OPERATION, MAINTENANCE AND MONITORING PLAN including Startup, Shutdown and Malfunction Plan (OM&M PLAN) TRADEMARK METALS RECYCLING, LLC TAMPA, FLORIDA

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1.0 INTRODUCTION:

This Operation, Maintenance and Monitoring Plan (OM&M Plan) includes the Startup, Shutdown and Malfunction Plan and is for Trademark Metals Recycling, LLC, located at 6912 East 9th Avenue, Tampa, Florida. The facility ID is 0570119. The process equipment covered by this plan is the Aluminum Rotary Furnaces #1 & #2. The Control Design & Integration (CDI) Model SMF-50-3.0 Baghouse is the control device. This baghouse controls emissions from the two existing furnaces, Aluminum Rotary Furnaces #1 and #2. The automatic lime feed system is manufactured by Haberny, has a capacity to hold 2,500 pounds of lime, and is set at a feed rate minimum of 25 pounds per hour. During the performance test the Haberny lime feed system was set at 25 pounds of lime per hour, the feed rate has not changed since the test.

2.0 PARAMETERS TO BE MONITORED TO DETERMINE COMPLIANCE AND ESTABLISHED OPERATING LEVELS OR RANGES

The following operational practices shall be followed at all times:

A) Observe the furnace door opening and furnace door position relative to the hood for every charge. *Observe the baghouse pressure gauge during the shift and record them once per shift. The pressure range must be between 0* -12 *inches of water.*

B) Observe at least once a day the exhaust vents.

C) The furnace shall operate only when the baghouse is in operation and the fumes are being evacuated by the baghouse.

D) The three (3) hour rolling average temperature for the baghouse inlet should be 204°F (204 + 25 = 229) or less, this reading should not exceed 229°F.

E) Only Aluminum scrap shall be charged into the rotary furnaces. Acceptable furnace charge material are as follows: Reference letter to Mr. Jason Waters, P.E., Chief Industrial Air Compliance, Air Management Division -Hillsborough County Environmental Protection Commission, dated: April 21, 2011. *A list of the scrap aluminum products used for charge material at the time of the Performance Test conducted on May* 18, 19, *20 and* 23, *2011 are as fo11ows: Rotary Furnace#* 1 \ *Run* #1 *-Aluminum Cans, Aluminum Turnings, and Irony Sheet Run* #2 *-Engine/Auto Parts and Aluminum Castings, and Run* #3 *-Engine/Auto Parts and Aluminum Castings Rotary Furnace* #2 \ *Run #1 Aluminum Cans, Aluminum Painted Siding. and Aluminum Turnings. Run* #2 *Aluminum Cans, Painted Aluminum Siding, and Aluminum Turnings, and Run #3 -Aluminum Cans, Aluminum Painted Siding, and Aluminum Turnings.*

F) A list of the aluminum alloys produced at the time of the performance test conducted on May 18th, 19th, 20th and 23rd are as follows: Rotary Furnace #1/ Run # 1 -Sow (Deox) and Rotary Furnace #2 / Run # 1 -Sow (3105), Rotary Furnace #1 / Run #2 -Sow (380) and Rotary Furnace #2 / Run #2 -Sow (3105), and Rotary Furnace #1 {Run #3 -Sow (380) and Rotary Furnace #2 / Run #3 Sow (3105).

G) The bag leak detection system is a model EM 30LGX by FilterSense with the upgraded capability to measure to 10 mg/m^3 as required by the MACT standard. It continuously monitors and records data and alarms. It uses charge induction sensing and protected probes. There is a probe in the exhaust duct that monitors the combined exhaust from the four compartments.

H) The maximum production rate for Furnace #1 is 6,000 lb/hr and the maximum production rate for Furnace #2 is 6,000 lb/hr.

I) The thermocouple set points for Furnace #1 Damper is set at 500 ^{o}F, Furnace #2 Damper is set at 350 ^{o}F.

J) The lime feeder system has a green stacked light that indicates the system is injecting limestone. The red power indicator lights stays on when the power is on.

The following data will be recorded:

A. Scrap feed rate (pounds (lb.)/hour while charging), *once per shift the pressure drops of the baghouse chambers should be recorded. The baghouse filter temperatures are recorded by the bag leak detection system and are not manually recorded.*

B. Scrap feed rate (pounds/month).

C. Running 12 month total of B above. The maximum feed rate is 6,000 lb./hour and 26,280 tons/year per furnace. The feed rate is recorded on the operator's daily log sheet. The monthly report summarizes the daily totals for each month and this data is used to create the manager's report, which keeps the running 12-month total.

E. Record the flux addition weight for each charge is recorded on the operator's daily log sheet.

3.0 MONITORING SCHEDULE

The monitoring schedule for each furnace and for the baghouse is as follows:

3.1 Furnace:

1. Each furnace operator records the number of scoops charged into the furnace.
2. Each furnace operator records the number of sows produced per day.
3. Observe the furnace door opening, furnace door position relative to the hood for every charge.

3.2 Baghouse:

1. At least once a day observe the exhaust vent.
2. Once per shift the pressure drops of the baghouse chambers should be recorded.
3. The bag leak detection software will record the baghouse inlet temperatures and a continuous 3-hour average calculated.
4. The lime feeder setting will be observed once per shift and recorded once per day on the operator's daily log sheet. The normal operating position of the lime feed system is at position #9, which is minimum of 25 pounds per hour of limestone introduced.
5. The lime feeder system will be inspected for the operating condition of-free flowing (Yes or No) once per shift logged on the operator's daily log sheet.
6. Once per month the operator will confirm that the operating condition labels are intact and legible. The form will be labeled with the Inspector’s Name, Inspection Date, and Inspection Pass or Fail.

4.0 OPERATION AND MAINTENANCE PROCEDURES

4.1 Rotary Furnace Operation The starting procedure is as follows:

1. First, the baghouse must be *operating* before starting any furnace.

4.1 Rotary Furnace Operation continued:

2. Turn blower on for burner.
3. Allow fifteen (15) seconds for furnace purge.
4. Turn switch to ignite.
5. Start drive that turns drum.
6. Allow 45-90 minutes warm-up time.

7. When furnace is red, it is ready to start.

8. Weigh the flux material and put into furnace. The normal range of flux material to add per charge is 100 -2,000 pounds, depending on the alloy. Record this data on the Operator's daily log form. The flux material is typically a 50% potash and 50% Salt by weight blend. Plus cryolite and calcium, 3-5% weight of flux.

9. In approximately five (5) minutes, the furnace is ready to be charged with scrap.

10. Begin by recording each scoop from the loader and then charging (adding) scrap to the furnace. Use the Operator's Daily Log form to record the number of scoops.

11. Allow approximately ten to thirty (10-30) minutes to melt.

12. Continue charging the furnace until it is full (i.e. repeating step 9).

13. Pour off the liquid aluminum into the sow molds. Use the "Operator's Daily Log" form to record the number of sows produced.

14. Repeat steps 9-12 until the end of the shift.

15. Roll out the salt cake.

16. The iron is sold as scrap and the used salt cake material sent to the landfill.

4.2 Baghouse Operation:

The Control Design & Integration (CDI) Model SMF-50-3.0 Baghouse (hereafter referred to as the baghouse) is a four-chamber design. The filter bags are made ofNome x and are rated at 400 ^{o}F.

4.2 Baghouse Operation continued:

Each Chamber has a magnehelic pressure gauge that measures inches of water. The automatic cleaning cycle operates when the Differential pressure reaches it upper level set point. If the automatic system does not operate then the system is operated manually.

The pressure gauges are observed once a day by the Rotary Supervisor to monitor the performance of the baghouse. The operator records the pressure readings on the operator's daily log form once per shift.

The furnace exhaust gas becomes the inlet to the baghouse. The exhaust gas temperature is monitored and controlled by a digital controller via a thermocouple for each furnace. When the set point of 500°F is reached for the Rotary #1 furnace temperature; a solenoid opens a valve to bring in fresh air. (Note: this controller is located in the #1 control room.). The exhaust gasses from furnace #2 are controlled in the same manner, with a temperature set point of 350°F. (Note: this controller is located in the baghouse control room.)

In addition each chamber of the baghouse has a thermocouple that measures the gas temperature of that chamber. If the temperature set point of 380 ^{o}F is reached, the baghouse blower shuts down to prevent the bags from becoming too hot and catching on fire.

4.3 Operating Schedule:

The current furnace schedule is Monday -Thursday, 24 hours a day, with Friday used as a maintenance day. Two crews operate Furnace #1 and #2, with the first shift from 5:00 a.m. to 5:00 p.m. and the second shift from 5:00 p.m. to 5:00 a.m. The current furnace operation starts at 5:00 a.m. on Monday and ceases at 5:00 a.m. on Friday under normal conditions, however, the proposed operation is 24 hours a day, 7 days a week.

5.0 OPERATION AND MAINTENANCE PROCEDURES FOR MONITORING DEVICES

5.1 Calibration and Certification of Accuracy of Each Monitoring Device

Baghouse

The magnehelic pressure gauges will be calibrated annually.

The thermocouple for the inlet to the baghouse temperature will be calibrated every six months.

Baghouse Automatic Cleaning system does not require calibration.

Bag Leak Detection System

The bag leak detection system will be calibrated per the manufacturer's requirements.

Yard Scales

The scales are calibrated annually by the State of Florida.

5.2 Quality Control and Quality Assurance Procedures of Continuous Emission or Opacity Monitoring Systems

The current permit does not require opacity monitoring equipment.

6.0 PROCEDURES FOR MONITORING PROCESS AND CONTROL DEVICE PARAMETERS, INCLUDING ANNUAL INSPECTIONS AND THE PROCEDURE USED FOR DETERMINING CHARGE/FEED WEIGHT IF A MEASUREMENT DEVICE IS NOT USED

The baghouse is generally inspected on Fridays for the condition of the bags and any torn, ripped or deteriorated bags are replaced. The baghouse magnehelic pressure gauges are calibrated annually. The furnace is inspected as needed on Fridays and updated as needed.

7.0 CORRECTIVE ACTIONS TO BE TAKEN WHEN PROCESS OR OPERATING PARAMETERS DEVIATE FROM THE VALUE OR RANGE ESTABLISHED

7.1 Corrective Actions:

Operating equipment deviations or excursions usually occur with the baghouse and not with the furnace. The parameters for the furnace that are variable are the speed (0 -7 RPM) and the tilt angle. The tilt angle is used only to pour out the molten aluminum and is not used to control the operation. Different speeds are chosen for different types of alloys. The burner-firing rate is constant and is not a control parameter. Furnace upsets are handled by turning the furnace off and pouring out the molten metal.

The baghouse operation is dependent upon several parameters, first is the inlet gas temperature and volume. The gas temperature and volume varies with how many furnaces are operating. The other factor that affects the baghouse is the condition of the bags.

The following is a list of potential baghouse problems and corrective actions to take:

1. Problem: Too high gas temperature.

Solution: Open-air inlet valve and check with furnace operator.

2. Problem: Visible emissions.

Solution: Go to the bag leak detection system and identify problem chamber, acknowledge the alarm condition and isolate that chamber by closing the inlet damper at the baghouse control room until repairs are performed. Record the date and time of the alarm and the date and time the repairs where completed.

3. Problem: High differential pressure on chambers.

Solution: Initiate bag cleaning procedure.

4. Problem: One chamber still has high pressure after the bags have been cleaned.

Solution: Inspect each pressure leg for possible blockage. If the pressure reading is still high, then isolate the inlet valve and inspect the chamber for blockage or build-up on the bags.

5. Problem: Gas temperature unusually low.

Solution: Inspect the air bypass valve and insure it is closed

7.2 Procedures For Recording Corrective Actions Taken and Cause of Deviations or Excursions:

Corrective actions are taken and recorded in the maintenance logbook kept in the office. The items recorded will include (1) the corrective action taken, (2) the time corrective action was initiated, and (3) the time time/date that the corrective action was completed. The cause of any deviations or excursions, including the beginning and ending time will also be recorded in the maintenance logbook.

8.0 MAINTENANCE SCHEDULE FOR EACH PROCESS AND CONTROL DEVICE THAT IS CONSISTENT WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR ROUTINE AND LONG-TERM MAINTENANCE

Routine maintenance is performed only if needed on Friday. The baghouse is inspected on Friday for the condition of the bags and any tom, ripped or deteriorated bags are replaced. The burner is inspected and updated as needed. The State of Florida calibrates the scales on a yearly basis. The condition of the hood is inspected monthly and replaced on an as needed basis. The bag leak detection system is calibrated per the manufacturer's recommendation.

8.1 Calibration Schedule

The magnehelic pressure gauges will be calibrated annually. The thermocouple for the inlet to the baghouse temperature will be calibrated every six months.

9.0 DOCUMENTATION OF THE WORK PRACTICE AND POLLUTION PREVENTION MEASURES USED TO ACHIEVE COMPLIANCE WITH EMISSION LIMITS AND THE SITE-SPECIFIC MONITORING PLAN

The following data will be recorded and kept on file for at least 2 years in the office:

1. Scrap feed rate (lb/hour while charging); Operator's daily log.
2. Scrap feed rate (LB/month); Monthly report.
3. Running 12 month total of 2 above;
4. Operator daily logs.
5. Record daily that the lime is free flowing. The flux usage is recorded daily and maintained in the office.
6. Maintenance person logs on Furnace or Baghouse (Logs for any maintenance performed).
7. Scale calibration certificate is on the scale.
8. The maintenance log records the baghouse inspection results.

The maximum feed rate is 6,000 lb/hour and 26,280 tons/year per furnace. The number of scoops is recorded on the operator's daily log sheet.