducing the amount of fuel combustion needed to melt the feed stock, thereby minimizing the emission of all products of combustion.

EFT claimed that alternative technologies such as selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) that rely on ammonia injection have not been used to control NO_X from secondary smelting and that they are technically infeasible.

According to EFT, SCR catalysts are especially susceptible to poisoning by the types of metals present in smelting furnace emissions. The claim is certainly plausible given the presence of HAP metals such as Pb, As, Cd and Sb.

According to EFT, boiler exhaust gases (e.g. from a power plant) "are more consistent in temperature, air flow, and NO_X concentration than metallurgical furnaces. The use of SNCR on a lead smelting furnace would require the use of excessive ammonia or urea in order to accommodate the fluctuating conditions while achieving any reasonable control efficiency. These conditions would inevitably lead to considerable "slip" of the reagent into the gases emitted to the atmosphere and the resulting control efficiency would be lower than what is achieved in boilers as a consequence. The reagent would also interfere with the operation of the downstream sulfur dioxide scrubber."

Within the additional information submitted nn February 13, 2009, EFT identified additional reasons in support of the contention that SNCR is not feasible. The details are given in pages 7 and 8 of the document attached to the cover letter and titled "Response to Second Request for Additional Information – Project Number: 0570057-020-AC". The entire submittal is available at the following link:

www.dep.state.fl.us/Air/emission/construction/hillsborough_county/RAIResponseLetter.pdf

According to EFT, the following additional reasons support their case that SNCR and SCR are not feasible:

- Affinity of metals for ammonia (NH_3) causing injection of greater than stoichiometric amounts of NH_3 and causing additional slip and salts formation;
- Salt formation in the wet scrubber;
- Introduction of significant amounts of NH_3 into the wastewater system;
- Ammonium ions interfere with the removal of Pb and other metals in the wastewater treatment system;
- The wastewater pretreatment standards for secondary lead smelters (40 CFR 421, Subpart M) allow no NH_3 discharge from any of the activities at such smelters;
- SCR would have to be installed downstream of the baghouse to avoid premature catalyst fouling, where gases have cooled below the temperature required for catalyst operation, necessitating the reheating of the gas stream;
- These concerns are the reasons SNCR and SCR have never been employed at secondary lead smelters in the U.S.; and
- The small amount of NO_X potentially prevented is not worth interference with these facilities' primary function – to prevent Pb reaching the environment from spent lead-acid batteries.

The following table from 40 CFR 421, Subpart M appears to support the claim regarding the pretreatment standard for water from furnace wet air pollution control.

Table 12. Pretreatment Standards for Existing Sources. Wet Air Pollution Controls on Blast, Reverb or Rotary Furnaces.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	pounds per million pounds of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	.731	.339
Zinc	2.662	1.096
Ammonia (as N)	.000	.000

Individually, each of the claims regarding SCR or SNCR can be disputed. However, taken as a whole they support EFT's claim that SNCR and SCR are not feasible.

The Department reviewed a draft document issued in July 2009 by the European Commission on the Best Available Techniques (BAT) for the Non-Ferrous Metals Industry. The document is available at the following link:

ftp://ftp.jrc.es/pub/eippcb/doc/nfm_2d_07-2009_public.pdf

Table 5.57 on Page 513 lists BAT for secondary lead and zinc smelters. The listed BAT ranges for NO_X are < 100 mg/dscm by LNB or <100 to 300 mg/dscm by using an oxy-fuel burner. No correction for oxygen (O_2) is identified, but might actually exist.

EFT plans to use burners that incorporate both techniques. According to EFT, when combined into a single exhaust, the limits proposed by EFT of 0.4 and 0.6 lb NO_X/ton of material charged equate to 163 mg/dscm with no O_2 correction (electronic mail dated August 7, 2009).

The only mention of SCR or SNCR in the European Commission BAT document is in the context of precious metals refining. However, no installations have been reported and the technology is considered viable at only a single facility.

The Department preliminarily concludes that at this time SCR and SNCR are not appropriate for the reduction of the levels of NO_X expected from the EFT operation.

V. AIR QUALITY IMPACT ANALYSIS

A. Introduction

The proposed project will increase emissions of two PSD-pollutants, PM/PM_{10}/$PM_{2.5}$ and NO_X, at levels in excess of the respective SER. PM_{10} and NO_X are criteria pollutants and have national and state ambient air quality standards (AAQS), PSD increments, significant impact levels and de minimis monitoring levels defined for them. NO_X is an ozone precursor and any net increase of 100 tons per year of pollutant requires an ambient air impact analysis including the gathering of preconstruction ambient air quality data. $PM_{2.5}$ is also a criteria pollutant and has national and state AAQS, but is not subject to PSD at this time. $PM_{2.5}$ does not have defined PSD increments (i.e. allowable increases in ambient air concentration), significant impact levels (SIL) and de minimis monitoring levels.

The proposed EFT project is not subject to PSD review for Pb because the project will not increase emissions of Pb by the SER of 0.6 TPY or greater. However, the applicant provided an air quality impact analysis with respect to a recently revised National AAQS for this pollutant.

B. Major Stationary Sources Near the EFT Facility

The current largest stationary sources of air pollution in the region are listed below. The information is from annual operating reports submitted to the Department. The baseline and future emissions from the EFT facility rather than the 2007 emissions are shown.

Table 13. Largest Sources of NO_X (2007)

Owner	Site Name	TPY
Tampa Electric Company (TECO)	TECO Big Bend Station	24,566
Progress Energy Florida (PEF)	PEF Bartow Plant	2,526
Pinellas County (PC)	PC Resource Recovery Facility (RRF)	1,433
Hillsborough County (HC)	HCRRF	581
City of Tampa	McKay Bay Refuse-to-Energy	371
PEF	PEF Bayboro Power Plant	326
EFT	**EFT Lead Battery Recycling (past/future)**	**35/204**

Table 14. Largest Sources of PM/PM_{10} (2007)

Owner	Site Name	TPY
TECO	TECO Big Bend Station	1,608
PEF	PEF Bartow Plant	901
Kinder Morgan	Kinder Morgan Port Sutton Terminal	84
Kinder Morgan Bulk Terminal	Tampa Bay Stevedores	76
Conagra Foods, Inc.	Conagra	69
EFT	**EFT Lead Battery Recycling (past/future)**	**24/65**

Table 15. Largest Sources of SO_2 (2007)

Owner	Site Name	TPY
PEF	PEF Bartow Plant	12,448
TECO	TECO Big Bend Station	9,904
Mosaic Fertilizer	Mosaic Fertilizer	4,000
CF Industries	CF Industries	3,037
EFT	**EFT Lead Battery Recycling (past/future)**	**853/892**

Table 16. Largest Sources of Pb (2007)

Owner	Site Name	TPY
EFT	**EFT Lead Battery Recycling (past/future)**	**0.097/0.96**
TECO	TECO Big Bend Station	0.84
PEF	PEF Bartow Plant	0.53
Tampa Steel Erecting Company	Tampa Steel Erecting Company	0.16
APAC-SE, Inc., Central Florida	APAC-SE, Inc., Central Florida	0.09
Johnson Control Battery Group	Johnson Control Battery Group	0.04

C. Regional SO_2 and NO_X Emission Trends

To put the emissions from the EFT project into perspective, the Department graphed the SO_2 and NO_X emission trends during the period 1998-2008 from power plants located in Hillsborough County and the contiguous Pasco, Polk, Pinellas and Manatee Counties. The data source is the EPA Clean Markets Acid Rain database. The results are summarized in Figure 19.

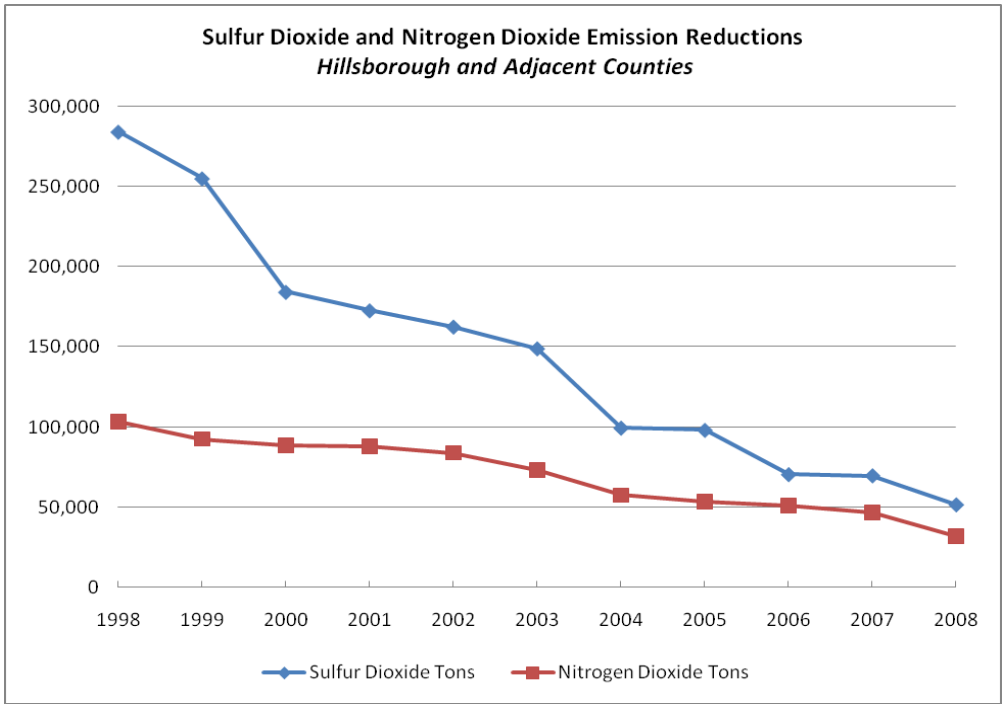

Figure 19. Stationary source SO_2 and NO_X emissions in Hillsborough and adjacent counties.

During the period 1998-2008 there was a *decrease* from 284,318 to 51,632 TPY (~82%) in SO_2 emissions from the five-county area. The main reasons for the reductions include: addition or improvement of wet scrubbers at the TECO Big Bend Station; the conversion of the coal-fueled TECO Gannon Station to a natural gas-fueled combined cycle facility; and the reduction in usage of the residual oil-fueled units at the PEF Bartow Power Plant in anticipation of their conversion to a natural gas-fueled combined cycle unit.

Similarly there was a *decrease* from 103,222 to 31,769 TPY (~69%) in NO_X emissions. The main reasons for the reductions include: installation of low NO_X burner, separate overfire air and selective catalytic reduction (SCR) at several of the TECO Big Bend Station units; the conversion of the Gannon Station; and the reduction of usage of the PEF Bartow residual oil-fueled units.

Further reductions, in NO_X emissions, are foreseen due to the completion of the SCR projects at TECO Big Bend Units 2 and 1 in May 2009 and May 2010 respectively and completion of the PEF Bartow combined cycle project in late 2008. This will extend the ongoing trend documented above of lower NO_X emissions in the five-county area.

The projected emission increases at EFT of 39 and 169 TPY of SO_2 and NO_X, respectively, are minimal when compared with the documented reductions of nearly 20,000 TPY in the most recent year alone from nearby sources for each of these pollutants.

D. Ambient Air Monitoring in Hillsborough County

The Environmental Protection Commission of Hillsborough County (EPCHC) operates twenty-seven monitors at fourteen sites measuring one or more of the following Pb, PM_{10}, $PM_{2.5}$ (also called PM_{fine}), ozone, CO, nitrogen dioxide (NO_2) and SO_2 as shown in Figure 20. Of special significance are the monitors associated with measurement of ambient Pb concentrations near EFT.

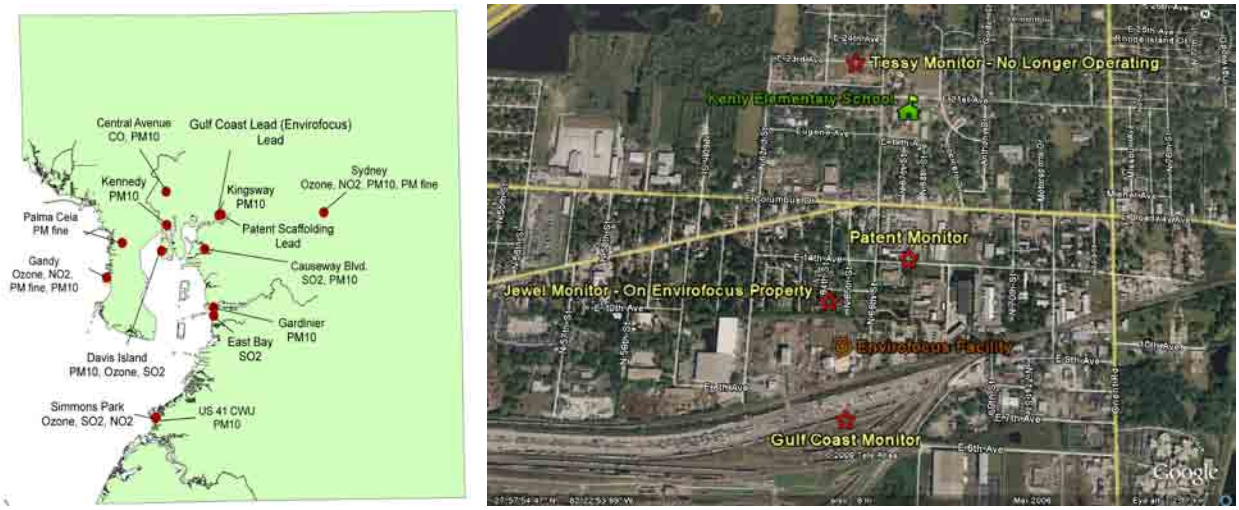

Figure 20. EPCHC air monitoring network, Pb monitors in the vicinity of the EFT site.

There is a regulatory Pb monitor (Gulf Coast) located south of EFT on property owned by CSX Railroad as shown on the right hand side of Figure 20. The data are available through the EPA Air Quality System (AQS).

There is a second (non-regulatory) Pb monitor collocated at the site of the regulatory Gulf Coast Pb monitor. The second monitor serves as a quality assurance (QA) check on the first and records similar values.

There is a third (non-regulatory) special purpose monitor (SPM) at the Gulf Coast location that is used for research. Historically, it was activated only during occurrences of sustained winds from the general direction of EFT. The sampling and filter collection frequencies and the results cannot be directly compared with the Pb AAQS for determination of attainment.

Presently, the SPM is used in a PM_{10} configuration as opposed to the typical total suspended particle (TSP) configuration characteristic of other Pb monitors.

There is also a nearby regulatory Pb monitor (Patent) located to the northeast of the EFT facility. The monitoring results are also included in the EPA AQS.

Another non-regulatory Pb monitor (Jewel) is located on former residential property immediately to the north and since purchased by EFT. It is no longer incorporated into the EPA AQS but the data are of important historical value and useful in trend analysis.

From 1998 to 2002 the EPCHC operated a regulatory Pb monitor (Tessy) adjacent to the nearest school (Kenly Elementary School). The collected data also have important value in the historical trend analysis, assessment of the aerial extent of elevated concentrations, and the possibilities for future attainment.

Air quality measurements from 2008 at regulatory monitors are summarized in the Table 17 below.

Table 17. Ambient air quality measurements nearest to the EFT project site (2008).

Pollutant	Location	Averaging Period	Ambient Concentration				
			High	2nd High	Mean	Standard	Units [a]
PM_{10}	Gardinier	24-hour	76	58		150 [b]	μg/m^3
		Annual			23	50 [c]	μg/m^3
$PM_{2.5}$	Sydney	24-hour	20	19		35 [d]	μg/m^3
		Annual			8	15 [e]	μg/m^3
SO_2	Causeway	3-hour	13	13		500 [f]	ppb
		24-hour	3	3		100 [f]	ppb
		Annual			1[i]	20 [c]	ppb
NO_2	Gandy [j]	Annual			6	53 [c]	ppb
CO	Central	1-hour	3	3		35 [f]	ppm
		8-hour	2	2		9 [f]	ppm
Ozone	Davis Island	8-hour	84	83		75 [g]	ppb
		4th highest high			75	75 [g]	ppb
Pb	Gulf Coast	Highest 3-month rolling (2006-2008)			1.77	0.15 [h]	μg/m^3
		quarterly			0.62	1.5 [h]	μg/m^3
	Patent	Highest 3-month rolling (2006-2008)			0.40	0.15 [h]	μg/m^3
		quarterly			0.40	1.5 [h]	μg/m^3

a. Units are in: micrograms per cubic meter (μg/m^3); parts per billion (ppb); or parts per million (ppm).
b. Not to be exceeded on more than an average of one day per year over a three-year period.
c. Arithmetic mean.
d. Three year average of the 98th percentile of 24-hour concentrations.
e. Three year average of the weighted annual mean.
f. Not to be exceeded more than once per year.
g. Three year average of the 4th highest daily maximum.
h. National AAQS for Pb was reduced in November 2008 from 1.5 μg/m^3 on a quarterly basis to 0.15 μg/m^3 on a 3-month rolling basis. The data collected were compared with both limits.
i. Causeway is the nearest site but has incomplete data. Nearest monitor with complete data averaged 3 ppb.
j. Gandy is the nearest site with complete NO_2 data.

There are two pollutants that deserve further focus and review. These are ozone and Pb.

E. Discussion of Ambient Air Quality in Hillsborough County - Ozone

On March 27, 2008 the U.S. Environmental Protection Agency (EPA) published a final rule reducing the 8-hour ozone AAQS from 85 to 75 ppb. The fourth highest value measured at the Sydney monitor during 2008 equaled the new AAQS for ozone. The average of the annual fourth highest measurements over the period 2006-2008 is the value that is compared to the ozone AAQS for determining whether an area is in attainment. For the Davis Island monitor (the nearest to EFT), the value was 75 ppb. The highest reporting monitor in the county registered a value of 81 ppb as the average of the annual fourth highest readings during the period 2006-2008.

Upon final redesignation and classification, most likely in 2010, the counties shown in red (including Hillsborough County) in Figure 21 below will likely no longer be in attainment with the more stringent ozone AAQS based on the period 2006-2008.

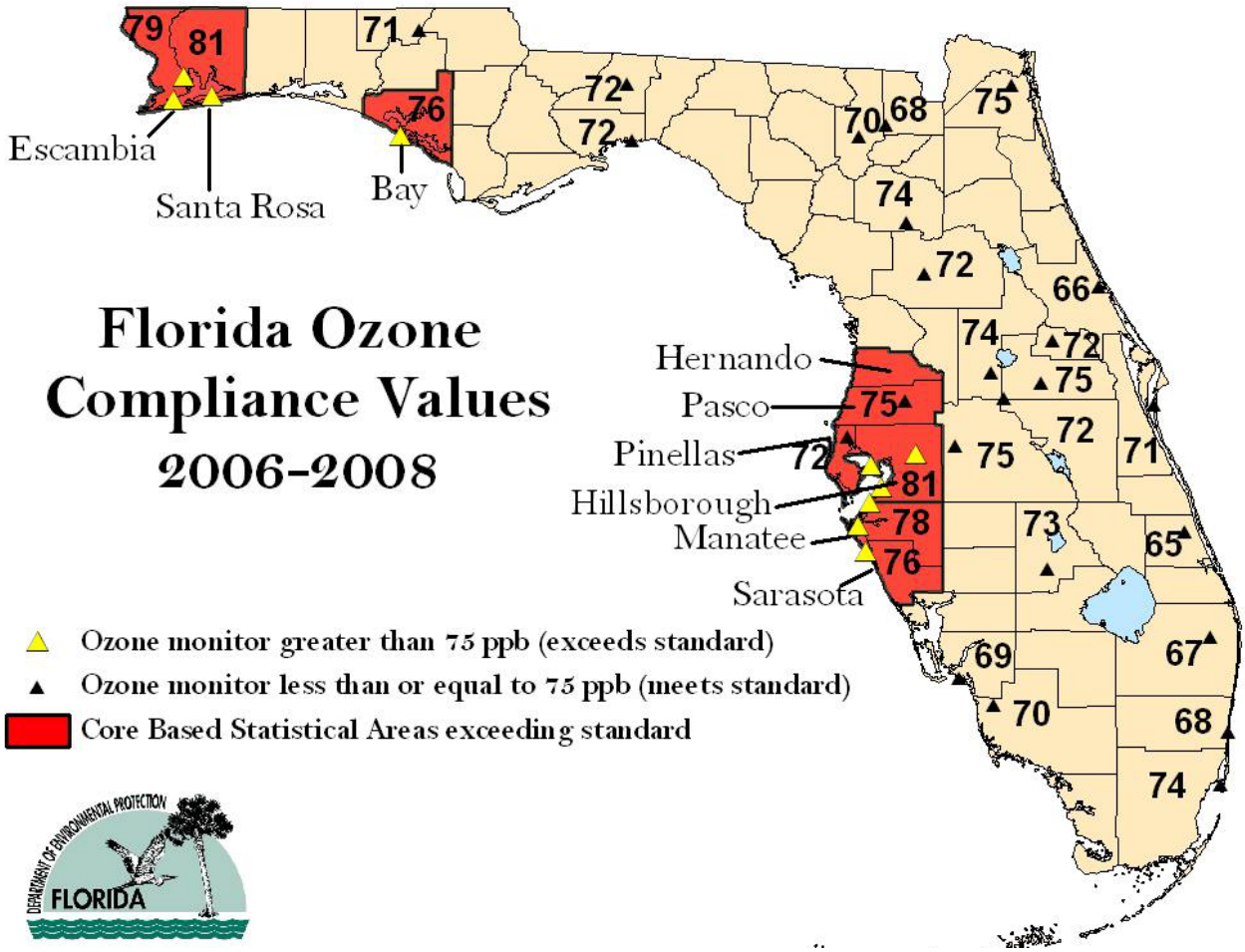

Figure 21. Florida ozone compliance values based on data reported during 2006-2008.

It is noteworthy that while ambient ozone concentrations are occasionally high, NO_2 (one of the key precursors to ozone) concentrations are well below the applicable AAQS. With the historical and ongoing NO_X reductions in Hillsborough and adjacent counties as well as regional reductions (such as at the large coal-fueled PEF Crystal River Power Plant) there is reason for optimism regarding the ability of the five-county area to attain the more stringent new ozone AAQS.

Again, the projected NO_X emission increase at EFT of 169 TPY is minimal when compared with the documented reductions of nearly 20,000 TPY from nearby sources in the last year alone. The contribution to ozone formation from EFT is negligible compared with the much greater beneficial effects from the recent and ongoing reductions at the nearby power plants. Further, the 169 TPY of NO_X from EFT is dwarfed by emissions from other facilities, such as 24,566 TPY from the TECO Big Bend Electric Station.

F. Discussion of Ambient Air Quality in Hillsborough County - Pb

On November 12, 2008 EPA published a final rule reducing the National AAQS for Pb from 1.5 µg/m^3 on a quarterly basis to 0.15 µg/m^3 on a 3-month rolling basis. The final rule is available at the following link:

www.epa.gov/fedrgstr/EPA-AIR/2008/November/Day-12/a25654.pdf

The Gulf Coast and Patent monitors listed in the table above registered concentrations in excess of the new AAQS before and since its promulgation. Note that although the lead facility name was changed in recent years from Gulf Coast Recycling to EFT, the name of monitoring site remains Gulf Coast and it is actually located on property owned by CSX.

The graph on the left hand side of Figure 22 shows the Pb concentration trends at all of the monitors (i.e. regulatory and non-regulatory) with the exception of the SPM at the Gulf Coast site. The horizontal reference line represents the new Pb AAQS. The regulatory and QA monitors at the Gulf Coast site were averaged and plotted as a single curve. It is noteworthy that there was a pronounced peak in ambient Pb concentrations every winter until the winter of 2008-2009.

The graph on the right hand side of the figure focuses on the most recent 24-month period for which data have been analyzed. It is clearer in the second graph that (as in previous winters) there was a pronounced peak during the winter of 2007-2008 but not during the winter of 2008-2009.

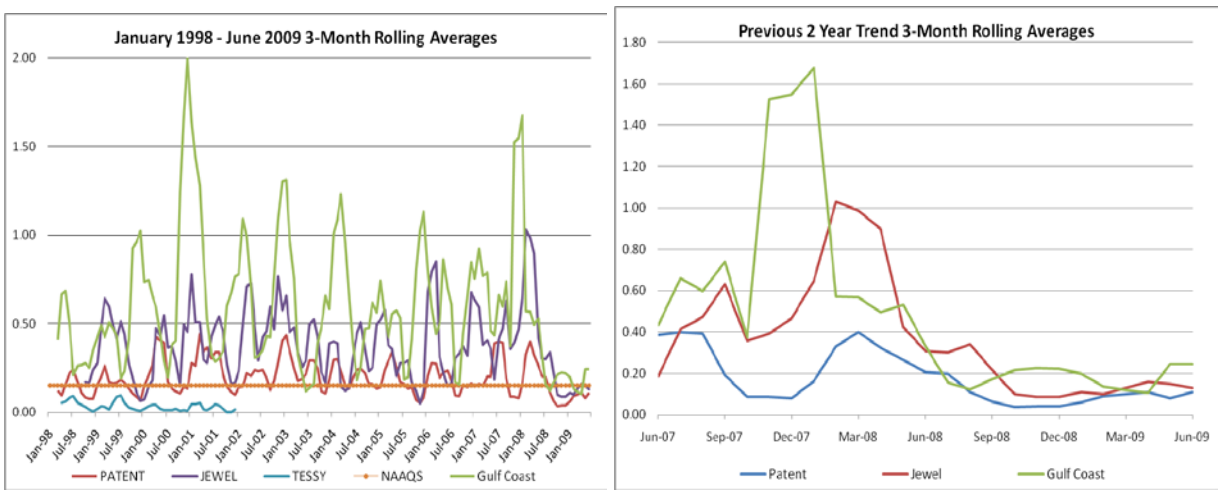

Figure 22. Ambient Pb monitoring data near EFT from 1998 through May 2009 µg/m^3.

The data associated with the graph on the right hand side are given in the Table 18 below.

The SPM (values not shown) were activated only when the wind blew from the general direction of EFT. The values recorded at the SPM at the Gulf Coast site (located at CSX) were greater than the readings at the other monitors including the regulatory and QA monitors collocated with the SPM. The conclusion is that EFT is the main source of Pb in the area. Since the SPM data are "over weighted" by air from EFT, it is logical that readings at the SPM were greater than at the regulatory monitors. It is also reasonable to conclude that the elevated local Pb readings at the regulated monitors are primarily caused by operations at EFT.

The winter peaks are hypothesized to be caused by increased winter wind speeds that until recently overwhelmed the ability of the ventilation systems at EFT to capture process fugitive emissions and exhaust them via the existing baghouses and stacks. The winter winds also tend to entrain

more dust from road surfaces and building roofs. The specific improvements that ameliorated the winter 2008-2009 readings include an enclosure constructed around the blast furnace and the installation of the 65,000 acfm building ventilation system and cartridge collector system described in the previous technical sections.

Table 18. Pb data from January 2008 through May 2009 (µg/m^3, 3-month rolling averages).

Month, Year	Site Name, Number			
	Gulf Coast Lead		Patent	Jewel
	139A	139B (QA)	144	146 (NR)
January, 2008	1.77	1.58	0.16	0.65
February	0.66	0.49	0.33	1.03
March	0.62	0.51	0.40	0.99
April	0.54	0.45	0.32	0.90
May	0.64	0.42	0.26	0.42
June	0.40	0.26	0.21	0.31
July	0.23	0.09	0.20	0.30
August	0.16	0.09	0.11	0.34
September	0.22	0.13	0.06	0.21
October	0.23	0.20	0.04	0.10
November	0.19	0.25	0.04	0.09
December	0.19	0.25	0.04	0.09
January, 2009	0.21	0.19	0.06	0.11
February	0.14	0.13	0.09	0.10
March	0.13	0.11	0.10	0.13
April	0.11	0.10	0.11	0.16
May	0.25	0.24	0.08	0.15

QA: Non-regulatory QA monitor.

NR: Non-regulatory monitor within the EFT property.

The results from the Tessy monitor (near Kenly Elementary School) shown in the chart indicate that even during the period 1998-2002, that site complied with the previous Pb AAQS and would have complied with the new Pb AAQS of 0.15 µg/m^3 on a 3-month rolling average.

G. Air Quality Impact Analysis

Significant Impact Analysis (SIA) – PSD Pollutants

SIL are defined for PM/PM_{10}, and NO_X. A significant impact analysis is performed on each of these pollutants to determine if a project can cause an increase in ground level concentration greater than the SIL for each pollutant.

In order to conduct a significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. The models used in this analysis and any required subsequent modeling analyses are described below. The highest predicted short-term concentrations and highest predicted annual averages predicted by this modeling are compared to the appropriate SIL for the PSD Class II Area (everywhere except the closest Class I Area, the Chassahowitzka National Wildlife Refuge). A Class I Significant Impact Analysis was not completed for this project. The U.S. Fish and Wildlife Service determined that it was not necessary for this project due to low emissions and distance from the refuge.

For the Class II analysis, a combination of fence line, and non-fence line receptors were chosen for predicting maximum concentrations in the vicinity of the project. The receptor grid consisted of receptors spaced at 50-meter intervals around the facility fence line. For NO_X the remaining receptors were spaced at 100 meter intervals and extended out to approximately 600 to 900 meters depending on the direction. The results of the SIA analysis indicate decreases of close to 90% from the fence-line to the remaining receptors. For PM_{10}, the receptor grid consisted of 100 meter spaced receptors which extended out to approximately 1.5 kilometers. The largest concentrations for PM_{10} were also found along the fence-line.

If this modeling at worst-load conditions shows ground-level increases less than the SIL, the applicant is exempted from conducting any further modeling. If the modeled concentrations from the project exceed the SIL, then additional modeling including emissions from all major facilities or projects in the region (multi-source modeling) is required to determine the proposed project's impacts compared to the AAQS and PSD increments.

The applicant's PM/PM_{10} and NO_X air quality significant impact analyses for this project are shown below in Table 19. Maximum predicted impacts from all pollutants are greater than the applicable SIL for the Class II area. These values are tabulated in the table below and compared with existing ambient air quality measurements from the local ambient monitoring network.

Table 19. Maximum Predicted Air Quality Impacts from the EFT Modernization for Comparison to the PSD Class II SIL

Pollutant	Averaging Time	Max Predicted Impact ($\mu g/m^3$)	Significant Impact Level ($\mu g/m^3$)	2008 Baseline Concentrations ($\mu g/m^3$)	Ambient Air Standards ($\mu g/m^3$)	Significant Impact?
PM_{10}	Annual	3	1	~25	50	YES
	24-Hour	14	5	~75	150	YES
NO_2	Annual	17	1	~11	100	YES

It is clear that maximum predicted impacts from the project are much less than the respective AAQS.

Preconstruction Ambient Monitoring Requirements

A preconstruction monitoring analysis is done for those pollutants with listed de minimis impact levels. These are levels, which, if exceeded, would require pre-construction ambient monitoring. For this analysis, as was done for the significant impact analysis, the applicant used the proposed project's emissions at worst load conditions as inputs to the models. As shown in Table 20 below, the maximum predicted impacts for all pollutants with listed de minimis impact levels were greater than these levels. Therefore, a pre-construction monitoring analysis is required for PM/PM_{10}, and NO_X.

Table 20. Maximum Air Quality Impacts for Comparison to the De Minimis Ambient Impact Levels

Pollutant	Averaging Time	Max Predicted Impact ($\mu g/m^3$)	De Minimis Level ($\mu g/m^3$)	2008 Baseline Concentrations ($\mu g/m^3$)	Impact Greater Than De Minimis?
PM_{10}	24-hour	14	10	~75	YES
NO_2	Annual	17	14	~11	YES

There are six PM_{10} monitors located between 5 and 10 miles from the EFT facility that, taken together, provide sufficient data to satisfy preconstruction monitoring needs. There are also three NO_2 monitors located at sites expected to show influences from mobile sources or from large power plants. These also provide sufficient data to satisfy preconstruction monitoring needs. For reference, the highest values NO_2 recorded are less than 15% of the applicable National AAQS. Given the planned stack heights and low contribution from the present and future EFT operation to NO_X (and NO_2) loading, preconstruction monitoring at the EFT location would yield little useable information.

Although ozone and PM_{fine} did not require an evaluation for preconstruction monitoring it is worth noting that both of these pollutants are formed on an area-wide or regional basis from precursors such as NO_X, SO_2 and VOC. The EPCHC has sufficient PM_{fine} and ozone monitors at optimal locations to assess air quality on an area-wide or regional basis. Additional preconstruction monitoring would not yield much information of additional value regarding the effects of the present or future EFT operation upon air quality based on PM_{fine} and ozone.

The two existing regulatory Pb monitors are close enough to EFT to satisfy the purposes of preconstruction monitoring in the immediate vicinity of the project. Due to previous expansions at the EFT facility, the Jewel monitor is no longer within a nearby residential area and is no longer a regulatory monitor. Also, the Tessy monitor (near Kenly Elementary School) is no longer in operation following years during which it demonstrated attainment with the much greater Pb NAAQS in effect during that period.

The Department, as a condition of the permit, is requiring the establishment of additional Pb monitoring stations in the nearby residential area and close to the nearest school by EFT. The Department has preliminarily determined that a monitoring site should be located within 250 meters of the northwest quadrant with respect to the intersection of Jewell Avenue and North 64th Street, beyond the EFT property boundary. Another monitoring site should be located north of East 19th Avenue and within 500 meters of the intersection of East 19th Avenue and North 66th Street.

The final site selection will be made in accordance with EPA siting criteria and in consultation with the Department's Bureau of Air Monitoring and Mobile Sources (BAMMS), the EPCHC and the applicant. Land ownership, electric power supply and topographical features will need to be assessed and could require some adjustment of preliminary locations given above.

Based on the preceding discussions, the only additional detailed air quality analyses required by the PSD regulations for this project are the following:

- A multi-source AAQS and PSD increment analysis for PM_{10} and NO_2 in the Class II area; and
- An analysis of impacts on soils, vegetation, visibility, and of growth-related air quality modeling impacts.

Models and Meteorological Data Used in the Foregoing Air Quality Analysis

PSD Class II Area: The AERMOD modeling system was used to evaluate the pollutant emissions from the proposed project in the surrounding Class II Area. AERMOD was approved by the EPA in November 2005. The AERMOD modeling system incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including the treatment of both surface and elevated sources, and both simple and complex terrain. AERMOD contains two input data processors, AERMET and AERMAP. AERMAP is the terrain processor and AERMET is the meteorological data processor.

A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

The AERMET meteorological data used for this analysis consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the Tampa International Airport and the National Weather Service at Ruskin respectively. The 5-year period of meteorological data was from 2001 through 2005. A sensitivity analysis was also completed using surface data from the facility site. The meteorological data used were in accordance with the EPA AERMOD Implementation Guide.

The sensitivity analysis showed that concentrations were similar when comparing the surface characteristics of the airport versus the facility. For PM_{10}, the results were within 0.7 $\mu g/m^3$ except for 2005 when the Tampa surface data was more conservative by over 1 $\mu g/m^3$. For NO_X, the results were more conservative when using surface data from the facility by approximately 1 μg/m3. For Pb, the 3-month rolling averages were identical. Therefore, the Tampa surface dataset was used for this analysis since the NO_X modeled impacts were well below the Increment and AAQS thresholds.

In reviewing this permit application, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification should EPA revise the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators. A more detailed discussion of the required analyses follows.

Multi-source PSD Class II Increment Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant from a baseline concentration. The maximum predicted annual and maximum predicted high, second high 24-hour average PSD Class II area impacts from this project and all other increment-consuming sources in the vicinity of the EFT facility are shown in Table 21 below.

Table 21. PSD Class II Increment Analysis

Pollutant	Averaging Time	Max Predicted Impact ($\mu g/m^3$)	Allowable Increment ($\mu g/m^3$)	Impact Greater Than Allowable Increment?
PM_{10}	24-hour[1]	1016	30	YES
	24-hour[2]	26	30	NO
	Annual[1]	41	17	YES
	Annual[2]	5	17	NO
NO_2	Annual	10	25	NO

1. The project does not cause or contribute to the modeled exceedance because the project impacts from EFT were less than the significant impact level (SIL) of 5 and 1 $\mu g/m^3$ for the 24 hour and annual averaging time frames for PM_{10} Increment.

2. The maximum predicted impacts when the project impacts from EFT were greater than or equal to the applicable SIL.

In conducting increment analyses, the following paragraphs from the Department rules are relevant:

Per Rule 62-212.400(5), F.A.C., Source Impact Analysis:

The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:

a. Any ambient air quality standard in any air quality control region; or

b. Any applicable maximum allowable increase (i.e. PSD increment) over the baseline concentration in any area.

Per Rule 62-210.200(75), F.A.C., Definitions, the term "cause or contribute" means:

With respect to a violation of an ambient air quality standard, to have a significant impact on the ambient air concentration of a pollutant at any locality that does not or would not meet the applicable standard.

Per Rule 62-210(281), F.A.C., Definitions, the term "significant impact" means:

An impact of emissions on ambient air quality in excess of any of the following pollutant-specific concentration values:

(b) PM_{10}.

1. *Maximum 24-hour concentration not to be exceeded more than once per year – 1.0 $\mu g/m^3$ for Class I areas; 5.0 $\mu g/m^3$ for all other areas. (i.e. the applicable SIL)*
2. *Annual arithmetic mean – 1.0* $\mu g/m^3$. *(i.e. the applicable SIL)*

Consistent with the definitions and procedures given above, the applicant demonstrated that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of any AAQS or increment. Therefore, the permit may be issued.

The Department further investigated the reasons for the increment violations and found they are typically due to minor sources with near ground level emission points. One example is a portable concrete crusher with a 2.5 meter emission release height and a 5 TPY emission limit. While this contributor is not a major source of particulate matter, the modeled impacts are very high due to the low stack, which is typically seen with the AERMOD modeling system.

Upon removal of this one small source (a concrete crusher) from the modeling inventory, the total maximum predicted impacts are decreased by approximately 50%. To further illustrate this effect, upon removal of the portable concrete crusher, the total maximum predicted impact is located near a different concrete plant which is also a minor source with a 5 TPY emission limit and a short, 3 meter stack.

Also, the results of the PM_{10} PSD Class II analysis are conservative. Specifically, the inventory of all increment-consuming sources did not include sources that have expanded increment, i.e. shut down or reduced emissions since the baseline date and potential emissions were used as inputs to the model instead of actual emissions. As an example, the PM_{10} analysis did not account for the over 1,200 tons per year decrease from the TECO Bayside Repowering Project.

AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. The maximum annual and 24-hour high, sixth high over 5 years impacts for the AAQS analysis are summarized in Table 22 below. As shown in this table, emissions from the proposed facility are not expected to significantly cause or contribute to a violation of an AAQS.

Table 22. Ambient Air Quality Impacts – PSD Pollutants

Pollutant	Averaging Time	Major Sources Impact ($\mu g/m^3$)	Background Conc. 2003- 2007 ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	Total Impact Greater Than AAQS?	Florida AAQS ($\mu g/m^3$)
PM_{10}	24-hour[1]	1003	80	1083	YES	150
	24-hour[2]	30	80	110	NO	150
	Annual[1]	41	27	68	YES	50
	Annual[2]	6	27	36	NO	50
NO_2	Annual	17	19	36	NO	100

1. The project does not cause or contribute to the modeled exceedance because the project impacts from EFT were less than the significant impact level (SIL) of 5 and 1 $\mu g/m^3$ for the 24 hour and annual averaging time frames for PM_{10} AAQS.

2. The maximum predicted impacts when the project impacts from EFT were greater than or equal to the applicable SIL.

Despite the AAQS violations shown, the permit may be issued for the same reasons enumerated in the preceding section.

Although PSD was not triggered for Pb, an AAQS analysis was performed to compare with the new AAQS as shown in Table 23 below. Unlike the PSD AAQS analysis, the background concentration was not based on the nearest ambient air monitor. The nearest monitors in this case are not considered “background” because they are directly impacted by the EFT facility.

Therefore, the background concentrations when added to the modeled impacts would be "double-counting" the facility Pb emissions.

The background concentration was estimated at 0.05 μg/m^3 by an analysis of all Pb monitors in the United States that were not impacted by stationary sources of Pb to achieve an appropriate background concentration. The estimated background value is approximately equal to the average of measurements at the Tessy monitor near Kenly Elementary School (that would have been partially influenced by operations at EFT). The conclusion is that the estimated background concentration is on the conservative side.

Table 23. Ambient Air Quality Impacts for Pb

Pollutant	Averaging Time	Major Sources Impact (μg/m^3)	Background Concentration (μg/m^3)	Total Impact (μg/m^3)	Total Impact Greater Than AAQS?	Florida AAQS (μg/m^3)
Pb	3-month rolling	0.08	0.05	0.13	NO	0.15

The proposed project includes increased battery recycling production but it also includes total enclosure of the facility. The enclosure of the facility will further improve or decrease Pb concentrations than what is already shown in the above chart. As detailed in previous photographs, the existing process areas are not yet fully enclosed so that winds are able to transport Pb to the outside and past the property line.

Completely enclosing the process areas will effectively eliminate this tendency as evidenced by the improvements already realized from the enclosure of the blast furnace. Further reductions of concentrations from total process area enclosure, along with modeling results provide reasonable assurance that the EFT facility will not cause or contribute to violations of the new Pb AAQS in the future. Even with a production increase, the proposed project will improve the chronic ambient Pb concentration issue that has existed in the immediate environs for years.

H. Additional Impacts Analysis

Impact on Soils, Vegetation, and Wildlife

The EFT facility (previously Gulf Coast Recycling) has been operating for decades. The proposed project includes the total enclosure of the process areas. This enclosure will improve the overall air quality in the immediate area and reduce inputs of Pb into the local soils. The modeled impacts from this project will also not contribute to a violation of the AAQS. Emission increases of PM/PM_{10} are relatively low and the increases in NO_X emissions are minimal when compared with the reductions that have occurred in the past decade in the region. Therefore, it is reasonable to assume the impacts on soils, vegetation and wildlife will be minimal.

Growth-Related Impacts Due to the Proposed Project

The proposed project will increase the production capacity of the facility; however, the impact on the workforce will be minimal and is not expected to lead to growth in the surrounding population. It is expected that the bulk of this workforce will be provided from within the existing regional population. An increase in the number of housing units in the area as a result of either the construction or operation of this facility is not expected.

The project will increase truck traffic to accommodate the increased raw materials (spent batteries) and product (lead ingot). Municipal and county transportation authorities are assessing options to improve traffic flow.

In summary, growth and secondary air quality impacts from the proposed facility are expected to be minimal.

Growth-Related Air Quality Impacts since 1977

The population of Hillsborough County doubled between 1977 and 2008 from approximately 600,000 to 1,200,000. Despite the growth and increase in electric power consumption, county-wide air quality has improved with respect to SO_2 due to power plant pollution control projects and the progressive reduction in sulfur levels in diesel fuel. For example, SO_2 emissions have decreased by 230,000 TPY since 1998.

Pb concentrations have also greatly decreased due to the phase-out of leaded automobile fuels and are improving near the few industrial Pb sources in the area.

The county was redesignated from marginal ozone non-attainment to attainment in the mid-1990's. However it may be redesignated as an ozone non-attainment area following promulgation of a more stringent standard. Much of the improvement came from specification of lower vapor pressure (VOC) gasoline.

The continuing reductions of NO_X from power plant pollution control and natural gas repowering projects as well as improvements in automobile emission characteristics are apparently counteracting the entrenched trend of increasing vehicle-miles travelled (VMT).

On balance, regional air quality in Hillsborough County as measured by the PSD-pollutants of NO_X, SO_2 and PM is better today than it was in 1977 despite the substantial growth in Hillsborough and the surrounding counties.

Additional information regarding air quality trends is available at the following EPCHC link:

www.epchc.org/air_tech_reports.htm

VI. CONCLUSION

The Department has reasonable assurance that the proposed EFT project will comply with the Department's regulations and has made a preliminary decision to issue a permit under the PSD rules. The Department has reviewed and concurs with the applicant's BACT proposals.

Based on the ambient air quality review, the Department concludes that the project will not cause or contribute to a violation of ambient air quality standards or increments. Furthermore, there will not be significant impacts on soils, wildlife or vegetation.