State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

RE: FINAL PERMIT TO INSTALL
STARK COUNTY
Application No: 15-01629
Fac ID: 1576001813

DATE: 10/24/2006

CERTIFIED MAIL

	TOXIC REVIEW
	PSD
	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

Thakar Aluminum Corp. - Canton Facility
Ron Sturzinger
1364 Olds Street
Sandusky, OH 44870

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final 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 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

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: **USEPA** **Canton LAA**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 10/24/2006**
Terms and Conditions	**Effective Date: 10/24/2006**

FINAL PERMIT TO INSTALL 15-01629

Application Number: 15-01629

Facility ID: 1576001813

Permit Fee: **$2500**

Name of Facility: Thakar Aluminum Corp. - Canton Facility

Person to Contact: Ron Sturzinger

Address: 1364 Olds Street
Sandusky, OH 44870

Location of proposed air contaminant source(s) [emissions unit(s)]:
4420 Louisville Street N. E.
Canton, **Ohio**

Description of proposed emissions unit(s):
Chapter 31 modification of PTI 15-01487 to add oxygen to their existing furnace fuel natural gas for emission units P901 and P902.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and

regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions

may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this

permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
PE	2.50
NO_X	9.64
CO	4.38
SO_2	0.08
OC	0.53

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment - (P901) - Secondary Aluminum Reverberatory Furnace with 2 Natural Gas Fired Burners each rated at 9MMBtu/hr. The Furnace processes 4.5 tons of scrap/hr.

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) from the stack shall not exceed 20% opacity as a 6-minute average.
OAC rule 3745-17-07(B)(1)	Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity as a 3-minute average.
OAC rule 3745-17-08(A)	See section A.2.a below.
OAC rule 3745-17-11	See section A.2.a below.
ORC rule 3704.03(T)(4)	See section A.2.b and A.2.c below.
40 CFR part 63 subpart RRR	See section A.2.d below.

2. Additional Terms and Conditions

2.a The permittee shall employ control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.

2.b The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled PE, NO_X, and CO emissions from this air contaminant source since the potential to emit as shown in previous stack test results on a similar furnace for PE, NO_X, and CO is less than 10 tons per year. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled SO_2 and OC emissions from this air contaminant source since the potential to emit as calculated for SO_2 and OC is less than 10 tons per year. The permittee shall stack test this furnace for PE, NO_X, and CO to confirm the potential to emit calculations are less than 10 tons per year.

2.c The results of PE, NO_X, and CO emissions testing required in this permit to install (PTI) shall be used to determine the potential to emit (PTE) on an annual basis (eg. 365 days/yr x 24 hrs/day = 8760 hrs/yr) for this furnace. If the calculated PTE is less

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than 10 tons/yr, the BAT requirements under OAC rule 3745-31-05(A)(3) will not apply to the PE, NO_X, and CO emissions from this furnace. If the calculated PTE is greater than 10 tons/yr, the BAT requirements under OAC rule 3745-31-05(A)(3) will apply to the PE, NO_X, and CO emissions from this furnace. The permittee shall either submit a written request to the director and the Canton City Health Department - Air Pollution Control Division to revoke and reissue this PTI to include the applicable BAT requirements or submit a revised PTI application to propose voluntary limits per OAC rule 3745-31-02(A) to restrict PE, NO_X, and CO emissions to below the 10 tons/yr BAT threshold.

2.d This emissions unit is exempt from this rule because it is a Group 2 furnace. A Group 2 furnace is defined as follows: "furnace of any design that melts, holds, or processes only clean charge and that performs no fluxing or performs fluxing using non-reactive, non-HAP containing/ non-HAP generating gases or agents." Clean 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."

B. Operational Restrictions

1. The permittee shall only fire natural gas enriched with oxygen per this PTI as fuel in this emissions unit.

2. The aluminum melting furnace shall be charged with clean aluminum material (e.g., ingots, bar stock, dry sawed-off pieces of solid aluminum, aluminum chips and turnings from machining). Materials bearing oil, grease, paint, coatings, lubricants, paper, rubber, plastic, rags or other foreign materials shall not be employed.

3. Chlorine shall not be added for the removal of magnesium from the aluminum.

4. Alloying, if any is performed in this emissions unit, shall be done with only clean materials.

5. This emissions unit shall perform fluxing using non-reactive, non-HAP containing/ non-HAP generating gases or agents.

C. 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 serving this emissions unit. The presence or absence of any visible emissions shall be noted in an

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operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the 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 any 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.

D. Reporting Requirements

1. The permittee shall submit semi-annual written reports which:

a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and

b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Canton City Health Department Air Pollution Control Division by January 31 and July 31 of each year and shall cover the previous 6-month periods.

2. If no visible emissions were observed during the reporting period, the permittee shall submit a report which states no visible emissions were observed during the reporting period.

3. The permittee shall submit a deviation (excursion) report for all instances in which any materials other than clean aluminum ingots, bar stock and dry sawed-off pieces of solid aluminum, aluminum chips and turnings from machining, or clean alloying materials were charged into this emissions unit.

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4. The permittee shall submit a deviation (excursion) report for all instances in which materials bearing oil, grease, paint, coatings, lubricants, paper, rubber, plastic, rags or other foreign materials were charged into this emissions unit.

E. Testing Requirements

1. Compliance with the emissions limitations in section A.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emissions Limitation:
PE shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 5 and section A.E.2.

PE Compliance is currently being shown using the 1998 Stack Test data for PE. Thakar Aluminum requested the PE emissions limitation be 0.56 lbs/hr (actual tested was 0.45 lbs/hr) and 2.5 tons/yr (actual tested 2.0 tons/yr).
8760 hrs/1 yr x 1 ton/ 2,000 lbs x 0.56 lbs/hr = 2.5 tons PE/yr

b. Emissions Limitation:
NO_X shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 7E and section A.E.2.

NO_X Compliance is currently being shown using the 2006 Stack Test data for NO_X. Thakar Aluminum requested the NO_X emissions limitation be 2.2 lbs/hr (actual tested was 1.75 lbs/hr) and 9.64 tons/yr (actual tested 7.67 tons/yr).
8760 hrs/1 yr x 1 ton/ 2,000 lbs x 2.2 lbs/hr = 9.64 tons NO_X/yr

c. Emissions Limitation:
CO shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 10 and section A.E.2.

CO Compliance is currently being shown using the 2006 Stack Test data for CO. Thakar Aluminum requested the CO emissions limitation be 1.0 lbs/hr (actual tested was 0.83 lbs/hr) and 4.38 tons/yr (actual tested 3.64 tons/yr).

8760 hrs/1 yr x 1 ton/ 2,000 lbs x 1.0 lbs/hr = 4.38 tons CO/yr

d. Emissions Limitation:
SO_2 shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 6 and section A.E.2.

SO_2 Compliance is currently being shown by the following calculation:
Emission factor = 0.001 lbs SO_2/MMBtu (from Air Quality Permit, A Handbook for Regulators and Industry, Volume II, Chapter 11, Table 11-1 dated 5/30/91)
Burner Capacity = 9 MMBtu/hr per Burner (2 Burners per Furnace)

0.001 lbs SO_2/MMBtu x 18 MMBtu/hr = 0.02 lbs SO_2/hr
0.02 lbs SO_2/hr x 8,760 hrs/yr x 1 ton/2,000 lbs = 0.08 tons SO_2/yr

e. Emissions Limitation:
OC shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 25 or 25a and section A.E.2.

OC Compliance is currently being shown by the following calculation:
Emission factor = 0.007 lbs OC/MMBtu (from Air Quality Permit, A Handbook for Regulators and Industry, Volume II, Chapter 11, Table 11-1 dated 5/30/91)
Burner Capacity = 9 MMBtu/hr per Burner (2 Burners per Furnace)

0.007 lbs OC/MMBtu x 18 MMBtu/hr = 0.12 lbs OC/hr
0.12 lbs OC/hr x 8,760 hrs/yr x 1 ton/2,000 lbs = 0.53 tons OC/yr

f. Emissions Limitation:
Visible particulate emissions (PE) from the stack shall not exceed 20% opacity as a 6-minute average.

Applicable Compliance Method
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

g. Emissions Limitation:
Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity as a 3-minute average.

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Applicable Compliance Method
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03(B)(4).

2. The permittee shall conduct emissions testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted to demonstrate compliance with this emissions unit operating at or near maximum capacity.

b. The emissions testing shall be conducted in accordance with the applicable test methods as shown in section E.1 of this permit.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. 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 Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emissions test(s).

4. Personnel from the Canton City Health Department, Air Pollution Control Division 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 this emissions unit and/or the performance of the control equipment.

5. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or person(s) responsible for the results for the test(s) and submitted to the Canton City Health Department, Air Pollution Control Division 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 Canton City Health Department, Air Pollution Control Division.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification to this emissions unit was less than 1.0 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment - (P902) - Secondary Aluminum Reverberatory Furnace with 2 Natural Gas Fired Burners each rated at 9MMBTU/hr. The Furnace processes 4.5 tons of scrap/hr.

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) from the stack shall not exceed 20% opacity as a 6-minute average.
OAC rule 3745-17-07(B)(1)	Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity as a 3-minute average.
OAC rule 3745-17-08(A)	See section A.2.a below.
OAC rule 3745-17-11	See section A.2.a below.
ORC rule 3704.03(T)(4)	See section A.2.b and A.2.c below.
40 CFR part 63 subpart RRR	See section A.2.d below.

2. Additional Terms and Conditions

2.a The permittee shall employ control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.

2.b The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled PE, NO_X, and CO emissions from this air contaminant source since the potential to emit as shown in previous stack test results on a similar furnace for PE, NO_X, and CO is less than 10 tons per year. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled SO_2 and OC emissions from this air contaminant source since the potential to emit as calculated for SO_2 and OC is less than 10 tons per year. The permittee shall stack test this furnace for PE, NO_X, and CO to confirm the potential to emit calculations are less than 10 tons per year.

2.c The results of PE, NO_X, and CO emissions testing required in this permit to install (PTI) shall be used to determine the potential to emit (PTE) on an annual basis (eg. 365 days/yr x 24 hrs/day = 8760 hrs/yr) for this furnace. If the calculated PTE is less

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than 10 tons/yr, the BAT requirements under OAC rule 3745-31-05(A)(3) will not apply to the PE, NO_X, and CO emissions from this furnace. If the calculated PTE is greater than 10 tons/yr, the BAT requirements under OAC rule 3745-31-05(A)(3) will apply to the PE, NO_X, and CO emissions from this furnace. The permittee shall either submit a written request to the director and the Canton City Health Department - Air Pollution Control Division to revoke and reissue this PTI to include the applicable BAT requirements or submit a revised PTI application to propose voluntary limits per OAC rule 3745-31-02(A) to restrict PE, NO_X, and CO emissions to below the 10 tons/yr BAT threshold.

2.d This emissions unit is exempt from this rule because it is a Group 2 furnace. A Group 2 furnace is defined as follows: "furnace of any design that melts, holds, or processes only clean charge and that performs no fluxing or performs fluxing using non-reactive, non-HAP containing/ non-HAP generating gases or agents." Clean 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."

B. Operational Restrictions

1. The permittee shall only fire natural gas enriched with oxygen per this PTI as fuel in this emissions unit.

2. The aluminum melting furnace shall be charged with clean aluminum material (e.g., ingots, bar stock, dry sawed-off pieces of solid aluminum, aluminum chips and turnings from machining). Materials bearing oil, grease, paint, coatings, lubricants, paper, rubber, plastic, rags or other foreign materials shall not be employed.

3. Chlorine shall not be added for the removal of magnesium from the aluminum.

4. Alloying, if any is performed in this emissions unit, shall be done with only clean materials.

5. This emissions unit shall perform fluxing using non-reactive, non-HAP containing/ non-HAP generating gases or agents.

C. 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 serving this emissions unit. The presence or absence of any visible emissions shall be noted in an

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operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the 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 any 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.

D. Reporting Requirements

1. The permittee shall submit semi-annual written reports which:

a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and

b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Canton City Health Department Air Pollution Control Division by January 31 and July 31 of each year and shall cover the previous 6-month periods.

2. If no visible emissions were observed during the reporting period, the permittee shall submit a report which states no visible emissions were observed during the reporting period.

3. The permittee shall submit a deviation (excursion) report for all instances in which any materials other than clean aluminum ingots, bar stock and dry sawed-off pieces of solid aluminum, aluminum chips and turnings from machining, or clean alloying materials were charged into this emissions unit.

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4. The permittee shall submit a deviation (excursion) report for all instances in which materials bearing oil, grease, paint, coatings, lubricants, paper, rubber, plastic, rags or other foreign materials were charged into this emissions unit.

E. Testing Requirements

1. Compliance with the emissions limitations in section A.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emissions Limitation:
PE shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 5 and section A.E.2.

PE Compliance is currently being shown using the 1998 Stack Test data for PE. Thakar Aluminum requested the PE emissions limitation be 0.56 lbs/hr (actual tested was 0.45 lbs/hr) and 2.5 tons/yr (actual tested 2.0 tons/yr).
8760 hrs/ 1 yr x 1 ton/ 2,000 lbs x 0.56 lbs/hr = 2.5 tons PE/yr

b. Emissions Limitation:
NO_X shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 7E and section A.E.2.

NO_X Compliance is currently being shown using the 2006 Stack Test data for NO_X. Thakar Aluminum requested the NO_X emissions limitation be 2.2 lbs/hr (actual tested was 1.75 lbs/hr) and 9.64 tons/yr (actual tested 7.67 tons/yr).
8760 hrs/ 1 yr x 1 ton/ 2,000 lbs x 2.2 lbs/hr = 9.64 tons NO_X/yr

c. Emissions Limitation:
CO shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 10 and section A.E.2.

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CO Compliance is currently being shown using the 2006 Stack Test data for CO. Thakar Aluminum requested the CO emissions limitation be 1.0 lbs/hr (actual tested was 0.83 lbs/hr) and 4.38 tons/yr (actual tested 3.64 tons/yr).
8760 hrs/ 1 yr x 1 ton/ 2,000 lbs x 1.0 lbs/hr = 4.38 tons CO/yr

d. Emissions Limitation:
SO_2 shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 6 and section A.E.2.

SO_2 Compliance is currently being shown by the following calculation:
Emission factor = 0.001 lbs SO_2/MMBtu (from Air Quality Permit, A Handbook for Regulators and Industry, Volume II, Chapter 11, Table 11-1 dated 5/30/91)
Burner Capacity = 9 MMBtu/hr per Burner (2 Burners per Furnace)

0.001 lbs SO_2/MMBtu x 18 MMBtu/hr = 0.02 lbs SO_2/hr
0.02 lbs SO_2/hr x 8,760 hrs/yr x 1 ton/2,000 lbs = 0.08 tons SO_2/yr

e. Emissions Limitation:
OC shall be less than 10.0 tons per year.

Applicable Compliance Method
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 1 through 4 and 25 or 25a and section A.E.2.

OC Compliance is currently being shown by the following calculation:
Emission factor = 0.007 lbs OC/MMBtu (from Air Quality Permit, A Handbook for Regulators and Industry, Volume II, Chapter 11, Table 11-1 dated 5/30/91)
Burner Capacity = 9 MMBtu/hr per Burner (2 Burners per Furnace)

0.007 lbs OC/MMBtu x 18 MMBtu/hr = 0.12 lbs OC/hr
0.12 lbs OC/hr x 8,760 hrs/yr x 1 ton/2,000 lbs = 0.53 tons OC/yr

f. Emissions Limitation:
Visible particulate emissions (PE) from the stack shall not exceed 20% opacity as a 6-minute average.

Applicable Compliance Method
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

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g. Emissions Limitation:
Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity as a 3-minute average.

Applicable Compliance Method
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03(B)(4).

2. The permittee shall conduct emissions testing for this emissions unit in accordance with the following requirements:

a. The emissions testing shall be conducted to demonstrate compliance with this emissions unit operating at or near maximum capacity.

b. The emissions testing shall be conducted in accordance with the applicable test methods as shown in section E.1 of this permit.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. 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 Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emissions test(s).

4. Personnel from the Canton City Health Department, Air Pollution Control Division 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 this emissions unit and/or the performance of the control equipment.

5. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or person(s) responsible for the results for the test(s) and submitted to the Canton City Health Department, Air Pollution Control Division 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 Canton City Health Department, Air Pollution Control Division.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the increase in emissions due to the modification to this emissions unit was less than 1.0 ton per year of each toxic pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of

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Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices").

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