

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**Arvin Exhaust, OEM, Technical Center
Road 450 South
Walesboro, Indiana 47201**

is hereby authorized to construct

- (a) Two (2) test cells for gasoline (with or without catalytic converters) and/or diesel fuel engines, known as C-10 and C-11, exhausting through Stacks SC-10 and SC-11, capacity: 14 gallons of gasoline or diesel fuel per hour, each.
- (b) Two (2) natural gas fired space heaters, capacity 1.0 million British thermal units per hour each.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP 005-9554-00080	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

Construction Conditions

General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
 - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
 - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
 - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).
 - (e) The Permittee has submitted their Part 70 (T-005-7482-00080) application on December 11, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

Operation Conditions

General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. That the Permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
- (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
 - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
 - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
- (a) In the event that ownership of these engine test cells is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
 - (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
 - (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
- (a) Violation of any conditions of this permit.

- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

PSD Synthetic Minor Limits

7. (a) The total input of gasoline to the two (2) test cells (C-10 and C-11) shall be limited to 50,253.8 gallons per twelve (12) month consecutive period. This fuel limit is equivalent to a potential to emit of 99.0 tons per year of carbon monoxide (CO).

For purposes of determining compliance based on CO emissions each gallon of gasoline when the engine(s) are operated with catalytic converter(s) shall be equivalent to 0.100 gallons of gasoline and each gallon of diesel fuel burned shall be equivalent to 0.026 gallons of gasoline.

- (b) The total input of diesel fuel to the two (2) test cells (C-10 and C-11) shall be limited to 162,473.3 gallons per twelve (12) month consecutive period. This fuel limit is equivalent to a potential to emit of 38.1 tons per year of nitrogen oxides (NO_x).

For purposes of determining compliance based on NO_x emissions each gallon of gasoline shall be equivalent to 0.217 gallons of diesel fuel.

Annual Emission Reporting

8. That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. A copy of this rule is enclosed. The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

Opacity Limitations

9. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
- (a) visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings.
 - (b) visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Reporting Requirements

10. That a log of information necessary to document compliance with operation permit condition no. 7 shall be maintained. These records shall be kept for at least the past 36-month period and made available upon request to the Office of Air Management (OAM).

- (a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within 30 days after the end of the quarter being reported in the format attached. These reports shall include the amount of gasoline and diesel fuel consumed or equivalent.

- (b) Unless otherwise specified in this permit, any notice, report, or other submissions required by this permit shall be timely if:
 - (i) Delivered by U.S. mail and postmarked on or before the date it is due; or
 - (ii) Delivered by any other method if it is received and stamped by IDEM, OAM on or before the date it is due.
- (c) All instances of deviations from any requirements of this permit must be clearly identified in such reports.
- (d) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.
- (e) The first report shall cover the period commencing the postmarked submission date of the Affidavit of Construction.

Open Burning

11. That the Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

12. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on December 11, 1996.
- (b) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM shall supply such a plan.
- (c) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (d) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (e) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR MANAGEMENT
 COMPLIANCE DATA SECTION**

Quarterly Report

Source Name: Arvin Exhaust, OEM, Technical Center
 Source Address: Road 450 South, Walesboro, Indiana 47201
 Mailing Address: Road 450 South, Walesboro, Indiana 47201
 C P No.: 005-9554-00080
 Facility: Test Cells C-10 and C-11
 Parameter: Throughput of gasoline, or equivalent fuel, equivalent to CO emissions of 99.0 tons per year.
 Limit: 50,253.8 gallons per consecutive 12 month period
 1.0 gallon of gasoline with catalytic converter = 0.100 gallons of gasoline and 1.0 gallon of diesel fuel = 0.026 gallons of gasoline

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Gallons of Gasoline or Equivalent This Month	Gallons of Gasoline or Equivalent Previous 11 Months	Gallons of Gasoline or Equivalent 12 Month Total

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR MANAGEMENT
 COMPLIANCE DATA SECTION**

Quarterly Report

Source Name: Arvin Exhaust, OEM, Technical Center
 Source Address: Road 450 South, Walesboro, Indiana 47201
 Mailing Address: Road 450 South, Walesboro, Indiana 47201
 C P No.: 005-9554-00080
 Facility: Test Cells C-10 and C-11
 Parameter: Throughput of diesel, or equivalent fuel, equivalent to NO_x emissions of 38.1 tons per year.
 Limit: 162,473.3 gallons per consecutive 12 month period
 1.0 gallon of gasoline = 0.217 gallons of diesel fuel

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Gallons of Diesel Fuel or Equivalent This Month	Gallons of Diesel Fuel or Equivalent Previous 11 Months	Gallons of Diesel Fuel or Equivalent 12 Month Total

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name: Arvin Exhaust, OEM, Technical Center
 Source Location: Road 450 South, Walesboro, Indiana 47201
 County: Bartholomew
 Construction Permit No.: CP 005-9554-00080
 SIC Code: 8734
 Permit Reviewer: Frank P. Castelli

The Office of Air Management (OAM) has reviewed an application from Arvin Exhaust, OEM, Technical Center relating to the construction and operation of two (2) engine test cells and two (2) natural gas fired space heaters consisting of the following equipment:

- (a) Two (2) test cells for gasoline (with or with catalytic converters) and/or diesel fuel engines, known as C-10 and C-11, exhausting through Stacks SC-10 and SC-11, capacity: 14 gallons of gasoline or diesel fuel per hour, each.
- (b) Two (2) natural gas fired space heaters, capacity 1.0 million British thermal units per hour each.

The addition of the two (2) new test cells will represent a minor modification to an existing major unpermitted source. The existing two (2) banks of test cells that were constructed in 1978 and 1993 will be permitted as Enhanced New Source Review with the Part 70 Operating Permit for this source. The emissions from each of the two (2) existing banks of tests cells will be limited to 249 tons per year of carbon monoxide (CO). Thus, even though this source has not yet been permitted, this proposed permit is being treated as a minor modification to an existing major source. The applicant requested that this proposed Construction Permit be issued prior to the Part 70 Operating Permit so that these two (2) test cells can begin operation as soon as possible.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SC-10	test cell (C-10)	45.0	1.0	variable	70
SC-11	test cell (C-11)	45.0	1.0	variable	70

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 9, 1998, with additional information received on March 24, 1998.

Emissions Calculations

See page 1 and 2 of 2 of Appendix A (Emissions Calculation Spreadsheets) for detailed calculations.

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/yr)	Potential Emissions (tons/yr)
Particulate Matter (PM)	4.22	4.22
Particulate Matter (PM ₁₀)	4.02	4.03
Sulfur Dioxide (SO ₂)	3.84	3.84
Volatile Organic Compounds (VOC)	18.2	18.2
Carbon Monoxide (CO)	483	483
Nitrogen Oxides (NO _x)	58.4	58.4
Single Hazardous Air Pollutant (HAP)	neg	neg
Combination of HAPs	neg	neg

Allowable emissions (as defined in the Indiana Rule) of carbon monoxide (CO) and nitrogen oxides (NO_x) are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Bartholomew County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Bartholomew County has been classified as attainment or unclassifiable for the remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	18.5
PM ₁₀	17.7
SO ₂	17.2
VOC	21.2
CO	498
NO _x	259

- (a) This existing source is a major stationary source because at least one attainment regulated pollutant is emitted at a rate of 250 tons per year.
- (b) These emissions were based on the proposed CO emission limits in the Part 70 Operating Permit application. The applicant has proposed to accept 249 tons per year CO limits for each of the two (2) existing banks of test cells and all other pollutants were scaled proportionately.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (tons/yr)	PM ₁₀ (tons/yr)	SO ₂ (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO _x (tons/yr)
Proposed Modification	2.83	2.71	2.54	3.77	99.2	39.0
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	0.00	0.00	0.00
Net Emissions	2.83	2.71	2.54	3.77	99.2	39.0
PSD or Offset Significant Level	25	15	40	40	100	40

- (a) This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

- (b) The total CO emissions (including the space heaters) are limited to 99.2 tons per year. This limit is equivalent to 50,253.8 gallons per year of gasoline throughput.
- (c) The total NO_x emissions (including the space heaters) are limited to 39.0 tons per year. This limit is equivalent to 162,473.3 gallons per year of diesel fuel throughput.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-005-7482-0080) application on December 11, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 63 applicable to this facility.

State Rule Applicability

326 IAC 2-6 (Emission Reporting)

This source is located in Bartholomew County. The CO and NO_x emissions from the entire source are greater than one hundred (100) tons per year, therefore, 326 IAC 2-6 applies to these facilities as well as to the remainder of the facilities located at this source.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

This modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to the Clean Air Act.

Conclusion

The construction of these two (2) engine test cells and two (2) natural gas fired space heaters will be subject to the conditions of the attached proposed **Construction Permit No. CP 005-9554-00080**.

Mail to: Permit Administration & Development Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Arvin Exhaust, OEM, Technical Center
Road 450 South
Walesboro, Indiana 47201

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for Arvin Exhaust, OEM, Technical Center .
(Title) (Company Name)
3. By virtue of my position with Arvin Exhaust, OEM, Technical Center , I have personal knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of Arvin Exhaust, OEM, Technical Center.
4. I hereby certify that Arvin Exhaust, OEM, Technical Center, Road 450 South, Walesboro, Indiana 47201, has constructed the two (2) engine test cells and two (2) natural gas fired space heaters source in conformity with the requirements and intent of the Construction Permit application received by the Office of Air Management on March 9, 1998 and as permitted pursuant to **Construction Permit No. 005-9554, Plant ID No. 005-00080** issued on .
6. I hereby certify that Arvin Exhaust, OEM, Technical Center is now subject to the Title V program and will submit a Title V or FESOP operating permit application within twelve (12) months from the postmarked submission date of this Affidavit of Construction.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana
on this _____ day of _____, 19 _____.

My Commission expires: _____.

Signature

Name (typed or printed)

**Appendix A: Emission Calculations
Engine Test Cells**

**Company Name: Arvin Exhaust, OEM, Technical Center
Address City, Indiana: Road 450 South, Walesboro, Indiana 47201
CP #: 005-9554
Plt Id: 005-00080
Reviewer: Frank P. Castelli
Date: March 09, 1998**

Revised 4/28/98

Potential Emissions Calculations Two (2) New Test Cells C-10 & C-11 (1998)

Gasoline No Catalytic Converters CO limited to 99.0 TPY Pursuant to 326 IAC 2-2

Pollutant	Emission Factor	Fuel Use	Potential Emissions		Limited Emissions
	(lbs/gal)	(gal/hr)	(lbs/hr)	(tons/yr)	(tons/yr)
VOC	0.148	28	4.14	18.2	3.72
PM	0.00647	28	0.181	0.793	0.163
PM-10	0.0062	28	0.174	0.760	0.156
NOx	0.102	28	2.86	12.5	2.56
CO	3.94	28	110	483	99.0
SO2	0.00531	28	0.149	0.651	0.133

US EPA AIRS Emission Factors for "Reciprocating Engine Testing - Gasoline", SCC 2-04-004-01

Diesel NOx limited to 38.1 TPY plus the space heaters Pursuant to 326 IAC 2-2

Pollutant	Emission Factor*	Fuel Use	Potential Emissions		Limited Emissions
	(lbs/gal)	(gal/hr)	(lbs/hr)	(tons/yr)	(tons/yr)
VOC	0.0321	28	0.899	3.94	2.61
PM	0.0335	28	0.938	4.11	2.72
PM-10	0.032	28	0.896	3.92	2.60
NOx	0.469	28	13.13	57.5	38.1
CO	0.102	28	2.86	12.5	8.29
SO2	0.0312	28	0.874	3.83	2.53

US EPA AIRS Emission Factors for "Reciprocating Engine Testing -Diesel/Kerosene", SCC 2-04-004-02

NOTE: If gasoline engines are running with catalytic converters, the CO emissions will be controlled by 90%.

Calculation of gasoline fuel limit based on CO emission limit of 99.0 tons per year:

$$99 \text{ TPY} * 2000 \text{ lbs/ton} / 3.94 \text{ lbs/gal} = \mathbf{50253.8 \text{ gallons per year}}$$

Calculation of diesel fuel limit based on NOx emission limit of 38.1 tons per year:

$$38.1 \text{ TPY} * 2000 \text{ lbs/ton} / 0.469 \text{ lbs/gal} = \mathbf{162473.3 \text{ gallons per year}}$$

Fuel equivalency based upon CO limit **1.0 gal gasoline with catalytic converter = 0.100 gal gasoline**

Fuel equivalency based upon CO limit **1.0 gal diesel fuel = 0.026 gal of gasoline (0.102/3.94)**

Fuel equivalency based upon NOx limit **1.0 gal gasoline = 0.217 gal diesel (0.102/0.469)**

**Appendix A: Emission Calculations
 Natural Gas Combustion Only
 MM Btu/hr 0.3 - < 10
 Commercial Boiler**

**Company Name: Arvin Exhaust OEM
 Address City, Indiana: Road 450 South, Walesboro, Indiana 47201
 CP# 005-9554
 Plt Id: 005-00080
 Reviewer: Frank P. Castelli
 Date: March 09, 1998**

Two (2) New Space Heaters (total 2.0 MMBtu/hr)

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.0	17.5

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	12.0	12.0	0.6	100.0	5.3	21.0
Potential Emission in tons/yr	0.105	0.105	0.005	0.876	0.046	0.184

Methodology

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low NOx Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton