# Fact Sheet Attachment

**Potential to Emit (tons/yr)**

| Pollutant | Surface Coating | External Combustion Units | Burn-Off Ovens | RICE | Insignificant Activities | Total |
|---|---|---|---|---|---|---|
| PM (filterable) | 4.43 | 3.57 | 0.51 | 0.18 | 4.28 | 12.98 |
| $PM_{10}$ (filterable + condensables) | 1.93 | 3.57 | 0.51 | 0.18 | 4.28 | 10.48 |
| $PM_{2.5}$ (filterable + condensables) | 1.77 | 3.57 | 0.51 | 0.18 | 4.28 | 10.32 |
| $SO_2$ | | 0.28 | 0.22 | 0.01 | 0.34 | 0.84 |
| $NO_x$ | | 46.93 | 2.23 | 21.46 | 56.33 | 126.95 |
| CO | | 39.43 | 0.64 | 33.18 | 11.83 | 85.07 |
| VOC [1] | 390.80 | 2.58 | 0.55 | 0.28 | 3.10 | 397.31 |
| **Individual HAPs** | | | | | | |
| Ethyl Benzene | 0.74 | | | 1.37E-04 | | 0.74 |
| n-Hexane | | 0.84 | 0.04 | | 1.01 | 1.90 |
| Phenol | 0.41 | | | | | 0.41 |
| Toluene | 0.72 | 1.60E-03 | 7.15E-05 | 5.27E-03 | 1.92E-03 | 0.73 |
| Xylenes | 3.72 | | | 1.84E-03 | | 3.73 |
| Other HAPs | 0.00 | 0.04 | 0.00 | 0.18 | 0.05 | 0.27 |
| Total HAPs | 5.59 | 0.89 | 0.04 | 1.17 | 1.06 | 8.75 |
| **Greenhouse Gases (GHGs)** | | | | | | |
| **Mass Basis** | | | | | | |
| Carbon Dioxide ($CO_2$) | | 55,959.07 | 2,508.69 | 0.44 | 67,162.15 | 125,630.35 |
| Methane ($CH_4$) | | 1.06 | 0.99 | 8.26E-06 | 1.27 | 3.32 |
| Nitrous Oxide ($N_2O$) | | 0.11 | 1.47 | 8.26E-07 | 0.13 | 1.70 |
| Total GHGs | | 55,960.24 | 2,511.15 | 0.44 | 67,163.55 | 125,635.37 |
| **$CO_2$ equivalents ($CO_2e$)** | | | | | | |
| Carbon Dioxide ($CO_2$) | | 55,959.07 | 2,508.69 | 0.55 | 67,162.15 | 125,630.47 |
| Methane ($CH_4$) | | 22.16 | 0.99 | 1.76E-04 | 26.60 | 49.76 |
| Nitrous Oxide ($N_2O$) | | 32.72 | 1.47 | 2.56E-04 | 39.27 | 73.45 |
| Total GHGs | | 56,013.96 | 2,511.15 | 5.53E-01 | 67,228.02 | 125,753.68 |

[1] VOC PTE for Surface Coating Operations are from permit limit in Condition III.(A)(3).

The following HAPs had the total Potential Total Emissions less than the reporting levels in Appendix II/III of Title 12

| Other HAPs | Surface Coating Operations | External Combustion Units | Burn-Off Ovens | RICE | Insignificant Activities | Total |
|---|---|---|---|---|---|---|
| Acetaldehyde | | | | 1.54E-02 | | 1.54E-02 |
| Acrolein | | | | 1.45E-02 | | 1.45E-02 |
| Arsenic Compounds | | 9.39E-05 | 4.21E-06 | | 1.13E-04 | 2.11E-04 |
| Benzene | | 9.86E-04 | 4.42E-05 | 8.71E-03 | 1.18E-03 | 1.09E-02 |
| Beryllium Compounds | | 5.63E-06 | 2.52E-07 | | 6.76E-06 | 1.26E-05 |
| 1,3-Butadiene | | | | 3.65E-03 | | 3.65E-03 |
| Cadmium Compounds | | 5.16E-04 | 2.31E-05 | | 6.20E-04 | 1.16E-03 |
| Carbon Tetrachloride | | | | 9.75E-04 | | 9.75E-04 |
| Chlorobenzene | | | | 7.11E-05 | | 7.11E-05 |
| Chloroform | | | | 7.55E-05 | | 7.55E-05 |
| Chromium Compounds | | 6.57E-04 | 2.95E-05 | | 1.52E-03 | 2.21E-03 |
| Cobalt Compounds | | 3.94E-05 | 1.77E-06 | | 7.84E-04 | 8.25E-04 |
| Cumene | 0.00 | | | | | 0.00 |
| Dichlorobenzene | | 5.63E-04 | 2.52E-05 | | 6.76E-04 | 1.26E-03 |
| 1,3-Dichloropropene | | | | 7.00E-05 | | 7.00E-05 |
| Ethylene Dibromide | | | | 1.17E-04 | | 1.17E-04 |
| Formaldehyde | | 0.04 | 1.58E-03 | 1.13E-01 | 0.04 | 0.19 |
| Hexamethylene Diisocyanate | 0.0007 | | | | | 6.50E-04 |
| Lead Compounds | | 2.35E-04 | 1.05E-05 | | 2.82E-04 | 5.27E-04 |
| Manganese Compounds | | 1.78E-04 | 8.00E-06 | | 2.56E-03 | 2.74E-03 |
| Mercury Compounds | | 1.22E-04 | 5.47E-06 | | 1.46E-04 | 2.74E-04 |
| Methanol | | | | 1.69E-02 | | 0.02 |
| Methylene Chloride | | | | 3.89E-04 | | 0.00 |
| Naphthalene | | 2.86E-04 | 1.28E-05 | 9.18E-04 | 3.44E-04 | 1.56E-03 |
| Nickel Compounds | | 9.86E-04 | 4.42E-05 | | 1.92E-03 | 2.95E-03 |
| Polycyclic Organic Matter | | 4.14E-05 | 1.86E-06 | 1.33E-03 | 4.97E-05 | 1.43E-03 |
| Selenium Compounds | | 1.13E-05 | 5.05E-07 | | 1.35E-05 | 2.53E-05 |
| Styrene | | | | 1.12E-04 | | 1.12E-04 |
| 1,1,2,2-Tetrachloroethane | | | | 2.39E-04 | | 2.39E-04 |
| 1,1,2-Trichloroethane | | | | 1.45E-04 | | 1.45E-04 |
| Vinyl Chloride | | | | 6.79E-05 | | 6.79E-05 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total Other HAPs | 0.00 | 0.04 | 1.79E-03 | 0.18 | 0.05 | 0.27 |

## Fact Sheet Attachment

**Emission Point IDs: 7962, 7962-T, 7988, 7989, 7975, 7982, 7969, 8907, 8908, 4814**

**Calculations in Surface Coating Operations table:**

Throughput (lbs/yr) = [Throughput (gal/yr)] x [Density (gal/yr)] {Used for Title 129, Chapter 20, Section 001 limitations}

Density (lbs/gal) =[Emission factor for PM (lbs/gal) {solid component}] + [Emission factor for VOC (lbs/gal) {volatile component}]

Emissions (tons/yr) for PM, $PM_{10}$, and $PM_{2.5}$ = [Throughput (gal/yr)] x [Emission factor (lbs/gal)] x [1 - transfer efficiency] x [1 - control efficiency]/[2000 lbs/ton]

Emissions (tons/yr) for VOC and HAPs = [Throughput (gal/yr)] x [Emission factor (lbs/gal)]/[2000 lbs/ton]

**Surface Coating Material Usage**

| Pollutant | | E-Coat System (Units 7962 and 7962-T)[2] | | Topcoat (Acrylic) Paint Booths (Units 7988 and 7989)[2] | | Touchup Booths (Unit 7975 & 7982)[2] | | Inspection and Preparation Booth (Unit 7969)[2] | Index Paint Booth System (Units 8907 and 8908)[2] | | Paint Stripper Tank (4814)[3] | Total PTE (tons/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Solvent/ Additive | Coating | Solvent/ Additive | Coating | Solvent/ Additive | Coating | Solvent/ Additive | Solvent/ Additive | Coating | Additive | |
| | Throughput (gal/yr)[1] | 1,200 | 75,000 | 1,000 | 42,250 | 100 | 2,950 | 380 | 15,350 | 62,000 | 108,000 lbs | |
| | Density (lb/gal) | 9 | 4 | 7 | 12 | 7 | 13 | 7 | 7 | 13 | 1 lbs | |
| | Throughput (lbs/yr) | 10,620 | 279,750 | 6,920 | 525,970 | 684 | 37,677 | 2,599 | 107,604 | 824,600 | 108,000 | |
| PM (filterable)[4] | Emission Factor (lbs/gal) | | 3.7 | | 9.434 | | 9.172 | | | 6.43 | | |
| | Transfer Efficiency (%) | | 99% | | 50.0% | | 50% | | | 50% | | |
| | Control Efficiency (%) | | 100% | | 99.5% | | 98% | | | 98% | | |
| | Emissions (tons/yr) | 0.00 | 0.00 | 0.00 | 0.50 | 0.00 | 0.14 | 0.00 | 0.00 | 1.99 | | 2.63 |
| $PM_{10}$[4] | Emission Factor (lbs/gal) | | 3.6 | | 6.414 | | 6.238 | | | 4.37 | | |
| | Transfer Efficiency (%) | | 99% | | 50% | | 50% | | | 50% | | |
| | Control Efficiency (%) | | 100% | | 99.5% | | 98% | | | 98% | | |
| | Emissions (tons/yr) | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.09 | 0.00 | 0.00 | 1.35 | | 1.79 |
| $PM_{2.5}$[4] | Emission Factor (lbs/gal) | | 3.4 | | 5.848 | | 5.686 | | | 3.99 | | |
| | Transfer Efficiency (%) | | 99% | | 50% | | 50% | | | 50% | | |
| | Control Efficiency (%) | | 100% | | 99.5% | | 98% | | | 98% | | |
| | Emissions (tons/yr) | 0.00 | 0.00 | 0.00 | 0.31 | 0.00 | 0.08 | 0.00 | 0.00 | 1.24 | | 1.63 |
| VOC | Emission Factor (lbs/gal) | 8.85 | 0.03 | 6.92 | 3.015 | 6.84 | 3.6 | 6.84 | 6.38 | 2.64 | 100% | |
| | Emissions (tons/yr) | 5.31 | 1.13 | 3.46 | 63.69 | 0.34 | 5.31 | 1.30 | 48.97 | 81.84 | 54.00 | 265.34 |

[1] Throughputs for the Surface Coating Operations are the estimated maximum throughputs of each chemical type used in each emission unit per OP application 13R1-006 received February 6, 2013, and

[2] The E-Coat System's and the booths' throughput, emission factors (for PM, VOC, and HAPs), control efficiency and emissions are from the OP application OP13R1-006 received February 6, 2013 and are consistent with the 2004 and 2007 CP. For the Topcoat Booths, ethanol (as a constituent of the catalyst) is used at a 2% blend with the paints, and emissions are calculated at 2% per paint pallet paint

[3] The Paint Stripper Tank throughputs and emission calculations submitted in the OP application OP13R1-006 were consistent with the 2007 CP. The throughput is calculated based on 3.0 totes/month of additive potentially used, each tote weighs 3000 lbs, and 12 months per year. For PTE determinations, the calculations assumes 100% is VOC and is all evaporated (none sent out as waste). The current

[4] The $PM_{10}$ and $PM_{2.5}$ emission factors are estimated utilizing California Emission Inventory and Reporting System (CEIDARS) for water based paint usage (2/2012). The transfer efficiency used for

Chapter 20 Section 001 evaluation (table is shown in Word document of the Fact Sheet)

$E = 4.10\ p^{0.67}$= lbs/hr PM allowable rate

Where p = tons/hr of process weight rate

| Emission Units | Per booth | | | | |
|---|---|---|---|---|---|
| | Process Weight Rate | | | Allowable Emission Rate | PTE rate |
| | lbs/yr | lbs/hr | tons/hr | (lb/hr) | lb/hr |
| 7962 | 145,185 | 16.57 | 0.008 | 0.165 | 0.000 |
| 7962-T | 145,185 | 16.57 | 0.008 | 0.165 | 0.000 |
| 7988 | 266,445 | 30.42 | 0.015 | 0.248 | 0.057 |
| 7989 | 266,445 | 30.42 | 0.015 | 0.248 | 0.057 |
| 7975 | 19,181 | 2.19 | 0.001 | 0.043 | 0.015 |
| 7982 | 19,181 | 2.19 | 0.001 | 0.043 | 0.015 |
| 8907 | 466,102 | 53.21 | 0.027 | 0.361 | 0.228 |
| 8908 | 466,102 | 53.21 | 0.027 | 0.361 | 0.228 |

hrs/yr= 8760

## Fact Sheet Attachment

**Emission Point IDs: 7962, 7962-T, 7988, 7989, 7975, 7982, 7969, 8907, 8908, 4814**

**Surface Coating Material Usage**

| Pollutant | | E-Coat System (Units 7962 and 7962-T)[2] | | Topcoat (Acrylic) Paint Booths (Units 7988 and 7989)[2] | | Touchup Booths (Unit 7975 & 7982)[2] | | Inspection and Preparation Booth (Unit 7969)[2] | Index Paint Booth System (Units 8907 and 8908)[3] | | Paint Stripper Tank (4814)[3] | Total PTE (tons/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Solvent/ Additive | Coating | Solvent/ Additive | Coating | Solvent/ Additive | Coating | Solvent/ Additive | Solvent/ Additive | Coating | Additive | |
| | Throughput (gal/yr)[1] | 1,200 | 75,000 | 1,000 | 42,250 | 100 | 2,950 | 380 | 15,350 | 62,000 | 108,000 lbs | |
| **Individual HAPs** | | | | | | | | | | | | |
| **Cumene** | Emission Factor (lbs/gal) | | | | | | | | | 0.00 | | |
| | Emissions (tons/yr) | | | | | | | | | 0.00 | | 0.00 |
| **Ethyl Benzene** | Emission Factor (lbs/gal) | | | | 0.0349 | 0.05 | | | | 0.00 | | |
| | Emissions (tons/yr) | | | | 0.74 | 0.0025 | | | | 0.00 | | 0.74 |
| **Hexamethylene Diisocyanate** | Emission Factor (lbs/gal) | | | | | 0.01 | | | | | | |
| | Emissions (tons/yr) | | | | | 0.0007 | | | | | | 0.0007 |
| **Phenol** | Emission Factor (lbs/gal) | | | | 0.0196 | | | | | | | |
| | Emissions (tons/yr) | | | | 0.41 | | | | | 0.00 | | 0.41 |
| **Toluene** | Emission Factor (lbs/gal) | | | | 0.0336 | 0.13 | | | | 0.00 | | |
| | Emissions (tons/yr) | | | | 0.71 | 0.01 | | | | 0.00 | | 0.72 |
| **Xylenes** | Emission Factor (lbs/gal) | | | | 0.1757 | 0.25 | | | | 0.00 | | |
| | Emissions (tons/yr) | | | | 3.71 | 0.01 | | | | 0.00 | | 3.72 |
| **Total HAPs** | Emissions (tons/yr) | 0.00 | 0.00 | 0.00 | 5.57 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.59 |

[1] Throughputs for the Surface Coating Operations are the estimated maximum throughputs of each chemical used in each emission unit per OP application 13R1-006 received February 6, 2013, and The E-Coat Systems and the coats' throughput, emission factors (for PM, VOC, and HAPs), control efficiency and emissions submitted in the OP application OP13R1-006 are consistent with the 2007 Construction Permit. The control efficiency for the E-Coat System is due to the particulates staying in a liquid solution (no spraying involved).

The Paint Stripper Paint throughputs and emission calculations submitted in the OP application OP13R1-006 are consistent with the 2007 Construction Permit. The throughput is calculated based on 3.0 totes/month of additive potentiallly used, each tote weighs 3000 lbs, and 12 months per year. For PTE determinations, the calculations assumes 100% is VOC and is all evaporated (none sent out as

## Fact Sheet Attachment

**Emission Point IDs: 8919, 8920, 8921, and 8922**

| | Automotic Powder Booths: Units 8919, 8920, and 8921 | Manual Powder Booth: Unit 8922 | | |
|---|---|---|---|---|
| Number of booths: | 3 | 1 | | |
| Number of guns per booth: | 8 | 6 | | |
| Maximum paint throughput per gun (gr/min): | 400 | 400 | | |
| Maximum gun utilization (min/hr): | 60 | 60 | (conservative value) | |
| Unit conversion (gr/lb): | 7000 | 7000 | | |
| Gun transfer efficiency: | 60% | 60% | | |
| Overspray floor recovery: | 0% | 0% | (conservative value) | |
| Final (Safety) filter efficiency: | 99% | 99% | | |
| Portion of the paint that is $PM_{10}$: | 7.9% | 7.9% | | |
| Maximum operating hours (hrs/yr): | 8760 | 8760 | | |
| | | | | |
| Potential Paint Througput (lb/hr): | 82.29 | 20.57 | | |
| Potential Paint Overspray (lb/hr): | 32.91 | 8.23 | | |
| Potential Paint PM (filterable) emissions (lb/hr): | 0.33 | 0.08 | | |
| Potential Paint $PM_{10}$ emissions (lb/hr): | 0.0260 | 0.0065 | | |
| Potential Paint $PM_{2.5}$ emissions (lb/hr): | 0.0260 | 0.0065 | Totals | |
| Potential Paint PM emissions (tons/yr): | 1.442 | 0.360 | 1.802 | |
| Potential Paint $PM_{10}$ emissions (tons/yr): | 0.114 | 0.028 | 0.142 | |
| Potential Paint $PM_{2.5}$ emissions (tons/yr): | 0.114 | 0.028 | 0.142 | |

Note: The PM, $PM_{10}$, and $PM_{2.5}$ emissions are filterable. The emission calculations were submitted in the OP application 13R1-006. The values identified as conservative are the worst-case situation (operates gun 60 min/hr and don't consider the amount of powder paint that is overspray on the floor of the booth), where actual situations are not a worst-case situation (operates guns less than 60 min/hr, and overspray powder paint is recovered and recycled within the booth).

Evaluation for Chapter 20, Section 001 -- table in Word document

$E = 4.10\ p^{0.67}$= lbs/hr PM allowable rate
Where p = tons/hr of process weight rate

| Emission Units | Each booth | | | |
|---|---|---|---|---|
| | Process Weight Rate | | | Allowable Emission Rate |
| | | lbs/hr | tons/hr | (lb/hr) |
| 8919/8920/8921 | | 27.43 | 0.014 | 0.232 |
| 8922 | | 20.57 | 0.010 | 0.191 |

hrs/yr= 8760

**Evaluation for CAM**

| Emission Units | limit | control device | uncont. PM (tons/yr) |
|---|---|---|---|
| 8919 | 0.037 | Filter | 48.055 |
| 8920 | 0.037 | Filter | 48.055 |
| 8921 | 0.037 | Filter | 48.055 |
| 8922 | 0.082 | Filter | 36.041 |

*limit for 8919, 8920, and 8921 is a combined limit for Chapter 20 Section 001



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| |
|---|
| PTE rate |
| lb/hr |
| 0.110 |
| 0.082 |

The powder paint booths are not subject to CAM since the uncontrolled PM PTE for each booth is <100 tpy.

## Fact Sheet Attachment

**Emission Point IDs: 2153, 7960, 7965, 7969, 7972, 7988, 7989, 8903, 8909, 8915, and 8916**

| Unit # | Design Capacity | |
|---|---|---|
| 2153 | 11.7 | MMBtu/hr |
| 7956 | 5.5 | MMBtu/hr |
| 7960 | 12.50 | MMBtu/hr |
| 7965 | 10.50 | MMBtu/hr |
| 7972 | 12.00 | MMBtu/hr |
| 7988 | 10.85 | MMBtu/hr |

| Unit # | Design Capacity | |
|---|---|---|
| 7989 | 10.85 | MMBtu/hr |
| 8909 | 8.00 | MMBtu/hr |
| 8910 | 14.00 | MMBtu/hr |
| 8915 | 8.40 | MMBtu/hr |
| 8916 | 5.00 | MMBtu/hr |

| | | | | |
|---|---|---|---|---|
| Total design capacity: | 109.30 | MMBtu/hr | 0.1072 | MMscf/hr |
| Heating value: | 1,020 | Btu/scf | (natural gas combustion) | |
| Operating hours: | 8,760 | hrs/yr | | |

| Index System Combustion Emission Summary | | | | |
|---|---|---|---|---|
| **Pollutant** | **Emission Factor (lbs/MMscf)[1]** | **Hourly Emissions (lbs/hr)[2]** | **Annual PTE (tons/yr)[3]** | |
| PM (filterable) | 7.6 | 0.81 | 3.57 | |
| $PM_{10}$ | 7.6 | 0.81 | 3.57 | |
| $PM_{2.5}$ | 7.6 | 0.81 | 3.57 | |
| $SO_2$ | 0.6 | 0.06 | 0.28 | |
| $NO_x$ | 100 | 10.72 | 46.93 | |
| CO | 84 | 9.00 | 39.43 | |
| VOC | 5.5 | 0.59 | 2.58 | |
| Individual HAPs | | | | |
| Arsenic Compounds | 0.0002 | 2.14E-05 | 9.39E-05 | |
| Benzene | 0.0021 | 2.25E-04 | 9.86E-04 | |
| Beryllium Compounds | 0.000012 | 1.29E-06 | 5.63E-06 | |
| Cadmium Compounds | 0.0011 | 1.18E-04 | 5.16E-04 | |
| Chromium Compounds | 0.0014 | 1.50E-04 | 6.57E-04 | |
| Cobalt Compounds | 0.000084 | 9.00E-06 | 3.94E-05 | |
| Dichlorobenzene | 0.0012 | 1.29E-04 | 5.63E-04 | |
| Formaldehyde | 0.075 | 8.04E-03 | 3.52E-02 | |
| n-Hexane | 1.8 | 1.93E-01 | 8.45E-01 | |
| Lead Compounds | 0.0005 | 5.36E-05 | 2.35E-04 | |
| Manganese Compounds | 0.00038 | 4.07E-05 | 1.78E-04 | |
| Mercury Compounds | 0.00026 | 2.79E-05 | 1.22E-04 | |
| Naphthalene | 0.00061 | 6.54E-05 | 2.86E-04 | |
| Nickel Compounds | 0.0021 | 2.25E-04 | 9.86E-04 | |
| Polycyclic Organic Matter | 0.0000882 | 9.45E-06 | 4.14E-05 | |
| Selenium Compounds | 0.000024 | 2.57E-06 | 1.13E-05 | |
| Toluene | 0.0034 | 3.64E-04 | 1.60E-03 | |
| Total HAPs | | 0.2024 | 0.8863 | |
| **Greenhouse Gases (GHGs)** | | | | **$CO_2$ equivalents** |
| **Mass Basis** | **(kg/MMBtu)[4]** | | **(tons/yr)[5]** | **(tons $CO_2$e/yr)[6]** |
| Carbon Dioxide ($CO_2$) | 53.0 | | 55,959.07 | 55,959.07 |
| Methane ($CH_4$) | 1.00E-03 | | 1.06 | 22.16 |
| Nitrous Oxide ($N_2O$) | 1.00E-04 | | 0.11 | 32.72 |
| Total GHGs | | | 55,960.24 | 56,013.96 |

[1] Emission Factors for natural gas combustion from AP-42 Chapter 1.4 (7/1998), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4. $PM_{10}$ and $PM_{2.5}$ are

[2] For natural gas combustion: lbs/hr = (lb/MMscf) x (MMscf/hr)

[3] (tons/yr) = (lbs/hr) x (8,760 hr/yr)/(2,000 lb/ton)

[4] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies

[5] GHG (tons/yr) = [Emission Factor (kg/MMBtu)] x (Potential Heat Input Capacity (MMBtu/yr)]/(907.18 kg/tons)

[6] tons $CO_2$e/yr = [(tons/yr $CO_2$)*1]or[(tons/yr $CH_4$)*21] or [(tons/yr $N_2O$)*310]; $CO_2$ equivalents are found in 40 CFR Part 98 Subpart A Table

## Fact Sheet Attachment

**Emission Point IDs: 8912, 8914, and 8933**

Heating value: 1,020 Btu/scf (natural gas combustion)
Operating hours: 8,760 hrs/yr

| | | #8912 - Burn-Off Oven | | #8914 - Burn-Off Oven | | #8933 - Burn-Off Oven | | |
|---|---|---|---|---|---|---|---|---|
| | rate of organic matter: | 20 | lbs/hr | 75 | lbs/hr | 75 | lbs/hr | |
| | | 175,200 | lb/yr | 657,000 | lb/yr | 657,000 | lb/yr | |
| | Design rate of burner: | 0.8 | MMBtu/hr | 2.05 | MMBtu/hr | 2.05 | MMBtu/hr | |
| | | 0.0008 | MMscf/hr | 0.0020 | MMscf/hr | 0.0020 | MMscf/hr | |
| **Pollutant** | **Emission Factor** | **Hourly Emissions (lbs/hr)[1]** | **Annual PTE (tons/yr)[4]** | **Hourly Emissions (lbs/hr)[1]** | **Annual PTE (tons/yr)[4]** | **Hourly Emissions (lbs/hr)[1]** | **Annual PTE (tons/yr)[4]** | **Total Annual PTE (tons/yr)** |
| PM | | 0.027 | 0.12 | 0.045 | 0.20 | 0.045 | 0.20 | 0.51 |
| $PM_{10}$ | | 0.027 | 0.12 | 0.045 | 0.20 | 0.045 | 0.20 | 0.51 |
| $PM_{2.5}$ | | 0.027 | 0.12 | 0.045 | 0.20 | 0.045 | 0.20 | 0.51 |
| $SO_2$ | | 0.0036 | 0.02 | 0.023 | 0.10 | 0.023 | 0.10 | 0.22 |
| $NO_x$ | | 0.0542 | 0.24 | 0.227 | 0.99 | 0.227 | 0.99 | 2.23 |
| CO | | 0.1 | 0.44 | 0.023 | 0.10 | 0.023 | 0.10 | 0.64 |
| VOC | | 0.0348 | 0.15 | 0.045 | 0.20 | 0.045 | 0.20 | 0.55 |
| **Individual HAPs** | **(lbs/MMscf)[2]** | **(lbs/hr)[3]** | **(tons/yr)[4]** | **(lbs/hr)[3]** | **(tons/yr)[4]** | **(lbs/hr)[3]** | **(tons/yr)[4]** | **(tons/yr)** |
| Arsenic Compounds | 0.0002 | 1.57E-07 | 6.87E-07 | 4.02E-07 | 1.76E-06 | 4.02E-07 | 1.76E-06 | 4.21E-06 |
| Benzene | 0.0021 | 1.65E-06 | 7.21E-06 | 4.22E-06 | 1.85E-05 | 4.22E-06 | 1.85E-05 | 4.42E-05 |
| Beryllium Compounds | 0.000012 | 9.41E-09 | 4.12E-08 | 2.41E-08 | 1.06E-07 | 2.41E-08 | 1.06E-07 | 2.52E-07 |
| Cadmium Compounds | 0.0011 | 8.63E-07 | 3.78E-06 | 2.21E-06 | 9.68E-06 | 2.21E-06 | 9.68E-06 | 2.31E-05 |
| Chromium Compounds | 0.0014 | 1.10E-06 | 4.81E-06 | 2.81E-06 | 1.23E-05 | 2.81E-06 | 1.23E-05 | 2.95E-05 |
| Cobalt Compounds | 0.000084 | 6.59E-08 | 2.89E-07 | 1.69E-07 | 7.39E-07 | 1.69E-07 | 7.39E-07 | 1.77E-06 |
| Dichlorobenzene | 0.0012 | 9.41E-07 | 4.12E-06 | 2.41E-06 | 1.06E-05 | 2.41E-06 | 1.06E-05 | 2.52E-05 |
| Formaldehyde | 0.075 | 5.88E-05 | 2.58E-04 | 1.51E-04 | 6.60E-04 | 1.51E-04 | 6.60E-04 | 1.58E-03 |
| n-Hexane | 1.8 | 1.41E-03 | 6.18E-03 | 3.62E-03 | 1.58E-02 | 3.62E-03 | 1.58E-02 | 3.79E-02 |
| Lead Compounds | 0.0005 | 3.92E-07 | 1.72E-06 | 1.00E-06 | 4.40E-06 | 1.00E-06 | 4.40E-06 | 1.05E-05 |
| Manganese Compounds | 0.00038 | 2.98E-07 | 1.31E-06 | 7.64E-07 | 3.35E-06 | 7.64E-07 | 3.35E-06 | 8.00E-06 |
| Mercury Compounds | 0.00026 | 2.04E-07 | 8.93E-07 | 5.23E-07 | 2.29E-06 | 5.23E-07 | 2.29E-06 | 5.47E-06 |
| Naphthalene | 0.00061 | 4.78E-07 | 2.10E-06 | 1.23E-06 | 5.37E-06 | 1.23E-06 | 5.37E-06 | 1.28E-05 |

[1] Emission Factors (lbs/hr) for Burn-off oven #8912 from Manufacturer's Data Sheet: Pollution Control Products Co., Controlled Pyrolysis Furnaces with J-121 Burners (May 27, 1994). Emission Factors (lbs/hr) for Burn-off ovens

[2] Emission Factors for natural gas combustion from AP-42 Chapter 1.4 (7/1998), Tables ~~1.4-1, 1.4-2,~~ 1.4-3, and 1.4-4.

[3] For natural gas combustion: lbs/hr = (lb/MMscf) x (MMscf/hr)

[4] (tons/yr) = (lbs/hr) x (8,760 hr/yr)/(2,000 lb/ton)

## Fact Sheet Attachment

**Emission Point IDs: 8912, 8914, and 8933**

| | | #8912 - Burn-Off Oven | | #8914 - Burn-Off Oven | | #8933 - Burn-Off Oven | | |
|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor** | **Hourly Emissions (lbs/hr)[1]** | **Annual PTE (tons/yr)[4]** | **Hourly Emissions (lbs/hr)[1]** | **Annual PTE (tons/yr)[4]** | **Hourly Emissions (lbs/hr)[1]** | **Annual PTE (tons/yr)[4]** | **Total Annual PTE (tons/yr)** |
| Nickel Compounds | 0.0021 | 1.65E-06 | 7.21E-06 | 4.22E-06 | 1.85E-05 | 4.22E-06 | 1.85E-05 | 4.42E-05 |
| Polycyclic Organic Matter | 0.0000882 | 6.92E-08 | 3.03E-07 | 1.77E-07 | 7.76E-07 | 1.77E-07 | 7.76E-07 | 1.86E-06 |
| Selenium Compounds | 0.000024 | 1.88E-08 | 8.24E-08 | 4.82E-08 | 2.11E-07 | 4.82E-08 | 2.11E-07 | 5.05E-07 |
| Toluene | 0.0034 | 2.67E-06 | 1.17E-05 | 6.83E-06 | 2.99E-05 | 6.83E-06 | 2.99E-05 | 7.15E-05 |
| Total HAPs | | 1.48E-03 | 6.49E-03 | 3.80E-03 | 1.66E-02 | 3.80E-03 | 1.66E-02 | 0.04 |
| **Greenhouse Gases (GHGs)** | | | | | | | | |
| | **(kg/MMBtu)[5]** | **(tons/yr)[6]** | **(tons $CO_2$e/yr)[7]** | **(tons/yr)[6]** | **(tons $CO_2$e/yr)[7]** | **(tons/yr)[6]** | **(tons $CO_2$e/yr)[7]** | **(tons $CO_2$e/yr)** |
| Carbon Dioxide ($CO_2$) | 53.0 | 409.58 | 409.58 | 1,049.55 | 1,049.55 | 1,049.55 | 1,049.55 | 2,508.69 |
| Methane ($CH_4$) | 1.00E-03 | 0.008 | 0.16 | 0.020 | 0.42 | 0.020 | 0.42 | 0.99 |
| Nitrous Oxide ($N_2O$) | 1.00E-04 | 0.0008 | 0.24 | 0.0020 | 0.61 | 0.0020 | 0.61 | 1.47 |
| Total GHGs | | 409.59 | 409.98 | 1,049.57 | 1,050.58 | 1,049.57 | 1,050.58 | 2,511.15 |

[1] Emission Factors (lbs/hr) for Burn-off oven #8912 from Manufacturer's Data Sheet: Pollution Control Products Co., Controlled Pyrolysis Furnaces with J-121 Burners (May 27, 1994). Emission Factors (lbs/hr) for Burn-off ovens

[2] Emission Factors for natural gas combustion from AP-42 Chapter 1.4 (7/1998), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[3] For natural gas combustion: lbs/hr = (lb/MMscf) x (MMscf/hr)

[4] (tons/yr) = (lbs/hr) x (8,760 hr/yr)/(2,000 lb/ton)

[5] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies prescribed in 40 CFR Part 98.

[6] GHG (tons/yr) = [Emission Factor (kg/MMBtu)] x (Potential Heat Input Capacity (MMBtu/yr)]/(907.18 kg/tons)

[7] tons $CO_2$e/yr = [(tons/yr $CO_2$)*1]or[(tons/yr $CH_4$)*21] or [(tons/yr $N_2O$)*310]; $CO_2$ equivalents are found in 40 CFR Part 98 Subpart A Table A-1 *Global Warming Potentials* published on October 30, 2009 (Title 129, Chapter 1).

## Fact Sheet Attachment

**Emission Point IDs: 2081, 2082, 2328, and 2111**

| | | 2081 | | 2082 | | 2328 | | 2111 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Engine Output (bhp): | 51 bhp | | 64 bhp | | 13 bhp | | 190 bhp | | |
| | Maximum Heat Capacity: [1] | 0.36 MMBtu/hr | | 0.45 MMBtu/hr | | 0.09 MMBtu/hr | | 1.26 MMBtu/hr | | |
| | Maximum operating hours (hrs/yr): | 8,760 hr/yr | | 8,760 hr/yr | | 8,760 hr/yr | | 8,760 hr/yr | | |
| **Pollutant** | **Emission Factor (lb/MMBtu)[2]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Total Potential Annual Emissions (tons/yr)** |
| PM | 1.94E-02 | 0.007 | 0.031 | 0.009 | 0.038 | 0.002 | 0.008 | 0.024 | 0.107 | 0.183 |
| $PM_{10}$ | 1.94E-02 | 6.99E-03 | 3.06E-02 | 8.70E-03 | 3.81E-02 | 0.002 | 7.65E-03 | 0.024 | 0.107 | 0.183 |
| $PM_{2.5}$ | 1.94E-02 | 6.99E-03 | 3.06E-02 | 8.70E-03 | 3.81E-02 | 0.002 | 7.65E-03 | 0.024 | 0.107 | 0.183 |
| $SO_x$ | 5.88E-04 | 2.12E-04 | 9.27E-04 | 2.63E-04 | 1.15E-03 | 0.000 | 2.32E-04 | 0.001 | 3.25E-03 | 0.006 |
| $NO_x$ | 2.27 | 8.17E-01 | 3.579 | 1.02E+00 | 4.454 | 0.204 | 0.895 | 2.860 | 12.528 | 21.456 |
| CO | 3.510 | 1.26E+00 | 5.535 | 1.57E+00 | 6.887 | 0.316 | 1.384 | 4.423 | 19.371 | 33.177 |
| VOC | 0.030 | 1.07E-02 | 0.047 | 1.33E-02 | 0.058 | 0.003 | 0.012 | 0.037 | 0.163 | 0.280 |
| **Individual HAPs** | **(lb/MMBtu)[2]** | **(lb/hr)[3]** | **(tons/yr)[4]** | **(lb/hr)[3]** | **(tons/yr)[4]** | **(lb/hr)[3]** | **(tons/yr)[4]** | **(lb/hr)[3]** | **(tons/yr)[4]** | **(tons/yr)** |
| Acetaldehyde | 2.79E-03 | 1.00E-03 | 4.40E-03 | 1.25E-03 | 5.47E-03 | 2.51E-04 | 1.10E-03 | 1.00E-03 | 4.40E-03 | 1.54E-02 |
| Acrolein | 2.63E-03 | 9.47E-04 | 4.15E-03 | 1.18E-03 | 5.16E-03 | 2.37E-04 | 1.04E-03 | 9.47E-04 | 4.15E-03 | 1.45E-02 |
| Benzene | 1.58E-03 | 5.69E-04 | 2.49E-03 | 7.08E-04 | 3.10E-03 | 1.42E-04 | 6.23E-04 | 5.69E-04 | 2.49E-03 | 8.71E-03 |
| 1,3-Butadiene | 6.63E-04 | 2.39E-04 | 1.05E-03 | 2.97E-04 | 1.30E-03 | 5.97E-05 | 2.61E-04 | 2.39E-04 | 1.05E-03 | 3.65E-03 |
| Carbon Tetrachloride | 1.77E-04 | 6.37E-05 | 2.79E-04 | 7.93E-05 | 3.47E-04 | 1.59E-05 | 6.98E-05 | 6.37E-05 | 2.79E-04 | 9.75E-04 |
| Chlorobenzene | 1.29E-05 | 4.64E-06 | 2.03E-05 | 5.78E-06 | 2.53E-05 | 1.16E-06 | 5.09E-06 | 4.64E-06 | 2.03E-05 | 7.11E-05 |
| Chloroform | 1.37E-05 | 4.93E-06 | 2.16E-05 | 6.14E-06 | 2.69E-05 | 1.23E-06 | 5.40E-06 | 4.93E-06 | 2.16E-05 | 7.55E-05 |
| 1,3-Dichloropropene | 1.27E-05 | 4.57E-06 | 2.00E-05 | 5.69E-06 | 2.49E-05 | 1.14E-06 | 5.01E-06 | 4.57E-06 | 2.00E-05 | 7.00E-05 |
| Ethylbenzene | 2.48E-05 | 8.93E-06 | 3.91E-05 | 1.11E-05 | 4.87E-05 | 2.23E-06 | 9.78E-06 | 8.93E-06 | 3.91E-05 | 1.37E-04 |
| Ethylene Dibromide | 2.13E-05 | 7.67E-06 | 3.36E-05 | 9.54E-06 | 4.18E-05 | 1.92E-06 | 8.40E-06 | 7.67E-06 | 3.36E-05 | 1.17E-04 |
| Formaldehyde | 2.05E-02 | 7.38E-03 | 0.03 | 9.18E-03 | 0.04 | 1.85E-03 | 0.01 | 7.38E-03 | 0.03 | 0.11 |
| Methanol | 3.06E-03 | 1.10E-03 | 4.83E-03 | 1.37E-03 | 6.00E-03 | 2.75E-04 | 1.21E-03 | 1.10E-03 | 4.83E-03 | 1.69E-02 |

| Emission unit | (MMBtu/hr) | | (lb/MMBtu) | (lb/hr) | (lb/hr) |
|---|---|---|---|---|---|
| 2081 | | 0.36 MMBtu/hr | 0.6 | 0.216 | 0.007 |
| 2082 | | 0.45 MMBtu/hr | 0.6 | 0.2688 | 0.009 |
| 2328 | | 0.09 MMBtu/hr | 0.6 | 0.054012 | 0.002 |
| 2111 | | 1.26 MMBtu/hr | 0.6 | 0.756 | 0.024 |

if <10 MMBtu/hr, allowable is 0.6 lb/hr
if between 10 and 100 MMBtu/hr, allowable is

$$A = \frac{1.025}{(I^{0.233})}$$

Where,
A = maximum allowable PM emission rate in lb/MMBtu
I = total heat input in MMBtu/hr

## Fact Sheet Attachment

**Emission Point IDs: 2081, 2082, 2328, and 2111**

| | | 2081 | | 2082 | | 2328 | | 2111 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Pollutant** | **Emission Factor (lb/MMBtu)[2]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Potential Emission Rate (lb/hr)[3]** | **Potential Annual Emissions (ton/yr) [4]** | **Total Potential Annual Emissions (tons/yr)** |
| Methylene Chloride | 4.12E-05 | 1.48E-05 | 6.50E-05 | 1.85E-05 | 8.08E-05 | 3.71E-06 | 1.62E-05 | 5.19E-05 | 2.27E-04 | 3.89E-04 |
| Naphthalene | 9.71E-05 | 3.50E-05 | 1.53E-04 | 4.35E-05 | 1.91E-04 | 8.74E-06 | 3.83E-05 | 1.22E-04 | 5.36E-04 | 9.18E-04 |
| Polycyclic Organic Matter | 1.41E-04 | 5.08E-05 | 2.22E-04 | 6.32E-05 | 2.77E-04 | 1.27E-05 | 5.56E-05 | 1.78E-04 | 7.78E-04 | 1.33E-03 |
| Styrene | 1.19E-05 | 4.28E-06 | 1.88E-05 | 5.33E-06 | 2.34E-05 | 1.07E-06 | 4.69E-06 | 1.50E-05 | 6.57E-05 | 1.12E-04 |
| Toluene | 5.58E-04 | 2.01E-04 | 8.80E-04 | 2.50E-04 | 1.09E-03 | 5.02E-05 | 2.20E-04 | 7.03E-04 | 3.08E-03 | 5.27E-03 |
| 1,1,2,2-Tetrachloroethane | 2.53E-05 | 9.11E-06 | 3.99E-05 | 1.13E-05 | 4.96E-05 | 2.28E-06 | 9.98E-06 | 3.19E-05 | 1.40E-04 | 2.39E-04 |
| 1,1,2-Trichloroethane | 1.53E-05 | 5.51E-06 | 2.41E-05 | 6.85E-06 | 3.00E-05 | 1.38E-06 | 6.03E-06 | 1.93E-05 | 8.44E-05 | 1.45E-04 |
| Vinyl Chloride | 7.18E-06 | 2.58E-06 | 1.13E-05 | 3.22E-06 | 1.41E-05 | 6.46E-07 | 2.83E-06 | 9.05E-06 | 3.96E-05 | 6.79E-05 |
| Xylene | 1.95E-04 | 7.02E-05 | 3.07E-04 | 8.74E-05 | 3.83E-04 | 1.76E-05 | 7.69E-05 | 2.46E-04 | 1.08E-03 | 1.84E-03 |
| Total HAPs | 0.42 | 0.39 | 0.38 | 0.33 | 0.31 | 0.25 | 0.25 | 0.24 | 0.23 | 1.17 |
| **Greenhouse Gases (GHGs)** | **(kg/MMBtu)[5]** | **(tons/yr)[6]** | **(tons$CO_2$e/yr)[7]** | **(tons/yr)[6]** | **(tons$CO_2$e/yr)[7]** | **(tons/yr)[6]** | **(tons$CO_2$e/yr)[7]** | **(tons/yr)[6]** | **(tons$CO_2$e/yr)[7]** | **(tons$CO_2$e/yr)** |
| Carbon Dioxide ($CO_2$) | 53.0 | 0.09 | 0.092 | 0.11 | 0.115 | 0.02 | 0.023 | 0.32 | 0.323 | 0.552 |
| Methane ($CH_4$) | 1.00E-03 | 1.74E-06 | 3.65E-05 | 2.16E-06 | 4.54E-05 | 4.35E-07 | 9.13E-06 | 6.08E-06 | 1.28E-04 | 1.76E-04 |
| Nitrous Oxide ($N_2O$) | 1.00E-04 | 1.74E-07 | 5.39E-05 | 2.16E-07 | 6.71E-05 | 4.35E-08 | 1.35E-05 | 6.08E-07 | 1.89E-04 | 2.56E-04 |
| Total GHGs | - | 0.09 | 0.09 | 0.11 | 0.11 | 0.02 | 0.02 | 0.32 | 0.32 | 0.553 |

[1] MMBtu/hr = (hp * 7000 Btu/(hp*hr))/(1000000 Btu/MMBtu)

[2] AP-42 Chapter 3.2 (7/2000), Table 3.2-3.

[3] lb/MMBtu: (lb/hr) = (MMBtu/hr)*(lb/MMBtu); g/bhp: (lb/hr) = (bhp)*(g/bhp-hr)*(0.002205 lb/gr)

[4] tons/yr = (lbs/hr)*(8760 hrs/yr)/(2000 lbs/ton)

[5] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies prescribed in 40 CFR Part 98.

[6] GHG (tons/yr) = {[Emission Factor (kg/MMBtu)] x (Potential Heat Input Capacity (MMBtu/yr)]/(907.18 kg/tons)} x (hrs/yr)/(2000 lb/tons)

[7] tons $CO_2$e/yr = [(tons/yr $CO_2$)*1]or[(tons/yr $CH_4$)*21] or [(tons/yr $N_2O$)*310]; $CO_2$ equivalents are found in 40 CFR Part 98 Subpart A Table A-1 *Global Warming Potentials* published on October 30, 2009 (Title 129, Chapter 1). The GWP for $CO_2$ =1, for

## Fact Sheet Attachment

**Insignificant Activities - Combustion Units**

These units are combustion units listed in the insignificant activities in the Operating Permit.

| | | | |
|---|---|---|---|
| Total design capacity: | 131.18 MMBtu/hr | | 0.1286 |
| Heating value: | 1,020 Btu/scf | (natural gas combustion) | |
| Operating hours: | 8,760 hrs/yr | | |

| Pollutant | Emission Factor (lbs/MMscf) | Hourly Emissions (lbs/hr) | Annual PTE (tons/yr) |
|---|---|---|---|
| PM | 7.6 | 0.98 | 4.28 |
| $PM_{10}$ | 7.6 | 0.98 | 4.28 |
| $PM_{2.5}$ | 7.6 | 0.98 | 4.28 |
| $SO_2$ | 0.6 | 0.08 | 0.34 |
| $NO_x$ | 100 | 12.86 | 56.33 |
| CO | 21 | 2.70 | 11.83 |
| VOC | 5.5 | 0.71 | 3.10 |
| **Individual HAPs** | | | |
| Arsenic Compounds | 0.0002 | 2.57E-05 | 1.13E-04 |
| Benzene | 0.0021 | 2.70E-04 | 1.18E-03 |
| Beryllium Compounds | 0.000012 | 1.54E-06 | 6.76E-06 |
| Cadmium Compounds | 0.0011 | 1.41E-04 | 6.20E-04 |
| Chromium Compounds | 0.0014 | 1.80E-04 | 7.89E-04 |
| Cobalt Compounds | 0.000084 | 1.08E-05 | 4.73E-05 |
| Dichlorobenzene | 0.0012 | 1.54E-04 | 6.76E-04 |
| Formaldehyde | 0.075 | 9.65E-03 | 4.22E-02 |
| n-Hexane | 1.8 | 2.31E-01 | 1.01E+00 |
| Lead Compounds | 0.0005 | 6.43E-05 | 2.82E-04 |
| Manganese Compounds | 0.00038 | 4.89E-05 | 2.14E-04 |
| Mercury Compounds | 0.00026 | 3.34E-05 | 1.46E-04 |
| Naphthalene | 0.00061 | 7.85E-05 | 3.44E-04 |
| Nickel Compounds | 0.0021 | 2.70E-04 | 1.18E-03 |
| Polycyclic Organic Matter | 0.0000882 | 1.13E-05 | 4.97E-05 |
| Selenium Compounds | 0.000024 | 3.09E-06 | 1.35E-05 |
| Toluene | 0.0034 | 4.37E-04 | 1.92E-03 |
| Total HAPs | | 0.2429 | 1.0638 |
| **Greenhouse Gases (GHGs)** | **(kg/MMBtu)[4]** | | **(tons/yr)[5]** |
| Carbon Dioxide ($CO_2$) | 53.0 | | 67,162.15 |
| Methane ($CH_4$) | 1.00E-03 | | 1.27 |
| Nitrous Oxide ($N_2O$) | 1.00E-04 | | 0.13 |
| Total GHGs | | | 67,163.55 |

[1] Emission Factors for natural gas combustion from AP-42 Chapter 1.4 (7/1998), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[2] For natural gas combustion: lbs/hr = (lb/MMscf) x (MMscf/hr)

[3] (tons/yr) = (lbs/hr) x (8,760 hr/yr)/(2,000 lb/ton)

[4] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies prescribed in 40 C

[5] GHG (tons/yr) = [Emission Factor (kg/MMBtu)] x (Potential Heat Input Capacity (MMBtu/yr)]/(907.18 kg/tons)

[6] tons $CO_2e$/yr = [(tons/yr $CO_2$)*1]or[(tons/yr $CH_4$)*21] or [(tons/yr $N_2O$)*310]; $CO_2$ equivalents are found in 40 CFR Part 98 Subpart A Table

| Unit ID |
|---|
| 2106 |
| 2014-2017, 2022, 2024 |
| 2105 |
| N/A |
| 2186 |
| 2191 |
| 2190 |
| 2187 |
| N/A |
| N/A |
| 2138 |
| 2144 |
| 2189 |
| 2188 |
| 2137 |
| N/A |
| 2227 |
| 2228 |
| 2011 |
| 2219 |
| 2104 |
| 6319-6321 |
| N/A |
| N/A |
| N/A |
| 7926 |
| N/A |
| N/A |
| N/A |
| 2141 |
| 2327 |
| N/A |
| N/A |
| N/A |
| N/A |
| 4814 |
| 8917 |
| 8918 |

MMscf/hr

| (tons $CO_2e$/yr)[6] |
|---|
| 67,162.15 |
| 26.60 |
| 39.27 |
| 67,228.02 |

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| Unit Description | Design Capacity (MMBtu/hr) |
|---|---|
| Air Make-Up Unit - 1.05 MMBtu/hr | 1.05 |
| Air Makeup Units (six 6.3 MMBtu/hr units) | 37.8 |
| Boiler Room - heater | 0.05 |
| Building 2 - Four 0.15 MMBtu/hr radiant heaters | 0.6 |
| Building 2 SE – 5.3 MMBtu/hr Air Makeup Unit | 5.3 |
| Building 3 E Center – 5.3 MMBtu/hr Air Makeup Unit | 5.3 |
| Building 3 E North – 5.3 MMBtu/hr Air Makeup Unit | 5.3 |
| Builidng 4 E – 5.3 MMBtu/hr Air Makeup Unit | 5.3 |
| Building 5- Two 0.25 MMBtu/hr radiant heaters | 0.5 |
| Building 5- Six 0.2 MMBtu/hr radiant heaters | 1.2 |
| Building 5 – 2.9 MMBtu/hr Air Makeup Unit | 2.9 |
| Building 5 – 5.9 MMBtu/hr Air Makeup Unit | 5.9 |
| Building 5 Center – 5.3 MMBtu/hr Air Makeup Unit | 5.3 |
| Building 5 E – 5.3 MMBtu/hr Air Makeup Unit | 5.3 |
| Building 6 – 2.9 MMBtu/hr Air Makeup Unit | 2.9 |
| Building 6 - One 0.2 MMBtu/hr radiant heater | 0.2 |
| Building 6 – One 2.05 MMBtu/hr Air Makeup Unit | 2.05 |
| Building 6 – One 2.05 MMBtu/hr Air Makeup Unit | 2.05 |
| Building 6 North - 2.5 MMBtu/hr heater | 2.5 |
| Building 8 – 3.3 MMBtu/hr Air Makeup Unit | 3.3 |
| Door 19 - 0.05 MMBtu/hr heater | 0.05 |
| Hay Equipment Manufacturing – Three 4.93 MMBtu/hr Air Makeup Units | 14.79 |
| Hay Equipment Manufacturing – Four 0.24 MMBtu/hr burners for radiant heating system | 0.96 |
| Hay Equipment Manufacturing – One 0.36 MMBtu/hr Rooftop Air Makeup Unit | 0.36 |
| Loading rack - two 0.2 MMBtu burners for tube heaters. | 0.4 |
| Mix Room - 0.1 MMBtu/hr heater | 0.1 |
| Office – One 0.15 MMBtu/hr roof top heater | 0.15 |
| Office – One 0.18 MMBtu/hr roof top heater | 0.18 |
| Office – One 0.4 MMBtu/hr roof top heater | 0.4 |
| Office - One 1.50 MMBtu/hr comfort heater | 1.5 |
| Powder Coat Environmental Room – 0.5 MMBtu/hr Air Makeup Unit | 0.5 |
| Powder Coat Environmental Room – 2.592 MMBtu/hr Air Makeup Unit | 2.592 |
| Shipping Building – Two 0.25 MMBtu/hr radiant heaters | 0.5 |
| Shipping Building – Six 0.2 MMBtu/hr radiant heaters | 1.2 |
| Small Parts Building – Six 0.2 MMBtu/hr radiant heaters | 1.2 |
| Strip Tank – One 0.5 MMBtu/hr heater | 0.5 |
| 3.0 MMBtu/hr Powder Coat dryoff oven | 3 |
| 8.0 MMBtu/hr Cure Oven | 8 |
| Total MMBTU/hr: | 131.182 |

# Fact Sheet Attachment

## Insignificant Activities - Welding

**Welding**

| | | |
|---|---|---|
| Wire used | 15.28 | lbs wire/robot*hr |
| Robots | 11 | |
| Welders | 219 | |
| Maximum operating hours | 8760 | hrs/yr |

| | | |
|---|---|---|
| Hourly wire use: | 168.08 | lbs wire/hr |
| Annual wire use: | 1,472,380.80 | lbs wire/yr |

Emission factors are from FIRE 6.25 - SCC 309005254 due to E70S electrode gas metal arc welding.
Potential Hourly Emissions: ((lbs wire/hr)/1,000)*(emission factor lbs/1000 lb electrode consumed) =
Potential Annual Emissions: ((lbs wire/yr)/1,000)*(emission factor lbs/1000 lb electrode consumed)/(2

| Hay Equipment Manufacturing - Welding Emissions | | | | |
|---|---|---|---|---|
| **Pollutant** | **Emission Factor (lbs/1000 lb electrode)** | **Hourly Emissions (lbs/hr)** | **Annual Emissions (lbs/yr)** | **Annual Emissions (tons/yr)** |
| PM | 0.00520 | 8.74E-04 | 7.656 | 3.83E-03 |
| $PM_{10}$ | 0.00520 | 8.74E-04 | 7.656 | 3.83E-03 |
| $PM_{2.5}$[1] | 0.00520 | 8.74E-04 | 7.656 | 3.83E-03 |
| Chromium Compounds | 0.00100 | 1.68E-04 | 1.472 | 7.36E-04 |
| Cobalt Compounds | 0.00100 | 1.68E-04 | 1.472 | 7.36E-04 |
| Manganese Compounds | 0.00318 | 5.34E-04 | 4.682 | 2.34E-03 |
| Nickel Compounds | 0.00100 | 1.68E-04 | 1.472 | 7.36E-04 |

[1] Assumes that $PM_{2.5}$ is equal to $PM_{10}$ and PM emission rate. The emission calculations were submitted in the