ATTACHMENT EU-1
Operation and Maintenance Plan for Melt Furnaces F1 and F2
Air Operation Permit Renewal 2018 (Application No. 5206-1)
Enkei America, Inc.
Jacksonville Aluminum Wheel Manufacturing Plant
(Facility ID No. 0310433)

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1.0 PURPOSE AND INTRODUCTION

Enkei America, Inc. (Enkei) has prepared this Operation & Maintenance (O&M) Plan, in order to satisfy the regulatory requirements found at Rule 62-296.700(6), Florida Administrative Code (FAC) as adopted by reference and Rule 2.1101, Jacksonville Environmental Protection Board (JEPB). The purpose of this O&M Plan is to demonstrate the compliance basis for the facility and for the proper operation of the melt furnaces, baghouses and ancillary equipment.

The O&M plan contains information on the:

- Melt Furnace and Baghouse parameters to be monitored,
- Established operating levels and/or ranges for regulated equipment,
- Procedures for operation/maintenance of furnaces/baghouses,
- Performance of work practices that will show compliance with permit terms,
- Corrective actions taken if/when operating parameters deviate from ranges,
- Manufacturer's recommended maintenance schedules for equipment,
- Documentation of work practices and pollution prevention measures
- Documentation/Logs kept for the charge rate established by the permit.

This O&M Plan will be incorporated by reference into the facility air operation permit after review by the City of Jacksonville during review of the application to renew the facility air operation permit application. If the facility substantively revises a work practice or operating procedure, this Plan must be modified accordingly and re-submitted to the City for approval.

2.0 SOURCE DESCRIPTION AND COMPLIANCE REQUIREMENTS

Enkei manufactures aluminum automobile wheels at the Jacksonville Plant. The manufacturing process involves aluminum melting (new ingots and recycled metal), die cast molding, mechanical shaping and forming, and machining of the aluminum wheels. The facility includes two aluminum melting furnace and casting lines (F1 and F2), with supporting machining and finishing operations. One of the furnace lines includes a chip melting furnace for the on-site recycling of metal chips from mechanical forming operations (i.e., sawing, drilling, and machining). The melting, spinning, and heat treat solution furnaces are fired with natural gas. A co-located business, Technical Painting of Jacksonville, Inc. (TPJ), occupies the southernmost building and paints the wheels produced by Enkei as a separate operation that is closely coordinated with Enkei. TPJ operates as a separate business operation and its emissions are is authorized under a separate air operation permit (No. 0310606-001-AO.

Based upon emissions data from stack tests completed in 2000 and 2007 on the furnace bag houses, the facility is a minor source of particulate matter. However, the facility is located within the area of influence for the Duval County air quality maintenance area for particulate matter and is thus subject to the Reasonably Achievable Control Technology (RACT) requirements found at Rule 62-296.700 and 712, FAC. The facility also emits combustion-related pollutants [i.e., carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2), particulate matter (PM), volatile organic compounds (VOC), and total hazardous air pollutants (THAP)] at rates well below Florida permitting thresholds. There are also several insignificant emission sources at the facility that are exempt from permitting based on their estimated emission rates. These include the following activities:

1) Metal (water) quench activities;
2) Mechanical wet-forming operations (sawing, drilling, machining, grinding, etc.);
3) Natural-gas fired combustion equipment, including:
   - two spinning furnaces (0.120 mm Btu/hour each),
   - two solution furnaces (0.715 mm Btu/hour each), and
   - two aging furnaces (0.536 mm Btu/hour each);
4) Abrasive blasting cabinet operations;
5) Cooling tower operation; and
6) Natural-gas fired emergency generators (two 70 horsepower units).

Enkei has accepted various operating limitations in the current air operation permit for the melting furnaces to reflect the maximum operating parameters desired or achievable by the Jacksonville Plant. The key operating parameters affecting the facility emissions included in the permit are as follows:

- Operating hours: Continuous (i.e., 8,760 hours/year)
- Maximum process rate: Aluminum Melt Furnace F1 ≤ 2,200 pounds/hour feed
Aluminum Melt Furnace F2 ≤ 2,200 pounds/hour feed
Chip Melter ≤ 704 pounds/hour feed
- Maximum heat input: Aluminum Melt Furnace F1 ≤ 3.81 MMBtu/hour natural gas
Aluminum Melt Furnace F2 ≤ 3.81 MMBtu/hour natural gas
Chip Melter ≤ 1.2 MMBtu/hour natural gas
- Volumetric flow rate: 16,247 cubic feet/minute (nominal) to each bag house (F1 and F2)

To ensure that the melting furnaces are operated within the permit established limitations, Enkei is required under its current operating permit to prepare and implement a written O&M Plan for the equipment and attach the document as approved by the City to the permit. The operating and documentation procedures established by this O&M Plan will satisfy the permit requirements and provide a compliance basis for the facility.

3.0 PROCESS AND CONTROL DEVICE MONITORING PARAMETERS

Per the requirements of Enkei's permit, the following process and control parameters are required to be monitored.

Operating Limits/Work Practice Limitations:

- Hourly aluminum charge rate to the Melt Furnaces shall not exceed 2,200 lbs/hr.
- Hourly metal chip charge rate to the Chip Melter shall not exceed 704 lbs/hr.
- Maximum heat input rate to the Melt Furnaces shall not exceed 3.81 MMBtu/hr.
- Maximum heat input rate to the Chip Melter shall not exceed 1.2 MMBtu/hr.
- Particulate Matter (PM) emissions shall not exceed 0.03 gr/dscf (i.e., grains/dry standard cubic foot) each baghouse (equal to 4.18 lbs/hr and 18.30 tons/yr at nominal flow rate of 16,247 cfm).

4.0 MONITORING PROCEDURES – MELTING FURNACES

Pursuant to the terms of the air operating permit, the facility will keep records of the amount of aluminum charged to the three furnaces on an hourly basis to provide a compliance basis for the monitoring parameters. The ingot charged to the Melt Furnaces are of known weight; therefore, the operators will keep a log of the number of ingots placed into the furnace melt chambers. Additional charges to the furnaces include molten aluminum from the Chip Melter and runaround off-specification cast wheels. These charge amounts are also part of the charge logs kept by the Plant. Each time materials enter the furnace, the time is recorded so that the hourly charge rate can be calculated to verify compliance with the allowable charge rate limits.

The facility gas meters are read daily and the natural gas amounts consumed are logged. Published gas heating values are obtained from the commercial gas supplier and the amounts consumed are multiplied by these heating values and then divided by 24 hours to determine the hourly heat input rate for comparison to the allowable heat input rates.

Enkei maintains appropriate log forms for documentation of the recorded charge and fuel consumption rates as part of the overall quality management system implemented at this Plant. These log forms include procedures for the calculation of the attendant monitoring parameters and support ongoing comparison of the parameters against the permit limits. Separate forms are completed for each furnace and are maintained by the furnace operator.

5.0 MONITORING PROCEDURES – FURNACE BAGHOUSES

Standardized work charts have been developed for the proper operation of the furnace baghouses. The baghouse forms used are as recommended by the equipment manufacturer are standard in the industry. In addition, periodic inspection activities are performed as follows:

- Record the differential pressures across the baghouses weekly.
- Conduct visual inspection of the baghouse filters weekly per the manufacturer's recommendations.
- Replace filters as required.
- Complete detailed inspect of the emission collection, capture, and transport systems annually per the manufacturer's recommendations.

Enkei maintains appropriate log forms for the baghouse inspections as part of the overall quality management system implemented at this Plant. These forms are used to document the completion of and findings from the inspections. Separate forms are completed for each baghouse and are maintained by the furnace operator.

6.0 MONITORING PROCEDURES – MONITORING DEVICES

Enkei is not required to install any specific continuous monitoring devices pursuant to either the operating permit or applicable regulations. The facility documents the process operations and natural gas usage as discussed above in order to provide a compliance basis. The continued operation of the control measures within ranges of specified indicators of performance such as process parameters (charge rate) and recording the natural gas consumption are designed to provide a reasonable assurance of compliance with applicable requirements.

7.0 CORRECTIVE ACTION FOR EMISSION UNIT DEVIATIONS

The following corrective actions shall be taken when the melting furnaces and baghouse operating parameters deviate from the values or ranges established:

1. Determine and record the cause of the deviation or excursion,
2. Record the time of the deviation or excursion began and ended;
3. Record the corrective actions taken;
4. Record the time corrective action was initiated; and
5. Record the time/date corrective action was performed.

In the event that the melting furnace and associated baghouse operating parameters deviate from the value or range established, Enkei will implement the following corrective actions. Operating personnel will mark the charge logs with any deviations that are recorded.

Table 1 - Corrective Actions

Parameter	Acceptable Range	Corrective Actions Taken
Use of Natural Gas	The facility gas meters will be observed once daily and a log kept of the readings.	Make changes in production schedule to immediately reduce natural gas rate to acceptable range. Report exceedance of a permit limit to the City of Jacksonville within 30 days.

Parameter	Acceptable Range	Corrective Actions Taken
Feed/Charge Weight	The aluminum charge data shall be maintained on an hourly basis, with the weight of the charge provided to Supervisory Personnel on a daily basis.	Make changes in production schedule to immediately reduce production rate of acceptable range. Report exceedance from permit requirements to City of Jacksonville within 30 days. Include deviations in any required annual or semi- annual reporting, if required.
Stack Opacity	Opacity shall not exceed 5 percent (5%) using EPA Reference Method 9 (as required by air permit and City of Jacksonville	Correct operational problem with melting furnace or shut down if problem is not correctable. Report exceedance from permit requirements to City of Jacksonville.
Baghouse	Differential pressure across the filter bags should normally be in the 1 to 6 inches water column.	Initiate inspection procedures to identify operational issues resulting in differential pressures that exceed 6 inches wc. Properly maintain equipment and replace filter media as appropriate.

8.0 DOCUMENTATION OF WORK PRACTICES/POLLUTION PREVENTION

Enkei will document the work practices and pollution prevention measures implemented to achieve compliance with the applicable emission limits established for each process and control device as specified in this site specific O&M Plan. All documentation will be maintained on site for a period of five (5) years and provided to the City of Jacksonville as requested.