STARTUP, SHUTDOWN, AND **MALFUNCTION PLAN**

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INTRODUCTION

The United States Environmental Protection Agency (EPA) on June 23, 1995 promulgated Maximum Available Control Technology (MACT) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Lead Smelters. The regulations are found in 40 CFR 63, Subpart X. Amendments to this rule were published on June 13, 1997 (62 FR 322 09) in a direct final rule. The EPA has allowed the State of Florida to regulate the associated laws and rules through the State Implementation Program (SIP). The Hillsborough County Environmental Protection Commission (EPC) is responsible for the monitoring and enforcement of the federal standards and issues Title V Air Permits. EnviroFocus Technologies, L.L.C. (EFT) operates under a Title V air permit.

These rules and 40 CFR 63, Subpart A require each smelter to prepare a Standard Operating Procedures (SOP) Manual which describes, at a minimum, procedures for inspection, maintenance, bag leak detection, and corrective action plans for all baghouses used to control process, process fugitive, or fugitive dust emissions; as well as a Startup, Shutdown, and Malfunction Plan. (Note: baghouses used to control fugitive dust emissions are exempt from bag leak detector requirements). At EnviroFocus Technologies, LLC (EFT), formerly Gulf Coast Recycling, Inc. (GCR), this currently includes the Blast Furnace process baghouse, the Tapping/Charging or Blast Furnace hygiene baghouse, Refining Operation baghouse, and Blast Furnace Enclosure Torit Dust Collector.

This document is prepared to satisfy the requirements of 40 CFR 63.6(e)(3) of the above rules.

SUMMARY OF REGULATED PROCESSES/CONTROLS

As stated previously, EFT currently operates three baghouses**,** one negative pressure Torit collector unit, and one afterburner associated with the blast furnace and refining operations that are subject to this rule making. A brief discussion of each operation is as follows:

1. Blast Furnace Baghouse – This baghouse controls process emissions from the existing blast furnace. The baghouse is a ten (10)-compartment, shaker-type baghouse and currently operates at approximately 34,000 ACFM.

2. Tapping/Charging Baghouse – This baghouse is also referred to as the Blast Furnace hygiene baghouse. It controls process fugitive emissions from the lead-tapping, slag-tapping and furnace charging operations. The baghouse is a three (3)-compartment, shaker-type baghouse and operates at approximately 20,000 ACFM.

3. Refining Baghouse – This baghouse controls process fugitive emissions from EFT's four refining kettles, four dross receptacle enclosures, and two pouring ladles on the casting machines. The baghouse is a three (3)-compartment shaker type baghouse and operates at approximately 28,000 ACFM.

4. Afterburner – EFT operates an afterburner to control VOC and CO emissions from the blast furnace. The exit temperature of the afterburner is continuously monitored to assure on-going compliance.

5. Blast Furnace Enclosure- The enclosure covers approximately 10, 000 ft2 and surrounds the blast furnace area with a permanent structure connecting to the existing roof. The blast furnace enclosure is maintained under a negative pressure and is vented through an 85,000 +/- 10,000 ACFM Torit Down flow Oval Cartridge dust collector to control fugitive emissions. The doorway between the furnace and feed pile room is also tied into the Torit Unit.

STARTUP, SHUTDOWN, AND MALFUNCTION PLAN PROCEDURES

As required by 40 CFR 63.6 (e)(3), EFT will implement the following procedures to ensure that at all times, 1) operations are conducted in a manner consistent with good air pollution control practices for minimizing emission at least to the level required by relevant standards; 2) operations are prepared to correct malfunctions as soon as practical after their occurrence; and 3) reporting burden is minimized. This plan shall be incorporated by reference into EFT's Title V air permit.

Operations covered by this plan include routine and/or otherwise predictable startup, shutdown and malfunctions for the following operations:

1) Blast furnace and associated air pollution control equipment.
2) Refining kettles and associated air pollution control equipment

To the extent possible, operations at EFT are 24 hours per day, 365 days per year. Planned and unplanned conditions can occur that can limit operations. Planned shutdowns occur for reasons such as clean outs, baghouse fan maintenance, inspections, and repairs. Unplanned shutdowns occasionally occur due to events beyond the control of EFT personnel, such as power failures, equipment malfunctions, and inclement weather (hurricanes, tornados, etc).

As stated above, periods of startup, shutdown, and malfunctions (SSM) occur for numerous reasons and at various levels.

Blast Furnace Operations

When the blast furnace is taken out of service, one of two "levels" of shutdown occurs. The furnace may be "banked" or completely shutdown.
1). When the furnace is banked, feed is stopped, the combustion blowers are shutoff and all slag is tapped. Coke may be added to keep the furnace from freezing over.
2). During a complete shutdown, all of the above occurs, except for the addition of coke. Additionally, the crucible is pulled out from the furnace and the furnace shaft is cleaned.

When the furnace is banked for reasons other than control equipment concerns, the ventilation to the baghouses for the furnace continues to operate normally except that, after the metal and slag is tapped, the afterburner may be shut down. Excess emissions are not a concern under this operating scenario.

When maintenance to the furnace process control equipment is required that dictates the control equipment be shutdown or when the afterburner and associated duct work are cleaned (usually three to four times each week), the furnace is banked, thus minimizing the potential for emissions. The Tapping/Charging baghouse system remains in operation in order to collect any fugitives emanating from the furnace. When this type of shutdown occurs, EFT will dedicate sufficient personnel to promptly proceed with the appropriate task. As soon as work is completed, the control equipment will be put back in service. During these shutdowns, the afterburner temperature drops dramatically for a period of time. This temperature drop may affect the three-hour average for a prolonged period of time.

During times of power failure for one or all of the system components (blower, baghouse fans, afterburner fan), the furnace will be banked. Immediate action will be taken to correct the problem.

Every few months, due to maintenance needs or due to an emergency such as a natural disaster, the furnace must be completely shutdown. When possible, such as during a maintenance required furnace shutdown, the control equipment is operated until the shutdown is complete and while the shaft is cleaned. The control equipment will be operating when the furnace is brought back on line. During times when the furnace is banked or is completely shut down for any reason, the Torit dust collection system will remain in operation. Additionally, when the blower to the furnace is off and we are proven to be in compliance regarding sulfur dioxide emissions by our CEM system, the sorbent injection system will be shut down as well.

As with the furnace process baghouse, the Tapping/Charging baghouse is also shutdown on occasion due to malfunctions or maintenance needs. When this occurs, the furnace is banked and the process baghouse remains in operation. Again, EFT will provide sufficient equipment and personnel to assure any shutdowns are responded to and completed as soon as practical.

The Blast Furnace Enclosure Torit Dust Collector will be shutdown on occasion due to malfunctions, maintenance, or filter changes. When this occurs the area of the Blast Furnace Enclosure will maintain doors closed, water usage to control dust on the floor will be increased, and all nonessential emission sources will be curtailed until the unit is operational.

Refining Kettles Shutdown

When the refining baghouse is not operational, the kettle burners are shut off and working of the kettles and casting machines ceases, thus allowing no emissions.

Records will be maintained documenting actions taken in accordance with the procedures above. These records will be maintained in the form of a checklist. A copy of the checklist is included as Attachment A. These records will consist of the time and duration of each occurrence, type of shutdown or malfunction, maintenance performed, and actions taken. Any actions that are inconsistent with the above plan will be noted. Periods where the afterburner temperature monitor(s) are inoperative (including out-of-control periods) will also be recorded. The only time the checklist will not be used is when the afterburner is down because it and/or the associated ductwork are undergoing routine cleaning (Note: this occurs three (3) to four (4) times each week). ~ in these instances, the downtime will be noted on the circular afterburner chart, the furnace operation form, or the printout from the afterburner temperature data logger.

CORRECTIVE ACTION PLAN

In addition to the actions taken above, on occasion malfunctions to the control equipment may occur that do not warrant shutting down of the entire control device. Such is the case following a bag leak detector alarm or observed visible emissions. In such cases, when the alarm is sounded, EFT will operate in accordance with the corrective action procedure in the most recently approved Baghouses SOP Manual. This will include written documentation of the time of the alarm, actions taken (including taking effected compartment off-line), and completion of the Leak Detection Event form detailing the episode.

The thermocouple on the afterburner frequently needs cleaning or becomes inoperable requiring repair or replacement. EFT will maintain several thermocouples on site at all times as backup. Upon failure of one

of these systems, repair or replacement will be made within twenty-four (24) hours of discovery if at all possible.

DOCUMENTATION

Documenting start-up, shutdown and malfunction incidents is done electronically on a form similar to what is shown below. The On Duty Supervisor on duty is responsible for completing this form. The Hillsborough County EPC will be notified within 2 working days of all regulatory start-ups, shutdowns, and malfunctions by fax or email through the facility Operations or Environmental Managers in accordance with the Title V permit.

EFT STARTUP, SHUTDOWN AND MALFUNCTION CHECKLIST

Start Date of Occurance	16	Start Time	
End Date of Occurance	16	End Time	

Total Hours =0.00 hrs

Person completing form : Angela Fogarty

Type of Occurance: ○ Startup ○ Shutdown ○ Malfuction

☐ Yes	Complete Power Failure	Action Taken
○ Yes ◉ No	• Furnace banked	○ Yes ◉ No
○ Yes ◉ No	• Kettles shut down	
☐ Yes	**Blast Furnace Banked(idled)**	**Action Taken**
○ Yes ◉ No	• Slag Tapped	○ Yes ◉ No
○ Yes ◉ No	• Blower Off	
○ Yes ◉ No	• Furnace Baghouse on	
○ Yes ◉ No	• Tapping/Charging Baghouse on	
○ Yes ◉ No	• Torit Baghouses online	
☐ Yes	**Furnace Baghouse Down** (if more than one cell down)	**Action Taken**
○ Yes ◉ No	• Furnace Banked	○ Yes ◉ No
○ Yes ◉ No	• Tapping Charging Baghouse on line	
☐ Yes	**Tapping/Charging Baghouse Down**	**Action Taken**
○ Yes ◉ No	• Furnace Baghouses on line	○ Yes ◉ No
○ Yes ◉ No	• Torit system down	○ Yes ◉ No
☐ Yes	**Furnace Afterburner Down**	**Action Taken**
○ Yes ◉ No	• Furnace Banked	○ Yes ◉ No
○ Yes ◉ No	• Additional pollution control equipment	
○ Yes ◉ No	• Bicarbonate system down	
○ Yes ◉ No	• Enclosure equipment doors not working	
○ Yes ◉ No	• Enclosure man doors not working	

Additional Comments:

Signed