

# YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit No. NSRP-06-CSG-07

New Source Review Order of Approval for Canam Steel Corporation for Two Paint Booths

Rated at 11,000 acfm each, a Pre-Heat Oven and a Cure Oven.

IN THE MATTER OF approving a project which establishes a new air contaminant source at Canam Steel Corporation (CSC), THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:

**Applicant/Permittee:** 

Canam Steel Corporation

Prefabricated Structural Steel metal parts

Located at:

2002 Morgan Rd.

Sunnyside, WA 98944

**Contact:** 

Canam Steel Corporation

Sam Clark

Safety, Health & Environmental Coordinator

2002 Morgan Rd. Sunnyside, WA 98944

(509) 837-7008

IN COMPLIANCE WITH PROVISIONS OF THE STATE OF WASHINGTON CLEAN AIR ACT (Revised Code of Washington (RCW) CHAPTER 70.94.152, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110 AND WAC 173-460-040.

**ISSUE DATE:** November 30, 2009

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Construction of the equipment must be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows and shall become federally enforceable and required provisions of the Title V Air Operating Permit AOP # Y-005-01:



## **DESCRIPTION OF THE SOURCE**

- 1. Canam Steel Corporation hereafter referred to as the permittee or CSC is a Title V company in accordance with the Federal Clean Air Act. The permittee has been issued an Air Operating permit in March 21, 2000 and renewed and issued in September 8, 2006 for a period of five years term. The permittee operates and fabricate structural steel members i.e., trusses and joist (processes details for the facility are found in the statement of bases of the Title V AOP permit AOP # Y-005-01). The facility operation is located at 2002 Morgan Rd., Sunnyside, WA. The permittee is proposing to install two surface coating booths with flow rates of 11,000 cubic feet per minute, a preheat oven and a cure oven.
- 2. Air Emissions from the surface coating booths and the ovens are listed as Particulate Matter (PM), Nitrogen Oxides (NO<sub>X</sub>), Sulfur Oxides (SO<sub>X</sub>), Lead (Pb), Carbon Monoxide (CO), and Volatile Organic Compounds (VOCs), some of which are known as Hazardous Air Pollutants (HAPs) and/or Toxic Air Pollutants (TAPs) in accordance with the Federal Clean Air Act (FCAA) or Washington Administrative Code (WAC) 173-460-150 and 160, respectively. These emissions are emitted during surface coating of steel parts and use of the per-heat and curing ovens.
- 3. The layout and specifications of the surface coating booths and ovens are part of this NSR review permit as provided by the permittee. TAPs emitted from this operation are listed in WAC 173-460-150 or WAC 173-400-160. HAPs are listed in FCAA section 112 (a). The City of Sunnyside issued a Determination of Non-significance for the State Environmental Policy Act (SEPA) review.
- 4. Installation of these surface coating booths and ovens, is considered a new source of air contaminants requiring a NSR permit pursuant to the Revised Code of Washington (RCW) 70.94.152 and the Washington Administrative Code (WAC) 173-400-110 and 173-460-040. This facility is located in an area that is in attainment with all state and federal air quality standards for all criteria pollutants.

**THEREFORE,** it is hereby ordered that the project as described above, in the NSR application, and in detailed plans, specifications and other information submitted in reference thereto, is approved for construction, installation and operation, provided the following conditions are met:

#### **OPERATIONAL CONDITIONS**

5. This facility is subject to the National Emission Standards For Hazardous Air Pollutants (NESHAPs), 40 CFR Part 63, Subpart HHHHHHH (Paint Stripping and Miscellaneous



Surface Coating Operations as an area source as defined in the Federal Clean Air Act (FCAA) section 112(a) (any stationary source of HAP that is not a major source).

- 6. This Order of Approval permit is for the paint booths and ovens, at 2002 Morgan Rd., Sunnyside, Washington, in accordance with the plan and specifications submitted with the NSR application to YRCAA and specified in Table 1 of this Order of Approval.
- 7. As provided in the RCW 70.94.152, WAC 173-400-113 and WAC 173-460-060, Best Available Control Technology (BACT) and Toxic-BACT (T-BACT), respectively, are required to control all air emissions from any proposed new facility or modified source. YRCAA finds the BACT and T-BACT analysis to be satisfied as follows:
  - 7.1 Installation of two surface coating booths with a minimum of 11,000 acfm air flow;
  - 7.2 Required use of High Volume Low Pressure (HVLP) spray equipment, and when upgrading shall use equal or more efficient spray equipment;
  - 7.3 TAP emissions shall always be below the Acceptable Source Impact Levels (ASILs);
  - 7.4 When applicable, the permittee shall strive for use of non-toxic solvent, paint, enamel and thinner;
  - 7.5 The permittee shall develop, maintain and implement an operation and maintenance (O&M) plan for the surface coating booth including appropriate training for all operators; and
  - 7.6 The permittee shall never exceed the total raw materials specified in this permit.
- 8. The permittee shall use HVLP spray guns or spray equipment of equivalent efficiency to reduce aerosol emissions.
- 9. This facility is also subject to 40 CFR Part 63, Subpart MMMM (Surface Coating of Miscellaneous Metal Parts and Products). The maximum combined fugitive and point source emissions of HAP's in the overall facility operation shall not exceed 24.1 and/or 9.9 tons for any combined or single HAP, respectively, on a moving 12 month arithmetic average.
- 10. The permittee shall install and maintain a gauge/manometer to measure the pressure drop across the exhaust filters of the surface coating booths within 30 days of the receipt of this permit. The acceptable range for the gauge shall be developed based on the manufacturer's specification and clearly marked on or nearby the gauge.



11. This permit authorizes the construction of only the following equipment:

Table 1. Authorized Equipment List.

Emission Unit or Activity	Description
2 Surface Coating Booths	Process Capacity for both booths is 11,000 acfm, 98% efficient filters required
Pre-Heat and Cure Ovens	Cure oven temperature 250 F and flow rate 2,000 acfm

- 12. Total emissions for criteria pollutants, HAPs, TAPs, and VOCs must be calculated and submitted to YRCAA on an annual basis.
- 13. There must be no fallout or any fugitive emissions from this surface coating operation beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material is deposited or is detrimental to the health, safety or welfare of any person or causes damage to any property or business.
- 14. The permittee must develop and implement a site-specific operation and maintenance (O&M) plan based on the surface coating booth and oven manufacturer's operations manual as part of BACT. The permittee must develop the O&M plan within 60 days after the issuance of this Order.
- 15. Within 60 days from the date of issuance of this order of approval, the permittee shall submit notification to YRCAA indicating that the O&M plan is completed and in place. If the permittee needs to make any future modification to the surface coating booths or the ovens or their operating procedures, an approval in writing from YRCAA must be issued before such modification takes place. The O&M documents must be updated and implemented to reflect such modification.
- 16. The stack height for the surface coating booths and the ovens must be at least 6 feet from roof level.
- 17. No visible emission shall be allowed from the surface coating booth stacks and oven stacks or any building opening. If visible emissions are observed, the permittee shall immediately stop the operation creating the emission and take corrective action as directed in the O&M Plan until no more visible emissions are observed. All surface coating must be conducted inside the operating surface coating booth. Visible emissions from the stack or any building opening or a valid investigated complaint shall constitute a violation pursuant to RCW 70.94.430 and YRCAA Regulation 1, Article 5, Penalties.



- 18. Permit requirements apply to the facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this permit. Any person(s), including contractor(s) and/or subcontractor(s), not in compliance with the applicable requirements in this permit are in violation of Federal, State and local laws and subject to appropriate civil and criminal penalties. The facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the facility owner and/or operator, and is also a violation by the contractor and/or any subcontractor(s).
- 19. YRCAA staff shall be allowed to enter the facility at reasonable times to inspect for compliance with applicable regulations and the conditions of this Order.
- 20. The surface coating booths shall not operate beyond daylight hours, which also means that no surface coating shall be conducted beyond daylight hours.

### **GENERAL CONDITIONS**

- 21. Establishment of the surface coating booths, ovens and any other emission points at this facility shall be in compliance with all other requirements specified in all current federal, state and local air pollution laws and regulations, including but not limited to RCW 70.94.152 (Washington Clean Air Act), WAC 173-400 (General Regulations for Air Pollution Sources), WAC 173-460 (Controls for New Sources of Toxic Air Pollutants), 40 CFR Part 63, Subpart HHHHHHH (Paint Stripping and Miscellaneous Surface Coating Operations) and the YRCAA Regulation 1.
- 22. All plans, specifications or other information submitted to YRCAA and any further authorizations or approvals or denials in relation to this project, shall be incorporated herein and made a part of the YRCAA file and this permit.
- 23. Nothing in this approval shall be construed as preventing compliance with any other requirement(s) of law including those imposed pursuant to the Washington Clean Air Act, and rules and regulations thereunder. Any violation(s) of such rules and regulations are penalized in accordance with RCW 70.94.430 and YRCAA Regulation 1, Article 5, Penalties.
- Authorization may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:
  - 24.1 Violation of any terms or conditions of this authorization; or,



- Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.
- 25. The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.
- 26. The RCW rules and regulations may be superseded or revised without notice. It is the permittee's responsibility to stay current with rules and regulations governing their business and therefore is expected to comply with all new rules and regulations immediately upon their effective date. Rules and regulation updates will be incorporated into existing permits or upon renewal or modification of said permits.
- 27. All air emissions from this facility shall be in compliance with air emission standards at all times. It is the responsibility of the owner to make sure that air emissions are within all known rules and regulations.
- 28. Any person feeling aggrieved by this NSR order of approval permit may obtain review thereof by application, within thirty (30) days of receipt of this NSR permit to the Pollution Control Hearings Board (PCHB), P.O. Box 40903, Olympia, WA. 98504-0903. Concurrently, a copy of the application must be sent to the Yakima Regional Clean Air Agency, 329 N. 1<sup>st</sup> St., Yakima, WA. 98901. These procedures are consistent with the provisions of Chapter 43.12B RCW and the rules and regulations adopted thereunder.
- 29. If, or whenever the permittee wants to modify the operation, install new equipment or change the quantity set forth in Appendix A of this permit, another NSR must be filed with YRCAA before the changes take place and BACT and T-BACT requirements must be satisfied.

#### **EMISSION LIMITS**

- 30. The permittee submitted paint and solvent Material Safety Data Sheets (MSDS). The corresponding VOC, TAP and HAP allowable emissions from the use of these raw materials were calculated as shown in Appendix A of this permit, which must not be exceeded.
- 31. The maximum quantity of paint, solvent and other materials to be used in the surface coating booths must not exceed the total amount specified in Appendix A of this permit. These amounts shall be reported to YRCAA on an annual basis.
- 32. The permittee shall strive to find alternative surface coating materials with less HAPs content in particular (Formaldehyde and Ethyl benzene) if and when possible. If another limit or

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changes in materials are desired by the permittee, a written approval must be issued by YRCAA prior to any change or increase.

# MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

- 33. Once every two weeks that the surface coating booth is in use, the permittee shall determine and record if the pressure drop across the exhaust filters is within the acceptable range. If the pressure drop is not within the acceptable range, the permittee shall stop operation and take corrective action as specified in the facility's O&M Plan.
- 34. The required records, logs and a copy of the O&M plan for this facility shall be kept on site and shall always be readily available, organized and accessible when requested by YRCAA personnel or during an inspection. The O&M plan shall be updated to reflect any changes in operating procedures and such changes shall be routinely implemented.
- 35. The permittee shall log incoming deliveries of spray material, solvent or any materials that contribute to HAP, TAP and VOC emissions, including the delivery date, name, batch or lot number and quantity. The permittee must also tally the monthly quantity of all materials used, and shall submit the yearly total to YRCAA with the annual Registration.
- 36. Material Safety Data Sheets (MSDS) of all materials contributing to HAP, TAP and VOC emissions shall be maintained on-site and readily accessible when requested by YRCAA personnel.
- 37. Surface coating booth filter maintenance or change-out shall be logged and kept with the pressure drop readings in Condition #32 of this permit. Any log shall be designed by the permittee and shall contain at least the date, operator name and specific action taken.
- 38. All records shall be kept and maintained at the site for at least the most recent three year period from any present time and be made available during inspections or when requested by YRCAA.
- 39. Total emissions for criteria pollutants, HAPs, TAPs and VOCs must be calculated and reported to YRCAA on an annual basis as specified in the annual emission inventory as required by the AOP #Y005-01.
- 40. All recordkeeping required in this permit must be reported to YRCAA as specified.
- 41. Any application form, report, or compliance certification, including the annual consumption report, submitted pursuant to this permit must be signed by a responsible official.



- 42. This permit and its conditions shall remain in effect in the event of any change in control or ownership of the facility. In the event of any such change in control or ownership of the subject facility, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the YRCAA of the change in control or ownership as specified by the AOP #Y-005-01.
- 43. This permit shall be considered invalid without paying the complete appropriate/required fees to YRCAA, pursuant to RCW 70.94.152.

DATED at Yakima, Washington this

30

day of November, 2009.

PREPARED BY:

Jenny Filipy, MS

Air Quality Engineer

Yakima Regional Clean Air Agency

REVIEWED & APPROVED BY:

Hasan M. Tahat, Ph.D.

Engineering, Planning and Monitoring Division

Supervisor

for

Gary W. Pruitt

Air Pollution Control Officer

Yakima Regional Clean Air Agency

REVIEWED BY:

Joseph Andreotti, P.E.,

Andreotti and Associates



Appendix A
Canam Group (Canam Steel Corporation)
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Paint booths exit velocity 17.8 m/s gas vol. 11,000 cfm stack height 15 ft

Sherman Williams Macropoxy 646 Fast Cure Epoxy: 50 % Hardener, 50% paint

Compound         Product         Usage (lbgal)         Chemical (lbgal)         Emissions weight         Emissions will glas         Model Emissions will glas																
Ethybenzene         SW Macropoxy 646 - P         5000         10.71         0.03         1666.5         0.80         32.13         811E.04         0.41         1000         24 hour         43748         5           Xylene         SW Macropoxy 646 - P         5000         13.46         0.073         219.9         0.10         4.04         102E-04         0.05         1000         24 hour         43748         5           Xylene         SW Macropoxy 646 - P         5000         13.46         0.02         1346         0.67         26.92         6.80E-04         0.34         1600         24 hour         43748         5           Tridinethylaminomethyll phenol         SW Macropoxy 646 - P         5000         10.71         0.01         27         10.71         2.0E-02         6.80E-04         0.34         180         3.48         5           Foremaldehyde         SW Macropoxy 646 - P         5000         10.71         0.04         2.142         10.7         4.84         1.0E-03         0.55         1.7         2.0E-04         0.07         3.4E-05         0.07         3.4E-05         0.03         0.07         3.4         0.03         1.72         8.0         0.07         3.4         0.05         1.7         4.84<	9	Compound	Product	Usage (gallons)	Density (lb/gal)	Chemical Fraction by weight	Emissions (lb/year)	Emissions (tons/year)	Emissions w/ 98% filters (lb/yr)	Emissions (g/s)	Model Emissions (µg/m³)	ASIL (µg/m³)	Averaging Period	WAC Small Quantity (lb/yr)	WAC Small Quantity (lb/hr)	Classification
"         SW Macropoxy 646 - H         5000         13.46         0.003         2019         0.10         4.04         1.02E-04         0.05         1000         24 hour         43748         5           Xylene         SW Macropoxy 646 - P         5000         10,71         0.17         9103.5         4.55         182 07         4.66E-03         2.33         1500         24 hour         43748         5           Tri(dimetrylaminometryl) phenol         SW Macropoxy 646 - P         5000         10,71         0.01         535.5         107         1.07E-04         0.14         N/A         N/A           Carbon Black         SW Macropoxy 646 - P         5000         10,71         0.04         2142         1.07         4.284         1.08E-03         0.55         12         24 hour         1750         0.2           Action Black         SW Macropoxy 646 - P         5000         10,71         0.04         2142         1.07         42.84         1.08E-03         0.55         12         24 hour         1750         0.2           Action Black         SW Macropoxy 646 - P         5000         10,71         0.04         2142         1.07         42.84         1.08E-03         0.55         1.2         24 hour         1750	11-4	Ethylbenzene	SW: Macropoxy 646 - P	2000	10.71	0.03	1606.5	0.80	32.13	8.11E-04	0.41	1000	24 hour	43748	22	HAP TAP VOC.
Xylene         SW Macropoxy 646 - P         5000         1071         0175         455         182.07         460E-03         2.33         1500         24 hour         43746         5           Tri(dimethylaminomethyl) phenol         SW Macropoxy 646 - P         5000         13.46         0.02         1346         0.67         10.77         10.71         270E-04         0.34         1500         24 hour         43746         5           Carbon Black         SW Macropoxy 646 - P         5000         10.71         0.01         2142         1.07         42.84         1.08E-03         0.55         12         24 hour         170         0.0           Foremaldehyde         SW Macropoxy 646 - P         5000         10.71         0.04         2142         1.07         42.84         1.08E-03         0.55         12         24 hour         170         0.2           Foremaldehyde         SW Macropoxy 646 - H         5000         13.46         0.001         67.3         1.35         3.40E-05         0.00         0.077         year         20         0.0           A Chaus Macropoxy 646 - H         5000         13.46         0.001         67.3         1.34 60         0.00         0.077         year         20         0.00		=	SW: Macropoxy 646 - H	2000	13.46	0.003	201.9	0.10	4.04	1.02E-04	0.05	1000	24 hour	43748		HAP TAP VOC
Triginettylaminently)  phenal SW Macropoxy 646. H   5000   1346   0.02   1346   0.67   26.92   6.80E-04   0.34   1500   24 hour   43748   5 Carbon Black   SW Macropoxy 646. P   5000   10.71   0.04   2.142   10.7   1.05   0.27   0.07   1.35   3.40E-05   0.07   1.35   3.40E-05   0.00   0.07   year   2.0   N/A   N/A	1330-20-7	Xylene	SW: Macropoxy 646 - P	2000	10.71	0.17	9103.5	4.55	182.07	4.60E-03	2.33	1500	24 hour	43748	.27	HAP TAP VOC
Tri(dimethylaminomethyl) phenol         SW Macropoxy 646 - P         5000         1071         0.01         535.5         0.27         1071         2.70E-04         0.14         N/A			SW: Macropoxy 646 - H	2000	13.46	0.02	1346	19.0	26.92	6.80E-04	0.34	1500	24 hour	43748	2	HAP TAP VOC
Carbon Black         SW Macropoxy 646 - P         5000         1071         0.04         2142         107         42.84         1.08E-03         0.55         12         24 hour         1750         0.2           Poremadehyde         SW Macropoxy 646 - H         5000         13.46         0.001         67.3         0.03         1.35         3.40E-05         0.07         year         20         N/A           Methyl Isobuty Ketone         SW Macropoxy 646 - H         5000         13.46         0.10         6730         3.37         134.60         3.40E-05         0.07         year         20         N/A           Part J Isobuty Ketone         SW Macropoxy 646 - H         5000         13.46         0.07         3.37         134.60         3.40E-05         0.07         year         20         N/A           Part J Isobuty Ketone         SW Macropoxy 640 - H         5000         13.46         0.07         3.40         0.07         24 hour         43748         5           Part J Isobuty Ketone         Chemcoat Inc.: Enamel         5000         8.794         0.07         452.89         0.23         9.06         2.29E-04         0.12         7         24 hour         43748         5	90-72-2	Tri(dimethylaminomethyl) phenol	-	2000	10.71	0.01	535.5	0.27	10.71	2.70E-04	0.14	N/A	A/N	N/A	A/N	CON
Foremaldehyde   SW Macropoxy 646 - H   5000   13.46   0.001   67.3   0.03   1.35   3.40E-05   0.00   0.077   year   20   Ni/A     Methyl sobutyl Ketone   SW: Macropoxy 646 - H   5000   13.46   0.10   67.30   3.37   19.460   3.40E-03   1.72   680   24 hour   43748   5     A-Bul losoy Ethanio   Chemicoat Inic.: Enamel   5000   8.794   0.01   452.89   0.23   9.06   2.28E-04   0.12   7   24 hour   175   0.02     Triethylamine   Chemicoat Inic.: Enamel   5000   8.794   0.01   452.89   0.23   9.06   2.28E-04   0.12   7   24 hour   175   0.02	-86-4	Carbon Black	SW: Macropoxy 646 - P	2000	10.71	0.04	2142	1.07	42.84	1.08E-03	0.55	12	24 hour	1750	0.2	TAP VOC
Methyl Isobulyl Ketone         SW: Macropoxy 646 - H         5000         13.46         0.10         6730         3.37         134 60         3.40E-03         1.72         680         24 hour         43748         5           2-ButoxyEthanol         Chemcoat Inc.: Enamel         5000         8.794         0.07         3121.87         1.56         62.44         1.58E-03         0.80         400         24 hour         43748         5           Triethylamine         Chemcoat Inc.: Enamel         5000         8.794         0.01         452.89         0.23         9.06         2.29E-04         7         24 hour         175         0.02	0-0	Foremaldehyde	SW: Macropoxy 646 - H	2000	13.46	0.001	67.3	0.03	1.35	3.40E-05	00.00	0.077	vear	20	A/A	HAP TAP VOC
2-ButoxyEthanol Chemcoat Inc.: Enamel 5000 8.794 0.07 3121.87 1.56 62.44 1.58E-03 0.80 400 24 hour 43748 5 Triethylamine Chemcoat Inc.: Enamel 5000 8.794 0.01 452.89 0.23 9.06 2.29E-04 0.12 7 24 hour 175 0.02	10-1	Methyl Isobutyl Ketone	SW: Macropoxy 646 - H	2000	13.46	0.10	6730	3.37	134.60	3.40E-03	1.72	680	24 hour	43748	2	HAP TAP VOC
Triethylamine Chemcoat Inc.: Enamel 5000 8.794 0.01 452.89 0.23 9.06 2.29E-04 0.12 7 24 hour 175 0.02	76-2	2-ButoxyEthanol	Chemcoat Inc.: Enamel	2000	8.794	0.07	3121.87	1.56	62.44	1.58E-03	0.80	400	24 hour	43748	5	HAP TAP VOC
	44-8	Triethylamine	Chemcoat Inc.: Enamel	2000	8.794	0.01	452.89	0.23	90.6	2.29E-04	0.12	7	24 hour	175	0.02	HAP TAP VOC

	1/	-	2		4	3 4	2 3 4	4 8 2 9
oduct	tons/yr	0.181	1.045	N DO O	1000	0.673	0.673	0.054
Paint Fumes from the Cure Oven - Assume 20 % of raw product		Ethylbenzene	Xylene	Tri/dimothylaminominahullahomin	I I I (diliteti i) al III I I I I I I I I I I I I I I I I	Methyl Isobutyl Ketone	Methyl Isobutyl Ketone 2-ButoxyEthanol	Methyl Isobutyl Ketone  2-ButoxyEthanol  Triethylamine
aint Fumes from th		100-41-4	1330-20-7	90-72-2		108-10-1	108-10-1	108-10-1 111-76-2 121-44-8

Appendix A; Canam Steel Corporation; NSRP-06-CSG-07; Pages 10 of 10 Pre-heat oven and Cure oven

Oven emission limits	Emissions (ppmv)	Emissions (mg/m³)	Actual Emissions (tons/yr)	Potential Emissions (tons/yr)
Acetaldehyde (C <sub>2</sub> H <sub>4</sub> O)	10	13.21	0.0040	0.0070
Carbon Dioxide (CO <sub>2</sub> )	2500	3300.15	0.9951	1.7461
Carbon Monoxide (CO)	5	4.20	0.0013	0.0022
Formaldehyde (CH <sub>2</sub> O)	0.25	0.23	0.0001	0.0001
Nitrogen Dioxide (NO <sub>2</sub> )	0.5	69.0	0.0002	0.0004
Sulfur Dioxide (SO <sub>2</sub> )	0.5	96.0	0.0003	0.0005

AP-42 Table 1.4-2

AP-42: Emission Factors for Natural Gas Combustion Table 1.4-2

	Emission	Actual	Potential
Pollutant	Factor	Emissions	Emissions
	(lb/10 <sup>6</sup> scf)	(tons/year)	(tons/year)
Lead	0.0005	2.45E-06	4.29E-06
N2O (uncontrolled)	2.2	0.011	0.019
PM (total)	7.6	0.037	0.065
PM (condensable)	5.7	0.028	0.049
PM (filterable)	1.9	0.009	0.016
$SO_2$	9.0	0.003	0.005
TOC	=	0.054	0.094
CH4	2.3	0.011	0.020
VOC	5.5	0.027	0.047

O A C	Dollictore	Emission Factor	Potential	Potential	ASIL	ASIL (µg/m³)	S	WAC Small	WAC Small WAC Small	3,000
CAS ING.		(lb/10 <sup>6</sup> scf)	(lb/year)	(tons/year)	(µg/m) 24-hr ave	annual ave	Class	(lb/yr)	(lb/hr)	Ciassilitation
91-57-6	2-Methylnaphthalene	2.4E-05	4.1E-04	2.1E-07	1	ł	NA	NA	NA	VOC
56-49-5	3-Methylchloranthrene	1.8E-06	3.1E-05	1.5E-08	1	₹	NA	NA	NA	VOC
	7,12-Dimethylbenz(a)anthracene	1.6E-05	2.7E-04	1.4E-07	ı	?	NA	NA	NA	VOC
83-32-9	Acenaphthene	1.8E-06	3.1E-05	1.5E-08	~	1	NA	NA	NA	VOC
203-96-8	Acenaphthylene	1.8E-06	3.1E-05	1.5E-08	1	1	NA	NA	NA	VOC
120-12-7	Anthracene	2.4E-06	4.1E-05	2.1E-08	ì	i	NA	NA	NA	VOC
56-55-3	Benz(a)anthracene	1.8E-06	3.1E-05	1.5E-08	1	1	NA	NA	NA	VOC
71-43-2	Benzene	2.1E-03	3.6E-02	1.8E-05	1	0.12	A	20	NA	VOC, TAP, HAP
50-32-8	Benzo(a)pyrene	1.2E-06	2.1E-05	1.0E-08	<b>?</b>	0.00048	A	NA	NA	VOC, TAP
205-99-2	Benzo(b)fluoranthene	1.8E-06	3.1E-05	1.5E-08	ł	1	A	NA	NA	VOC, TAP
191-24-2	Benzo(g,h,i)perylene	1.2E-06	2.1E-05	1.0E-08	l	1	NA	NA	NA	VOC
205-82-3	Benzo(j)fluoranthene	1.8E-06	3.1E-05	1.5E-08	2	2	A	NA	NA	VOC, TAP
106-97-8	Butane	2.1E+00	3.6E+01	1.8E-02	6300	1	В	43748	5	VOC, TAP
218-01-9	Chrysene	1.8E-06	3.1E-05	1.5E-08	l	1	NA	NA	NA	VOC
53-70-3	Dibenzo(a,h)anthracene	1.2E-06	2.1E-05	1.0E-08	ı	ı	A	NA	NA	VOC, TAP
25321-22-6	Dichlorobenzene	1.2E-03	2.1E-02	1.0E-05	1	1.5	A	500	NA	VOC, TAP, HAP
74-84-0	Ethane	3.1E+00	5.3E+01	2.7E-02	1	1	NA	NA	NA	VOC
206-44-0	Fluoranthene	3.0E-06	5.2E-05	2.6E-08	2	1	NA	NA	NA	VOC
86-73-7	Fluorene	2.8E-06	4.8E-05	2.4E-08	~	l	NA	NA	NA	VOC
50-00-0	Formaldehyde	7.5E-02	1.3E+00	6.4E-04	?	0.077	Α	20	NA	VOC, TAP, HAP
110-54-3	Hexane	1.8E+00	3.1E+01	1.5E-02	200	ł	В	22750	2.6	VOC, TAP, HAP
193-39-5	Indeno(1,2,3-cd)pyrene	1.8E-06	3.1E-05	1.5E-08	~	1	A	NA	NA	VOC, TAP, HAP
91-20-3	Naphthalene	6.1E-04	1.0E-02	5.2E-06	170	2	В	22750	2.6	VOC, TAP, HAP
0-99-601	Pentane	2.6E+00	4.5E+01	2.2E-02	0009	l	В	43748	S	VOC, TAP
85-01-8	Phenanathrene	1.7E-05	2.9E-04	1.5E-07	?	1	NA	NA	NA	VOC
74-98-6	Propane	1.6E+00	2.7E+01	1.4E-02	}	7	NA	NA	NA	VOC
129-00-0	Pyrene	5.0E-06	8.6E-05	4.3E-08	1	·	NA	NA	NA	VOC
108-88-3	Toluene	3.4E-03	5.8E-02	2.9E-05	400	ı	В	43748	5	VOC, TAP, HAP
7440-38-2	Arsenic	2.0E-04	3.4E-03	1.7E-06	?	0.00023	A	NA	NA	VOC, TAP, HAP
7440-39-3	Barium	4.4E-03	7.6E-02	3.8E-05	1.7	ŧ	В	175	0.02	VOC, TAP
7440-41-7	Beryllium	1.2E-05	2.1E-04	1.0E-07	1	0.00042	٧	NA	NA	VOC, TAP, HAP
7440-43-9	Cadmium	1.1E-03	1.9E-02	9.4E-06	ı	0.00056	V	NA	NA	VOC, TAP, HAP
7440-47-3	Chromium	1.4E-03	2.4E-02	1.2E-05	3	0.000083	A	NA	NA	VOC, TAP, HAP
7440-48-4	Cobalt	8.4E-05	1.4E-03	7.2E-07	0.33	2	В	175	0.02	VOC, TAP, HAP
7440-50-8	Copper	8.5E-04	1.5E-02	7.3E-06	3.3	₹ .	В	175	0.02	VOC, TAP
7439-95-5	Manganese	3.8E-04	6.5E-03	3.3E-06	0.4	1	В	175	0.02	VOC, TAP, HAP
7439-97-6	Mercury	2.6E-04	4.5E-03	2.2E-06	0.33	2	В	175	0.02	VOC, TAP, HAP
7439-98-7	Molybdenum	1.1E-03	1.9E-02	9.4E-06	17	}	В	1750	0.2	VOC, TAP
7440-02-0	Nickel	2.1E-03	3.6E-02	1.8E-05	ı	0.0021	Ą	0.5	NA	VOC, TAP, HAP
7782-49-2	Selenium	2.4E-05	4.1E-04	2.1E-07	0.67	,	В	175	0.02	VOC, TAP, HAP
7440-62-2	Vanadium	2.3E-03	4.0E-02	2.0E-05	0.17	1	В	175	0.02	VOC, TAP
7440-66-6	Zinc	2.9E-02	5.0E-01	2.5E-04	17	1	В	1750	0.2	VOC, TAP