

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT--RENEWAL

PERMITTEE

Toyol America, Inc.  
Attn: Raymond Malmgren  
17401 South Broadway  
Lockport, Illinois 60441

<u>Application No.:</u> 03070038	<u>I.D. No.:</u> 197810AAQ
<u>Applicant's Designation:</u>	<u>Date Received:</u> January 20, 2006
<u>Subject:</u> Aluminum Paste, Flake, and Powder Manufacturing	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 17401 South Broadway, Lockport, Will County	

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of

**Uncontrolled Process Emission Units:**

**A-Unit Aluminum Paste Process:**

Screener O/S Trough and Product with eight (8) Openings;  
Filter Press Clean Out;  
Transfer from Screeners to Drum; and  
Transfer from Mixer to Drum

**B-Unit Aluminum Paste Process:**

Screener O/S Trough and Product with twenty (20) Openings;  
Filter Press Clean Out;  
Three (3) Transfer Points of Ferro Filter Backwash and Oversized to Vac Pan  
Open; and  
Transfer From Mixer to Drum

**C-Unit Aluminum Paste Process:**

Screener O/S Trough and Product with 9 Openings;  
Filter Press Clean Out;  
Two (2) Transfer Points of Ferro Filter Backwash and Oversized to Vac Pan  
Open; and  
Transfer From Mixer to Drum

**D and E-Units Aluminum Paste Process:**

Screener O/S Trough and Product with fifteen (15) Openings;  
Three (3) Filter Press Clean Out;  
Four (4) Transfer Points of Ferro Filter Backwash and Oversized to Vac Pan  
Open; and  
Transfer From Mixer to Drum

F-Unit Aluminum Paste Process:

Screeners O/S Trough and Product with twenty (20) Openings;  
Three (3) Filter Press Clean Out;  
Two (2) Transfer Points of Ferro Filter Backwash and Oversized to Vac Pan  
Open; and  
Transfer From Mixer to Drum

Solvent Distillation Process:

Solvent Distillation Sludge Drum

FX Paste Process:

Transfer From Pan Filter to Drum;  
Screeners O/S Trough and Product with Openings; and  
Vac Pan Open

Sigma Mixing Process:

Transfer From Mixer to Drum; and  
Jaygo Mixer

Research and Development Unit:

Ball Mill;  
Discharger Tank;  
Screen;  
Vacuum Pan Filter; and  
Mixer

Analytical Laboratory:

Laboratory Analysis and Test Procedures

**Emission Units controlled by Catalytic Recuperative Oxidizer:**

A-Unit Aluminum Paste Process:

Charge Tank;  
Two (2) A-Mills;  
Four (4) Screeners;  
Discharge Tank;  
Filter Tank; and  
Filter Press Air Drying-A with 2 Process Oil Tanks

B-Unit Aluminum Paste Process:

Two (2) Charge Tanks;  
Four (4) B-Mills;  
Fourteen (14) Screeners;  
Discharge Tank;  
Three (3) Pan Filters;

Screened Tank;  
Filter Tank; and  
Filter Press Air Drying with Two (2) Process Oil Tank

C-Unit Aluminum Paste Process:

Charge Tank;  
Two (2) Ball Mills;  
Discharge Tank;  
Six (6) Screeners;  
Two (2) Pan Filters;  
Screened Tank;  
Filter Tank; and  
Filter Press Air Drying with Two (2) Process Oil Tank

D and E-Units Aluminum Paste Process:

Two (2) Charge Tanks;  
Four (4) Ball Mills/Overflow Tank;  
Two (2) Discharge Tanks;  
Ten (10) Screeners;  
Two (2) Screened Tanks;  
Six (6) Pan Filters;  
Predecanter Tank;  
Four (4) Filter Tanks;  
Two (2) Centrifuges;  
Two (2) C and CF Tanks; and  
Three (3) Filter Press Air Drying with Two (2) Process Oil Tank

F-Unit Aluminum Paste Process:

Charge Tank;  
Ball Mill/Overflow Tank;  
Discharge Tank;  
Screened Tank;  
Three (3) Pan Filters;  
Predecanter Tank;  
Two (2) Centrifuges;  
Seven (7) Filter Tanks;  
Eight (8) Screeners; and  
Three (3) Filter Press Clean Out with Two (2) Process Oil Tanks

Solvent Distillation Process:

Solvent Distillation Wash Tank;  
Clean Oil Storage Tank; and  
Surge Tank

FX Paste Process:

Mix and Discharge Tank Vent Condensers;  
Presscake Handling Station;  
Three (3) Pan Filters; and

Two (2) Screeners

Sigma Mixing Process:

Vacuum/Condenser

Aluminum Flake Drying:

Condenser Sump

Miscellaneous Units:

Four (4) Clean Oil Storage Tanks (12,000-Gallon, 12,000-Gallon, 4,100-Gallon, and 8,000-Gallon);

Hazardous Waste Storage Tank (5,600-Gallon);

Two (2) Mineral Spirits Storage Tanks (3,000-Gallon);

Gasoline Storage Tank (1,500 Gallon);

Natural Gas-fired Boiler (5.4 mmBtu/Hour);

Two (2) Natural Gas-fired Aluminum Melting Furnaces (1,500 Lbs/Hour Melt, Each);

Two (2) Atomizers with Cyclones and Baghouses;

Aluminum Powder Classification Consisting of Two (2) Classifiers, Three (3) Bins, Blender and A Screen;

Two (2) Fine Powder Classifiers with Cyclones and Baghouses;

Solvent Parts Washer; and

Thirty-three (33) Small Natural Gas Fired Heaters (4.7 mmBtu/Hour, Total)

pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued:
  - i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/yr for Volatile Organic Material (VOM) and 10 tons/year for any single Hazardous Air Pollutant (HAP) and 25 tons/year for any combination of such HAPs). As a result, the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
  - ii. To limit the potential emissions of VOM from the source to less than 25 tons/year. As a result, the source is excluded from the requirement of 35 Ill. Adm. Code Part 205, Emission Reduction Market System. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.

- 2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
- c. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
- d. Pursuant to 35 Ill. Adm. Code 212.306, all normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.
- e. Pursuant to 35 Ill. Adm. Code 212.307, all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.
- f. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in 35 Ill. Adm. Code 212.304 through 212.308 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.
- g. Pursuant to 35 Ill. Adm. Code 212.310, as a minimum the operating program shall include the following:
  - i. The name and address of the source;
  - ii. The name and address of the owner or operator responsible for execution of the operating program;

- iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;
  - iv. Location of unloading and transporting operations with pollution control equipment;
  - v. A detailed description of the best management practices utilized to achieve compliance with 35 Ill. Adm. Code 212 Subpart K, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
  - vi. Estimated frequency of application of dust suppressants by location of materials; and
  - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
- h. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
3. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to excess 2000 ppm.
- 4a. Pursuant to 35 Ill. Adm. Code 218.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 Ill. Adm. Code 201, and further processed consistent with 35 Ill. Adm. Code 218.108, or unless such tank is a pressure tank as described in 35 Ill. Adm. Code 218.121(a) or is fitted with a recovery system as described in 35 Ill. Adm. Code 218.121(b)(2).
- b. Pursuant to 35 Ill. Adm. Code 218.182(a), no person shall operate a cold cleaning degreaser unless:
- i. Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;
  - ii. The cover of the degreaser is closed when parts are not being handled; and

- iii. Parts are drained until dripping ceases.
- c. Pursuant to 35 Ill. Adm. Code 218.182(b), no person shall operate a cold cleaning degreaser unless:
  - i. The degreaser is equipped with a cover, which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if:
    - A. The solvent vapor pressure is greater than 2 kPa (15 mmHg or 0.3 psi) measured at 38°C (100°F);
    - B. The solvent is agitated; or
    - C. The solvent is heated above ambient room temperature.
  - ii. The degreaser is equipped with a device for draining cleaned parts. The drainage device shall be constructed so that parts are enclosed under the cover while draining unless:
    - A. The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F); or
    - B. An internal drainage device cannot be fitted into the cleaning system, in which case the drainage device may be external.
  - iii. The degreaser is equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point:
    - A. A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or
    - B. Any other equipment or system of equivalent emission control as approved by the Illinois EPA and further processed consistent with 35 Ill. Adm. Code 218.108. Such a system may include a water cover, refrigerated chiller or carbon adsorber.
  - iv. A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser; and
  - v. If a solvent spray is used, the degreaser is equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.
- d. Pursuant to 35 Ill. Adm. Code 218.182(c)(2)(B), on and after May 30, 2007 no person shall operate a cold cleaning degreaser with a solvent vapor pressure which exceeds 1.0 mmHg (0.019 psi) measured at 20°C

(68°F), unless the person is in compliance with the control requirements of 35 Ill. Adm. Code 218.182(c)(4) or is exempt under 35 Ill. Adm. Code 218.182(f) or (g).

- e. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 218.302, 218.303, or 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 218 Subpart G shall apply only to photochemically reactive material.
  - f. Pursuant to 35 Ill. Adm. Code 218.302(a), emissions of organic material in excess of those permitted by 35 Ill. Adm. Code 218.301 are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.
  - g. Pursuant to 35 Ill. Adm. Code 218.986, every owner or operator of an emission unit subject to 35 Ill. Adm. Code 218 Subpart TT shall comply with the requirements of 35 Ill. Adm. Code 218.986(a), (b), (c), (d), or (e) below:
    - i. Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit; or
    - ii. For coating lines, the daily-weighted average VOM content shall not exceed 0.42 kg VOM/liter (3.5 lbs VOM/gallon) of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied during any day. Owners and operators complying with 35 Ill. Adm. Code 218.986 are not required to comply with 35 Ill. Adm. Code 218.301.
    - iii. Any leaks from components subject to the control requirements of 35 Ill. Adm. Code 218 Subpart TT shall be subject to the following control measures by March 15, 1995:
      - Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.
5. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S.

Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.

- 6a. Pursuant to 35 Ill. Adm. Code 218.122(c), if no odor nuisance exists the limitations of 35 Ill. Adm. Code 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).
- b. Pursuant to 35 Ill. Adm. Code 218.980(d), no limits under 35 Ill. Adm. Code 218 Subpart TT shall apply to emission units with emissions of VOM to the atmosphere less than or equal to 2.3 Mg (2.5 tons) per calendar year if the total emissions from such emission units not complying with 35 Ill. Adm. Code 219.986 does not exceed 4.5 Mg (5.0 tons) per calendar year.
- 7a. The Catalytic Recuperative Oxidizer shall be in operation at all times when the aluminum paste and flake manufacturing process is in operation, except for instances of malfunction and breakdown as provided in this permit.
- b. The catalytic recuperative oxidizer combustion chamber shall be preheated to at least the manufacturer's recommended temperature but not less than the temperature at which compliance was demonstrated in the most recent compliance test, or 500°F in the absence of a compliance test. This temperature shall be maintained during operation of the emission units associated with the catalytic recuperative oxidizer.
- c. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the catalytic recuperative oxidizer, cyclones, and baghouses such that the catalytic recuperative oxidizer, cyclones, and baghouses are kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
- d. The catalytic recuperative oxidizer, the boiler, aluminum melting furnaces, and the small heaters shall only be operated with natural gas as the fuel. The use of any other fuel in the catalytic recuperative oxidizer, the boiler, aluminum melting furnaces, and the small heaters requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- e. The Permittee is authorized to continue operation the emission units associated with the catalytic recuperative oxidizer in violation of the applicable requirements of 35 Ill. Adm. Code 218.986(a) (i.e., 81% overall reduction in VOM emissions) in the event of a malfunction or breakdown of the catalytic recuperative oxidizer. This authorization is provided pursuant to 35 Ill. Adm. Code 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent injury to personnel or severe

damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

- i. This authorization only allows such continued operation as necessary to provide essential service or to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.
  - ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable repair the damaged feature(s) of the catalytic recuperative oxidizer, remove the Aluminum Paste and Flake manufacturing Process from production, or undertake other action so that excess emissions cease.
  - iii. Repair of the damaged feature(s) of the catalytic recuperative oxidizer shall be accomplished within two (2) hours of the malfunction, unless the malfunction(s) cannot be repaired within two (2) hours and the Aluminum Paste and Flake manufacturing Process cannot be removed from production within two (2) hours.
  - iv. The control system shall be repaired and shall be in proper working condition prior to the aluminum paste and flake manufacturing process resuming operations.
  - v. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 18(a)(ii) and 21(b). For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the Aluminum Paste and Flake manufacturing Process out of service.
  - vi. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 Ill. Adm. Code 201.263.
  - vii. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 Ill. Adm. Code 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.
- f. In the event that the operation of this emission unit results in an odor nuisance, the Permittee shall take appropriate and necessary

actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.

- 8a. Emissions and operation of the Aluminum Paste and Flake Production shall not exceed the following limits:

<u>Process</u>	<u>Maximum Production Rate (Ton/Hr)</u>	<u>Pollutant</u>	<u>Emissions</u>	
			<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Aluminum Paste and Flake Production (Process Units*)	1.15	VOM	1.55	15.5
		PM	1.20	11.96
Aluminum Paste and Flake Production (Uncontrolled Processes**)	1.15	VOM	0.50	5.00

\* Subject to 35 Ill. Adm. Code 218.986

\*\* Subject to 35 Ill. Adm. Code 218.980(d)

These limits are based on the VOM emission rate determined in most recent stack testing, 8,760 hours of operation, 81% overall control efficiency, and allowable particulate matter emission rates of 35 Ill. Adm. Code 212.321.

- b. Emissions and operation from natural gas combustion shall not exceed the following limits:

<u>Process</u>	<u>Natural Gas Usage</u>		<u>Pollutant</u>	<u>Emission Factor (Lb/mmscf)</u>	<u>Emissions</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>			<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Natural Gas Combustion	60	375	CO	84	5,040	15.75
			NO <sub>x</sub>	100	6,000	18.75
			PM	7.6	456	1.43
			SO <sub>2</sub>	0.6	36	0.11
			VOM	5.5	330	1.03

These limits are based on the maximum fuel usage and standard emissions factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

- c. Emissions and operation of the Degreaser shall not exceed the following limits:

<u>Equipment</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(lb/Mo)</u>	<u>(lb/Yr)</u>	<u>(lb/Mo)</u>	<u>(Ton/Yr)</u>
Solvent Parts Washer	120	960	120	0.48

These limits are based on maximum emissions resulting from maximum material usage. Compliance with the above emission limit shall be determined based on the following method:

$$\text{VOM Usage and Emissions} = (\text{Initial Material Usage} \times \text{Material VOM Content}) - (\text{Spent Material Sent} \times \text{Spent Material VOM Content})$$

- d. Emissions and operation of the atomizers shall not exceed the following limits:

<u>Process</u>	<u>Maximum Production Rate (Ton/Hr)</u>	<u>Pollutant</u>	<u>Emissions (lb/Hr)</u>	<u>(Ton/Yr)</u>
Aluminum Atomization #1 with Dust Collection	0.75	PM	2.18	9.55
Aluminum Atomization #2 with Dust Collection	0.75	PM	2.18	9.55
Aluminum Powder Classifier with Dust Collection	1.00	PM	2.54	11.13
Fine Powder Classifier with Dust Collection	0.165	PM	0.97	4.25
Fine Powder Classifier with Dust Collection	0.165	PM	0.97	4.25

These limits are based on allowable particulate matter emission rates of 35 Ill. Adm. Code 212.321 and maximum production rates.

- e. This permit is issued based on negligible emissions of volatile organic material (VOM) from 4 Clean Oil storage tanks, Hazardous waste storage tank, and 2 FX Mineral Spirits storage tanks. For this purpose emissions from each emission unit, shall not exceed nominal emission rates of 0.01 lb/hour and 0.044 ton/year.
- f. This permit is issued based on negligible emissions of volatile organic material (VOM) from the gasoline storage tank. For this purpose emissions from this emission unit, shall not exceed nominal emission rates of 0.05 lb/hour and 0.22 ton/year.
- g. This permit is issued based on negligible emissions of particulate matter (PM) due to the melting of aluminum ingots from 2 aluminum melting furnaces. For this purpose emissions from each emission unit, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
9. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act from the source shall not exceed 0.9 tons/month and 9.0 tons/year of any single HAP and 2.25 tons/month and 22.5 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of any HAP from

this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.

10. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 11a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
  - i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
  - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
- b. Testing required by Conditions 12 and 13 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
12. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
13. Pursuant to 35 Ill. Adm. Code 218.988, when in the opinion of the Illinois EPA it is necessary to conduct testing to demonstrate

compliance with 35 Ill. Adm. Code 218.986, the owner or operator of a VOM emission unit subject to the requirements of 35 Ill. Adm. Code 218 Subpart TT shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in 35 Ill. Adm. Code 218.105.

- 14a. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(A)(ii), an owner or operator that uses an afterburner or carbon adsorber to comply with any Section of 35 Ill. Adm. Code Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times that the control device is in use except as provided in 35 Ill. Adm. Code 218.105(d)(3). The continuous monitoring equipment must monitor for each afterburner which has a catalyst bed, commonly known as a catalytic afterburner, the temperature rise across each catalytic afterburner bed or VOM concentration of exhaust.
  - b. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(B), an owner or operator must install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring device, such as a strip chart, recorder or computer, having an accuracy of  $\pm 1$  percent of the temperature measured in degrees Celsius or  $\pm 0.5^\circ$  C, whichever is greater.
15. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

16. Pursuant to 35 Ill. Adm. Code 201.301, the owner or operator of any emission source or air pollution control equipment shall maintain as a minimum: records detailing all activities pursuant to any compliance program and project completion schedule pursuant to 35 Ill. Adm. Code 201 Subpart H; records detailing all malfunctions, breakdowns or startups pursuant to 35 Ill. Adm. Code 201 Subpart I and records of all monitoring and testing conducted pursuant to 35 Ill. Adm. Code 201 Subpart J, plus records of all monitoring and testing of any type whatsoever conducted with respect to specified air contaminants. All such records shall be made available to the Illinois EPA at any reasonable time.
- 17a. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- b. Pursuant to 35 Ill. Adm. Code 218.129(f), the owner or operator of each storage vessel specified in 35 Ill. Adm. Code 218.119 shall maintain readily accessible records of the dimension of the storage vessel and an analysis of the capacity of the storage vessel. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 Ill. Adm. Code Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel.
- c. Pursuant to 35 Ill. Adm. Code 218.182(d)(2), on and after March 15, 1999 all persons subject to the requirements of 35 Ill. Adm. Code 218.182(c)(1)(B), (c)(2)(B), and (c)(3)(B) must maintain records which include for each purchase of solvent used for cold cleaning:
  - i. The name and address of the solvent supplier;
  - ii. The date of purchase;
  - iii. The type of solvent;
  - iv. The vapor pressure of the solvent measured in mmHg at 20° C (68° F); and
  - v. For any mixture of solvents, the vapor pressure of the mixture, as used, measured in mmHg at 20° C (68° F).
- d. Pursuant to 35 Ill. Adm. Code 218.182(e), all records required by 35 Ill. Adm. Code 218.182(d) shall be retained for three years and shall be made available to the Illinois EPA upon request.
- e. Pursuant to 35 Ill. Adm. Code 218.986(e)(2), for any leak which cannot be readily repaired within one hour after detection, the following records, as set forth below in 35 Ill. Adm. Code 218.986(e)(2), shall be kept. These records shall be maintained by the owner or operator

for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Illinois EPA or USEPA upon verbal or written request.

- i. The name and identification of the leaking component;
  - ii. The date and time the leak is detected;
  - iii. The action taken to repair the leak; and
  - iv. The date and time the leak is repaired.
- f. Pursuant to 35 Ill. Adm. Code 218.991(a)(2), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code 218 Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall collect and record all of the following information each day and maintain the information at the source for a period of three years:
- i. Control device monitoring data;
  - ii. A log of operating time for the capture system, control device, monitoring equipment and the associated emission source;
  - iii. A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- g. Pursuant to 35 Ill. Adm. Code 218.991(b)(2), any owner or operator of a coating line which is subject to the requirements of 35 Ill. Adm. Code 218 Subpart PP or TT and complying by means of the daily-weighted average VOM content limitation shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years:
- i. The name and identification number of each coating as applied on each coating line;
  - ii. The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line; and
  - iii. The daily-weighted average VOM content of all coatings as applied on each coating line as defined in 35 Ill. Adm. Code 218.104.
- 18a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
- i. Records addressing use of good operating practices for the catalytic recuperative oxidizer, cyclones, and baghouses:

- A. Records for periodic inspection of the catalytic recuperative oxidizer, cyclones, and baghouses with date, individual performing the inspection, and nature of inspection; and
  - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
- ii. The Permittee shall maintain records of excess emissions from the Aluminum Paste and Flake Manufacturing Process subject to 35 Ill. Adm. Code 218.986(a) during malfunctions and breakdowns of the catalytic recuperative oxidizer. At a minimum, these records shall include:
- A. Date and duration of malfunction or breakdown;
  - B. A full and detailed explanation of why the damaged feature(s) could not be immediately repaired or the Aluminum Paste and Flake manufacturing Process removed from service without risk of injury to personnel or severe damage to equipment;
  - C. The contaminants emitted and an estimate of the quantity of emissions;
  - D. The measures used to reduce the quantity of emissions and the duration of the occurrence; and
  - E. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
- iii. Aluminum Paste and Flake Production rate (tons/month and tons/year);
- iv. Natural gas usage of the source (mmscf/month and mmscf/year);
- v. Aluminum Atomization and Aluminum Powder Classification production rates (tons/month and tons/year);
- vi. Cleaning solvent usage for the cold cleaning vapor degreaser (lbs/month and lbs/year); and
- vii. Total VOM emissions of the source (tons/month and tons/year);
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

19. Pursuant to 35 Ill. Adm. Code 201.263, any person who causes or allows the continued operation of an emission source during a malfunction or breakdown of the emission source or related air pollution control equipment when such continued operation would cause a violation of the applicable standards or limitations shall immediately report such incident to the Illinois EPA by telephone, telegraph or such other method as constitutes the fastest available alternative. Thereafter, any such person shall comply with all reasonable directives of the Illinois EPA with respect to the incident. In addition, any person subject to this 35 Ill. Adm. Code 201 Subpart I shall maintain such records and make such reports as may be required in procedures adopted by the Illinois EPA pursuant to 35 Ill. Adm. Code 201 Subpart K.
- 20a. Pursuant to 35 Ill. Adm. Code 218.182(d)(6), on and after March 15, 1999, all persons subject to the requirements of 35 Ill. Adm. Code 218.182(b) or (c) shall notify the Illinois EPA of any violation of 35 Ill. Adm. Code 218.182(b) or (c) by sending a description of the violation and copies of records documenting such violations to the Illinois EPA within 30 days following the occurrence of the violation.
- b. Pursuant to 35 Ill. Adm. Code 218.990, upon request by the Illinois EPA, the owner or operator of an emission unit which is exempt from the requirements of 35 Ill. Adm. Code 218 Subparts PP, QQ, RR, TT or 35 Ill. Adm. Code 218.208(b) shall submit records to the Illinois EPA within 30 calendar days from the date of the request that document that the emission unit is exempt from those requirements.
- c. Pursuant to 35 Ill. Adm. Code 218.991(a)(3), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code 218 Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall notify the Illinois EPA:
  - i. Of any violation of the requirements of 35 Ill. Adm. Code 218 Subpart PP, QQ, RR or TT by sending a copy of any record showing a violation to the Illinois EPA within 30 days following the occurrence of the violation;
  - ii. At least 30 calendar days before changing the method of compliance with 35 Ill. Adm. Code 218 Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(a)(1) above. Upon changing the method of compliance with 35 Ill. Adm. Code 218 Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(b).
- d. Pursuant to 35 Ill. Adm. Code 218.991(b), any owner or operator of a coating line which is subject to the requirements of 35 Ill. Adm. Code 218 Subpart PP or TT and complying by means of the daily-weighted average VOM content limitation shall notify the Illinois EPA:

- i. Of a violation of the requirements of 35 Ill. Adm. Code 218 Subpart PP or TT by sending a copy of any record showing a violation to the Illinois EPA within 30 days following the occurrence of the violation;
  - ii. At least 30 calendar days before changing the method of compliance with 35 Ill. Adm. Code 218 Subpart PP or TT from the use of complying coatings to the use capture systems and control devices, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(a)(1) above. Upon changing the method of compliance with 35 Ill. Adm. Code 218 Subpart PP or TT from the use of complying coatings to the use capture systems and control devices, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(a) above.
- 21a. If there is an exceedance or deviation from of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.
- b. The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, concerning continued operation of any emission unit associated with the catalytic recuperative oxidizer during malfunction or breakdown of the catalytic recuperative oxidizer with excess emissions:
  - i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.
  - ii. Upon achievement of compliance (i.e., conclusion of the incident), the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the Aluminum Paste and Flake manufacturing Process was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the Aluminum Paste and Flake manufacturing Process were taken out of service.
  - iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every fourteen (14) days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the

malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the Aluminum Paste and Flake manufacturing Process will be taken out of service.

- c. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

If you have any questions on this, please call George Kennedy at 217/782-2113.

Edwin C. Bakowski, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:GMK:psj

cc: Illinois EPA, FOS Region 1  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from Aluminum Paste, Flake, and Powder Manufacturing facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario, which results in maximum emissions from such a plant. The limitation of hours or operation, processing limitations, and control requirements result in maximum emissions below the levels (e.g., 100 tons/yr of VOM, 10 tons per year for a single HAP, and 25 tons per year for any combination of such HAP) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)						<u>Single HAP</u>	<u>Total HAPs</u>
	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>SO<sub>2</sub></u>	<u>VOM</u>			
Aluminum Paste and Flake Production (Process Units and Malfunction and Breakdown)			11.96		15.50			
Aluminum Paste and Flake Production ("Fugitive")					5.00			
Natural Gas Combustion	15.75	18.75	1.43	0.11	1.03			
Solvent Parts Washer					0.48			
Aluminum Atomizer #1 with Dust Collection			9.55					
Aluminum Atomizer #2 With Dust Collection			9.55					
Aluminum Powder Classifier with Dust Collection			11.13					
Fine Powder Classifier #1 with Dust Collection			4.25					
Fine Powder Classifier #2 with Dust Collection			4.25					
4 Clean Oil Storage Tanks					0.176			
Hazardous Waste Storage Tank					0.044			
2 FX Mineral Spirits Storage Tanks					0.088			
Gasoline Storage Tank					0.22			
2 Aluminum Melting Furnaces			0.88					
Totals	15.75	18.75	53.00	0.11	22.538	9.0	22.5	

GMK:psj