



Environmental Protection Agency

John R. Kasich, Governor

Mary Taylor, Lt. Governor

Scott J. Nally, Director

2/24/2011

Ron Sturzinger
Matalco
4420 LOUISVILLE RD
Canton, OH 44705

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1576001813
Permit Number: P0107468
Permit Type: OAC Chapter 3745-31 Modification
County: Stark

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

If you have any questions, please contact Canton City Health Department at (330)489-3385 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Canton

Certified Mail

Yes	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Matalco**

Facility ID:	1576001813
Permit Number:	P0107468
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	2/24/2011
Effective:	2/24/2011
Expiration:	2/24/2021



Division of Air Pollution Control
Permit-to-Install and Operate
for
Matalco

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Authorization

Facility ID: 1576001813
Application Number(s): A0041087
Permit Number: P0107468
Permit Description: Chapter 31 Modification of P901 Reverberatory furnace OH #1 to increase molten aluminum production and to facilitate processing and melting of clean chips from the anticipated installation of a new chip dryer (permitted separately). Equipment modification includes increase equipment capacity and heat input.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$200.00
Issue Date: 2/24/2011
Effective Date: 2/24/2011
Expiration Date: 2/24/2021
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Matalco
4416 LOUISVILLE RD
Canton, OH 44705

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

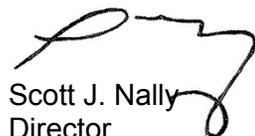
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Canton City Health Department
420 Market Avenue
Canton, OH 44702-1544
(330)489-3385

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0107468

Permit Description: Chapter 31 Modification of P901 Reverberatory furnace OH #1 to increase molten aluminum production and to facilitate processing and melting of clean chips from the anticipated installation of a new chip dryer (permitted separately). Equipment modification includes increase equipment capacity and heat input.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	P901
Company Equipment ID:	OH #1 Furnace
Superseded Permit Number:	15-01657
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- **PTIO fee.** This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- **Annual emissions fee.** Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Canton City Health Department in accordance with OAC rule 3745-

15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.
2. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart RRR: P901. The complete MACT requirements, including General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District Office or local air agency.

C. Emissions Unit Terms and Conditions



1. P901, OH #1 Furnace

Operations, Property and/or Equipment Description:

Secondary Aluminum Group 1 Reverberatory Melting Furnace, natural gas-fired with 30mmBTU/Hr heat input capacity and 5.0 TPH maximum melt capacity

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. d)(4),(5),(6); e)(4), and f)(2)b and c.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Filterable Particulate Emissions (PE/PM) shall not exceed 1.2 lb/hr and 5.3 tpy. Filterable Particulate Emissions less than 10 microns diameter (PE/PM10) shall not exceed 0.8 lb/hr and 3.5 tpy. Filterable Particulate Emissions less than 2.5 microns diameter (PE/PM2.5) shall not exceed 0.7 lb/hr and 3.1 tpy. See b)(2)b.
b	OAC rule 3745-31-05(A)(3), as effective 12/01/2006	See b)(2)c.
	ORC rule 3704.03(T)	Nitrogen Oxides (NOx) emissions shall not exceed 0.7 lb/ton Aluminum melted Carbon Monoxide (CO) emissions shall not exceed 0.6 lb/ton Aluminum melted.
c	OAC rule 3745-17-11	See b)(2)d.

d	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
e	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust from this emissions unit shall not exceed 20% opacity, as a 3-minute average.
f	OAC rule 3745-17-08(B)(3) Appendix "A" area	Reasonably available control measures for fugitive dust. See b)(2)e.
g	ORC 3704.03(F) OAC rule 3745-17-114	See d)(4),(5),(6); e)(4), and f)(2)b and c
h	40 CFR Part 63, Subpart RRR (40 CFR 63.1500 – 1519)	See b)(2)f.

(2) Additional Terms and Conditions

- a. The uncontrolled potential to emit VOC, OC, SO₂ and Pb is negligible for this emissions unit. Therefore no emissions limitations or recordkeeping requirements for these pollutants are included in this permit.
- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM₁₀, and PM_{2.5} from this air contaminant source since the uncontrolled potential to emit for PM, PM₁₀, and PM_{2.5} is less than 10 tons/yr.
- d. The particulate emissions (PE/PM) limitations pursuant to this rule are less stringent than the uncontrolled potential to emit (PE/PM).
- e. The permittee shall take or install reasonably available control measures to prevent fugitive dust from becoming airborne. Such measures shall include, but not be limited to, the installation and use of hoods, fans, and/or other equipment to adequately enclose, contain, capture, vent, and control fugitive dust from this emissions unit meeting the following requirements:

- i. the collection efficiency shall be sufficient to minimize or eliminate visible emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
 - ii. the control equipment for this emissions unit shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there shall be no visible particulate emissions (whichever is less stringent) from the exhaust stack of this emissions unit.
 - f. This affected Emissions Unit (EU) is designated as a Group 1 furnace under 40CFR part 63 subpart RRR because it processes clean charge using a reactive flux. However, because the EU melts only clean aluminum scrap, subpart RRR does not apply. See section 40 CFR Part 63.1505(i)
 - g. The terms and conditions for this emissions unit as specified in this Permit to Install and Operate (PTIO) P0107468 supersede all the terms and conditions specified in Permit to Install (PTI) 15-01657 dated June 7, 2007.
- c) **Operational Restrictions**
 - (1) The permittee shall fire only natural gas as fuel in this emissions unit.
 - (2) The permittee shall charge this emission unit with clean aluminum material only. Clean material charge is defined as follows: "materials including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; uncoated/ unpainted thermally dried aluminum chips; aluminum scrap dried at 650°F or higher; aluminum scrap delacquered/ decoated at 900°F or higher; other oil and lubricant free unpainted/ uncoated gates and risers; oil and lubricant free unpainted/ uncoated aluminum scrap, shapes, or products (e.g. pistons) that have not undergone any process (e.g. machining, coating, painting, etc.) that would cause contamination of the aluminum (with oils, lubricants, coatings, or paints); and internal runaround."
 - (3) The permittee shall flux in this emission unit with only chlorine based reactive agents. The addition of flux shall be limited to cover flux and/or injection of the flux material under the metal line with a lance during the preparatory cycle. The permittee shall not add reactive fluxing within the hearth or in the sidewell at times when the level of molten metal falls below the top of the passage between the sidewell and the hearth. The quantity of reactive flux added shall not exceed 20 lb/per 6-hr cycle
 - (4) Alloying, if any is performed in this emissions unit, shall be done with only clean materials, i.e., free of HAP's or precursors to HAP's.
 - (5) Chlorine shall not be added to this EU for the purpose of demagging the aluminum.
- d) **Monitoring and/or Recordkeeping Requirements**
 - (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or

absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the location and color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall maintain records of permissible feed/charge materials and certify charge materials every 6 months.
- (3) The permittee shall maintain records of the flux materials used by name and manufacturer, the halogen content of each flux, and the quantity of flux used per batch of aluminum processed.
- (4) The permit-to-install and operate (PTIO) application for this emissions unit, P901, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
 - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit, (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

- i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
 - c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: HCl

TLV (mg/m³): [2.2]

Maximum Hourly Emission Rate (lbs/hr): 0.80

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 22

MAGLC (ug/m³): 53

The permittee, has demonstrated that emissions of HCl, from emissions unit P901, is calculated to be less than eighty per cent of the maximum acceptable ground-level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (5) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- e) Reporting Requirements
 - (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

- (2) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
- all days during which any visible particulate emissions were observed from the stack serving this emissions unit;
 - all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.
- (3) The permittee shall identify the following information in the annual permit evaluation report in accordance with the operational restrictions for clean aluminum material usage in term number c)(2) above and the recordkeeping requirements in term number d)(3) above:
- all instances in which any materials other than clean aluminum material defined in term c)(2) above were charged into this emission unit.
- (4) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.
- f) Testing Requirements
- (1) Compliance with the emission limitation(s) in Section b)(1). of these terms and conditions shall be determined in accordance with the following method(s):
- Emission Limitation:
Filterable Particulate Emissions (PE/PM) shall not exceed 1.2 lb/hr and 5.3 tpy.
- Applicable Compliance Method:
- Compliance with the short term PE/PM limitation shall be determined by adding the hourly PE/PM from natural gas combustion to the hourly PE/PM from the melting process.
- The maximum hourly PE/PM from burning natural gas is calculated as:
- $$E_{\text{comb}} = (7.60) \times (0.0286) = 0.217 \text{ lb/hr, where}$$
- E_{comb} is the calculated PE/PM emissions rate from burning natural gas;
- 7.60 is the emissions factor for PE/PM in lb/mmscf for uncontrolled natural gas burners from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2, 7/98; and

0.0286 is the maximum fuel consumption rate of the furnace in mmscf/ hr, using the conversion factor 1050 btu/cf of natural gas.

The maximum hourly PE/PM from the melting process is calculated as:

$$E_{\text{melt}} = 0.155 \times 5.0 = 0.775 \text{ lb/hr, where}$$

E_{melt} is the calculated PE/PM emissions rate from the melting process;

0.155 is the emissions factor for PE/PM in lb/ton aluminum melted, based on stack testing of a similar reverberatory furnace performed on May 14, 1998, at Thakar Aluminum's Sandusky plant (facility ID 0322020149); and

5.0 is the maximum aluminum melting rate of the reverberatory furnace in tons/hr.

The total PE/PM leaving this EU is therefore:

$$E_{\text{comb}} + E_{\text{melt}} = 0.217 \text{ lb/hr} + 0.775 \text{ lb/hr} = 0.992 \text{ lb/hr.}$$

The total is increased by a 20% margin to arrive at the allowable emissions:

$$0.992 \text{ lb/hr} \times 1.2 = 1.2 \text{ lb/hr.}$$

If required, compliance shall be demonstrated by emissions tests performed in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly PE/PM emissions limitation demonstrates compliance with the annual PE/PM emissions limitation.

b. Emission Limitation:

Filterable PE/PM10 emissions shall not exceed 0.8 lb/hr and 3.5 tpy.

Applicable Compliance Method:

Compliance with the short term PE/PM10 limitation shall be determined by adding the hourly PE/PM10 from natural gas combustion to the hourly PE/PM10 from the melting process.

All particulate emissions from natural gas combustion are assumed to be less than 1.0 micrometer in diameter. Therefore, the hourly PE/PM10 emissions from combustion are equal to the PE/PM emissions from combustion calculated in f.1)a above:

$$E_{\text{comb10}} = E_{\text{comb}} = 0.217 \text{ lb/hr, where}$$

E_{comb10} is the PE/PM10 emissions rate from burning natural gas.

The maximum hourly PE/PM10 from the melting process is calculated as 60% of the PE/PM emissions rate based on AP-42, Section 12.8, Secondary Aluminum Operations, Table 12.8-4, 10/86:

$$E_{\text{melt10}} = E_{\text{melt}} \times 0.60 = 0.775 \times 0.60 = 0.465 \text{ lb/hr, where}$$

E_{melt10} is the calculated PE/PM10 emissions rate from the melting process in lb/hr.

The total PE/PM10 leaving this EU is therefore

$$E_{\text{comb10}} + E_{\text{melt10}} = 0.217 \text{ lb/hr} + 0.465 \text{ lb/hr} = 0.682 \text{ lb/hr.}$$

The total is increased by a 20% margin to arrive at the allowable emissions:

$$0.682 \text{ lb/hr} \times 1.2 = 0.8 \text{ lb/hr}$$

If required, compliance shall be demonstrated by emissions tests performed in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 201 or 201A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly PE/PM10 emissions limitation demonstrates compliance with the annual PE/PM10 emissions limitation.

c. Emission Limitation:

Filterable PE/PM2.5 emissions shall not exceed 0.7 lb/hr and 3.1 tpy.

Applicable Compliance Method:

Compliance with the short term PE/PM2.5 limitation shall be determined by adding the hourly PE/PM2.5 from natural gas combustion to the hourly PE/PM2.5 from the melting process.

All particulate emissions from natural gas combustion are assumed to be less than 1.0 micrometer in diameter. Therefore, the hourly PE/PM2.5 emissions are equal to the PE/PM emissions calculated in f.1)a above:

$$E_{\text{comb2.5}} = E_{\text{comb}} = 0.217 \text{ lb/hr, where}$$

$E_{\text{comb2.5}}$ is the PE/PM2.5 emissions rate from burning natural gas.

The maximum hourly PE/PM2.5 from the melting process is calculated as 50% of the PE/PM emissions rate based on AP-42, Section 12.8, Secondary Aluminum Operations, Table 12.8-4, 10/86:

$$E_{\text{melt2.5}} = E_{\text{melt}} \times 0.50 = 0.775 \times 0.50 = 0.388 \text{ lb/hr, where}$$

$E_{\text{melt2.5}}$ is the calculated PE/PM2.5 emissions rate from the melting process.

The total PE/PM25 leaving this EU is therefore:

$$E_{\text{comb}2.5} + E_{\text{melt}2.5} = 0.217 \text{ lb/hr} + 0.388 \text{ lb/hr} = 0.605 \text{ lb/hr.}$$

The total is increased by a 20% margin to arrive at the allowable emissions:

$$0.605 \text{ lb/hr} \times 1.2 = 0.7 \text{ lb/hr}$$

If required, compliance shall be demonstrated by emissions tests performed in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 201A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly PE/PM2.5 emissions limitation demonstrates compliance with the annual PE/PM2.5 emissions limitation.

d. Emission Limitation:

NOx emissions shall not exceed 0.7 lb NOx / ton Aluminum.

Applicable Compliance Method:

The maximum hourly NOx emission rate from burning natural gas is calculated as:

$$E = (100) \times (0.0286) = 2.86 \text{ lb/hr, where}$$

E is the calculated NOx emissions rate from burning natural gas;

100 is the emissions factor for NOx in lb/mmscf for uncontrolled natural gas burners from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-1, 7/98; and

0.0286 is the maximum fuel consumption rate of the furnace in mmscf/hr, using the conversion factor 1050 btu/cf of natural gas.

Conversion to a lb/ton basis is done by dividing the hourly emission rate by the aluminum melting rate of the furnace in ton/hr:

$$\frac{2.86 \text{ lb NOx/hr}}{5 \text{ ton Al/hr}} = 0.572 \text{ lb NOx / ton Al}$$

The emissions rate is increased by a 20% margin to arrive at the allowable emissions:

$$0.572 \text{ lb} \times 1.2 = 0.7 \text{ lb NOx / ton Al}$$

If required, compliance shall be demonstrated by emissions tests performed in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. Emission Limitation:

CO emissions shall not exceed 0.6 lb CO / ton Aluminum

Applicable Compliance Method:

The maximum hourly CO emission rate from burning natural gas is calculated as:

$$E = (84) \times (0.0286) = 2.40 \text{ lb/hr, where}$$

E is the calculated CO emissions rate from burning natural gas;

84 is the emissions factor for CO in lb/mmscf for uncontrolled natural gas burners from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1, 7/98; and

0.0286 is the maximum fuel consumption rate of the furnace in mmscf/ hr, using the conversion factor 1050 btu/cf of natural gas.

Conversion to a lb/ton basis is done by dividing the hourly emission rate by the aluminum melting rate of the furnace in ton/hr:

$$\frac{2.40 \text{ lb CO/hr}}{5 \text{ ton Al/hr}} = 0.48 \text{ lb CO / ton Al}$$

The emissions rate is increased by a 20% margin to arrive at the allowable emissions:

$$0.48 \text{ lb} \times 1.2 = 0.6 \text{ lb NO}_x \text{ / ton Al}$$

If required, compliance shall be demonstrated by emissions tests performed in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule; and visible emissions from fugitive dust shall not exceed 20 percent opacity as a three-minute average

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g. Emission Limitation:

The controlled emissions from the stack shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases **or** there shall be no visible emissions from the exhaust stack.

Applicable Compliance Method:

If required, compliance with the requirement for no visible particulate emissions from the exhaust stack, identified in this permit, shall be determined in accordance with U.S. EPA Method 9. If opting to comply with the outlet particulate emissions rate, compliance with the 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 5.

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
 - b. The emission testing shall be conducted to demonstrate the maximum mass emission rate of 1 lb/hr of HCl used in the air dispersion modeling to predict the 1-hour maximum ground-level concentration of HCl in Section d)(4).
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate:

for HCl, Method 26 or 26A of 40 CFR Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, including flux addition portion of the cycle at or near its maximum rate, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the

submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

- (1) None.