Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

January 13, 2009

Mr. Charles Nunez
All Japenese Engines, Incorporated
2300 Northwest 150 Street
Opa-Locka, Florida 33054

Re: Facility No.: 0251298-001

Dear Mr. Nunez:

The Department has received the Title V General Permit Notification Form for the secondary aluminum sweat furnace facility that you submitted on December 10, 2008.

Pursuant to Florida Statutes section 403.814, the authority to operate under general permits commences thirty (30) days after receipt of the registration form unless you have been notified by this office that your facility has not shown entitlement to operate pursuant to the rule provisions.

For your information, authority to operate pursuant to Rule 62-210.310 expires after five (5) years. Therefore, a new registration form must be received no later than five (5) years after the date your notice was received as indicated above. If your general permit rule conditions require testing, such testing must be completed within the time frame specified in the rule.

If you have or expect to have any changes in your mailing address, location address, responsible official, or phone number, please notify the Department at the following address:

Title V General Permits Office
Bureau of Air Monitoring and Mobile Sources MS 5510
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

If there are any changes in the facility status, including change of operating parameters or equipment, or if you have any additional questions regarding the Title V General Permit Program, please contact the district or local air program compliance inspector in your area.

Sincerely,

for Sandra F. Veazey, Chief
Bureau of Air Monitoring
and Mobile Sources

SFV/pg

NO ACTIVITY FOR FACILITY .... ✓
EMISSION FEE DATES ....
SOC REPORTS ....
COMP. STATUS – SNC MNC IN

No Activity Exist for
this facility.

Insp - Miami-Dade Co - M Muthiah

RECEIVED

DEC 16 2008

Bureau of Air Monitoring & Mobile Sources

RECEIVED DEC 10 2008 DEPT of ENV PROTECTION WEST PALM BEACH

SECONDARY ALUMINUM SWEAT FURNACE AIR GENERAL PERMIT REGISTRATION FORM

Registration Type

Check one:

X **NEW**: Initial registration for general permit for proposed *new* secondary aluminum sweat furnace(s).

☐ **EXISTING**: Initial registration for general permit for *existing* secondary aluminum sweat furnace(s).

☐ **RE-REGISTRATION**: Re-registration for general permit for secondary aluminum sweat furnace(s) upon expiration of current general permit.

Facility Registration

Facility Owner/Company Name (Name of corporation, agency, or individual owner):
All Japanese Engines, Inc.

Site Name (For example, plant name or number):
All Japanese Engines

Facility Location…
Street Address or Other Locator: 2300 NW 150th St.
City: Opa-Locka County: Dade Zip Code: 33054

Facility Identification Number (DEP use only; do not fill in): 0251298-001

Responsible Official

Responsible Official Name: Charles Nuñez

Responsible Official Qualification (Check one or more of the following options, as applicable):

[X] For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

[ ] For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

[ ] For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

Responsible Official Mailing Address…
Organization/Firm:
Street Address: **Same as above**
City: County: Zip Code:

Responsible Official Telephone Numbers…
Business: (305) 962-2790 Fax: ( ) -
Mobile: ( ) -

Responsible Official Email Address (optional):

Facility Description and Comments

Number of secondary aluminum sweat furnace units on site: ____1________

Is each secondary aluminum sweat furnace equipped with an afterburner that has a design residence time of at least 0.8 seconds and a design operating temperature of at least 1600 degrees Fahrenheit, and is the manufacturer's documentation of these design specifications maintained on-site? YES

If 'No,' explain ____

____

Does each secondary aluminum sweat furnace have an afterburner temperature monitoring device and temperature data recorder? YES

If 'No,' explain

Does each secondary aluminum sweat furnace have a written operation, maintenance, and monitoring (OM&M) plan, and is this plan maintained on-site? YES

If 'No,' explain ____

____

Does each secondary aluminum sweat furnace have a written startup, shutdown and malfunction plan, and is this plan maintained on-site? YES

If 'No,' explain ____

____

List and briefly describe all other process operations at the site that may emit air pollutants (for example, scrap shredders, degreasers, paint shops, boilers, emergency generators, etc.). Add any comments about the facility that would be helpful to the Department in understanding the nature of your operation (for example, describe the products made, amount of materials used, air pollution control equipment employed, and hours of operation).

No other processes beyond those that are already occurring at the site will be employed. This is a collection and resale facility now and will just add melting to its processes.

Facility Description and Comments

Facility Contact (If different from Responsible Official)

Facility Contact Name: All Japanese Engines **Same as above**
Facility Contact Address... Street Address: 2300 NW 150 St City: Opa locka County: M-DADE Zip Code: 33054
Facility Contact Telephone Numbers... Business: (305) 685 - 2550 Fax: (305) 769 - 2087 Mobile: (305) 962 - 2790
Facility Contact Email Address (optional):

Surrender of Existing DEP Air Permit(s)

Rule 62-213.300(2)(a)2., F.A.C., makes the surrender of all existing DEP air permits, other than the air general permit, a condition precedent for the entitlement to a general permit. Indicate with an "X" whether the responsible official surrenders such permit(s), listing the permit number(s), or whether no such permit(s) exist. Complete this portion of the form **ONLY** if this is an initial registration for general permit:

[ ] I hereby surrender all existing DEP air permits (other than the air general permit for which this registration form is submitted). The permit number(s) are: ______.

[X] No DEP air permits currently exist for the operation of the facility indicated in this registration form.

Responsible Official Certification

I, the undersigned, am the responsible official of the facility addressed in this registration form. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this registration form are true, accurate and complete, and that the facility addressed in this registration form is entitled to use the Title V air general permit for secondary aluminum sweat furnaces. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this registration form so as to comply with all terms and conditions of the Title V air general permit for secondary aluminum sweat furnaces as set forth at Rule 62-213.300(1)(f), F.A.C.

I will promptly notify the Department of any changes to the information contained in this registration form.

Charles Núñez
Print name of responsible official

[signature]
Signature

12/8/08
Date

Dibble, Dickson

From:	Charlie Nunez [charlienunez@hotmail.com]
Sent:	Tuesday, January 06, 2009 9:40 AM
To:	Dibble, Dickson
Subject:	FW: The Second Page
Attachments:	Facility Description and Comments.doc

From: jbastey@medental.org
To: Dickson.Dibble@dep.state.fl.us
CC: charlienunez@hotmail.com; jbastey@roadrunner.com
Subject: The Second Page
Date: Tue, 16 Dec 2008 11:40:09 -0500

Dick,

Here is the second page. I remember filling this out in my office and must have lost it somehow in the processing of paperwork before it left Maine, so it's my fault. Thank you for allowing me to submit this via email.

In using the Word form the lines got messed up somehow when I erased the NO answers, since I couldn't circle the right answer. So I highlighted them in red.

To repeat, the furnace does have a .8+ second retention time at 1600 degrees, but I will advise that they operate the furnace as 1650 just to be sure. It does have a stack tip temperature monitoring device, as per the NESHAP, in fact it has two, one for the recorder and one for the operator so he can see what the actual temp is in real time. That prevents the potential of finding a violation on the recorded data and I assume, any violations at all since the temp. will be displayed to the operator at all times. By seeing the temp the operator can take real time steps to keep everything legal.

The attached material in the bundle sent to you has both an operating SOP and a Maintenance and shut down SOP which I have instructed Mr. Nuñez to keep on site and available. Finally there are no de-greasers, shredders, paint shops, boilers or emergency generators on the site. Most of the work will be done under cover. The work in disassembly and stacking like with like for marketing. The furnace is the only new addition to the work to be done there and it will allow All Japanese Engines to more easily market aluminum for a better price.

If you have further questions or comments drop me a line either here at the Dental Association or at my home office at jbastey@roadrunner.com Thank you for your prompt help on this matter.

John

Facility Description and Comments

Number of secondary aluminum sweat furnace units on site: ____1________
Is each secondary aluminum sweat furnace equipped with an afterburner that has a design residence time of at least 0.8 seconds and a design operating temperature of at least 1600 degrees Fahrenheit, and is the manufacturer's documentation of these design specifications maintained on-site? YES
______________________________________ If 'No,' explain ____

Does each secondary aluminum sweat furnace have an afterburner temperature monitoring device and temperature
data recorder? Y
______________________________________ES
If 'No,' explain
______________________________________Does each secondary aluminum sweat furnace have a written operation, maintenance, and monitoring (OM&M) plan, and is this plan maintained on-site? YES
If 'No,' explain ______________________________________

______________________________________Does each secondary aluminum sweat furnace have a written startup, shutdown and malfunction plan, and is this plan maintained on-site? YES

If 'No,' explain

____

______________________________________List and briefly describe all other process operations at the site that may emit air pollutants (for exampl

No other processes beyond those that are already occurring at the site will be employed. This is a collection and resale facility now and will just add melting to its processes.

ESTIMATED EMISSIONS FROM THE COMBUSTION OF NATURAL GAS
FOR AN AK-6000 FURNACE \OPERATING AT 3.0 MMBtu/HR AT THE

ALL JAPANESE ENGINES AT OPA-LOCKA, FLORIDA

All emissions are based on NJ testing witnessed by the NJDEP,
(see Air Recon Test Results). Since the Air Recon tests were done using
natural gas I have used them calculate this table.

Nitrogen Oxides							
8760	Hours	X	0.41	lbs NOx	=	1.796	TPY
1	Year		1	Hr			
Sulfur Oxides (estimated sulfur content)							
8760	Hours	X	0.001	lbs SO2	=	0.004	TPY
1	Year		1	Hr			
Carbon Monoxide							
8760	Hours	X	0.0004	lbs CO	=	0.0018	TPY
1	Year		1	Hr			
Total HC as Methane							
8760	Hours	X	0.002	lbs HC	=	0.009	TPY
1	Year		1	Hr			
Particulate Matter							
8760	Hours	X	0.023	lbs PM	=	0.101	TPY
1	Year		1	Hr			

Actual total Emissions/hr	0.4364	Lbs/Hour	
Potential emissions/Yr	1.911	Tons/Year	based on potential round the clock use

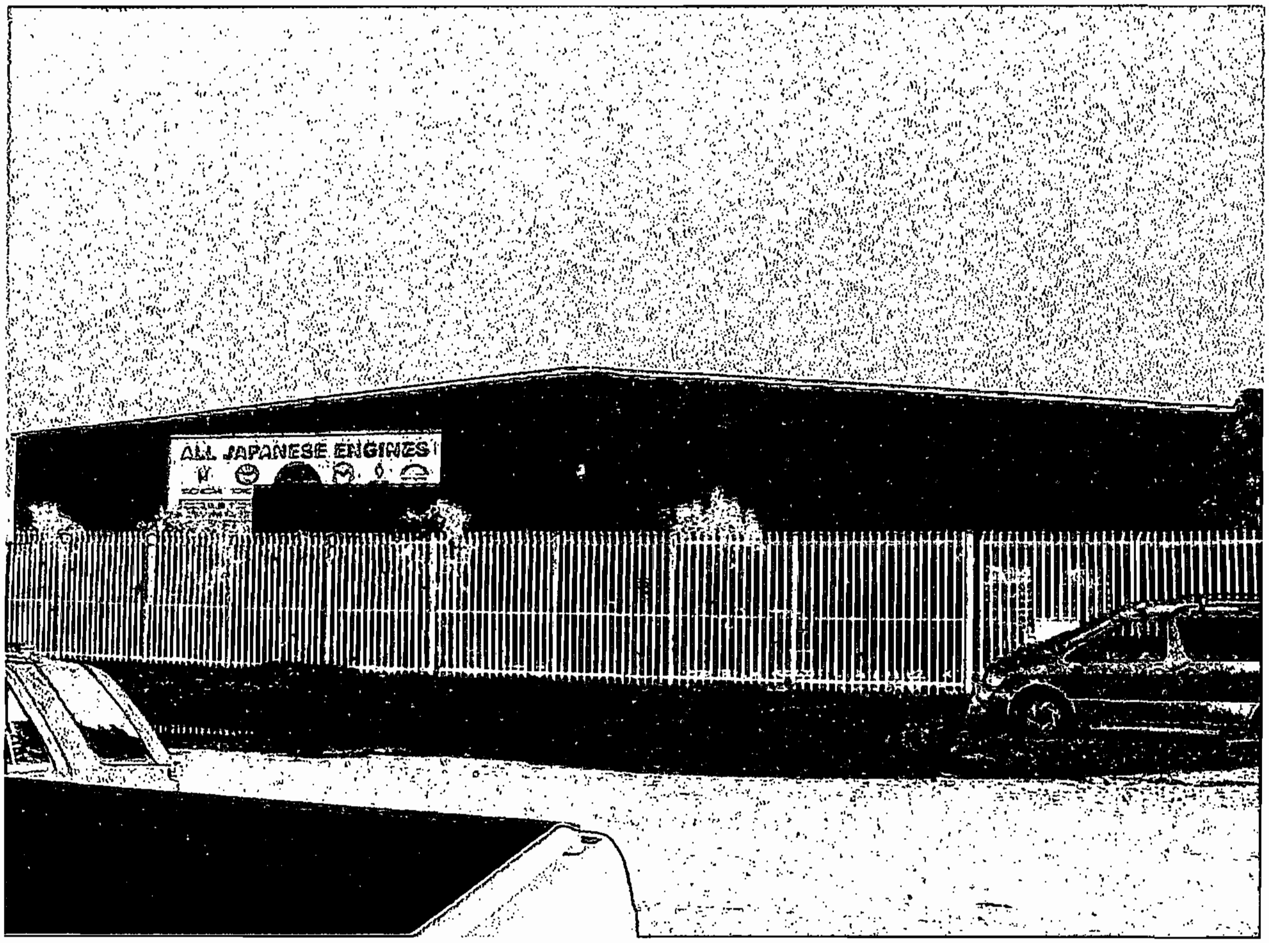
ACTUAL EMISSIONS BASED ON PROJECTED OPERATING HOURS ARE CALCULATED BELOW

Operating:	8	hrs	5	days/wk.	52	wk/yr	=	2080	hrs/year over	231	days

Nitrogen Oxides (NOx)										
2080	Hrs	X	0.410	Lb	X	1	Ton	=	0.426	Tons/Year
1	Yr		1	Hr		2000	Lbs		0.002	Lbs/Day
Sulfur Dioxide (SOx)										
2080	Hrs	X	0.001	Lb	X	1	Ton	=	0.001	Tons/Year
1	Yr		1	Hr		2000	Lbs		0.000005	Lbs/Day
Carbon Monoxide (CO)										
2080	Hrs	X	0.0004	Lb	X	1	Ton	=	0.000416	Tons/Year
1	Yr		1	Hr		2000	Lbs		0.000002	Lbs/Day
Hydrocarbons (HC)										
2080	Hrs	X	0.0020	Lb	X	1	Ton	=	0.0021	Tons/Year
1	Yr		1	Hr		2000	Lbs		0.00001	Lbs/Day
Particulate Matter (total)										
2080	Hrs	X	0.023	Lb	X	1	Ton	=	0.024	Tons/Year
1	Yr		1	Hr		2000	Lbs		0.00010	Lbs/Day

Actual pounds/hour	=	0.0020	Lbs/Hr
Actual pounds/Day	=	0.0157	Lbs/Day
Actual Total Emissions	=	0.4539	Tons/Year

All Japanese Engines
2300 NW 150th Street
Opa Locka, Florida



John Bastey
61 Middle St.
Hallowell, Maine 04347
Telephone/fax: 207-622-4036
Email: JBastey@roadrunner.com

Environmental Management of Hallowell
61 Middle St., Hallowell, Maine 04347

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Environmental Management
61 Middle St., Hallowell, Maine 04347

I. INTRODUCTION

The AK-6000 is small and simple to build and operate compared to most sources permitted under Florida law. In fact, by many air-permitting standards, until recently it was only licensable because of its potential to emit smoke if operated improperly.

The Aluminum King melting furnaces are heavy sheet metal boxes (½ inch thick on the top and the bottom and 3/8 inch thick on the sides), lined with refractory brick, and fired in this case by natural gas burners. There is one burner in the primary chamber and one in the afterburner. The combined heat rating of all burners is 3.0 MMBtu with 2 MMBtu in the primary and 1.0 MMBtu in the afterburner chamber.

In accordance with the March 23, 2000 *NESHAP for Secondary Aluminum Production, 40 CFR 63 (RRR),* the unit has a NESHAP compliant afterburner designed to retain emission gases for 0.8+ seconds at 1600°F, as required at §63.1504(f)(1) of the rule. The furnace will be operated at 1650°F, however, to provide an adequate buffer for the operato to insure that the NESHAP is never violated.

The afterburner is constructed of 1/4 inch steel lined with ceramic refractory material. It is fired at the point where emissions from the primary chamber enter and the temperature is measured at the stack tip, as required in the NESHAP. A digital temperature monitoring device is attached to one of the dual thermocouples so the operator can monitor the temperature in real time. This is in excess of the NESHAP but we feel it is the best way for the operator to track and control the furnace. The second thermocouple is attached to a data collection device, in accordance with §63.1510(g) (2) of the NESHAP. Copies of the monitoring results will be kept on site as required by the US Code and Florida law and regulation.

The furnace is designed to melt aluminum into ingots for the recycled aluminum market. Aluminum melts and flows at 660°C so a great deal of heat is not required in the primary chamber.

Melting furnace designs used to range from simple open crucibles to complicated machines with hydraulic pouring mechanisms and multiple afterburners.

Operating a melting furnace involves turning on the burner fuel, warming up the equipment and placing aluminum into the melting zone. During melting, all combustible materials burn off and their combustion byproducts, if they have been incompletely burned in the primary chamber, are emitted to the afterburner. In the afterburner, these byproducts are reduced to their most simple constituents.

Tests performed for the New Jersey DEP by Air Recon, a Division of LFR (see attached report), show the design of the furnace removes most contaminants regulated by law meaning that at temperatures in the 1600°F+ range, where the Aluminum King afterburner operates, hazardous air pollutants of concern in the NESHAP, dioxins and furans as well as other combustible contaminants are consumed or destroyed.

Review of alternative controls

Before the adoption of the EPA MACT rules melting furnaces on the market offered two levels of control, none or simple afterburners. While bag-houses are used for particulate collection in some kinds of processes, they are not practical at the operating temperatures found in the AK-6000 melting furnace. The injection of an adequate amount of air to cool the gas stream to the 250°F or 300°F required to keep the bags from being destroyed, would require capital and operating expenditures out of proportion to the initial cost of the furnace.

The following three kinds of furnaces exemplify the kinds of products that were available in the market before the new NESHAP was adopted. Since March 23, 2000, only those with afterburners meeting the NESHAP were allowed by law so the following list is by example only. Aluminum King is currently one of only a few manufacturers that meets the NESHAP standard.

1. The Fire Cone series, by Hooter Industries, was an "open-top furnace" with no controls and a simple open top design for small melting jobs. Emissions were released to the ambient air and the design of the furnace involved placement of the feedstock (scrap aluminum) over the melting pot to heat the metal to the melting point. Since there were no controls and no top plate in the Fire Cone design combustible material in the feedstock were vaporized incompletely and emitted to the atmosphere as smoke and unburned hydrocarbons. This kind of equipment was made obsolete by the NESHAP and can no longer be licensed.

2. The Aluminum King series of furnaces, by Aluminum King Mfg., are enclosed units that come equipped with NESHAP compliant afterburners. Because the combustion process is totally enclosed, all gases created during combustion are delivered to the afterburner for treatment. Aluminum King furnaces are suitable for small to medium-sized aluminum recycling businesses, such as the one proposed in this case.

3. The old United series, now built by another company, is designed for very large-scale scrap metal melting operations. The United series furnaces are much larger enclosed machines with multiple burners located in several parts of the machine. As might be expected, the price of the smallest United is more than double that of the largest Aluminum King model and several tons of aluminum must be melted at a time for use of this equipment to be cost-effective to operate.

Concern is often expressed that smoky emissions might result from the use of a recycling furnace. In the past, as the air quality director for Maine, I had the same worry. Often my staff answered calls concerning smoky fires from wire burning operations and tire piles so I know what a headache those kinds of operations tend to be for a regulatory agency.

To eliminate the opportunity for improper operations, therefore, I have insisted that an Operations and Maintenance Manuel (including a standard operating procedure) be incorporated into each license application. In this way the permitting agency, be it in California, Maine or Florida can use the O & M manual and the SOP as enforceable operating standards. The SOP, when incorporated into the license document, becomes part of the license and gives a level of confidence to the permitting agency that would otherwise be missing. The O & M Manual and Emergency Episode manual is required by the NESHAP.

It is up to the operator to use the equipment as prescribed in the permit and we have found that with the SOP as guidance, and the threatened loss of a valuable license, the machines are operated in a responsible fashion.

II OPERATION AND MAINTENANCE MANUAL, EMERGENCY EPISODE MANUAL AND STANDARD OPERATING PROCEDURES FOR THE FURNACE

Standard Operating Procedure

A. Material Collection, Sorting and Preparation.

Step 1 - Collect aluminum scrap.
Step 2 - Sort scrap by origin, e.g. automotive, household, manufacturing breakage, or other.
Step 3 - Clean scrap as follows:

Automotive

a. Automotive parts are to be drained of oils, fluids and fuels
b. Gasket materials and rubber and plastic fittings are to be removed, to the extent practicable.
c. Hard metal (steel) parts such as gears and bolts are to be removed where practicable.

Household

a. Remove plastic and rubber fittings, as practicable.
b. Drain liquids, if any.
c. Remove hard metal parts, as practicable.

Manufacturing Breakage

a. Remove plastic and rubber fittings, as practicable.
b. Remove hard metal parts, as practicable.

Other

a. Treat as appropriate, removing combustible materials, liquids and hard metals parts as practicable.

B. **Equipment Operation - Start-up and shut-down.**

Step 1 - Start-Up

a. Ignite the primary burner and afterburners.

b. operate for up to 1 hour to heat refractory material, re-liquefy the bottom pool of aluminum and pre-heat the afterburner. Adjust the afterburner temperature at a stable 1650°F. Metal can now begin to be introduced into the furnace.

c. Log the date and time of first "heat" and note type of scrap being melted.

Step 2 - Maintain temperatures in excess of 1650°F at the afterburner tip during the melting operations.

Step 3 - Shut-Down

a. Pour entire stock of melted aluminum into ingots. By design, a small residual pool of aluminum is left covering the bottom of the furnace to reflect heat back into the metal mass during the next batch melting operation.

b. Check the primary chamber to insure that no scrap remains bridged across the inside of the furnace.

c. Close the fuel supply to the primary chamber.

d. Close the fuel supply to the afterburner.

e. Close the master valve to the fuel supply.

f. Turn power off to the blowers.

C. **Melting Operation.**

Step 1 - Feed scrap metal into primary chamber.

Step 2 - As scrap melts, batch feed additional scrap into the primary chamber. This process generally takes between 30 and 45 minutes.

Step 3 - Pour molten aluminum into ingot forms being careful that no water is in the ingot molds when molten aluminum is poured into them.

Step 4 - Rake out irony material as required for efficient operation.

Step 5 - Repeat steps 1 through 4 until stock of scrap is exhausted or until end of the workday.

D. **Emergency Episode Plan for Compliance with Emission Limits.**

Step 1 - Emergency control of spurious emissions.

a. Immediately open the rake-out door to allow excess air into the furnace in order to quell smoky emissions...

b. No scrap aluminum is to be introduced into the furnace until emissions are completely clear and the reason for smoking is ascertained, corrected, and logged in the operator's manual.

Step 2 - Should smoky emissions again be noted upon resumption of operations, the entire stock of cleaned scrap should be returned to the sorting and material preparation areas for further cleaning. Notes in the operator's logbook should be made to indicate the reasons for the smoke and, if required by state law, appropriate notification should be made to the state air quality or environmental agency.

Step 3 - If, in the opinion of the furnace operator, the scrap is too contaminated to be melted without causing further smoky emissions to the ambient air, it will not be placed in the furnace.

III. FURNACE CONSTRUCTION

The furnace is constructed of sheet steel. After the upper and lower assemblies are fabricated, they are lined with 4" x 6" x 3" refractory brick. After being bolted together the fire mortar in both assemblies is fire cured. Next, the top is bolted in place and the afterburner fitting is added to the top of the assembled furnace. Finally, the gas burners are attached to the furnace and the entire assembly is painted. When the furnace is assembled in the field, the afterburner is attached on top of the afterburner fitting. The afterburner is made of 241/4 inch by 241/4 inch by 4-foot sections of ceramic lined steel lifts (pieces of afterburner). At the construction site five sections are bolted onto the afterburner fitting and a cap piece is attached to the top of the afterburner. The inside dimensions of the afterburner sections are 24 inches by 24 inches by 4 feet. The thermocouple used to measure exit temperatures in accordance with the NESAP is inserted at the top of the afterburner with two sets of leads to the readout and monitoring devices.

In the process cartoon drawing below arrows give an idea of how the furnace works. Scrap metal is placed in the primary chamber and the gas flow is through, around, downward and up to the stack. Heat is retained in the aluminum pool and refractory brick lining and reflected back into the scrap in the melting chamber.

As the gases flow upward, they are reheated to 1650°F and held for 0.8+ seconds in the afterburner, which polishes any remaining unburned hydrocarbons and HAPS before the exhaust gases are emitted to the atmosphere as well as reducing Carbon Monoxide and PM from carbon. As the emissions from the primary chamber pass through the refractory lined afterburner combustible materials in the gas stream are consumed and dioxins and furans are destroyed, as per the NESHAP.

AP-42 indicates that as much as 4+ lbs per hour of particulate are emitted from these kinds of furnaces however particulate matter emitted from the AK-6000 because of its design and construction, is limited to about 0.020 lbs per hour.

Heat from the burner is transferred directly to the scrap metal as well as being reflected from the walls and bottom of the furnace. In this way, maximum heat is focused on the scrap to be melted. In addition, adherence to the cleaning steps in the standard operating procedures minimizes the opportunity to create smoke by removing combustible materials before they can be introduced into the combustion chamber.

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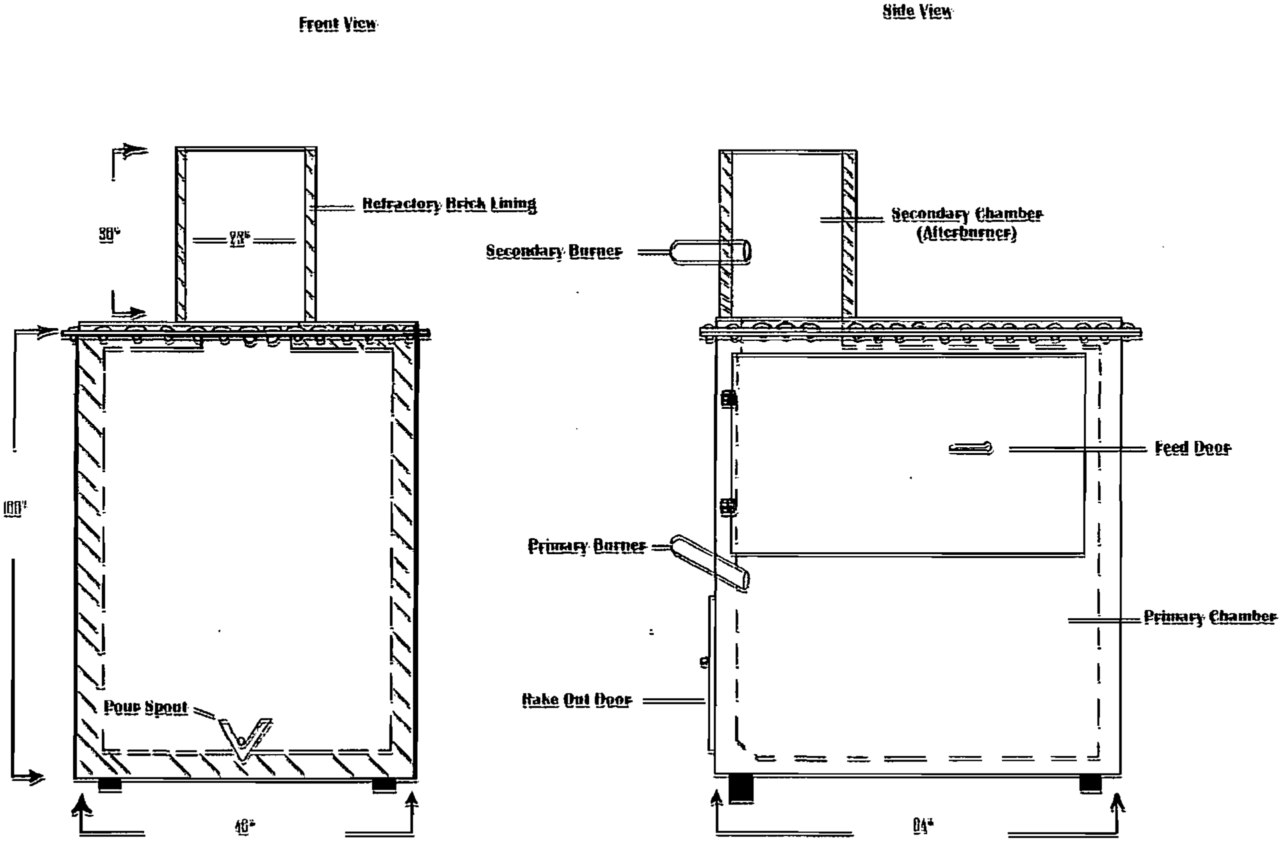
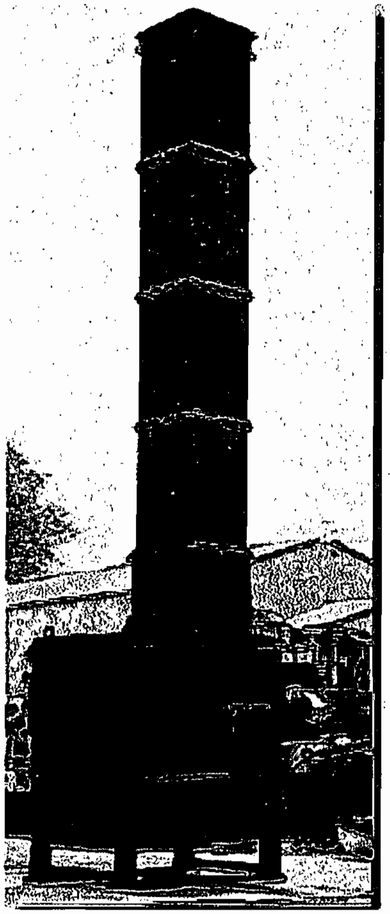
61 Middle St., Hallowell, Maine 04347

Aluminum King AK-6000 Furnace





This photo shows a typical AK furnace with its afterburner in place. Note the four lifts of stack attached to the burner assembly at the bottom of the stack. The stack and burners used in the AK-6000 are similar but one lift (4 feet) higher.

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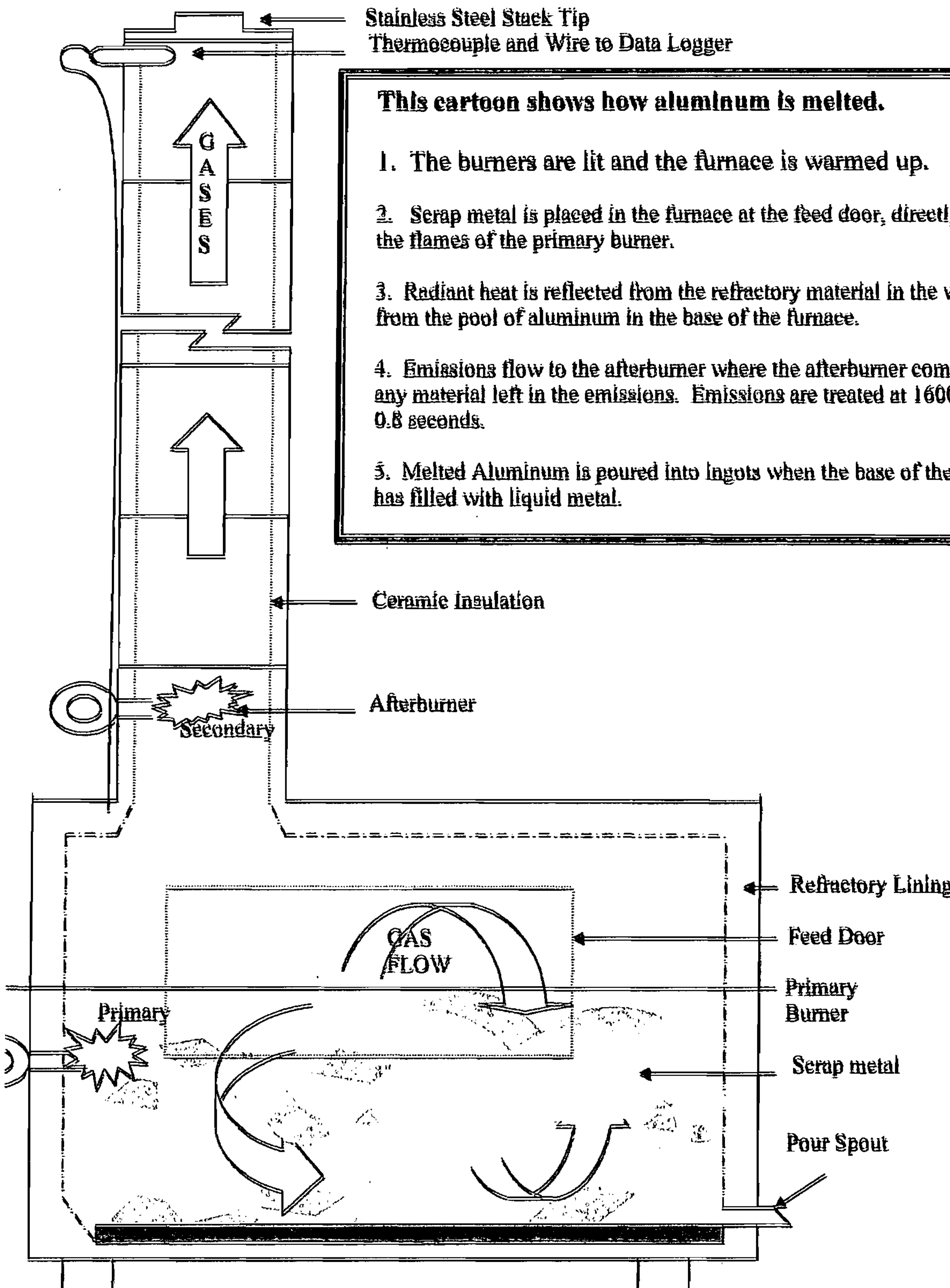
Aluminum King Operation



This cartoon shows how aluminum is melted.

1. The burners are lit and the furnace is warmed up.

2. Scrap metal is placed in the furnace at the feed door, directly into the flames of the primary burner.

3. Radiant heat is reflected from the refractory material in the walls and from the pool of aluminum in the base of the furnace.

4. Emissions flow to the afterburner where the afterburner combusts any material left in the emissions. Emissions are treated at 1600°F+ for 0.8 seconds.

5. Melted Aluminum is poured into ingots when the base of the furnace has filled with liquid metal.

0

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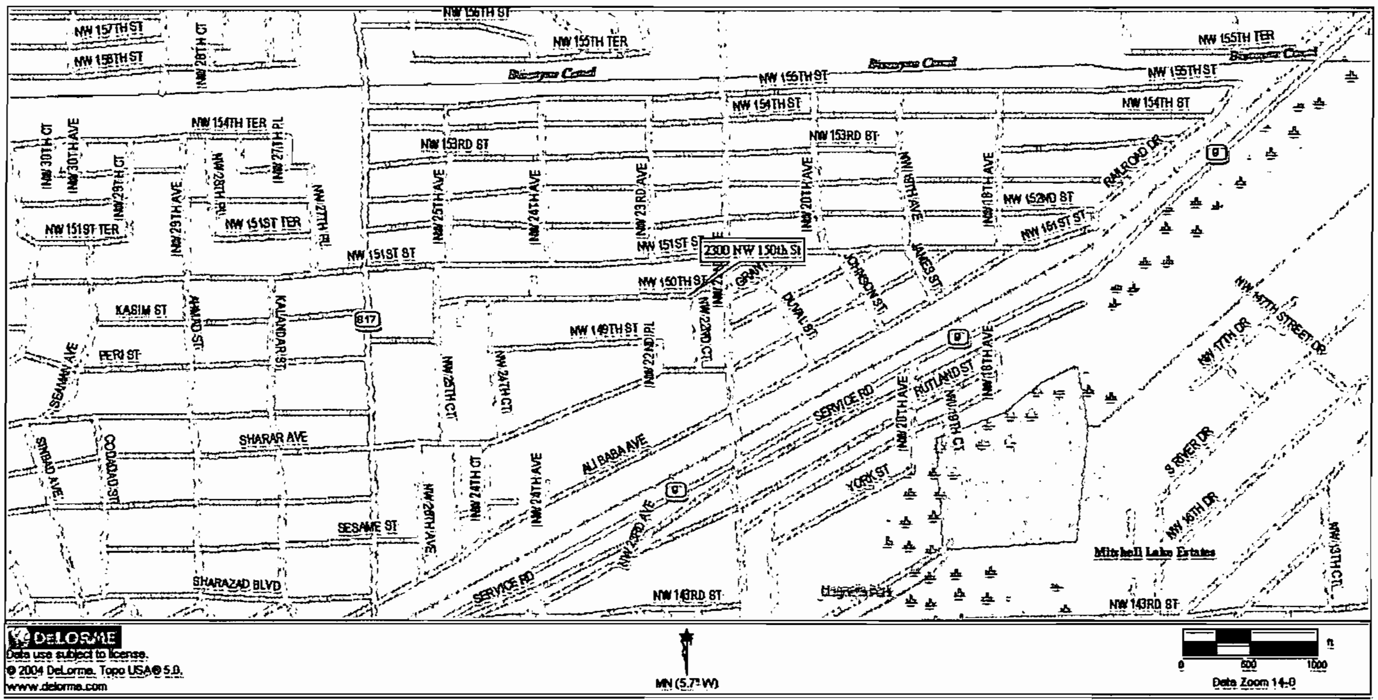
61 Middle St., Hallowell, Maine 04347

IV. FURNACE LOCATION

The parcel on which the furnace will be placed is located on the map below. It will be placed indoors and the afterburner will be installed so as to penetrate the roof and exhaust out doors.



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Interior view of All Japanese Engines showing approximate area where the furnace will be placed. Note the engines and other automotive parts being readied for shipping. Once the furnace is in place these recycled aluminum parts will be melted into 600 lb sows of aluminum for shipment to primary aluminum recycling plants.

This exterior photo of All Japanese Engines building shows the road between buildings in this industrial area. All Japanese Engines is located on the right.

Environmental Management
61 Middle St., Hallowell, Maine 04347

This interior view shows a worker loading scrap with a fork lift. After permitting of this site the fork lift will be used to lift sows of aluminum into trucks for shipping to a primary aluminum plant.

V. EMISSIONS CALCULATIONS

Mr. Nuñez is interested in using the cleanest fuel he can so he is using natural gas at the site in volumes enough to operate the furnace.

Data sheets in the appendix show potential and actual emissions for natural gas. The natural gas emissions are based on NJDEP witnessed tests run in New Jersey on a similar furnace.

The material in the Appendix contains test data by Air Recon. Those tests, as noted, were witnessed by the NJDEP, and indicate much lower emission rates than AP-42 because of the NESHAP afterburner applied to the furnace. The retention of the flue gasses at 1650+ degrees and the innate conservatism expressed in all AP-42 emission rates are the basis for the wide variation between AP-42 and the test results. Data calculations are based on natural gas.

In discussions with one of the authors of the AP-42 numbers, it was recognized that the values are very conservative and actual test numbers are almost always more accurate, and lower, than those used in the EPA document. Further conversations in May and June of 2000 with Mr. Juan Santiago, the EPA official who wrote the NESHAP, indicate that the AP-42 article focused on open top, uncontrolled furnaces. All Aluminum King furnaces are equipped with afterburners and emit only a fraction of the particulate matter of the open topped models.

VI. MISCELLANEOUS DATA CONCERNING THE FURNACE

1. Equipment:
   - a Aluminum King Furnace, AK-6000 - used for melting aluminum metal only.
   - b Aluminum King AK-6000 afterburner - used to polish emissions from the furnace.
   - c Lined afterburner to conduct gaseous byproducts to the stack tip.

2. Process Description - The process of melting aluminum is as defined in section II, Standard Operating Procedures, above.

3 Process flows
   - a The attached report from Air Recon details gas flow, emissions, concentrations, temperatures, etc. which affect the process. This is a small piece of equipment with minimal emissions (see data sheet).

   - b Operating schedule: (maximum and normal are the same)

i	Maximum operating time in hours/day	8 Hr/Day
ii	Maximum operating time in days/week	5 Day/Week
iii	Maximum operating time in weeks/year	50 Weeks/year
iv	Total operating time in hours/year	2080 Hrs/Yr

   Melting time equation:
   (8 hour/day x 5 day/week x 52 weeks/year) = 2080 hours/year

   - c Equipment Specs:
     - i Aluminum King AK-6000 Melting Furnace
     - ii Feedrate: Max = ~2850-2700 lbs/hr Normal = ~2000 lbs/hr
     - iii Metal production rate = about 50 – 80% of the feedrate, depending on iron content. A higher content of material that is not aluminum (Iron, steel for example) means less aluminum in the furnace.
     - iv Primary burner = 2.0 MMBtu/Hr. firing rate.
     - v Secondary burner (afterburner) = 1.0 MMBtu/Hr. firing rate

   - d Emergency Episode Plan
     - i During emergency episodes, the furnace will be shut down immediately if adding excess air by opening the rake-out door fails to cure the problem.

VII FREQUENTLY ASKED QUESTIONS In conclusion, here are the answers to some frequently asked questions concerning the Aluminum King furnace:

Q. How much aluminum is charged in an AK-6000?

A. The normal charge rate is about 2000 lb and the production rate of melted aluminum depends on the amount of irony metal in the scrap. As much as half of the weight of a charge of scrap may be iron and steel, which do not melt at the temperatures at which the furnace operates. Non-aluminum metals are collected and marketed irony scrap.

Q. What happens to the irony material and aluminum dross from the rake out?

A. Waste material raked out of the furnace is placed in barrels and sold. While not as valuable as ingot metal, it has value as iron. It is not disposed of at a landfill.

Q. What happens to the "hard metal" parts?

A. Hard metal or steel parts are generally removed before aluminum scrap is placed in the furnace. That material is sold on the recycled steel market. Metal gears from transmissions, for example, are made of specific steel alloys with special properties. They have significant value as a metal on the market. To be of value, however, they must be salvaged before the aluminum parts are melted. If the hard metal has been heated in a furnace, it must be sold as junk metal because the firing changes its characteristics.

Q. How is the afterburner constructed?

A. The afterburner is constructed of quarter inch steel and space age ceramic refractory material. It is constructed in four-foot sections to accommodate the different gas flows of the several types of Aluminum King furnaces. During the construction phase the furnace is trucked to the site and set up with afterburner sections bolted in place then. The first section of the afterburner, the burner section, is the same for all furnaces. It is a two and a half foot section with the burner built into it. The last section is also the same for all furnaces. It is made of stainless steel and has a square emission vent with no cap.

APPENDIX

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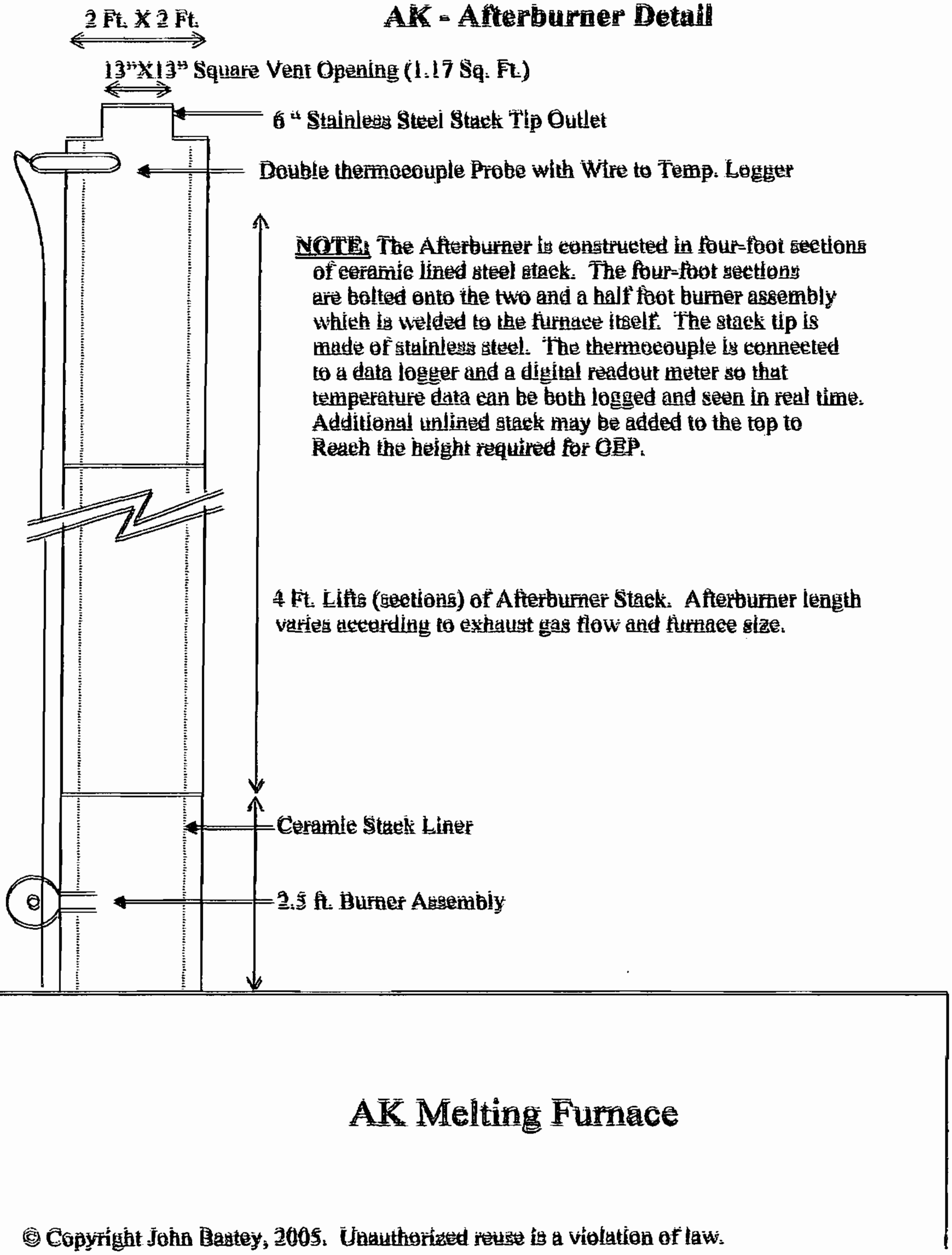
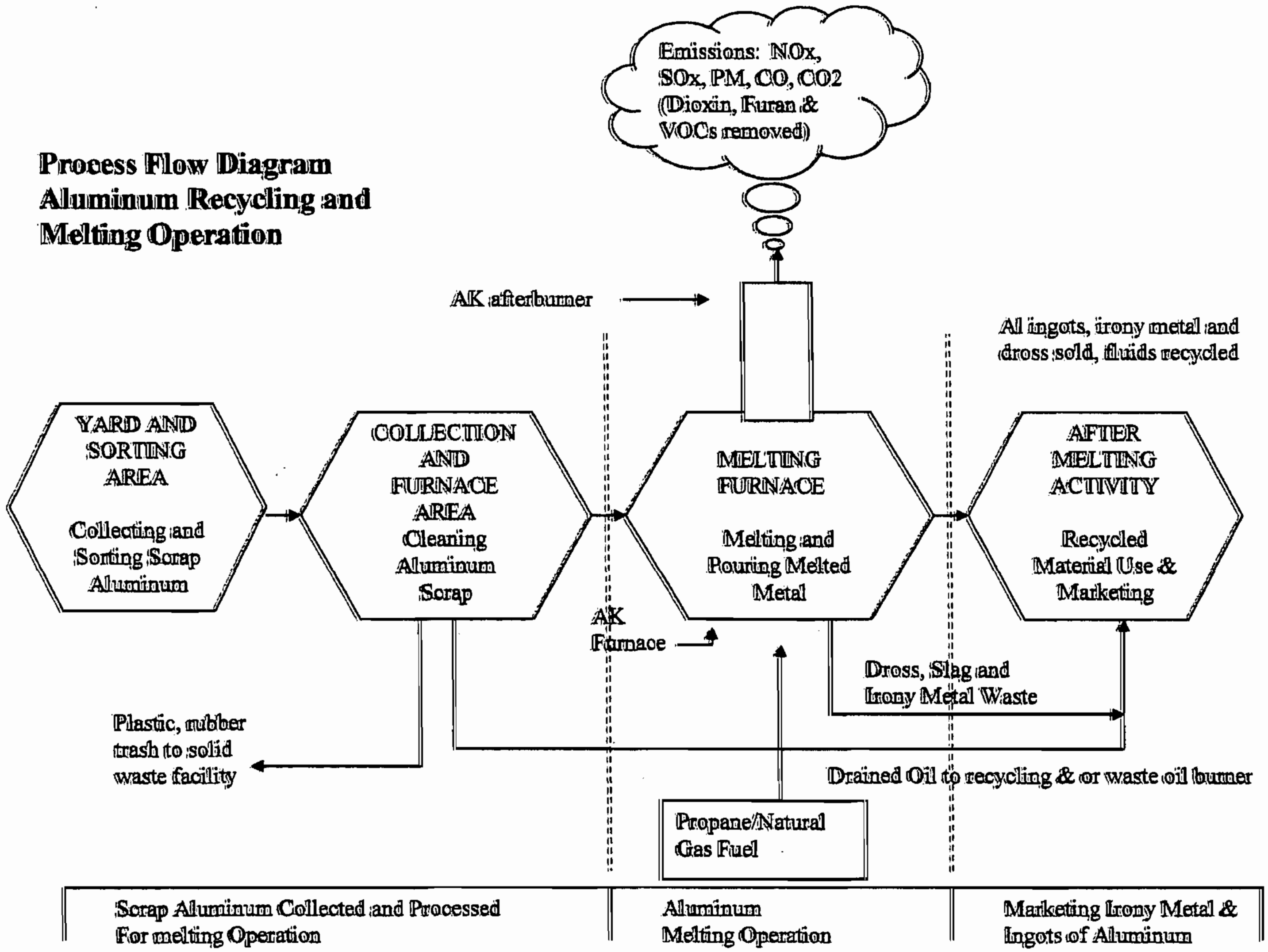
61 Middle St., Hallowell, Maine 04347



Process Flow Diagram
Aluminum Recycling and Melting Operation



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COMPLIANCE STACK
TESTING REPORT

Source Tested
Aluminum Recycling Furnace @
Component Parts, Inc.
South Kearny, New Jersey

Prepared for
M & M Knopf Auto Parts
239 Old New Brunswick Road
Piscataway, NJ 08854
Attn: Rich Arronenzi

Facility ID No.: 12249
PCP No.: 000001

AirRECON Project No. 311-01095-00-000

Test Date: November 7, 2001

Report Date: December 5, 2001

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SAMPLING DATA

RUN	1	2	3
DATE	11/7/01	11/7/01	11/7/01
TIME	1040-1140	1305-1405	1449-1549
$O_2/NO_x/CO/THC$			
No. OF SAMPLING POINTS	1	1	1
SAMPLING TIME (min)	60	60	60
SAMPLE VOLUME (liters)	60	60	60

RUN	1	2	3
DATE	11/7/01	11/7/01	11/7/01
TIME	1040-1144	1305-1409	1449-1553
TSP TRAIN			
No. OF SAMPLING POINTS	12	12	12
SAMPLING TIME (min)	60	60	60
NOZZLE SIZE (in)	0.740	0.740	0.740
SAMPLE VOLUME (dscf)	39.9	40.1	39.7
PERCENT ISOKINETIC	106	108	108

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INTRODUCTION

M & M Knopf Auto Parts retained AirRECON, a division of LFR Levine-Fricke (LFR), to perform a compliance stack emission evaluation on the exhaust of an aluminum recycling furnace at Component Parts, Inc., South Kearny, New Jersey.

Emission values, along with sampling dates and times, are detailed in the *Emissions Summary* section of this report.

The allowable emission limits presented in the *Emissions Summary* are based on our understanding of the applicable regulatory rules and regulations. Since we are not always privy to the situation, these should not be accepted without confirmation from relevant sources.

A testing protocol was prepared and submitted in advance of all field activities. In this protocol, all field and laboratory methodologies were summarized. A copy of the NJDEP-BTS approved protocol is in Appendix VI.

The furnace was tested for emissions of nitrogen oxides, carbon monoxide, oxygen, moisture, total hydrocarbons (as CH_4), and total suspended particulates (TSP) using U.S. EPA Methods 7E, 10, 3A, 4, 25A, and NJATM1, respectively.

Any remaining sample will be kept for 60 days from report date unless directed otherwise.

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EMISSIONS SUMMARY

RUN	1	2	3	ALLOWABLE
DATE	11/7/01	11/7/01	11/7/01	---
TIME	1040-1140	1305-1405	1449-1549	---
OXYGEN				
PERCENT	7.8	7.3	7.9	>5.0
NITROGEN OXIDES (as NO_2)				
PPMV (dry)	63	65	66	NA
POUNDS/HR	0.40	0.41	0.41	0.25
CARBON MONOXIDE				
PPMV (dry)	<0.1	<0.1	<0.1	NA
PPMV (dry) @ 7% O2	<0.1	<0.1	<0.1	100
POUNDS/HR	<0.0004	<0.0004	<0.0004	0.053
TOTAL HYDROCARBONS (as Methane)				
PPMV (wet)	0.8	0.2	0.1	NA
PPMV (dry)	0.9	0.2	0.2	NA
POUNDS/HR	0.002	0.0004	0.0004	NA
TOTAL SUSPENDED PARTICULATES				
TIME	1040-1144	1305-1409	1449-1553	---
GRAINS/SCF	0.0026	0.0015	0.0026	NA
GRAINS/DSCF	0.0029	0.0018	0.0030	NA
POUNDS/HR	0.023	0.014	0.022	0.34

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PERSONNEL AND CERTIFICATIONS

FIELD SAMPLING ON THIS PROJECT WAS PERFORMED BY:

John D. Kirby   Eduardo Garcia   Peter Marshall

CALCULATIONS AND REPORT PREPARATION WERE PERFORMED BY:

John D. Kirby   Barbara R. Dick

FIELD TESTING WAS OBSERVED BY:

Neil Nissim	NJDEP – BTS
Rich Arrenenzi	M&M Knopf Auto Parts

AirRECON PERSONNEL CERTIFICATION

I certify that, to the best of my knowledge and ability, the work on this project was reported truly, accurately and completely.

THIS REPORT IS SUBMITTED BY:

Barbara R. Dick
Project Scientist

APPROVED BY:

John M. Collete
Manager
AirRECON Division

PROFESSIONAL ENGINEER CERTIFICATION

I certify, under penalty of law, that I believe the information provided in this document is true, accurate, and complete. I am aware that there are significant civil and criminal penalties [including the possibility of fine or imprisonment or both] for submitting false, inaccurate, or incomplete information.

Brian B. Long, PE
Manager, Air Quality Engineering
Pennsylvania License PE057656

BRD/sas
K:\M&M Knopf Auto Parts\S. Kearny NJ\311-61095-00\Report\311-61095-00_rpt_Cpl Stack Test.doc

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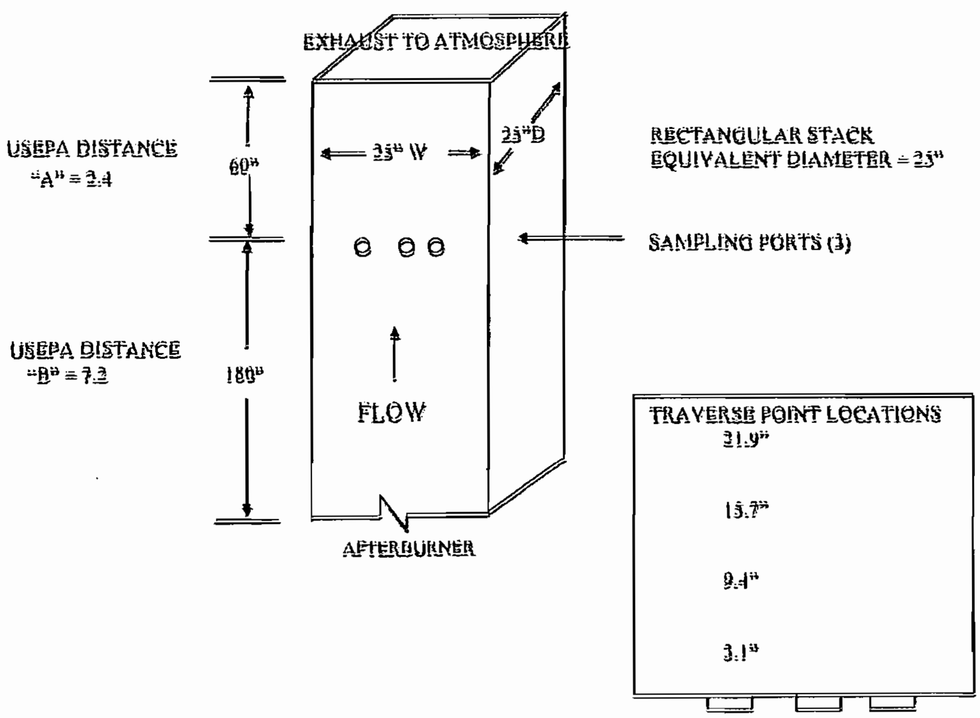
M&M KNOPF AUTO PARTS, INC.
Component Parts, Inc.
South Kearny, NJ

Aluminum Recycling Furnace
AirRECON Project No. 311-01095-00-000

OUTLET STACK



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STACK CONDITIONS:

RUN	1	2	3
DATE	11/7/01	11/7/01	11/7/01
TIME	1040-1144	1305-1409	1449-1553
STACK EQUIVALENT DIAMETER (in)	25	25	25
STACK CROSS SECTION (sq ft)	4.34	4.34	4.34
BAROMETRIC PRESSURE ("Hg)	30.00	30.01	30.03
AVG. STACK TEMP (°F)	1,759	1,782	1,765
STACK PRESSURE ("H_2O-gage)	0.01	0.01	0.01
MOISTURE (% vol)	12.8	13.4	12.9
O_2 (% vol)	7.8	7.3	7.9
CO_2 (% vol)	7.5	7.8	7.5
N_2 (% vol by difference)	84.7	84.9	84.6
AVG. ACTUAL VELOCITY (ft/sec)	16.4	16.8	16.3
ACTUAL FLOW RATE (acfm)	4,280	4,360	4,250
STD FLOW RATE (scfm)	1,030	1,030	1,020
DRY STD FLOW RATE (dscfm)	900	900	890

4296.64

Standard Conditions are 70°F, 29.92 "Hg.

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CYCLONIC FLOW

POINT	ROTATION ANGLE, DEGREES FURNACE OUTLET (measured on 11/7/01)	
	PORT A	PORT B
1	0	0
2	2	1
3	2	4
4	3	3
5	3	2
6	2	2
AVERAGE	2	2
OVERALL AVG.	2.0	

NOTE: The absence of cyclonic flow is verified if the average value of the rotation angle is less than 20 degrees.

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OM&M and SSM Plans
Secondary Aluminum Sweat Furnace
All Japanese Engines, Inc., Opa Locka, Florida.

This is the Operation, Maintenance and Monitoring Plan and Start-up, Shutdown Malfunction Plan for All Japanese Engines, Inc. (hereafter Stoneroad) which fulfills the requirements of 40 CFR Part 63 Subpart RRR.

I CERTIFY THE INFORMATION CONTAINED IN THIS PLAN TO BE ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE AND THAT TO THE BEST OF MY KNOWLEDGE THIS OM&M PLAN SATISFIES ALL THE REQUIREMENTS OF 40 CFR 63.1510.

Print or type the name and title of the Responsible official for the plant below:

____

Charles Nuñez, Owner Date

(A responsible official can be the president, vice president, secretary, or treasurer of the company that owns the plant, the owner of the plant, the plant engineer or supervisor, the government official if the plant is owned by the federal, state, city, or county government; or a ranking military official if the plant is located on a military base)

Safety

Water - Operators need to be aware of certain situations which may result in an unsafe working environment when melting aluminum. One of these situations is when water is introduced to molten metal. When this occurs, the water expands so fast that an explosion can result. Therefore scrap metal should be dry and free of water and ice before introducing it to the smelter. In addition, there should be no water in the molds or in the molding unit. Pouring molten aluminum into a wet mold will result in an explosion!!

Lead

Lead is an unwanted contaminant. It will oxidize with the aluminum and may be carried up the stack, which may result in a health hazard.

Magnesium

This metal should never be placed in your furnace. It is extremely volatile. If it ignites, which it does with relative ease, it burns at very high temperatures and is impossible to quench. A magnesium fire will lead to furnace damage, aluminum oxidation and contamination. If magnesium should happen to get into the furnace and ignite, it must be raked out with the irony residue. Operators must be extremely careful not to come in contact with burning magnesium. Never put water on burning magnesium under any circumstances! Do not look at the burning metal as it creates an extremely bright light than can cause injury to the eyes. A simple test to check for magnesium is to apply vinegar to a broken or cut part of the metal. If it is magnesium, the vinegar will bubble. This reaction does not occur with aluminum. Another test is to cut the surface of the metal with a sharp knife. The aluminum will cut easily and form a curl of metal. Magnesium will be brittle and snap and pop off in small pieces. If you do the scratch test and the vinegar test you will be doubly safe.

IF YOU ARE IN DOUBT AS TO WHETHER OR NOT THE METAL IS MAGNESIUM, DO NOT CHARGE IT INTO THE FURNACE.

Proper personal protection equipment (PPE) should be worn while melting aluminum. In addition to the above suggestions, many health and safety requirements can be found in state and federal Occupational Safety and Health Administration regulations (OSHA).

Environmental Management
61 Middle St., Hallowell, Maine 04347

Operating/Start-up/Shutdown Standard Operating Procedures

(An outline version of the procedure is contained in the narrative)

Start-up pre-start up checklist

1. Electrical supply status.
2. Fuel supply off.
3. Perform safety inspection of area – remove tripping hazards.
4. Visually inspect furnace.
5. Check fuel level in fuel tank(s).
6. Ensure there is no standing water in unit, ingot holders, in or on scrap metal.
7. Sort metal avoiding metal with magnesium, zinc, or lead, using only dry aluminum irony metal in the furnace.

Start-up

1. Turn power supply on
2. Turn blower switch(s) "on" and ensure they are operating correctly
3. Open fuel valves to primary/holding chamber(s) and afterburner
4. Ignite primary burner, it will ignite the secondary or afterburner
5. Operate the furnace for up to 1/2 hour before beginning melting operations, increasing temperature until full operating temperature (1650°F) is reached. This will bring all parts of the furnace up to operating temperatures to prevent thermal cracking and purge any moisture from the furnace.
6. Ignite the afterburner before charging the furnace with scrap.
7. After temperatures have stabilized, move charging table in place
8. Deposit aluminum onto table.

Charging and Raking

1. Open charging door, watching out for flame flashback from burner
2. Charge aluminum.
3. Continue to charge until the furnace requires raking. Rake irony metal onto concrete pad, behind the furnace and below the Rake Out door.
4. Repeat charging procedure if necessary.
5. When an adequate volume of aluminum has been melted, pour the metal into ingot or sow molds.

Pouring Metal

1. Operator must don suitable gear prior to pouring molten metal.
2. When chamber is full, prepare molds. Molds must be absolutely dry. Water exposed to molten metal will cause an explosion.
3. Position empty mold beneath pour spout. Remove iron plug and allow molten aluminum to pour into ingot or sow mold. If using 40 lb ingot molds, move the "wagon wheel" as required.

4. When mold(s) is(are) full reinsert into furnace and seat securely.
6. Place new mold and repeat procedure as necessary

Shutdown

1. Make sure molten metal is drained and dross and irony waste has been raked out and insure that no metal is "bridged" across the inside of the furnace.
2. When the final load is removed turn off the after burner first, then reduce fuel to the primary burner slowly, allowing it to cool. After a few minutes operating at minim gas input, close the primary gas input but leave blowers operating.
3. It is extremely important to keep burner blowers on until the furnace has become cooled enough to avoid heat damage to the burners. Turn off blowers when the primary/holding chamber and afterburner temperature is less than 800°F.
4. Turn off the main furnace power supply.
5. For extended shutdown, cover and protect manual fuel valves.

Emergency Shutdown

If an emergency shutdown is necessary such as in the loss of power, to the extent possible, remove all metal from the unit (molten as well as dross). Operate blowers if possible to prevent heat damage.

General Maintenance

Refractory Repair – Think of the refractory on your furnace as the tiles on the Space Shuttle. Both accomplish the same goal, protecting the metal of their respective machines from extreme heat. To avoid a catastrophic failure of your furnace take care to check and repair refractory the materials often and carefully.

Due to the severe nature of the operation of the furnace, the refractory material is subject to both thermal and physical shocks, leading to the occasional need to repair the refractory ceramic in the afterburner, the refractory "plastic" or "mud" on the inside roof of the furnace and refractory bricks that make up the floor and sides of the furnace.

To extend refractory life, the interior of the furnace should be thoroughly raked and inspected before operation. If the unit is shutdown for an extended period it should be inspected occasionally. When cracks in the refractory materials appear to be severe from heat or physical shock, repairs should be made at once.

Repair Procedures

Patching - For cracks and small patch repairs, "plastic" (moldable) refractory "mud" can be used. All foreign material must be removed and old loose refractory material must be torn back to a sound material. Do not attempt to install frozen or dried-out moldable refractory material. Frozen plastic refractory must be thoroughly thawed out before use and after being installed must be protected from freezing until it has dried. Before applying moldable refractory clean the cracks or holes to be patched thoroughly. Next coat the surface of the old refractory with thinned firebrick mortar using a paintbrush. Now apply the plastic refractory by tamping in into the cavity. Proper compaction of the material is essential and a pneumatic hammer, equipped with heads sized and shaped proportionate to the job at hand, will work well. If work is stopped on a moldable installation, the exposed surface should be covered with plastic sheets or wet burlap to prevent the refractory material from drying out. On resumption a layer of the exposed surface should be trimmed off to expose workable material, and then continue compacting the plastic refractory material into the cavity until the repaired surface is flush with the existing surface. Heat should be applied to temper the patch within 48 hours after installation.

Pouring castable refractory material - For larger repairs like the replacement of cast refractory sections the procedure to be used will be dictated by the type of castable. It is important to match the repair material with the original refractory material.

Refer to the refractory manufacturer's recommendations when mixing castables and install the material non-stop until job is complete. If anchors are involved in the repair, be sure they are properly installed before to beginning the pour. After completion of the job, follow the instructions for the recommended curing and dry-out procedures.

Scheduled Maintenance

The following items are to be checked and maintained on a regular basis:

Combustion air blowers
Blow dirt out of the fan wheels monthly. If dirt builds up on the fan blades, first scrape them clean, then blow them out with air.

Heat sensors
Replace thermocouple annually.

Fuel Oil burners
Check and clean burner nozzles every six months. If the system is equipped with a fuel filter, the filter cartridge should be replaced after the first two weeks of operations, and every six months following that. The internal components of the burner should be checked at the same time the nozzles are inspected. Check to see that the spark electrodes and wire connections are in good condition and are not corroded. Check for oil leaks at that time and clean the blower. If the oil pump on the burner is direct driven by the blower motor through a flexible coupling, the coupling is a vital part of the oil system, and should be periodically inspected for wear, damage and loose components. An annual burner inspection is required by the NESHAP for Secondary Aluminum

Production. See Appendix 1 for a check sheet.

Monitoring

The parameter monitored to determine compliance is temperature. The temperature must be controlled so that it meets the required 1600°F average. Once the unit is in operation and stable, the temperature will be controlled between 1650° and 1750°F. The fuel flow control is like the accelerator on an automobile. A skilled operator will alter fuel flows to the burners so that the temperature variations will be relatively slight. However, opening the feed door is always an event that drops stack temperatures markedly so the operator must be prepared to hold the temperature to between 1650 and 1700°F during the feeding operation by controlling the fuel and air flow. The stack temperature must be at least 1650°F and recorded and monitored as steady before the first load of scrap is fed into the furnace.

At least once a week, during periods of operation, or once in each operating session, if the furnace is to be operated for less than a week, the operator will log the time and temperature from the digital readout and compare that time and temperature to the data from the data logger at the same time to insure that the instruments are calibrated to each other. This activity will be logged into the operator's log and the comparison also noted in the log book.

The monitoring system consists of the following:

Omega Duel Temperature probes mounted at the stack tip
Omega data logger (range includes zero and 1.5 times the average temperature).
The temperature monitoring device records the temperature in 1 minute increments.

The data in the Data logger is uploaded into the PC every day.
Calibration is to be accomplished as noted below by comparing the digital readout to the data logged at least once each week. The furnace will be run at 50°F above the required exit temperature of 1600°F. The Omega thermocouple measurements vary less than 1.5% of the measured heat. In addition, they either work or break, like an incandescent light. When they break they break catastrophically and read zero

Standard Procedures to Take During Startup, Shutdown, Malfunction Events (SSM)

1. Record event in the log sheet or in a logbook.
2. Determine what caused the malfunction and note.
3. Correct the malfunction and note
4. If malfunction or correction was not covered by the plan, submit required special reporting as mentioned below.

5. Report the event in compliance with the permit conditions.

Monitoring System Malfunctions

1. Confirm equipment status.
2. Identify the part that has failed.
3. Repair or correct the malfunction such as replace defective parts and reinstall software.
4. If system cannot be repaired either monitor using a spare temperature meter or shut the unit down as soon as practicable. Do not operate until it has been repaired.
5. Record event information on malfunction sheet (Appendix 3).
6. Record what was done on the malfunction form or in a logbook. If the malfunction or correction was not covered by the plan, submit the required special reporting as mentioned above.
7. Report the event in compliance with the permit conditions.

Catastrophic Events: Fire, Lightning, Weather and Acts of God

1. Contact appropriate emergency personnel, if necessary, usually the fire department.
2. After the emergency response is complete, ensure that the situation is safe and no longer hazardous.
3. Determine the status of system.
4. Correct or repair the malfunction.
5. Record information on malfunction sheet.
6. Report the event in compliance with the permit conditions.

Malfunctions That Require Special Reporting

1. A malfunction not covered by the OMM/SSM plan or actions taken are not consistent with the Plan must be reported to the permitting agency by phone or fax within 2 working days. A written report must follow within 7 days and will be noted in the SSM report within 30 days of the end of the calendar period in which it occurs.
2. If a temperature monitoring or data logging system malfunction occurs that is not covered by the OMM/SSM plan, it must be reported within 24 hours by phone or fax after the malfunction and followed up with a letter within 14 days.
3. The Plan must be revised to include malfunctions originally not covered by the Plan as and if they occur. Changes to the Plan must be made within 45 days of the malfunction and kept on record in the office.

Malfunctions – Troubleshooting

Temperature too low

1. Too little fuel - adjust fuel flow.
2. Temperature control system is malfunctioning – determine cause, such as a temperature probe malfunction, and repair or replace. Do not operate the equipment

with out being able to monitor and record the temperature.
3. Check Temperature monitoring system.

Loss of fuel
1. Check fuel level.
2. Check for line break.

Loss of power
1. Check breakers to see if it is a localized problem, if a repair is required correct the problem.
2. If it is not, initiate emergency shutdown of sweat furnace.

Opacity
1. Make sure the afterburner is on and functioning properly (see burner section).
2. Check and remove any material from the furnace that may be causing smoky emissions.

Glossary/Acronyms/abbreviations

Afterburner – means an air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases.
CO – Carbon Monoxide
Cast- Any object made by pouring molten metal into molds
CFR – Code of Federal Register. A book which lists Federal Regulations.
MACT – Maximum Achievable Control Technology. Used interchangeably for the National Emission Standards for Hazardous Air Pollutants. These are regulations created to reduce emissions of hazardous air pollutants through the use of control technology.
Malfunction – means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner. Failures that are caused by poor maintenance or careless operation are not malfunctions.
Mold - A form of cavity onto which molten metal is poured to produce a desired shape
OMM – operation, maintenance, and monitoring
Opacity – means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. In terms of smoke, the less you can see through smoke coming out of a stack the higher the opacity.
Owner or operator – mean any person who owns, leases, operates, controls or supervises a stationary source.
PC – personal computer
UV – ultraviolet. This has a wave length shorter than visible light. Scanners detect ultra-violet light in flames

Residence time – for an afterburner, the duration of time required for gases to pass through the afterburner combustion zone.

Responsible Official - A responsible official can be:

* The president, vice president, secretary, or treasurer of the company that owns the plant
* The owner of the plant
* The plant engineer or supervisor
* The government official if the plant is owned by the federal, state, city, or county government; or a ranking military official if the plant is located on a military base.

SSM – start-up, shutdown and malfunction
Sweat furnace – means a furnace that is used only to reclaim aluminum from scrap metal that contains aluminum and iron or other metals but not including lead or mercury. Sweat furnaces reclaim aluminum by applying heat to the scrap to melt the aluminum but not so much heat that the iron or other metals, such as copper, melt.

Forms of use in reporting

Annual Afterburner Inspection Checklist (semiannual, keep in files)

☐ Inspected all burners, pilot assemblies and pilot sensing devices for proper operation and
clean pilot sensor
☐ Cleaned pilot sensor (if present)
☐ Inspected the combustion air for proper adjustments
☐ Inspected baffles and other internal structures to ensure structural integrity
☐ Inspected dampers, fans, and blower for proper operation
☐ Inspected for proper sealing
☐ Inspected motors for proper operation
☐ Inspected combustion chamber refractory lining; cleaned and replaced as necessary
☐ Inspected afterburner shell for corrosion and/or hot spots
☐ Afterburner is operating properly following this inspection and/or any adjustments resulting from this inspection

I verify that the equipment is in good operating condition and all the repairs were performed in accordance with the Operation, Maintenance and Monitoring plan.

____________________ 12/8/08
Charles Nuñez Date

(NOTE: This form may be copied and printed as needed.)

Environmental Management
61 Middle St., Hallowell, Maine 04347

SSM sample log sheet SSM event reporting form

Sample Log Sheet:

Equipment Checked before operation: __________ (initial)

Date: ____________________ Operator: ____________________

Start Time: ________________ Stop time _______________ Hours: ________________

Tons of ingot/sow melted: __________________

Equipment Checked after operation: __________ (initial)

Sample Event Reporting Form

Plant Name: All Japanese Engines, Inc. Address: *2300 NW 150th St., Opa Locka, Florida*

What Malfunctioned? Thermocouple

Describe abnormal start-up/shutdown and/or malfunction and what you did to correct it.
Stopped furnace and installed new duel thermocouple

Followed SSM Plan *yes* Initials *LPH*

Date *8/1/2003* Start time *8:00 AM* End Time *5:00pm 9 hours*

Start-up *x* Shutdown *x*

Equipment: *Temp. monitoring system*

I CERTIFY THE INFORMATION ABOVE TO BE ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE. ACTIONS TAKEN DURING SS&M EVENTS WERE CONSISTENT WITH THE SSM PLAN; Letters/forms explaining actions that were inconsistent with the plan are attached to this form. The plan has been revised to incorporate these events.

____

Name Title

____

Signature Date

Note: If start-up, shutdown or malfunction is not covered by the plan or what you did to fix the malfunction was different than your SSM plan you must fax or call to your local air permitting agency, or EPA within 2 days, following up with a letter detailing the matter within 7 days.

If the continuous temperature monitoring system malfunctioned and is not covered by your plan or what was done to fix it was not covered in your SSM plan, then you must fax or call your local air permitting agency with-in 24 hours following up with a letter within 14 days.

Environmental Management
61 Middle St., Hallowell, Maine 04347

The above SSM event report maybe be used as your semi-annual SSM report.

Form for reporting of procedures inconsistent with or malfunctions not covered by the Plan

Plant: ______________________ Address: __________________________

Malfunctioning device: Date of Malfunction:

Time malfunction began (estimated): ________ Time malfunction ended: _________

Total duration of malfunction: *(in hours & minutes)* _____________

Suspected cause of malfunction: ____

Corrective action(s) taken: ____

Were your actions during the malfunction consistent with the Plan? Y N (circle one)

If your actions were not consistent with the Malfunction Plan during the malfunction, explain why you took other actions: ____

____

Do you believe that any excess emissions and/or parameter monitoring exceedances occurred during the malfunction? Y N (circle one)

Which, if any, units were shut down because of malfunction: ___________________

____

Your name: ___________________ Your Title: _________________________

Signature of Responsible Official: ________________ Title: _______________

Note: Fax or call this information into your local air permitting agency within 2 working days of the event and sent a letter within 7 working days of the event. If malfunction occurred on the temperature monitoring system then Fax or call this information in with-in 24 hours and follow-up with a letter with-in 14 days to your local permitting agency.

Environmental Management
61 Middle St., Hallowell, Maine 04347

Maintenance Checklist

Monthly
Blow dirt out of fan wheels with air hose
Check fan blades, if dirty; scrape clean, then blow out with air

Every 3 months
Examine thermocouple protection tubes for erosion and pitting
Replace tube before it burns out or if there is obvious damage

Every 6 months
Check and clean burner nozzles
Check burner internals
Clean internals and check for leaks
Clean blower
Lubricate fan motors

Annually
Replace thermocouple
Date and initial for each maintenance activity

Department of
Environmental Protection

Division of Air Resource Management

JOHN BASITI ATTNY

SECONDARY ALUMINUM SWEAT FURNACE
AIR GENERAL PERMIT REGISTRATION FORM

for

All Japanese Engines, Inc.

2100 NW 15th St., Opa-Locka, Florida 33054

Environmental Management of Hallowell
61 Middle St., Hallowell, Maine 04347

November 25, 2008

Mr. Joe Lurix,
Southeast District Air Resource Manager
Florida Department of Environmental Protection
Southeast District Office
400 North Congress Avenue, Suite 200

RE: Installation of an AK-6000 at All Japanese Engines in Opa-Locka, Florida

Dear Mr. Lurix:

The attached material comes to you after conversations with Mr. Rick Garcia, Air Quality Director of Miami Dade. Initially I had begun to file this application with him because in our early conversations he explained that Miami Dade was a delegated county. On further discussion, however, once he understood the size and kind of source I wanted to license, he suggested that the State of Florida DEP was the proper place to start. With that in mind, I am forwarding this to you on the assumption that your office will handle this application instead of Tallahassee. If that is incorrect I would appreciate it if you could forward it to the proper office and let me know where it was sent.

The material in this application is intended to show that the AK-6000 aluminum recycling furnace meets the requirements of Florida law concerning air emissions sources and particularly the EPA Secondary Aluminum Production MACT. I have licensed this type of equipment in several states across the United States for clients from Southern California to Maine, Minnesota to Alabama and many states in between. I have also licensed similar furnaces twice in Florida, one in Tampa and one in Apopka.

The Aluminum King series of aluminum melting furnaces, when operated in accordance with the standards contained in this application, will meet all applicable standards of the Clean Air Act and the Florida Air Pollution Control laws. The AK-6000 afterburner is designed to meet the new rules with 0.8-second retention at 1600°+F.

Please have your staff call me at 207-622-4036 if there is anything you need in addition to what is included here.

Sincerely,

John Bastey

original copy

Enclosures

All Japanese Engines
2300 N.W. 150th St.
Opalocka,Fl 33054

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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Mr. Joe Lurix
SE Reg Air Manager
Florida DEP
Southeast Dist. Office
400 N. Congress Ave
Suite 200
West Palm Beach, Florida
33401