



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
LORAIN COUNTY**

CERTIFIED MAIL

Street Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:
Lazarus Gov.
Center

Application No: 02-13899

DATE: 5/10/00

Republic Technologies International
Mark Conti
1807 East 28th St
Lorain, OH 44055

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 by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

NEDO

FINAL PERMIT TO INSTALL 02-13899

Application Number: 02-13899
APS Premise Number: 0247080229
Permit Fee: **\$600**
Name of Facility: Republic Technologies International
Person to Contact: Mark Conti
Address: 1807 East 28th St
Lorain, OH 44055

Location of proposed air contaminant source(s) [emissions unit(s)]:
1807 East 28th St
Lorain, Ohio

Description of proposed emissions unit(s):
Two 10 MMBH oxy-natural gas fired ladle preheaters and a 12.3 MMBH natural gas fired heat treat / annealing furnace.

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. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. 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.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be

made to the appropriate Ohio EPA District Office or local air agency. The written 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. See B.11 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. 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, i.e., upset, 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. 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 request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. 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.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

- i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
- ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 thirty (30) days after commencing operation of the source(s) covered by this permit.

B. State Only Enforceable 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 Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable 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 state-only required 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. 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.

4. 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.

5. 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.

6. 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 are inadequate 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 prove to be inadequate or cannot meet applicable standards.

7. 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.

8. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

9. 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.

10. 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.

11. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

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.

C. 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**

<u>Pollutant</u>	<u>Tons Per Year</u>
<u>PM10</u>	<u>0.26</u>
<u>SO2</u>	<u>0.09</u>
<u>NOx</u>	<u>28.90</u>
<u>CO</u>	<u>11.54</u>
<u>VOC</u>	<u>0.76</u>

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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

Applicable Rules/Requirements

<p>F022 - 10 MMBH oxy-natural gas fired ladle preheater identified as the (East) ladle preheater</p>	<p>OAC rule 3745-31-05(A)(3)</p>
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OAC rule 3745-17-08(B)

OAC rule 3745-17-07(B)(1)

Repub

PTI A₁**Issued: 5/10/00**

Emissions Unit ID:F022

Applicable Emissions
Limitations/Control
Measures

Use of Natural Gas (see
Section A.I.2.a)

The requirements of this rule
also include compliance with
the requirements of OAC
rule 3745-17-08(B).

PM₁₀ - 0.018 lb/hr,
0.08 tpy

SO₂ - 0.006 lb/hr,
0.03 tpy

NO_x - 2.50 lbs/hr,
10.95 tpy

VOC - 0.053 lb/hr,
0.23 tpy

CO - 0.816 lb/hr,
3.60 tpy

Visible particulate emission
limitation (see Section
A.I.2.b)

Reasonably available control
measures (RACM) (see
Section A.I.2.a)

The emission limitation
specified by this rule is less
stringent than the emission
limitation established
pursuant to OAC rule
3745-31-05(A)(3). (see
visible particulate emission
limitation in Section A.I.2.b)

2. Additional Terms and Conditions

- 2.a** The permittee shall minimize or eliminate visible fugitive particulate emissions from the (East) ladle preheater through the employment of best available technology (BAT) which is equivalent to reasonably available control measures (RACM) for this emissions unit.

At a minimum, the permittee's employment of (BAT / RACM) shall include: use of natural gas as fuel for the preheater.

- 2.b** Visible particulate emissions from the (East) ladle preheater shall not exceed five percent opacity as a six-minute average. For purposes of verifying compliance with this requirement, the visible particulate emissions from this emissions unit shall be observed at any non-stack egress point from the building housing this emissions unit. These egress points shall include, but not be limited to, doorways, windows, and roof monitors.

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each period of time during which a fuel other than natural gas is burned in this emissions unit in violation of the operating restriction specified above.
2. The deviation reports shall be submitted in accordance with Section A.1. of Part I of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitation(s) in Section A.I of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:
PM₁₀ - 0.018 lb/hr and 0.08 tpy

15

Republic Technologies International

PTI Application: **02 12000**

Issued

Facility ID: **0247080229**

Emissions Unit ID:**F022**

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E (\text{PM}_{10}) = 10 \text{ MMBH} \times 1.9 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- b. **Emission Limitation:**
SO₂ - 0.006 lb/hr and 0.03 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E (\text{SO}_2) = 10 \text{ MMBH} \times 0.60 \text{ lb} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- c. **Emission Limitation:**
NO_x - 2.50 lbs/hr and 10.95 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation using an emission factor considered appropriate by the burner manufacturer for this heating application using oxy-fuel burners. The emission factor and calculations were presented in the permit application as BAT. Support for the BAT determination was presented by the permittee in a letter which was considered an addendum to the permit to install application.

$$E (\text{NO}_x) = 10 \text{ MMBH} \times 0.25 \text{ lb/MMBtu} \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- d. **Emission Limitation:**
VOC - 0.053 lb/hr and 0.23 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E (\text{VOC}) = 10 \text{ MMBH} \times 5.5 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- e. Emission Limitation:
CO - 0.816 lb/hr and 3.60 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E(\text{CO}) = 10 \text{ MMBH} \times 84 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \\ \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- f. Emission Limitation:
Visible particulate emissions from the (East) ladle preheater shall not exceed five percent opacity as a six-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)(3). The points of observation for visible emissions shall include any non-stack egress points from the building housing this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
F023 - 10 MMBH oxy-natural gas fired ladle preheater identified as the (West) ladle preheater	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-08(B)
	OAC rule 3745-17-07(B)(1)

Applicable Emissions
Limitations/Control
Measures

Use of Natural Gas (see Section A.I.2.a)

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B).

PM10 - 0.018 lb/hr,
 0.08 tpy
 SO2 - 0.006 lb/hr,
 0.03 tpy
 NOx - 2.50 lbs/hr,
 10.95 tpy
 VOC - 0.053 lb/hr,
 0.23 tpy
 CO - 0.816 lb/hr,
 3.60 tpy

Visible particulate emission limitation (see Section A.I.2.b)

Reasonably available control measures (RACM) (see Section A.I.2.a)

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). (see visible particulate emission limitation in Section A.I.2.b)

2. Additional Terms and Conditions

- 2.a** The permittee shall minimize or eliminate visible fugitive particulate emissions from the (West) ladle preheater through the employment of best available technology (BAT) which is equivalent to reasonably available control measures (RACM) for this emissions unit.

At a minimum, the permittee's employment of (BAT / RACM) shall include: use of natural gas as fuel for the preheater.

- 2.b** Visible particulate emissions from the (West) ladle preheater shall not exceed five percent opacity as a six-minute average. For purposes of verifying compliance with this requirement, the visible particulate emissions from this emissions unit shall be observed at any non-stack egress point from the building housing this emissions unit. These egress points shall include, but not be limited to, doorways, windows, and roof monitors.

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each period of time during which a fuel other than natural gas is burned in this emissions unit in violation of the operating restriction specified above.
2. The deviation reports shall be submitted in accordance with Section A.1. of Part I of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitation(s) in Section A.I of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:
PM10 - 0.018 lb/hr and 0.08 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E (\text{PM}_{10}) = 10 \text{ MMBH} \times 1.9 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- b. Emission Limitation:
SO₂ - 0.006 lb/hr and 0.03 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E (\text{SO}_2) = 10 \text{ MMBH} \times 0.60 \text{ lb} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- c. Emission Limitation:
NO_x - 2.50 lbs/hr and 10.95 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation using an emission factor considered appropriate by the burner manufacturer for this heating application using oxy-fuel burners. The emission factor and calculations were presented in the permit application as BAT. Support for the BAT determination was presented by the permittee in a letter which was considered an addendum to the permit to install application.

$$E (\text{NO}_x) = 10 \text{ MMBH} \times 0.25 \text{ lb/MMBtu} \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- d. Emission Limitation:
VOC - 0.053 lb/hr and 0.23 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

Republic Technologies International

PTI Application: **02-13899**

Issued: 5/10/00

Facility ID: **0247080229**

Emissions Unit ID **F023**

$E \text{ (VOC)} = 10 \text{ MMBH} \times 5.5 \text{ lbs / MMCF(AP-42)} \times 1 \text{ cu.ft/1030BTU(nat.gas)} \times 8760 \text{ hr/yr} \times 1 \text{ ton / 2000 lbs.}$

- e. Emission Limitation:
CO - 0.816 lb/hr and 3.60 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burner.

$$E(\text{CO}) = 10 \text{ MMBH} \times 84 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ cu.ft}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \\ \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- f. Emission Limitation:
Visible particulate emissions from the (West) ladle preheater shall not exceed five percent opacity as a six-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)(3). The points of observation for visible emissions shall include any non-stack egress points from the building housing this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-08(B)
F024 - 12.3 MMBH natural gas fired heat treat / annealing furnace	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07(B)(1)

<p style="text-align: center;">Applicable Emissions <u>Limitations/Control</u> <u>Measures</u></p>	<p>pursuant to OAC rule 3745-31-05(A)(3).</p>
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Use of Natural Gas
and Low NO_x Burners
(see Section A.II.1.)

PM₁₀ - 0.023 lb/hr,
0.10 tpy

SO₂ - 0.007 lb/hr,
0.03 tpy

NO_x - 0.13 lb/MMBtu,
1.60 lbs/hr,
7.00 tpy

VOC - 0.066 lb/hr,
0.29 tpy

CO - 1.00 lb/hr,
4.39 tpy

Visible particulate emissions
shall not exceed 5% opacity
as a 6-minute average.

The (RACM) control
measures specified by this
rule are less stringent than
the control measures
established pursuant to OAC
rule 3745-31-05(A)(3).

The emission limitation
specified by this rule is less
stringent than the emission
limitation established

2. Additional Terms and Conditions**2.a** None**II. Operational Restrictions**

1. The permittee shall burn only natural gas in this emissions unit.

III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each period of time during which a fuel other than natural gas is burned in this emissions unit in violation of the operating restriction specified above.
2. The deviation reports shall be submitted in accordance with Section A.1. of Part I of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitation(s) in Section A.I of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:
PM₁₀ - 0.023 lb/hr, 0.10 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burners.

$$E(\text{PM}_{10}) = 12.3 \text{ MMBH} \times 1.9 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ CF}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- b. Emission Limitation:
SO₂ - 0.007 lb/hr, 0.03 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burners.

$$E(\text{SO}_2) = 12.3 \text{ MMBH} \times 0.60 \text{ lb} / \text{MMCF}(\text{AP-42}) \times 1 \text{ CF}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- c. Emission Limitation:
NO_x - 0.13 lb/MMBtu

Applicable Compliance Method

If required, Method 7E of 40 CFR Part 60, Appendix A, shall be used to demonstrate compliance. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

- d. Emission Limitation:
NO_x - 1.60 lbs/hr

Applicable Compliance Method:

Compliance shall be based on a one time calculation using the proposed BAT emission limitation of 0.13 lb/MMBtu and the maximum hourly heat input.

$$E(\text{NO}_x) = 12.3 \text{ MMBH} \times 0.13 \text{ lbs} / \text{MMBtu.}$$

- e. Emission Limitation:
NO_x - 7.00 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation using the proposed BAT emission limitation of 0.13 lb/MMBtu and the maximum annual heat input.

$$E(\text{NO}_x) = 12.3 \text{ MMBH} \times 8760 \text{ hrs/yr} \times 0.13 \text{ lb} / \text{MMBtu} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- f. Emission Limitation:
VOC - 0.066 lb/hr, 0.29 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burners.

$$E (\text{VOC}) = 12.3 \text{ MMBH} \times 5.5 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ CF}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs}$$

- g. Emission Limitation:
CO - 1.00 lb/hr, 4.39 tpy

Applicable Compliance Method:

Compliance shall be based on a one time calculation by using emission factors from AP-42, Fifth edition, Section 1.4, February'98 version for natural gas combustion and the maximum capacity of the gas burners.

$$E (\text{CO}) = 12.3 \text{ MMBH} \times 84 \text{ lbs} / \text{MMCF}(\text{AP-42}) \times 1 \text{ CF}/1030\text{BTU}(\text{nat.gas}) \times 8760 \text{ hr/yr} \times 1 \text{ ton} / 2000 \text{ lbs.}$$

- h. Emission Limitation:
Visible particulate emissions shall not exceed 5% 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)(3). The points of observation for visible emissions shall include any non-stack egress points from the building housing this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.

2. If required, the permittee shall conduct, or have conducted, emission testing for the heat treat / annealing furnace in accordance with the following requirements:
- a. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate for Nox.
 - b. The following test method shall be employed to demonstrate compliance with the allowable emission rate for NOx: Method 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

31

Republic Technologies International

PTI Application: **02 12000**

Issued

Facility ID: **0247080229**

Emissions Unit ID: F024

3. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA Northeast District Office.

Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person(s) who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA District Office's refusal to accept the results of the emission test.

Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test, 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.

A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section**I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 02-13899

Facility ID: 0247080229

FACILITY NAME Republic Technologies International

FACILITY DESCRIPTION Two 10 MMBH oxy-natural gas fired ladle preheaters and a 12.3 MMBH natural gas fired heat treat / annealing furnace. CITY/TWP Lorain

Emissions Unit ID: F024

SIC CODE 3312 SCC CODE 3-03-009-99 EMISSIONS UNIT ID F022

EMISSIONS UNIT DESCRIPTION 10 MMBH oxy-natural gas fired ladle preheater identified as the (East) ladle preheater

DATE INSTALLED 08/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀	Group II Attainment	< 0.018 lb/hr	< 0.08	0.018 lb/hr	0.08
Sulfur Dioxide	Non-Attainment	< 0.006 lb/hr	< 0.03	0.006 lb/hr	0.03
Organic Compounds	Ozone Attainment	< 0.053 lb/hr	< 0.23	0.053 lb/hr	0.23
Nitrogen Oxides	Attainment	< 2.50 lb/hr	< 10.95	2.50 lb/hr	10.95
Carbon Monoxide	Attainment	< 0.816 lb/hr	< 3.60	0.816 lb/hr	3.60
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination The permittee shall burn only natural gas in this emissions unit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

SIC CODE 3312 SCC CODE 3-03-009-99 EMISSIONS UNIT ID F023

EMISSIONS UNIT DESCRIPTION 10 MMBH oxy-natural gas fired ladle preheater identified as the (West) ladle preheater.

DATE INSTALLED 08/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year

NEW SOURCE REVIEW FORM B

PTI Number: 02-13899 Facility ID: 0247080229

FACILITY NAME Republic Technologies International

FACILITY DESCRIPTION Two 10 MMBH oxy-natural gas fired ladle preheaters and a 12.3 MMBH natural gas fired heat treat / annealing furnace. CITY/TWP Lorain

Particulate Matter					
PM ₁₀	Group II Attainment	< 0.018 lb/hr	< 0.08	0.018 lb/hr	0.08
Sulfur Dioxide	Non-Attainment	< 0.006 lb/hr	< 0.03	0.006 lb/hr	0.03
Organic Compounds	Ozone Attainment	< 0.053 lb/hr	< 0.23	0.053 lb/hr	0.23
Nitrogen Oxides	Attainment	< 2.50 lbs/hr	< 10.95	2.50 lbs/hr	10.95
Carbon Monoxide	Attainment	< 0.816 lb/hr	< 3.60	0.816 lb/hr	3.60
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NPSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination The permittee shall burn only natural gas in this emissions unit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ _____

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 02-13899

Facility ID: 0247080229

FACILITY NAME Republic Technologies International

FACILITY DESCRIPTION Two 10 MMBH oxv-natural gas fired ladle CITY/TWP Lorain

Emissions Unit ID: F024

SIC CODE 3312

SCC CODE

3-03-009-34

EMISSIONS UNIT ID

F024

EMISSIONS UNIT DESCRIPTION 12.3 MMBH natural gas fired heat treat / annealing furnace

DATE INSTALLED

08/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀	Group II Attainment	< 0.023 lb/hr	< 0.10	0.023 lb/hr	0.10
Sulfur Dioxide	Non-Attainment	< 0.007 lb/hr	< 0.03	0.007 lb/hr	0.03
Organic Compounds	Ozone Attainment	< 0.066 lb/hr	< 0.29	0.066 lb/hr	0.29
Nitrogen Oxides	Attainment	< 1.60 lbs/hr	< 7.00	1.60 lbs/hr	7.00
Carbon Monoxide	Attainment	< 1.00 lb/hr	< 4.39	1.00 lb/hr	4.39
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination The permittee shall burn only natural gas in this emissions unit and install low NOx Burners.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY?

No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to containinants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

YES

X NO

IDENTIFY THE AIR CONTAMINANTS: