Statement of Basis

Permit to Construct No. P-2016.0058
Project ID 61796

Western Trailer Co.
Boise, Idaho

Facility ID 001-00337

Proposed for Public Comment

DRAFT XX, 2017
Tom Burnham
Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

FACILITY INFORMATION

Description

Western Trailer operates a truck trailer manufacturing facility. Existing emission sources at the facility include natural gas direct-fired unit heaters, paint spray booth, paint solvent recycling, blast-cleaning booth, welding, metal routers, and aluminum saw.

Permitting History

This is the initial PTC for an existing facility that was constructed in 1998, thus there is no permitting history.

Application Scope

This permit is the initial PTC for this facility.

Application Chronology

October 11, 2016	DEQ received an application and an application fee.
October 19 – November 3, 2016	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
October 13, 2016	DEQ determined that the application was incomplete.
November 16, 2016	DEQ received supplemental information from the applicant.
November 18, 2016	DEQ determined that the application was complete.
December 8, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
December 19, 2016	DEQ made available the draft permit and statement of basis for applicant review.
January 18, 2017	DEQ received the permit processing fee.
January 26, 2017	DEQ made available the draft permit and statement of basis for applicant review.
Month Day – Month Day, Year	DEQ provided a public comment period on the proposed action.
Month Day, Year	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source	Control Equipment	Emission Point ID No.
MAU1 Paint Shop dry heater Manufacturer: Reznor Model: RDF2-120 Heat input rate: 1.5 MMBTU/hr Allowable fuel type: natural gas Manufactured: 2002	None	Paint R1
MAU2 Paint Shop wash bay heater Manufacturer: Reznor Model: RDF2-120 Heat input rate: 1.5 MMBTU/hr Allowable fuel type: natural gas Manufactured: 2002	None	Paint R2
MAU3 Paint booth heaters Manufacturer: Viking Model: ANS Z83.4 (2) Heat input rate: 5.6 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 1998	None	Paint V1-6
H1 Building 1 space heater Manufacturer: Reznor Model: FT-30 Heat input rate: 0.03 MMBTU/hr Allowable fuel type: natural gas Manufactured: 1998	None	BLD1D6
H2 Building 1 unit heaters Manufacturer: RE-VERBER-RAY Model: DR100 (50) Heat input rate: 5.0 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 1998	None	BLD1 window and doors
H3 Building 1 tool room furnace Manufacturer: Bryant Model: Indirect-fired Heat input rate: 0.046 MMBTU/hr Allowable fuel type: natural gas Manufactured: 1998	None	BLD1 D7
H4 Building 1 office furnaces Manufacturer: Bryant Model: Indirect-fired (5) Heat input rate: 0.575 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 1998	None	BLD1 D8-D12

H5 Building 8 unit heaters Manufacturer: Reznor Model: FE250-H Direct-fired (2) Heat input rate: 0.42 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 2001	None	BLD8 D2-D3
H6 Building 8 training room furnace Manufacturer: Trane Model: TUE100A948K2 Heat input rate: 0.10 MMBTU/hr Allowable fuel type: natural gas Manufactured: 1999	None	BLD8 D4
H7 Building 10 welding area unit heaters Manufacturer: RE-VERBER-RAY Model: DR100 (8) Heat input rate: 0.80 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 1998	None	BLD10 doors and vents
H8 Building 10 machine shop area unit heaters Manufacturer: Modine Model: PDP125AED130 (3) Heat input rate: 0.375 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 2005	None	BLD10 D2-D4
H9 Building 10 office furnaces Manufacturer: Bryant Model: Plus 90 (2) Heat input rate: 0.12 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 2005	None	BLD10 D5-D6
H10 Blast Building heaters Manufacturer: Reznor Model: UDAS-300 (2) Heat input rate: 0.60 MMBTU/hr total Allowable fuel type: natural gas Manufactured: 1998	None	BLST1-2
MB1 Media Blast Manufacturer: CLEMCO Model: 3661 Max. capacity: 10 ft^3 Manufactured: 1998	F1 Filter Manufacturer: CAMFILL FARR Model: GS-20 Filter efficiency: 99.7%	F1 exhaust
Welders (84) Manufacturers: Lincoln, Miller, Hypermax Types: Mig/Tig, GMAW, SAW, plasma Manufactured: 1998-2014	None	BLD1,8,10 vents and doors
R1 Multicam router Manufacturer: Multicam Model: 5500 Manufactured: 1998	T1 Cyclone bag dust collector Manufacturer: Donaldson Torit Model: GS20-5 Filter efficiency: 99.9%	T1 exhaust

R2 Komo router Manufacturer: Komo Model: M2 512S SHO Manufactured: 1998	T2 Cyclone bag dust collector Manufacturer: Donaldson Torit Model: GS20-5Filter efficiency: 99.9%	T2 exhaust
S1 Aluminum saw Manufacturer: SOCO Model: M2MC-260N/FA Manufactured: 1998	T3 Cyclone bag dust collector Manufacturer: Donaldson Torit Model: GS20-5 Filter efficiency: 99.9%	T3 exhaust
D1 Deburring Machines(2) Manufacturer: COSTA Model: MD4CVC1150 Max. capacity: approx.. 10,000 lb/day Manufactured: 2015/2016	T4Downflow II Manufacturer: Donaldson Torit Model: DFT 3-18 Filter efficiency: 95%	T4 exhaust
Paint Booth Type: Side draft Manufactured: 1998	Spray Guns: Graco G-40 air assisted airless HVLP Max. transfer efficiency: 85% Graco Pro XP 85 electrostatic Max. transfer efficiency: 85% Filter: UltraII/Ultra Filter Efficiency: 99.90% combined	Paint V1-6
SR1 Solvent Recycling Manufacturer: Becca Model: 9725 6 gallon usable capacity Manufactured: 1998	None	Paint Storage BLD vents

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the unit heaters, paint spray booth, paint solvent recycling, blast-cleaning booth, welding, metal routers, and aluminum saw at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from AP-42, Bay Area Air Quality Management District, San Diego Air Pollution Control District Welding Operations Guidance and the fume correction factors supplied by NASSCO, Western Trailer production studies to estimate the maximum amount of material cut and fraction of small particle emissions, EPA Technology Transfer Clearinghouse, anticipated hours of operation, and process information specific to the facility for this proposed project.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this truck trailer manufacturing operation, uncontrolled Potential to Emit is based upon a **worst-case** for operation of the facility of **8760 hr/yr**.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$	SO_2	NO_X	CO	VOC	LEAD
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Combustion Sources	0.54	0.044	7.16	6.01	0.394	3.23E-05
Abrasive Blasting	195	0.00	0.00	0.00	0.00	0.00
Assembly Operations	57.7	0.00	0.00	0.00	0.00	0.00
Paint Application	52.35	0.00	0.00	0.00	50.96	0.00
Total	**305.59**	**0.04**	**7.16**	**6.01**	**51.35**	**3.23E-05**

The following table presents the uncontrolled Potential to Emit for HAP pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this truck trailer manufacturing operation, uncontrolled Potential to Emit is based upon a worst-case for operation of the facility of 8760 hr/yr.

Table 3 **UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS**

Hazardous Air Pollutants	PTE (T/yr)
Arsenic	1.417E-05
Benzene	1.488E-04
Beryllium	1.011E-06
Cadmium	7.794E-05
Chromium	4.107E-04
Chromium +6	1.259E-05
Cobalt	7.187E-05
Dichlorobenzene	8.502E-05
Ethylbenzene	1.679E+00
Formaldehyde	5.314E-03
Hexane	1.275E-01
Lead	3.543E-05
Manganese	3.078E-02
Mercury	1.842E-05
Methyl Isobutyl Ketone	6.536E-01
Naphthalene	4.322E-05
Nickel	2.412E-04
Polycyclic Organic Matter	8.077E-07
Selenium	1.700E-06
Toluene	9.891E-02

Xylene	2.067E+00
Total	**4.66**

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

This is an existing facility. However, since this is the first time the facility is receiving a permit, pre-project emissions are set to zero for all criteria pollutants.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all controlled emissions from the facility as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 4 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Paint Building MAU1	0.011	0.025	0.001	0.002	0.147	0.322	0.124	0.271	0.008	0.018
Paint Building MAU2	0.011	0.025	0.001	0.002	0.147	0.322	0.124	0.271	0.008	0.018
Paint Building MAU3	0.042	0.105	0.003	0.008	0.548	1.380	0.460	1.160	0.030	0.076
Blast Building Heaters	0.004	0.010	0.000	0.001	0.059	0.129	0.049	0.108	0.003	0.007
Building1 Heater1	0.000	0.000	0.000	0.000	0.003	0.006	0.002	0.005	0.000	0.000
Building1 Heaters2	0.037	0.082	0.003	0.006	0.489	1.070	0.412	0.902	0.027	0.059
Buildings Heaters	0.003	0.007	0.000	0.001	0.041	0.090	0.035	0.076	0.002	0.005
Building10 Heaters	0.008	0.017	0.001	0.002	0.127	0.278	0.107	0.234	0.007	0.015
Building 8 Training Rm Heater	0.001	0.002	0.000	0.000	0.010	0.022	0.008	0.018	0.001	0.001
Paint Spray Booth	0.004	0.008	0.000	0.000	0.000	0.000	0.000	0.000	13.942	29.000
Solvent Recycling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.020
Media Blasting Blast Bldg	0.133	0.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding	0.199	0.414	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Metal Cutting Bldg 1	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Metal Cutting Bldg 1O	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Metal Deburring Bldg 1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Post Project Totals	**0.45**	**0.97**	**0.01**	**0.02**	**1.57**	**3.62**	**1.32**	**3.05**	**14.04**	**29.22**

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 5 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	**0.45**	**0.97**	**0.01**	**0.02**	**1.57**	**3.62**	**1.32**	**3.05**	**14.04**	**29.22**
Changes in Potential to Emit	**0.45**	**0.97**	**0.01**	**0.02**	**1.57**	**3.62**	**1.32**	**3.05**	**14.04**	**29.22**

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 6 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acetone	0.00E-03	1.56E-01	1.56E-01	1.19E+02	No
Isopropyl alcohol	0.00E-03	9.23E-08	9.23E-08	6.53E+01	No
Methyl alcohol	0.00E-03	2.66E-06	2.66E-06	1.73E+01	No
1-Butanol	0.00E-03	6.61E-01	6.61E-01	1.00E+01	No
Methyl ethyl ketone	0.00E-03	4.46E-03	4.46E-03	3.93E+01	No
Methyl Acetate	0.00E-03	5.55E-01	5.55E-01	4.07E+01	No
Dichlorobenzene	0.00E-03	1.73E-05	1.73E-05	2.00E+01	No
1,2,4-Trimethylbenzene	0.00E-03	4.42E-01	4.42E-01	8.20E+00	No
Cumene	0.00E-03	9.44E-02	9.44E-02	1.63E+01	No
Ethylbenzene	0.00E-03	3.36E-01	3.36E-01	2.90E+01	No
1-Methoxy-2-propanol	0.00E-03	1.11E+00	1.11E+00	2.40E+01	No
Methyl Isobutyl Ketone	0.00E-03	1.31E-01	1.31E-01	1.37E+01	No
1-Methoxy-2-Propanol Acetate	0.00E-03	6.73E-01	6.73E-01	2.40E+01	No
1,3,5-trimethylbenzene	0.00E-03	9.44E-02	9.44E-02	8.20E+00	No
Toluene	0.00E-03	1.98E-02	1.98E-02	2.50E+01	No
Methyl n-Amyl Ketone	0.00E-03	1.60E+00	1.60E+00	1.57E+01	No
2-butoxyethyl acetate	0.00E-03	6.31E-01	6.31E-01	8.33E+00	No
Methyl isoamyl ketone	0.00E-03	3.54E-05	3.54E-05	1.60E+01	No
n-Butyl Acetate	0.00E-03	2.58E+00	2.58E+00	4.73E+01	No
Heptane	0.00E-03	5.31E-06	5.31E-06	1.09E+02	No
Silicon Carbide	0.00E-03	2.28E-07	2.28E-07	6.67E-01	No
tert-Butyl acetate	0.00E-03	5.55E-01	5.55E-01	6.33E+01	No
Xylene	0.00E-03	4.14E-01	4.14E-01	2.90E+01	No
Carbon Black	0.00E-03	1.96E-05	1.96E-05	2.30E-01	No
Fe - fume	0.00E-03	1.53E-01	1.53E-01	3.33E-01	No
Mg - fume	0.00E-03	6.64E-04	6.64E-04	3.33E-01	No
Mn	0.00E-03	1.34E-03	1.34E-03	3.33E-01	No
Mn - fume	0.00E-03	5.02E-03	5.02E-03	6.70E-02	No
Molyb	0.00E-03	1.18E-03	1.18E-03	6.67E-01	No
Ba	0.00E-03	6.35E-05	6.35E-05	3.30E-02	No
Al	0.00E-03	1.13E-02	1.13E-02	6.67E-01	No
Cr	0.00E-03	8.51E-05	8.51E-05	3.30E-02	No

Co	0.00E-03	2.40E-05	2.40E-05	3.30E-03	No
Zn metal/dust	0.00E-03	4.19E-04	4.19E-04	6.67E-01	No
Zn - fume	0.00E-03	1.15E-06	1.15E-06	3.33E-01	No
Silicon	0.00E-03	6.08E-03	6.08E-03	6.67E-01	No
Cu	0.00E-03	1.02E-05	1.02E-05	6.70E-02	No
Cu - fume	0.00E-03	4.05E-03	4.05E-03	1.30E-02	No
P	0.00E-03	3.89E-05	3.89E-05	7.00E-03	No
Se	0.00E-03	3.46E-07	3.46E-07	1.30E-02	No
V. M. & P. Naphtha	0.00E-03	6.15E-07	6.15E-07	9.13E+01	No

None of these TAPs were over non-carcinogenic TAP screening levels as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.585 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 4 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Formaldehyde	0.00E-03	6.1E-04	6.1E-04	5.1E-04	Yes
Benzo(a)pyrene	0.00E-03	9.7E-09	9.7E-09	2.0E-06	No
3-Methylchloranthene	0.00E-03	1.5E-08	1.5E-08	2.5E-06	No
Benzene	0.00E-03	1.7E-05	1.7E-05	8.0E-04	No
Nickel	0.00E-03	2.8E-05	2.8E-05	2.7E-05	Yes
Arsenic	0.00E-03	1.6E-06	1.6E-06	1.5E-06	Yes
Beryllium	0.00E-03	1.3E-07	1.3E-07	2.8E-05	No
Cadmium	0.00E-03	8.9E-06	8.9E-06	3.7E-06	Yes
Cr+6	0.00E-03	1.4E-06	1.4E-06	5.6E-07	Yes
Polyaromatic Hydrocarbon (Max)	0.00E-03	5.4E-06	5.4E-06	9.1E-05	No
Polycyclic Organics: 7-PAH Group[(a)]	0.00E-03	9.2E-08	9.2E-08	2.0E-06	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Some carcinogenic TAPs have estimated (lb/hr) annual average potential emissions greater than the carcinogenic screening emission levels IDAPA 58.01.01.586. These TAPs were arsenic, formaldehyde, nickel, cadmium, and hexavalent chromium which required modeling to demonstrate compliance with the acceptable ambient concentrations (AACC) which are annual averages.

These TAPs are also HAPs and it is presumed that EPA evaluated the 187 HAPs when developing the emission standards for new, modified or existing stationary sources regulated by 40 CFR Part 63; therefore, no further review is required under IDAPA 58.01.01.210 for these pollutants for sources subject to 40 CFR Part 63, including sources specifically exempted within the subpart. The Toxic Air Pollutants that are not one of the 187 Hazardous Air Pollutants will still need to be evaluated for compliance with IDAPA 210. Regardless, DEQ may also require a source to evaluate any pollutant under IDAPA Section 161 to ensure that pollutant alone, or in combination with any other contaminants, does not injure or unreasonably affect human or animal life or vegetation.

Ambient Air Quality Impact Analyses

As discussed in the following section, an ambient air impact analysis was required for this project because the ELs listed in IDAPA 58.01.01.586 for formaldehyde, nickel, arsenic, cadmium, and hexavalent chromium were exceeded. As discussed in the following section, the modeled concentrations for formaldehyde, nickel, arsenic, and hexavalent chromium met the AACCs listed in IDAPA 58.01.01.586. DEQ verified that appropriate emissions rates were used in the air impact analyses and verified that modeled impact values were below applicable AACCs. Since the non-carcinogenic TAPs are less than 10% of the screening EL, and the carcinogenic TAPs are annual averages, a weekly monitoring frequency was chosen over daily monitoring.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants. A summary of the Ambient Air Impact Analysis for TAP as submitted by the applicant is provided in Appendix B.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Ada County, which is designated as attainment or unclassifiable for $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions $\geq$ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions $\geq$ 25 T/yr.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits $\geq$ 8 T/yr of a single HAP or $\geq$ 20 T/yr of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are $\geq$ 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are $\geq$ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

Table 8 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	306	0.97	**100**	SM
$PM_{10}/PM_{2.5}$	306	0.97	**100**	SM
SO_2	0.04	0.02	**100**	B
NO_X	7.16	3.62	**100**	B
CO	6.01	3.05	**100**	B
VOC	51.35	29.22	**100**	B
HAP (single)	2.1	<2.1	**10**	B
HAP (Total)	4.66	<4.66	**25**	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201..... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed existing emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401..... Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 ..... Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 2.3, 3.4, 4.3, and 5.5. IDAPA 58.01.01.625 includes caveats for NO_x and water vapor that are utilized during inspection and not included in the permit condition.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676..... Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Conditions 2.4.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301..... Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for PM_{10}, SO_2, NO_X, CO, VOC, or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 ..... Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

The facility has proposed to operate as a minor source of hazardous air pollutant (HAP) emissions, and is subject to the requirements of 40 CFR 63, Subpart HHHHHH–National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. The facility has applied for an exemption from the EPA. But, this subpart will apply unless an exemption from the EPA has been granted to this facility in accordance with 40 CFR 63.11170 (a)(2). DEQ is not delegated this Subpart. Refer to the Title V Classification section for additional information. See Appendix C for a complete breakdown of this subpart as it applies to this facility.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

Initial Permit Conditions 1.1 and 1.2
These permit conditions describe the permitting action and regulated sources.

Combustion Sources

Initial Permit Conditions 2.1 and 2.2
The combustion sources along with associated emission points are described in these permit conditions as presented by the applicant.

Initial Permit Condition 2.3
This permit condition incorporates opacity limits in accordance with IDAPA 58.01.01.625. As provided in the application combustion sources are located in the paint and blast buildings, as well as Buildings 1, 8, and 10.

Initial Permit Conditions 2.4 and 2.5
By limiting the fuel usage, all criteria pollutants are restricted to well below regulatory concern as demonstrated in the EI. All TAPs are regulated in this way to below screening EL. Monitoring the fuel usage on a monthly basis makes the regulation federally enforceable.

Abrasive Blasting

Initial Permit Conditions 3.1 and 3.2
These permit conditions describe the abrasive blasting process along with the associated control device and emission point as presented by the applicant. A second abrasive blaster originally presented in the application was removed, as the applicant has decided not to use it and has removed it from the premises.

Initial Permit Conditions 3.3,3.7, and 3.8
PM is controlled to 0.28 tons per year by spraying hours of 4160 hours spraying of or abrasive blasting media as demonstrated in the application for 20 hours per day, 4 days per week, 52 weeks per year. Abrasive blast and control equipment is required to be operated according to an O&M manual.

Initial Permit Condition 3.4
This permit condition incorporates opacity limits in accordance with IDAPA 58.01.01.625. As provided in the application, and subsequent comments of the first facility draft, all of the abrasive blasting is done in blast building MB1.

Initial Permit Conditions 3.5 and 3.6
By limiting the amount of spraying per year and monitoring monthly, the annual PM limit is assured.

Assembly Operations

Initial Permit Conditions 4.1 and 4.2
These permit conditions describe the assembly processes along with associated control devices and emission points as presented by the applicant.

Initial Permit Condition 4.3
This permit condition incorporates opacity limits in accordance with IDAPA 58.01.01.625. As provided in the application assembly operations occur in buildings 1, 8, and 10.

Initial Permit Conditions 4.4

Welding is limited by amount of each type of welding rod used per year. It is presumed that with approximately 85 welders this would be the only feasible method for recordkeeping to determine compliance. Alternative types of welding rod are allowed if amounts of alternate welding electrode materials result in emissions equal or lower than the emission screening levels for toxic air pollutants (TAP) provided in IDAPA 58.01.01.585-586.

Initial Permit Condition 4.6 and 4.7
Monitoring requirements include monthly welding rod usage, as well as regular filter inspections to ensure PM emissions as presented in the application.

Initial Permit Conditions 4.8
This permit condition requires that the control equipment for routers, sawing and deburring to be operated in a manner consistent with those presented in the application and owner's manual.

Paint Application

Initial Permit Conditions 5.1 and 5.2
These permit conditions describe the paint application processes along with associated solvent recycle, control devices, and emission points as presented by the applicant.

Initial Permit Condition 5.3
Particulate matter and volatile organic compounds limits represent those presented in the application for controlled emissions taking into account transfer efficiencies and filters for PM_{10}.

Initial Permit Condition 5.4
This permit condition prohibits odors from paint application in accordance with IDAPA 58.01.01.776.

Initial Permit Condition 5.5
This permit condition incorporates opacity limits in accordance with IDAPA 58.01.01.625. As provided by the applicant painting application operations occur in paint building.

Initial Permit Condition 5.6, 5.7, and 5.13
Coating usage limits were requested by the applicant. To ensure compliance with PM, VOC, TAP and HAP limits, the formulation is restricted to those in the permit. If alternative paints are added to the formulation, weekly TAPs and VOC monitoring is required in Permit Condition 5.11.

Initial Permit Condition 5.8
Spray gun and booth operation are required to be conducted inside with spay guns efficiencies with a minimum 75% transfer efficiency, according to manufacturer's specifications.

Initial Permit Condition 5.9
This permit condition requires developing an O&M manual for the paint booth and solvent recovery.

Initial Permit Condition 5.10
This monitoring and recordkeeping permit condition requires include recording and correcting odor complaints.

Initial Permit Condition 5.11
This permit condition requires weekly calculation of the Section 585 TAPs produced and monthly calculation of the Section 586 TAPs produced, based on the paints used that week. PM and VOC emissions are to be calculated monthly to show the 12-month rolling average limit maintained. These records must be maintained and available on site at all times. Weekly monitoring was chosen over daily monitoring because of the low levels of pollutants in the EI, i.e., less than 10% of EL for TAPs.

Initial Permit Condition 5.12

This permit condition requires recording and maintain all Safety Data Sheets on site.

Initial Permit Condition 5.13

This permit condition requires documenting filter maintenance specifically for the paint booth.

Initial Permit Conditions 5.14 through 5.17
The sole purpose of these permit conditions are to include the provisions of the National Emissions Standards for Hazardous Air Pollutants for Subpart HHHHHH– Stripping and Miscellaneous Surface Coating Operations at Area Sources. Each permit condition begins with an exemption clause if a signed Subpart HHHHHH EPA exemption letter is on file with IDEQ. A detailed analysis of this regulation is provided in Appendix C.

Initial Permit Condition 5.18
Should there be a conflict between this permit and the CFR, the CFR shall govern.

General Provisions

Initial Permit Condition 6.1
The duty to comply general compliance provision requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101.

Initial Permit Condition 6.2
The maintenance and operation general compliance provision requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211.

Initial Permit Condition 6.3
The obligation to comply general compliance provision specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01.

Initial Permit Condition 6.4
The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

Initial Permit Condition 6.5
The permit expiration construction and operation provision specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

Initial Permit Condition 6.6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.03.

Initial Permit Condition 6.7
The performance testing notification of intent provision requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03.

Initial Permit Condition 6.8
The performance test protocol provision requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing.

Initial Permit Condition 6.9
The performance test report provision requires that the permittee report any performance test results to DEQ within 30 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Initial Permit Condition 6.10
The monitoring and recordkeeping provision requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211.

Initial Permit Condition 6.11
The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

Initial Permit Condition 6.12
The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

Initial Permit Condition 6.13
The false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

Initial Permit Condition 6.14
The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Initial Permit Condition 6.15
The transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

Initial Permit Condition 6.16
The severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were no comments on the application and there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity and public comment period dates.

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were/were not submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

{comments received} A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

APPENDIX A – EMISSIONS INVENTORIES

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

APPENDIX C – SUBPART HHHHHH ANALYSIS

APPENDIX D – FACILITY DRAFT COMMENTS

The following comments were received from the facility on Month Date, Year:

Facility Comment: XXX.

DEQ Response: XXX.

APPENDIX E – PROCESSING FEE

Table 3-15 Blast Booth Emissions

Material	Estimated Max Unrestricted New Media Usage[1]		Estimated Max Restricted New Media Usage[1]		Constituents	CAS Number	Constituent Concentration (max wt%)[2]	Emission Factor 0.013 lbs/lbs media[3]	Unrestricted Uncontrolled Emissions		Restricted Uncontrolled Emissions		Cyclone Efficiency (%)[4]	Control Equipment Efficiency (%)[5]	Unrestricted Controlled Emissions		Restricted Controlled Emissions	
	lb/hr	lb/yr	lb/hr	lb/yr					lb/hr	lb/yr	lb/hr	lb/yr			lb/hr	lb/yr	lb/hr	lb/yr
Amasteel Abrasive	3,419.00	29,950,440.00	2,849.17	14,223,040	Carbon	7440-44-0	1.2%	0.013	5.3E-01	4.7E+03	4.4E-01	2.2E+03	0%	99.7%	1.6E-03	1.4E+01	1.3E-03	6.7E+00
					Chromium Total	7440-47-3	NA											
					Chromium +6		NA											
					Copper	7440-50-8	NA											
					Iron	7439-89-6	96%		4.3E+01	3.7E+05	3.6E+01	1.8E+05			1.3E-01	1.1E+03	1.1E-01	5.3E+02
					Manganese	7439-96-5	1.2%		5.3E-01	4.7E+03	4.4E-01	2.2E+03			1.6E-03	1.4E+01	1.3E-03	6.7E+00
					Nickel	7440-02-0	NA											
					Phosphorous	7723-14-0	0.035%		1.6E-02	1.4E+02	1.3E-02	6.5E+01			4.7E-05	4.1E-01	3.9E-05	1.9E-01
					Silicon	7440-21-3	1.0%		4.4E-01	3.9E+03	3.7E-01	1.8E+03			1.3E-03	1.2E+01	1.1E-03	5.5E+00
									44.196	193.578								
										T/yr 8760 hours								

Abrasive TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL (lb/hr)	Unrestricted Uncontrolled Emissions (lb/hr)	Unrestricted Uncontrolled Emissions (lb/yr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Uncontrolled Emissions (% of EL)	Restricted Uncontrolled Emissions (lb/yr)	Restricted Controlled Emissions (lb/hr)	Restricted Controlled Emissions (% of EL)	Restricted Controlled Emissions (lb/yr)
Chromium	585 (24 hr)	0.033	0.0E+00	0.0E+00	0.0E+00	0%	0.0E+00	0.0E+00	0.000%	0.0E+00
Copper	585 (24 hr)	0.067	0.0E+00	0.0E+00	0.0E+00	0%	0.0E+00	0.0E+00	0.000%	0.0E+00
Manganese Dust	585 (24 hr)	0.333	5.3E-01	4.7E+03	4.4E-01	133%	2.2E+03	1.3E-03	0.400%	6.7E+00
Nickel	586 (Annual)	2.75E-05	0.0E+00	0.0E+00	0.0E+00	0%	0.0E+00	0.0E+00	0.000%	0.0E+00
Phosphorous	585 (24 hr)	7.00E-03	1.6E-02	1.4E+02	1.3E-02	185%	6.5E+01	3.9E-05	0.556%	1.9E-01
Silicon	585 (24 hr)	0.667	4.4E-01	3.9E+03	3.7E-01	56%	1.8E+03	1.1E-03	0.167%	5.5E+00
		1.107	0.993	4.351						
				8702.10						

Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions into Bldg (tons/yr)	Restricted Controlled Emissions into Bldg (lb/hr)	Restricted Controlled Emissions into Bldg (tons/yr)		
				@2015 levels	@15% growth
PM_{10}	194.68	0.1111	0.2773	complies w/ 99.5%	complies w/99.6%
		0.0000	0.1111		

Notes:

1. Spray gun with #6 nozzles = 3419 lbs per hour; each shift 5.6 hrs w/1 gun=19,146.4 lbs; 1.4 hrs w/2 guns=9,573.2 lbs; 57,439.2 lbs per day in 2 10-hour shifts, 4 days/week, 52 weeks/year.
   Assume growth, double time using 2 guns: 3 hrs 2 guns + 4 hrs 1 gun = (3419*2*3)+ (3419*1*4) = 20,514+ 13,676 = 34,190 lbs/shift. 2 shifts = 68,380 lbs media each day 4 days/week, 52 weeks/year.
2. Metaltec High Carbon Cast Steel Grit — 4160 hours spraying
3. From “Abrasive Blasting (Confined),” Bay Area AQMD, May 15, 1998, www.baaqmd.gov/pmt/handbook/s11c01pd.htm and AP-42 13.2.6.
4. Media reclaim sorting equipment.
5. Farr baghouse Model GS20, 20 cannister filter elements, 22500 CFM. Controlled emissions are calculated using an exhaust filter removal efficiency of 99.7.0%, rather than +99.99%,
   since FARR would not certify efficiency due to second-hand purchase of filter media; filter media is identical to current FARR media. After the media is completely spent, new FARR filter media with certfication statement will be used.
6. Building 40 ft X 80 Ft X 21 ft eave height = 67,200 cubic feet;

Western Trailer

Table 3-1: Paint Shop Drying Bay Heater Combustion Emissions

Source Name/Model	No. of units	Input Duty MBH	MMBtu/hr
Paint Shop Drying Bay Heater	1	1500	1.5 MMBtu/hr

Reznor Direct Fired Model: RDF2-120 May 1998

MakeUp Air Heater Duty =

1.5 MMBtu/hr ÷ 1,020 MMBtu/MMscf = **1.47E-03 MMscf/hr** **Fuel Use:**

Operating Assumptions: **24** hr/day 0.035 MMscf/day

4,380 hr/yr [3] 6.441 MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.15	0.32
CO	84	0.12	0.27
PM_{10}	7.6	0.011	0.02
$PM_{2.5}$	7.6	0.011	0.02
SO_2	0.6	8.8E-04	1.9E-03
VOC	5.5	8.1E-03	1.8E-02
Lead	0.0005	7.4E-07	1.6E-06
		5.3E-04	lb/month
Total Criteria Emissions (ton/yr) =			**0.64**

	Greenhouse Gas Emissions
0.64411765	CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
0	CO_2 = 348 Metric Tons/year
0.54105882	CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
0.04895294	CH_4 = 0.007 Metric Tons/year
0	N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
0.00386471	N_2O = 0.001 Metric Tons/year
0	Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)
0.03542647	
3.2206E-06	**CO_2e = 349 Metric Tons/year**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold TAP Screening Emission Level	Modeling Required?
	lb/MMscf	lb/hr[2]	T/yr		
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**1.76E-08**	7.7E-08	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**1.32E-09**	5.8E-09	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**1.32E-09**	5.8E-09	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**1.32E-09**	5.8E-09	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**1.76E-09**	7.7E-09	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Benzo(a)pyrene	1.20E-06	**8.82E-10**	3.9E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Benzo(g,h,i)perylene	1.20E-06	**8.82E-10**	3.9E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Chrysene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Dibenzo(a,h)anthracene	1.20E-06	**8.82E-10**	3.9E-09		See POM
Fluoranthene	3.00E-06	**2.21E-09**	9.7E-09	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**2.06E-09**	9.0E-09	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Naphthalene	6.10E-04	8.97E-07	2.0E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	**4.49E-07**	2.0E-06	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**1.25E-08**	5.5E-08	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**3.68E-09**	1.6E-08	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)		8.38E-09	3.7E-08	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	**1.54E-06**	6.8E-06	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	1.76E-06	3.9E-06	20 lb/hr	No
Formaldehyde	7.50E-02	**5.51E-05**	2.4E-04	5.1E-04 lb/hr	No
Hexane	1.80E+00	2.65E-03	5.8E-03	12 lb/hr	No
Toluene	3.40E-03	5.00E-06	1.1E-05	25 lb/hr	No
Non-HAP Organic Compounds					
Pentane	2.60E+00	3.82E-03	8.4E-03	118 lb/hr	No
Metals (HAPs)					
Arsenic	2.00E-04	**1.47E-07**	6.4E-07	1.5E-06 lb/hr	No
Barium	4.40E-03	6.47E-06	1.4E-05	0.033 lb/hr	No
Beryllium	1.20E-05	**8.82E-09**	3.9E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**8.09E-07**	3.5E-06	3.7E-06 lb/hr	No
Chromium	1.40E-03	2.06E-06	4.5E-06	0.033 lb/hr	No
Cobalt	8.40E-05	1.24E-07	2.7E-07	0.0033 lb/hr	No
Copper	8.50E-04	1.25E-06	2.7E-06	0.013 lb/hr	No
Manganese	3.80E-04	5.59E-07	1.2E-06	0.067 lb/hr	No
Mercury	2.60E-04	3.82E-07	8.4E-07	0.003 lb/hr	No
Molybdenum	1.10E-03	1.62E-06	3.5E-06	0.333 lb/hr	No
Nickel	2.10E-03	**1.54E-06**	6.8E-06	2.7E-05 lb/hr	No
Selenium	2.40E-05	3.53E-08	7.7E-08	0.013 lb/hr	No
Vanadium	2.30E-03	3.38E-06	7.4E-06	0.003 lb/hr	No
Zinc	2.90E-02	4.26E-05	9.3E-05	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.006		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Western Trailer

Table 3-2: Paint Wash Bay Heater Combustion Emissions

Source Name/Model	No. of units	Input Duty MBH	MMBtu/hr
Paint Shop Wash Bay Heater	1	1500	1.5 MMBtu/hr
Reznor Direct Fired Model: RDF2-120 Dec. 20		8760	

MakeUp Air Heater Duty = **1.5 MMBtu/hr** ÷ 1,020 MMBtu/MMscf = **1.47E-03 MMscf/hr**

Operating Assumptions: **24** hr/day **4,380** hr/yr [3]

Fuel Use: 0.035 MMscf/day, 6.441 MMscf/year

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.15	0.32
CO	84	0.12	0.27
PM_{10}	7.6	0.011	0.02
$PM_{2.5}$	7.6	0.011	0.02
SO_2	0.6	8.8E-04	1.9E-03
VOC	5.5	8.1E-03	1.8E-02
Lead	0.0005	7.4E-07	1.6E-06
		5.3E-04 lb/month	
Total Criteria Emissions (ton/yr) =			**0.64**

Greenhouse Gas Emissions
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 348 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.007 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.001 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)
CO_2e = 349 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold — TAP Screening Emission Level	Modeling Required?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**1.76E-08**	7.7E-08	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**1.32E-09**	5.8E-09	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**1.32E-09**	5.8E-09	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**1.32E-09**	5.8E-09	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**1.76E-09**	7.7E-09	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Benzo(a)pyrene	1.20E-06	**8.82E-10**	3.9E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Benzo(g,h,i)perylene	1.20E-06	**8.82E-10**	3.9E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Chrysene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Dibenzo(a,h)anthracene	1.20E-06	**8.82E-10**	3.9E-09		See POM
Fluoranthene	3.00E-06	**2.21E-09**	9.7E-09	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**2.06E-09**	9.0E-09	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**1.32E-09**	5.8E-09		See POM
Naphthalene	6.10E-04	8.97E-07	2.0E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	**4.49E-07**	2.0E-06	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**1.25E-08**	5.5E-08	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**3.68E-09**	1.6E-08	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)	8.38E-09		3.7E-08	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	**1.54E-06**	6.8E-06	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	1.76E-06	3.9E-06	20 lb/hr	No
Formaldehyde	7.50E-02	**5.51E-05**	2.4E-04	5.1E-04 lb/hr	No
Hexane	1.80E+00	2.65E-03	5.8E-03	12 lb/hr	No
Toluene	3.40E-03	5.00E-06	1.1E-05	25 lb/hr	No
Non-HAP Organic Compounds					
Pentane	2.60E+00	3.82E-03	8.4E-03	118 lb/hr	No
Metals (HAPs)					
Arsenic	2.00E-04	**1.47E-07**	6.4E-07	1.5E-06 lb/hr	No
Barium	4.40E-03	6.47E-06	1.4E-05	0.033 lb/hr	No
Beryllium	1.20E-05	**8.82E-09**	3.9E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**8.09E-07**	3.5E-06	3.7E-06 lb/hr	No
Chromium	1.40E-03	2.06E-06	4.5E-06	0.033 lb/hr	No
Cobalt	8.40E-05	1.24E-07	2.7E-07	0.0033 lb/hr	No
Copper	8.50E-04	1.25E-06	2.7E-06	0.013 lb/hr	No
Manganese	3.80E-04	5.59E-07	1.2E-06	0.067 lb/hr	No
Mercury	2.60E-04	3.82E-07	8.4E-07	0.003 lb/hr	No
Molybdenum	1.10E-03	1.62E-06	3.5E-06	0.333 lb/hr	No
Nickel	2.10E-03	**1.54E-06**	6.8E-06	2.7E-05 lb/hr	No
Selenium	2.40E-05	3.53E-08	7.7E-08	0.013 lb/hr	No
Vanadium	2.30E-03	3.38E-06	7.4E-06	0.003 lb/hr	No
Zinc	2.90E-02	4.26E-05	9.3E-05	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.006		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Western Trailer

Table 3-3: Paint Shop Paint Booth Heater Combustion Emissions

Source Name/Model	No. of units	Input Duty MMBtu/hr	MMBtu/hr
Paint Booth Heater	2	2.8	5.6 MMBtu/hr
Viking Direct Fired ANS Z83.4 (1995)			

MakeUp Air Heater Duty = **5.6 MMBtu/hr** ÷ 1,020 MMBtu/MMscf = **5.49E-03 MMscf/hr** **Fuel Use:**

Operating Assumptions: **20** hr/day 0.110 MMscf/day

5,040 hr/yr [3] 27.671 MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.55	1.38
CO	84	0.46	1.16
PM_{10}	7.6	0.042	0.11
$PM_{2.5}$	7.6	0.042	0.11
SO_2	0.6	3.3E-03	8.3E-03
VOC	5.5	3.0E-02	7.6E-02
Lead	0.0005	2.7E-06	6.9E-06
		1.6E-03	lb/month
Total Criteria Emissions (ton/yr) =			**2.74**

Greenhouse Gas Emissions	
$CO_2 = 1 \times 10^{-3}$ * MMBTU Gas * 53.06 kg CO_2/MMBTU	
CO_2 =	1496 Metric Tons/year
$CH_4 = 1 \times 10^{-3}$ * MMBTU Gas * 0.001 kg CH_4/MMBTU	
CH_4 =	0.028 Metric Tons/year
$N_2O = 1 \times 10^{-3}$ * MMBTU Gas * 0.0001 kg N_2O/MMBTU	
N_2O =	0.003 Metric Tons/year
Total $CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)$	
CO_2e =	**1497 Metric Tons/year**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold TAP Screening Emission Level	Modeling Required?
	lb/MMscf	lb/hr[2]	T/yr		
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**7.58E-08**	3.3E-07	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**5.69E-09**	2.5E-08	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**5.69E-09**	2.5E-08	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**5.69E-09**	2.5E-08	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**7.58E-09**	3.3E-08	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**5.69E-09**	2.5E-08		See POM
Benzo(a)pyrene	1.20E-06	**3.79E-09**	1.7E-08	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**5.69E-09**	2.5E-08		See POM
Benzo(g,h,i)perylene	1.20E-06	**3.79E-09**	1.7E-08	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**5.69E-09**	2.5E-08		See POM
Chrysene	1.80E-06	**5.69E-09**	2.5E-08		See POM
Dibenzo(a,h)anthracene	1.20E-06	**3.79E-09**	1.7E-08		See POM
Fluoranthene	3.00E-06	**9.48E-09**	4.2E-08	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**8.84E-09**	3.9E-08	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**5.69E-09**	2.5E-08		See POM
Naphthalene	6.10E-04	2.79E-06	8.4E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	**1.93E-06**	8.4E-06	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**5.37E-08**	2.4E-07	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**1.58E-08**	6.9E-08	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)		3.60E-08	**1.6E-07**	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	**6.63E-06**	2.9E-05	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	5.49E-06	1.7E-05	20 lb/hr	No
Formaldehyde	7.50E-02	**2.37E-04**	1.0E-03	5.1E-04 lb/hr	No
Hexane	1.80E+00	8.24E-03	2.5E-02	12 lb/hr	No
Toluene	3.40E-03	1.56E-05	4.7E-05	25 lb/hr	No
Non-HAP Organic Compounds					
Pentane	2.60E+00	1.19E-02	3.6E-02	118 lb/hr	No
Metals (HAPs)					
Arsenic	2.00E-04	**6.32E-07**	2.8E-06	1.5E-06 lb/hr	No
Barium	4.40E-03	2.01E-05	6.1E-05	0.033 lb/hr	No
Beryllium	1.20E-05	**3.79E-08**	1.7E-07	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**3.47E-06**	1.5E-05	3.7E-06 lb/hr	No
Chromium	1.40E-03	6.41E-06	1.9E-05	0.033 lb/hr	No
Cobalt	8.40E-05	3.84E-07	1.2E-06	0.0033 lb/hr	No
Copper	8.50E-04	3.89E-06	1.2E-05	0.013 lb/hr	No
Manganese	3.80E-04	**1.74E-06**	5.3E-06	0.067 lb/hr	No
Mercury	2.60E-04	1.19E-06	3.6E-06	0.003 lb/hr	No
Molybdenum	1.10E-03	5.03E-06	1.5E-05	0.333 lb/hr	No
Nickel	2.10E-03	**6.63E-06**	2.9E-05	2.7E-05 lb/hr	No
Selenium	2.40E-05	1.10E-07	3.3E-07	0.013 lb/hr	No
Vanadium	2.30E-03	1.05E-05	3.2E-05	0.003 lb/hr	No
Zinc	2.90E-02	1.33E-04	4.0E-04	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.027		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Booth Air heater maximum estimated use 6 days/week; 24 hours/day; 35 weeks/year (8.75 months/year).

Table 3-4: Building 1 Space Heater - Exempt Combustion Emissions

Source Name/Model		Input Duty	
EXEMPT	**No. of units**	**MBH**	**MMBtu/hr**
Building 1 Space Heate	1	30	0.03 MMBtu/hr
Reznor Indirect Fired Model FT-30			

MakeUp Air Heater Duty =

0.03 MMBtu/hr ÷ 1,020 MMBtu/MMscf **2.94E-05 MMscf/hr**

Fuel Use:

Operating Assumptions: **24** hr/day — 0.001 MMscf/day

4,380 hr/yr [3] — 0.129 MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.003	0.01
CO	84	0.002	0.01
PM_{10}	7.6	0.0002	0.000
$PM_{2.5}$	7.6	0.0002	0.000
SO_2	0.6	1.8E-05	3.9E-05
VOC	5.5	1.6E-04	3.5E-04
Lead	0.0005	1.5E-08	3.2E-08
		1.1E-05 lb/month	
Total Criteria Emissions (ton/yr) =			**0.01**

Greenhouse Gas Emissions	
$CO_2 = 1 \times 10^{-3}$ * MMBTU Gas * 53.06 kg CO_2/MMBTU	
CO_2 =	7 Metric Tons/year
$CH_4 = 1 \times 10^{-3}$ * MMBTU Gas * 0.001 kg CH_4/MMBTU	
CH_4 =	0.000 Metric Tons/year
$N_2O = 1 \times 10^{-3}$ * MMBTU Gas * 0.0001 kg N_2O/MMBTU	
N_2O =	0.000 Metric Tons/year
Total $CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)$	
CO_2e =	**7 Metric Tons/year**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold	Modeling Required ?
	lb/MMscf	lb/hr[2]	T/yr	TAP Screening	
PAH HAPs					
2-Methylnaphthalene	2.40E-05	######	1.5E-09	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	######	1.2E-10	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	######	1.2E-10	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	######	1.2E-10	9.1E-05 lb/hr	No
Anthracene	2.40E-06	######	1.5E-10	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	######	1.2E-10		See POM
Benzo(a)pyrene	1.20E-06	######	7.7E-11	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	######	1.2E-10		See POM
Benzo(g,h,i)perylene	1.20E-06	######	7.7E-11	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	######	1.2E-10		See POM
Chrysene	1.80E-06	######	1.2E-10		See POM
Dibenzo(a,h)anthracen	1.20E-06	######	7.7E-11		See POM
Fluoranthene	3.00E-06	######	1.9E-10	9.1E-05 lb/hr	No
Fluorene	2.80E-06	######	1.8E-10	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	######	1.2E-10		See POM
Naphthalene	6.10E-04	######	3.9E-08	3.33 lb/hr	No
Naphthalene	6.10E-04	######	3.9E-08	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	######	1.1E-09	9.1E-05 lb/hr	No
Pyrene	5.00E-06	######	3.2E-10	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH	######	**7.3E-10**		2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	######	1.4E-07	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	######	7.7E-08	20 lb/hr	No
Formaldehyde	7.50E-02	######	4.8E-06	5.1E-04 lb/hr	No
Hexane	1.80E+00	######	1.2E-04	12 lb/hr	No
Toluene	3.40E-03	######	2.2E-07	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)a	1.60E-05	######	1.0E-09		
Butane	2.10E+00	######	1.4E-04		
Ethane	3.10E+00	######	2.0E-04		
Pentane	2.60E+00	######	1.7E-04	118 lb/hr	No
Propane	1.60E+00	######	1.0E-04		
Metals (HAPs)					
Arsenic	2.00E-04	######	1.3E-08	1.5E-06 lb/hr	No
Barium	4.40E-03	######	2.8E-07	0.033 lb/hr	No
Beryllium	1.20E-05	######	7.7E-10	2.8E-05 lb/hr	No
Cadmium	1.10E-03	######	7.1E-08	3.7E-06 lb/hr	No
Chromium	1.40E-03	######	9.0E-08	0.033 lb/hr	No
Cobalt	8.40E-05	######	5.4E-09	0.0033 lb/hr	No
Copper	8.50E-04	######	5.5E-08	0.013 lb/hr	No
Manganese	3.80E-04	######	2.4E-08	0.067 lb/hr	No
Mercury	2.60E-04	######	1.7E-08	0.003 lb/hr	No
Molybdenum	1.10E-03	######	7.1E-08	0.333 lb/hr	No
Nickel	2.10E-03	######	1.4E-07	2.7E-05 lb/hr	No
Selenium	2.40E-05	######	1.5E-09	0.013 lb/hr	No
Vanadium	2.30E-03	######	1.5E-07	0.003 lb/hr	No
Zinc	2.90E-02	######	1.9E-06	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.000		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinog
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-5: Building 1 Unit Heaters - Exempt Combustion Emissions

Source Name/Model EXEMPT	No. of units	Input Duty MBH	Jnit MMBtu/hr	Total MMBtu/hr
Building 1 Infra Red Heate	50	100	0.1 MMBtu/hr	5 MMBtu/hr

Re-Verber-Ray DR100 Indirect-fired Infra-Red Radiant Heater

MakeUp Air Heater Duty =

5 MMBtu/hr ÷ 1,020 MMBtu/MMscf **4.90E-03 MMscf/hr** **Fuel Use:**

Operating Assumptions: **24** hr/day 0.118 MMscf/day

4,380 hr/yr [3] 21.471 MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.49	1.07
CO	84	0.41	0.90
PM_{10}	7.6	0.037	0.082
$PM_{2.5}$	7.6	0.037	0.082
SO_2	0.6	2.9E-03	6.4E-03
VOC	5.5	2.7E-02	5.9E-02
Lead	0.0005	2.5E-06	5.4E-06
		1.8E-03	lb/month
Total Criteria Emissions (ton/yr) =			**2.12**

Greenhouse Gas Emissions
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 1161 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.022 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.002 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)
CO_2e = 1162 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold	Modeling Required ?
	lb/MMscf	lb/hr[2]	T/yr	TAP Screening	
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**5.88E-08**	2.6E-07	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**4.41E-09**	1.9E-08	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**4.41E-09**	1.9E-08	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**4.41E-09**	1.9E-08	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**5.88E-09**	2.6E-08	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**4.41E-09**	1.9E-08		See POM
Benzo(a)pyrene	1.20E-06	**2.94E-09**	1.3E-08	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**4.41E-09**	1.9E-08		See POM
Benzo(g,h,i)perylene	1.20E-06	**2.94E-09**	1.3E-08	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**4.41E-09**	1.9E-08		See POM
Chrysene	1.80E-06	**4.41E-09**	1.9E-08		See POM
Dibenzo(a,h)anthracene	1.20E-06	**2.94E-09**	1.3E-08		See POM
Fluoranthene	3.00E-06	**7.35E-09**	3.2E-08	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**6.86E-09**	3.0E-08	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**4.41E-09**	1.9E-08		See POM
Naphthalene	6.10E-04	2.99E-06	6.5E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	**1.50E-06**	6.5E-06	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**4.17E-08**	1.8E-07	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**1.23E-08**	5.4E-08	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Gr		2.79E-08	**1.2E-07**	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	**5.15E-06**	2.3E-05	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	5.88E-06	1.3E-05	20 lb/hr	No
Formaldehyde	7.50E-02	**1.84E-04**	8.1E-04	5.1E-04 lb/hr	No
Hexane	1.80E+00	8.82E-03	1.9E-02	12 lb/hr	No
Toluene	3.40E-03	1.67E-05	3.7E-05	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthr	1.60E-05	7.84E-08	1.7E-07		
Butane	2.10E+00	1.03E-02	2.3E-02		
Ethane	3.10E+00	1.52E-02	3.3E-02		
Pentane	2.60E+00	1.27E-02	2.8E-02	118 lb/hr	No
Propane	1.60E+00	7.84E-03	1.7E-02		
Metals (HAPs)					
Arsenic	2.00E-04	**4.90E-07**	2.1E-06	1.5E-06 lb/hr	No
Barium	4.40E-03	2.16E-05	4.7E-05	0.033 lb/hr	No
Beryllium	1.20E-05	**2.94E-08**	1.3E-07	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**2.70E-06**	1.2E-05	3.7E-06 lb/hr	No
Chromium	1.40E-03	6.86E-06	1.5E-05	0.033 lb/hr	No
Cobalt	8.40E-05	4.12E-07	9.0E-07	0.0033 lb/hr	No
Copper	8.50E-04	4.17E-06	9.1E-06	0.013 lb/hr	No
Manganese	3.80E-04	**1.86E-06**	4.1E-06	0.067 lb/hr	No
Mercury	2.60E-04	1.27E-06	2.8E-06	0.003 lb/hr	No
Molybdenum	1.10E-03	5.39E-06	1.2E-05	0.333 lb/hr	No
Nickel	2.10E-03	**5.15E-06**	2.3E-05	2.7E-05 lb/hr	No
Selenium	2.40E-05	1.18E-07	2.6E-07	0.013 lb/hr	No
Vanadium	2.30E-03	1.13E-05	2.5E-05	0.003 lb/hr	No
Zinc	2.90E-02	1.42E-04	3.1E-04	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.021		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-6: Building 1 Tool Room Furnace Combustion Emissions

Source Name/Model EXEMPT	No. of units	Input Duty MBH	Unit MMBtu/hr	Total MMBtu/hr
Building 1 Tool Room Furnace Bryant	1	46	0.046 MMBtu/hr	0.046 MMBtu/hr

MakeUp Air Heater Duty = **0.046 MMBtu/hr** ÷ 1,020 MMBtu/MMscf = **4.51E-05 MMscf/hr**

Fuel Use:
0.001 MMscf/day
0.198 MMscf/year

Operating Assumptions: **24** hr/day
4,380 hr/yr [3]

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.005	0.01
CO	84	0.004	0.01
PM_{10}	7.6	0.0003	0.001
$PM_{2.5}$	7.6	0.0003	0.001
SO_2	0.6	2.7E-05	5.9E-05
VOC	5.5	2.5E-04	5.4E-04
Lead	0.0005	2.3E-08	4.9E-08
		1.6E-05 lb/month	
Total Criteria Emissions (ton/yr) =			**0.02**

Greenhouse Gas Emissions
$CO_2 = 1 \times 10^{-3}$ * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 11 Metric Tons/year
$CH_4 = 1 \times 10^{-3}$ * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.000 Metric Tons/year
$N_2O = 1 \times 10^{-3}$ * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.000 Metric Tons/year
Total $CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)$
CO_2e = 11 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold TAP Screening	Modeling Required ?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	######	2.4E-09	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	######	1.8E-10	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	######	1.8E-10	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	######	1.8E-10	9.1E-05 lb/hr	No
Anthracene	2.40E-06	######	2.4E-10	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	######	1.8E-10		See POM
Benzo(a)pyrene	1.20E-06	######	1.2E-10	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	######	1.8E-10		See POM
Benzo(g,h,i)perylene	1.20E-06	######	1.2E-10	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	######	1.8E-10		See POM
Chrysene	1.80E-06	######	1.8E-10		See POM
Dibenzo(a,h)anthracene	1.20E-06	######	1.2E-10		See POM
Fluoranthene	3.00E-06	######	3.0E-10	9.1E-05 lb/hr	No
Fluorene	2.80E-06	######	2.8E-10	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	######	1.8E-10		See POM
Naphthalene	6.10E-04	######	6.0E-08	3.33 lb/hr	No
Naphthalene	6.10E-04	######	6.0E-08	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	######	1.7E-09	9.1E-05 lb/hr	No
Pyrene	5.00E-06	######	4.9E-10	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group		######	**1.1E-09**	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	######	2.1E-07	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	######	1.2E-07	20 lb/hr	No
Formaldehyde	7.50E-02	######	7.4E-06	5.1E-04 lb/hr	No
Hexane	1.80E+00	######	1.8E-04	12 lb/hr	No
Toluene	3.40E-03	######	3.4E-07	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthrace	1.60E-05	######	1.6E-09		
Butane	2.10E+00	######	2.1E-04		
Ethane	3.10E+00	######	3.1E-04		
Pentane	2.60E+00	######	2.6E-04	118 lb/hr	No
Propane	1.60E+00	######	1.6E-04		
Metals (HAPs)					
Arsenic	2.00E-04	######	2.0E-08	1.5E-06 lb/hr	No
Barium	4.40E-03	######	4.3E-07	0.033 lb/hr	No
Beryllium	1.20E-05	######	1.2E-09	2.8E-05 lb/hr	No
Cadmium	1.10E-03	######	1.1E-07	3.7E-06 lb/hr	No
Chromium	1.40E-03	######	1.4E-07	0.033 lb/hr	No
Cobalt	8.40E-05	######	8.3E-09	0.0033 lb/hr	No
Copper	8.50E-04	######	8.4E-08	0.013 lb/hr	No
Manganese	3.80E-04	######	3.8E-08	0.067 lb/hr	No
Mercury	2.60E-04	######	2.6E-08	0.003 lb/hr	No
Molybdenum	1.10E-03	######	1.1E-07	0.333 lb/hr	No
Nickel	2.10E-03	######	2.1E-07	2.7E-05 lb/hr	No
Selenium	2.40E-05	######	2.4E-09	0.013 lb/hr	No
Vanadium	2.30E-03	######	2.3E-07	0.003 lb/hr	No
Zinc	2.90E-02	######	2.9E-06	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.000		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-7: Building 1 Office Furnaces Combustion Emissions

Source Name/Model EXEMPT	No. of units	Input Duty MBH	Unit MMBtu/hr	Total MMBtu/hr
Building 1 Office Furnaces Bryant	5	115	0.115 MMBtu/hr	0.575 MMBtu/hr

MakeUp Air Heater Duty = **0.575 MMBtu/hr** ÷ 1,020 MMBtu/MMscf **5.64E-04 MMscf/hr**

Fuel Use: 0.014 MMscf/day, 2.469 MMscf/year

Operating Assumptions: **24** hr/day, **4,380** hr/yr [3]

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.06	0.12
CO	84	0.05	0.10
PM_{10}	7.6	0.004	0.009
$PM_{2.5}$	7.6	0.004	0.009
SO_2	0.6	3.4E-04	7.4E-04
VOC	5.5	3.1E-03	6.8E-03
Lead	0.0005	2.8E-07	6.2E-07
		2.0E-04 lb/month	
Total Criteria Emissions (ton/yr) =			**0.24**

Greenhouse Gas Emissions
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 133 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.003 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.000 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)
CO_2e = 134 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold TAP Screening	Modeling Required ?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	######	3.0E-08	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	######	2.2E-09	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	######	2.2E-09	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	######	2.2E-09	9.1E-05 lb/hr	No
Anthracene	2.40E-06	######	3.0E-09	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	######	2.2E-09		See POM
Benzo(a)pyrene	1.20E-06	######	1.5E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	######	2.2E-09		See POM
Benzo(g,h,i)perylene	1.20E-06	######	1.5E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	######	2.2E-09		See POM
Chrysene	1.80E-06	######	2.2E-09		See POM
Dibenzo(a,h)anthracene	1.20E-06	######	1.5E-09		See POM
Fluoranthene	3.00E-06	######	3.7E-09	9.1E-05 lb/hr	No
Fluorene	2.80E-06	######	3.5E-09	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	######	2.2E-09		See POM
Naphthalene	6.10E-04	######	7.5E-07	3.33 lb/hr	No
Naphthalene	6.10E-04	######	7.5E-07	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	######	2.1E-08	9.1E-05 lb/hr	No
Pyrene	5.00E-06	######	6.2E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group		######	**1.4E-08**	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	######	2.6E-06	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	######	1.5E-06	20 lb/hr	No
Formaldehyde	7.50E-02	######	9.3E-05	5.1E-04 lb/hr	No
Hexane	1.80E+00	######	2.2E-03	12 lb/hr	No
Toluene	3.40E-03	######	4.2E-06	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthrace	1.60E-05	######	2.0E-08		
Butane	2.10E+00	######	2.6E-03		
Ethane	3.10E+00	######	3.8E-03		
Pentane	2.60E+00	######	3.2E-03	118 lb/hr	No
Propane	1.60E+00	######	2.0E-03		
Metals (HAPs)					
Arsenic	2.00E-04	######	2.5E-07	1.5E-06 lb/hr	No
Barium	4.40E-03	######	5.4E-06	0.033 lb/hr	No
Beryllium	1.20E-05	######	1.5E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	######	1.4E-06	3.7E-06 lb/hr	No
Chromium	1.40E-03	######	1.7E-06	0.033 lb/hr	No
Cobalt	8.40E-05	######	1.0E-07	0.0033 lb/hr	No
Copper	8.50E-04	######	1.0E-06	0.013 lb/hr	No
Manganese	3.80E-04	######	4.7E-07	0.067 lb/hr	No
Mercury	2.60E-04	######	3.2E-07	0.003 lb/hr	No
Molybdenum	1.10E-03	######	1.4E-06	0.333 lb/hr	No
Nickel	2.10E-03	######	2.6E-06	2.7E-05 lb/hr	No
Selenium	2.40E-05	######	3.0E-08	0.013 lb/hr	No
Vanadium	2.30E-03	######	2.8E-06	0.003 lb/hr	No
Zinc	2.90E-02	######	3.6E-05	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.002		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-8: Building 8 Unit Heaters - Exempt Combustion Emissions

Source Name/Model	No. of units	Input Duty BTU/hr	MMBtu/hr
Building 8 Unit Heate	2	######	0.42 MMBtu/hr
Reznor FE250-H Direct-fired			

MakeUp Air Heater Duty =

0.42 MMBtu/hr ÷ 1,020 MMBtu/MMscf : **4.12E-04 MMscf/hr**

Fuel Use:

Operating Assumptions: **24** hr/day — 0.010 MMscf/day

4,380 hr/yr [3] — 1.804 MMscf/year

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.04	0.09
CO	84	0.03	0.08
PM_{10}	7.6	0.003	0.007
$PM_{2.5}$	7.6	0.003	0.007
SO_2	0.6	2.5E-04	5.4E-04
VOC	5.5	2.3E-03	5.0E-03
Lead	0.0005	2.1E-07	4.5E-07
		1.5E-04 lb/month	
Total Criteria Emissions (ton/yr) =			**0.18**

Greenhouse Gas Emissions
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 97 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.002 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.000 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)
CO_2e = 98 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold TAP Screening	Modeling Required ?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**4.94E-09**	2.2E-08	9.1E-05 lb/hr	No
3-Methylchloranthren	1.80E-06	**3.71E-10**	1.6E-09	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**3.71E-10**	1.6E-09	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**3.71E-10**	1.6E-09	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**4.94E-10**	2.2E-09	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**3.71E-10**	1.6E-09		See POM
Benzo(a)pyrene	1.20E-06	**2.47E-10**	1.1E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**3.71E-10**	1.6E-09		See POM
Benzo(g,h,i)perylene	1.20E-06	**2.47E-10**	1.1E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**3.71E-10**	1.6E-09		See POM
Chrysene	1.80E-06	**3.71E-10**	1.6E-09		See POM
Dibenzo(a,h)anthrace	1.20E-06	**2.47E-10**	1.1E-09		See POM
Fluoranthene	3.00E-06	**6.18E-10**	2.7E-09	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**5.76E-10**	2.5E-09	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyren	1.80E-06	**3.71E-10**	1.6E-09		See POM
Naphthalene	6.10E-04	2.51E-07	5.5E-07	3.33 lb/hr	No
Naphthalene	6.10E-04	**1.26E-07**	5.5E-07	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**3.50E-09**	1.5E-08	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**1.03E-09**	4.5E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PA	2.35E-09	**1.0E-08**	2.0E-06 lb/hr		No
Non-PAH HAPs					
Benzene	2.10E-03	**4.32E-07**	1.9E-06	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	4.94E-07	1.1E-06	20 lb/hr	No
Formaldehyde	7.50E-02	**1.54E-05**	6.8E-05	5.1E-04 lb/hr	No
Hexane	1.80E+00	7.41E-04	1.6E-03	12 lb/hr	No
Toluene	3.40E-03	1.40E-06	3.1E-06	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)	1.60E-05	6.59E-09	1.4E-08		
Butane	2.10E+00	8.65E-04	1.9E-03		
Ethane	3.10E+00	1.28E-03	2.8E-03		
Pentane	2.60E+00	1.07E-03	2.3E-03	118 lb/hr	No
Propane	1.60E+00	6.59E-04	1.4E-03		
Metals (HAPs)					
Arsenic	2.00E-04	**4.12E-08**	1.8E-07	1.5E-06 lb/hr	No
Barium	4.40E-03	1.81E-06	4.0E-06	0.033 lb/hr	No
Beryllium	1.20E-05	**2.47E-09**	1.1E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**2.26E-07**	9.9E-07	3.7E-06 lb/hr	No
Chromium	1.40E-03	5.76E-07	1.3E-06	0.033 lb/hr	No
Cobalt	8.40E-05	3.46E-08	7.6E-08	0.0033 lb/hr	No
Copper	8.50E-04	3.50E-07	7.7E-07	0.013 lb/hr	No
Manganese	3.80E-04	1.56E-07	3.4E-07	0.067 lb/hr	No
Mercury	2.60E-04	1.07E-07	2.3E-07	0.003 lb/hr	No
Molybdenum	1.10E-03	4.53E-07	9.9E-07	0.333 lb/hr	No
Nickel	2.10E-03	**4.32E-07**	1.9E-06	2.7E-05 lb/hr	No
Selenium	2.40E-05	9.88E-09	2.2E-08	0.013 lb/hr	No
Vanadium	2.30E-03	9.47E-07	2.1E-06	0.003 lb/hr	No
Zinc	2.90E-02	1.19E-05	2.6E-05	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.002		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinoge
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-9: Building 8 Training Room Furnace Combustion Emissions

Source Name/Model	No. of units	Input Duty BTU/hr	Unit	MMBtu/hr	Total MMBtu/hr		
Building 8 Training Room F	1	######	0.10	MMBtu/hr	0.1	MMBtu/hr	**Fuel Use:**
Trane TUE100A948K2							0.002 MMscf/day
MakeUp Air Heater Duty =							0.429 MMscf/year
0.1 MMBtu/hr ÷		1,020	MMBtu/MMscf	**9.80E-05**	**MMscf/hr**		**Fuel Use:**
Operating Assumptions:		**24**	hr/day				0.002 MMscf/day
		4,380	hr/yr [3]				0.429 MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.01	0.02
CO	84	0.01	0.02
PM_{10}	7.6	0.001	0.002
$PM_{2.5}$	7.6	0.001	0.002
SO_2	0.6	5.9E-05	1.3E-04
VOC	5.5	5.4E-04	1.2E-03
Lead	0.0005	4.9E-08	1.1E-07
		3.5E-05 lb/month	
Total Criteria Emissions (ton/yr) =			**0.04**

Greenhouse Gas Emissions
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 23 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.000 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.000 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)
CO_2e = 23 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold	Modeling Required ?
	lb/MMscf	lb/hr[2]	T/yr	TAP Screening	
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**1.18E-09**	5.2E-09	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**8.82E-11**	3.9E-10	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**8.82E-11**	3.9E-10	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**8.82E-11**	3.9E-10	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**1.18E-10**	5.2E-10	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**8.82E-11**	3.9E-10		See POM
Benzo(a)pyrene	1.20E-06	**5.88E-11**	2.6E-10	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**8.82E-11**	3.9E-10		See POM
Benzo(g,h,i)perylene	1.20E-06	**5.88E-11**	2.6E-10	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**8.82E-11**	3.9E-10		See POM
Chrysene	1.80E-06	**8.82E-11**	3.9E-10		See POM
Dibenzo(a,h)anthracene	1.20E-06	**5.88E-11**	2.6E-10		See POM
Fluoranthene	3.00E-06	**1.47E-10**	6.4E-10	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**1.37E-10**	6.0E-10	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**8.82E-11**	3.9E-10		See POM
Naphthalene	6.10E-04	5.98E-08	1.3E-07	3.33 lb/hr	No
Naphthalene	6.10E-04	**2.99E-08**	1.3E-07	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**8.33E-10**	3.7E-09	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**2.45E-10**	1.1E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Gro	5.59E-10	**2.4E-09**	2.0E-06 lb/hr		No
Non-PAH HAPs					
Benzene	2.10E-03	**1.03E-07**	4.5E-07	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	1.18E-07	2.6E-07	20 lb/hr	No
Formaldehyde	7.50E-02	**3.68E-06**	1.6E-05	5.1E-04 lb/hr	No
Hexane	1.80E+00	1.76E-04	3.9E-04	12 lb/hr	No
Toluene	3.40E-03	3.33E-07	7.3E-07	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthr	1.60E-05	1.57E-09	3.4E-09		
Butane	2.10E+00	2.06E-04	4.5E-04		
Ethane	3.10E+00	3.04E-04	6.7E-04		
Pentane	2.60E+00	2.55E-04	5.6E-04	118 lb/hr	No
Propane	1.60E+00	1.57E-04	3.4E-04		
Metals (HAPs)					
Arsenic	2.00E-04	**9.80E-09**	4.3E-08	1.5E-06 lb/hr	No
Barium	4.40E-03	4.31E-07	9.4E-07	0.033 lb/hr	No
Beryllium	1.20E-05	**5.88E-10**	2.6E-09	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**5.39E-08**	2.4E-07	3.7E-06 lb/hr	No
Chromium	1.40E-03	1.37E-07	3.0E-07	0.033 lb/hr	No
Cobalt	8.40E-05	8.24E-09	1.8E-08	0.0033 lb/hr	No
Copper	8.50E-04	8.33E-08	1.8E-07	0.013 lb/hr	No
Manganese	3.80E-04	3.73E-08	8.2E-08	0.067 lb/hr	No
Mercury	2.60E-04	2.55E-08	5.6E-08	0.003 lb/hr	No
Molybdenum	1.10E-03	1.08E-07	2.4E-07	0.333 lb/hr	No
Nickel	2.10E-03	**1.03E-07**	4.5E-07	2.7E-05 lb/hr	No
Selenium	2.40E-05	2.35E-09	5.2E-09	0.013 lb/hr	No
Vanadium	2.30E-03	2.25E-07	4.9E-07	0.003 lb/hr	No
Zinc	2.90E-02	2.84E-06	6.2E-06	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.000		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-10: Building 10 Welding Area Unit Heaters - Exempt Combustion Emissions

Source Name/Model	No. of units	Input Duty MBH	Unit	MMBtu/hr	Total MMBtu/hr		
Building 10 Infra Red Unit Heate	8	100	0.1	MMBtu/hr	0.8	MMBtu/hr	**Fuel Use:**
Re-Verber-Ray Infra-Red Radiant Heater							0.002 MMscf/day
MakeUp Air Heater Duty =							0.429 MMscf/year
0.1	**MMBtu/hr ÷**	1,020	MMBtu/MMscf	**9.80E-05**	**MMscf/hr**		**Fuel Use:**
Operating Assumptions:		**24**	hr/day				0.002 MMscf/day
		4,380	hr/yr [3]				0.429 MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.01	0.02
CO	84	0.01	0.02
PM_{10}	7.6	0.001	0.002
$PM_{2.5}$	7.6	0.001	0.002
SO_2	0.6	5.9E-05	1.3E-04
VOC	5.5	5.4E-04	1.2E-03
Lead	0.0005	4.9E-08	1.1E-07
		3.5E-05 lb/month	
Total Criteria Emissions (ton/yr) =			**0.04**

Greenhouse Gas Emissions		
$CO_2 = 1 \times 10^{-3}$ * MMBTU Gas * 53.06 kg CO_2/MMBTU		
CO_2 =	23	Metric Tons/year
$CH_4 = 1 \times 10^{-3}$ * MMBTU Gas * 0.001 kg CH_4/MMBTU		
CH_4 =	0.000	Metric Tons/year
$N_2O = 1 \times 10^{-3}$ * MMBTU Gas * 0.0001 kg N_2O/MMBTU		
N_2O =	0.000	Metric Tons/year
Total $CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)$		
CO_2e =	**23**	**Metric Tons/year**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold	Modeling Required ?
	lb/MMscf	lb/hr[2]	T/yr	TAP Screening	
PAH HAPs					
2-Methylnaphthalene	2.40E-05	######	5.2E-09	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	######	3.9E-10	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	######	3.9E-10	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	######	3.9E-10	9.1E-05 lb/hr	No
Anthracene	2.40E-06	######	5.2E-10	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	######	3.9E-10		See POM
Benzo(a)pyrene	1.20E-06	######	2.6E-10	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	######	3.9E-10		See POM
Benzo(g,h,i)perylene	1.20E-06	######	2.6E-10	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	######	3.9E-10		See POM
Chrysene	1.80E-06	######	3.9E-10		See POM
Dibenzo(a,h)anthracene	1.20E-06	######	2.6E-10		See POM
Fluoranthene	3.00E-06	######	6.4E-10	9.1E-05 lb/hr	No
Fluorene	2.80E-06	######	6.0E-10	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	######	3.9E-10		See POM
Naphthalene	6.10E-04	######	1.3E-07	3.33 lb/hr	No
Naphthalene	6.10E-04	######	1.3E-07	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	######	3.7E-09	9.1E-05 lb/hr	No
Pyrene	5.00E-06	######	1.1E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)		######	**2.4E-09**	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	######	4.5E-07	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	######	2.6E-07	20 lb/hr	No
Formaldehyde	7.50E-02	######	1.6E-05	5.1E-04 lb/hr	No
Hexane	1.80E+00	######	3.9E-04	12 lb/hr	No
Toluene	3.40E-03	######	7.3E-07	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthracene	1.60E-05	######	3.4E-09		
Butane	2.10E+00	######	4.5E-04		
Ethane	3.10E+00	######	6.7E-04		
Pentane	2.60E+00	######	5.6E-04	118 lb/hr	No
Propane	1.60E+00	######	3.4E-04		
Metals (HAPs)					
Arsenic	2.00E-04	######	4.3E-08	1.5E-06 lb/hr	No
Barium	4.40E-03	######	9.4E-07	0.033 lb/hr	No
Beryllium	1.20E-05	######	2.6E-09	2.8E-05 lb/hr	No
Cadmium	1.10E-03	######	2.4E-07	3.7E-06 lb/hr	No
Chromium	1.40E-03	######	3.0E-07	0.033 lb/hr	No
Cobalt	8.40E-05	######	1.8E-08	0.0033 lb/hr	No
Copper	8.50E-04	######	1.8E-07	0.013 lb/hr	No
Manganese	3.80E-04	######	8.2E-08	0.067 lb/hr	No
Mercury	2.60E-04	######	5.6E-08	0.003 lb/hr	No
Molybdenum	1.10E-03	######	2.4E-07	0.333 lb/hr	No
Nickel	2.10E-03	######	4.5E-07	2.7E-05 lb/hr	No
Selenium	2.40E-05	######	5.2E-09	0.013 lb/hr	No
Vanadium	2.30E-03	######	4.9E-07	0.003 lb/hr	No
Zinc	2.90E-02	######	6.2E-06	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.000		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-11: Building 10 Machine Shop Area Unit Heaters - Exempt Combustion Emissions

Source Name/Model	No. of units	Input Duty BTU/hr	Unit	MMBtu/hr	Total MMBtu/hr	
Building 10 Machine Shop Unit Heaters Modine PDP125AED130	3	125,000	0.125	MMBtu/hr	0.375	MMBtu/hr
MakeUp Air Heater Duty =						
0.125 MMBtu/hr ÷		1,020	MMBtu/MMscf	**1.23E-04**	**MMscf/hr**	
Operating Assumptions:		**24**	hr/day			
		4,380	hr/yr [3]			

Fuel Use: 0.003 MMscf/day, 0.537 MMscf/year

Fuel Use: 0.003 MMscf/day, 0.537 MMscf/year

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.01	0.03
CO	84	0.01	0.02
PM_{10}	7.6	0.001	0.002
$PM_{2.5}$	7.6	0.001	0.002
SO_2	0.6	7.4E-05	1.6E-04
VOC	5.5	6.7E-04	1.5E-03
Lead	0.0005	6.1E-08	1.3E-07
		4.4E-05 lb/month	
Total Criteria Emissions (ton/yr) =			**0.05**

Greenhouse Gas Emissions
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU
CO_2 = 29 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU
CH_4 = 0.001 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU
N_2O = 0.000 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 298)
CO_2e = 29 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold TAP Screening	Modeling Required ?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**1.47E-09**	6.4E-09	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**1.10E-10**	4.8E-10	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**1.10E-10**	4.8E-10	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**1.10E-10**	4.8E-10	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**1.47E-10**	6.4E-10	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**1.10E-10**	4.8E-10		See POM
Benzo(a)pyrene	1.20E-06	**7.35E-11**	3.2E-10	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**1.10E-10**	4.8E-10		See POM
Benzo(g,h,i)perylene	1.20E-06	**7.35E-11**	3.2E-10	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**1.10E-10**	4.8E-10		See POM
Chrysene	1.80E-06	**1.10E-10**	4.8E-10		See POM
Dibenzo(a,h)anthrace	1.20E-06	**7.35E-11**	3.2E-10		See POM
Fluoranthene	3.00E-06	**1.84E-10**	8.1E-10	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**1.72E-10**	7.5E-10	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyren	1.80E-06	**1.10E-10**	4.8E-10		See POM
Naphthalene	6.10E-04	7.48E-08	1.6E-07	3.33 lb/hr	No
Naphthalene	6.10E-04	**3.74E-08**	1.6E-07	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**1.04E-09**	4.6E-09	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**3.06E-10**	1.3E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PA	6.99E-10	**3.1E-09**		2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	**1.29E-07**	5.6E-07	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	1.47E-07	3.2E-07	20 lb/hr	No
Formaldehyde	7.50E-02	**4.60E-06**	2.0E-05	5.1E-04 lb/hr	No
Hexane	1.80E+00	2.21E-04	4.8E-04	12 lb/hr	No
Toluene	3.40E-03	4.17E-07	9.1E-07	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)a	1.60E-05	1.96E-09	4.3E-09		
Butane	2.10E+00	2.57E-04	5.6E-04		
Ethane	3.10E+00	3.80E-04	8.3E-04		
Pentane	2.60E+00	3.19E-04	7.0E-04	118 lb/hr	No
Propane	1.60E+00	1.96E-04	4.3E-04		
Metals (HAPs)					
Arsenic	2.00E-04	**1.23E-08**	5.4E-08	1.5E-06 lb/hr	No
Barium	4.40E-03	5.39E-07	1.2E-06	0.033 lb/hr	No
Beryllium	1.20E-05	**7.35E-10**	3.2E-09	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**6.74E-08**	3.0E-07	3.7E-06 lb/hr	No
Chromium	1.40E-03	1.72E-07	3.8E-07	0.033 lb/hr	No
Cobalt	8.40E-05	1.03E-08	2.3E-08	0.0033 lb/hr	No
Copper	8.50E-04	1.04E-07	2.3E-07	0.013 lb/hr	No
Manganese	3.80E-04	4.66E-08	1.0E-07	0.067 lb/hr	No
Mercury	2.60E-04	3.19E-08	7.0E-08	0.003 lb/hr	No
Molybdenum	1.10E-03	1.35E-07	3.0E-07	0.333 lb/hr	No
Nickel	2.10E-03	**1.29E-07**	5.6E-07	2.7E-05 lb/hr	No
Selenium	2.40E-05	2.94E-09	6.4E-09	0.013 lb/hr	No
Vanadium	2.30E-03	2.82E-07	6.2E-07	0.003 lb/hr	No
Zinc	2.90E-02	3.55E-06	7.8E-06	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.001		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinoge
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-13: Building 10 Office Furnaces Combustion Emissions

Source Name/Model	No. of units	Input Duty BTU/hr	Unit MMBtu/hr	Total MMBtu/hr		Fuel Use:	
Building 10 Office Furnace	2	60,000	0.06 MMBtu/hr	0.12	MMBtu/hr		
Bryant 90 Plus						0.001	MMscf/day
MakeUp Air Heater Duty =						0.258	MMscf/year
0.06 MMBtu/hr ÷		1,020 MMBtu/MMscf	= **5.88E-05 MMscf/hr**			**Fuel Use:**	
Operating Assumptions:		**24** hr/day				0.001	MMscf/day
		4,380 hr/yr [3]				0.258	MMscf/year

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_x	100	0.01	0.01
CO	84	0.00	0.01
PM_{10}	7.6	0.000	0.001
$PM_{2.5}$	7.6	0.000	0.001
SO_2	0.6	3.5E-05	7.7E-05
VOC	5.5	3.2E-04	7.1E-04
Lead	0.0005	2.9E-08	6.4E-08
		2.1E-05	lb/month
Total Criteria Emissions (ton/yr) =			**0.03**

Greenhouse Gas Emissions	
$CO_2 = 1 \times 10^{-3}$ * MMBTU Gas * 53.06 kg CO_2/MMBTU	
CO_2 =	14 Metric Tons/year
$CH_4 = 1 \times 10^{-3}$ * MMBTU Gas * 0.001 kg CH_4/MMBTU	
CH_4 =	0.000 Metric Tons/year
$N_2O = 1 \times 10^{-3}$ * MMBTU Gas * 0.0001 kg N_2O/MMBTU	
N_2O =	0.000 Metric Tons/year
Total $CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)$	
CO_2e =	**14 Metric Tons/year**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold	Modeling Required ?
	lb/MMscf	lb/hr[2]	T/yr	TAP Screening	
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**7.06E-10**	3.1E-09	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**5.29E-11**	2.3E-10	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**5.29E-11**	2.3E-10	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**5.29E-11**	2.3E-10	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**7.06E-11**	3.1E-10	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**5.29E-11**	2.3E-10		See POM
Benzo(a)pyrene	1.20E-06	**3.53E-11**	1.5E-10	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**5.29E-11**	2.3E-10		See POM
Benzo(g,h,i)perylene	1.20E-06	**3.53E-11**	1.5E-10	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**5.29E-11**	2.3E-10		See POM
Chrysene	1.80E-06	**5.29E-11**	2.3E-10		See POM
Dibenzo(a,h)anthracene	1.20E-06	**3.53E-11**	1.5E-10		See POM
Fluoranthene	3.00E-06	**8.82E-11**	3.9E-10	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**8.24E-11**	3.6E-10	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**5.29E-11**	2.3E-10		See POM
Naphthalene	6.10E-04	3.59E-08	7.9E-08	3.33 lb/hr	No
Naphthalene	6.10E-04	**1.79E-08**	7.9E-08	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**5.00E-10**	2.2E-09	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**1.47E-10**	6.4E-10	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH G	3.35E-10	**1.5E-09**	2.0E-06 lb/hr		No
Non-PAH HAPs					
Benzene	2.10E-03	**6.18E-08**	2.7E-07	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	7.06E-08	1.5E-07	20 lb/hr	No
Formaldehyde	7.50E-02	**2.21E-06**	9.7E-06	5.1E-04 lb/hr	No
Hexane	1.80E+00	1.06E-04	2.3E-04	12 lb/hr	No
Toluene	3.40E-03	2.00E-07	4.4E-07	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anth	1.60E-05	9.41E-10	2.1E-09		
Butane	2.10E+00	1.24E-04	2.7E-04		
Ethane	3.10E+00	1.82E-04	4.0E-04		
Pentane	2.60E+00	1.53E-04	3.3E-04	118 lb/hr	No
Propane	1.60E+00	9.41E-05	2.1E-04		
Metals (HAPs)					
Arsenic	2.00E-04	**5.88E-09**	2.6E-08	1.5E-06 lb/hr	No
Barium	4.40E-03	2.59E-07	5.7E-07	0.033 lb/hr	No
Beryllium	1.20E-05	**3.53E-10**	1.5E-09	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**3.24E-08**	1.4E-07	3.7E-06 lb/hr	No
Chromium	1.40E-03	8.24E-08	1.8E-07	0.033 lb/hr	No
Cobalt	8.40E-05	4.94E-09	1.1E-08	0.0033 lb/hr	No
Copper	8.50E-04	5.00E-08	1.1E-07	0.013 lb/hr	No
Manganese	3.80E-04	2.24E-08	4.9E-08	0.067 lb/hr	No
Mercury	2.60E-04	1.53E-08	3.3E-08	0.003 lb/hr	No
Molybdenum	1.10E-03	6.47E-08	1.4E-07	0.333 lb/hr	No
Nickel	2.10E-03	**6.18E-08**	2.7E-07	2.7E-05 lb/hr	No
Selenium	2.40E-05	1.41E-09	3.1E-09	0.013 lb/hr	No
Vanadium	2.30E-03	1.35E-07	3.0E-07	0.003 lb/hr	No
Zinc	2.90E-02	1.71E-06	3.7E-06	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.000		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-13: Blast Cleaning Building Unit Heater - Exempt Combustion Emissions

Source Name/Model	No. of units	Input Duty BTU	Input Duty MMBtu/hr	
Building Blast Heater Reznor Model UDAS-300	2	300,000	0.6 MMBtu/hr	3843 CFM, ½ HP, 1050 RPM fans

MakeUp Air Heater Duty =

0.6 MMBtu/hr · 1,020 MMBtu/MMscf = **5.88E-04 MMscf/hr**

Operating Assumptions: **24** hr/day

4,380 hr/yr [3]

Fuel Use:

0.014 MMscf/day

2.576 MMscf/year

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.06	0.13
CO	84	0.05	0.11
PM_{10}	7.6	0.004	0.010
$PM_{2.5}$	7.6	0.004	0.010
SO_2	0.6	3.5E-04	7.7E-04
VOC	5.5	3.2E-03	7.1E-03
Lead	0.0005	2.9E-07	6.4E-07
		2.1E-04 lb/month	
Total Criteria Emissions (ton/yr) =			**0.25**

Greenhouse Gas Emissions	
$CO_2 = 1 \times 10^{-3}$ * MMBTU Gas * 53.06 kg CO_2/MMBTU	
CO_2 =	139 Metric Tons/year
$CH_4 = 1 \times 10^{-3}$ * MMBTU Gas * 0.001 kg CH_4/MMBTU	
CH_4 =	0.003 Metric Tons/year
$N_2O = 1 \times 10^{-3}$ * MMBTU Gas * 0.0001 kg N_2O/MMBTU	
N_2O =	0.000 Metric Tons/year
Total $CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)$	
CO_2e =	**139 Metric Tons/year**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold TAP Screening Emission Level	Modeling Required ?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**7.06E-09**	3.1E-08	9.1E-05 lb/hr	No
3-Methylchloranthren	1.80E-06	**5.29E-10**	2.3E-09	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**5.29E-10**	2.3E-09	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**5.29E-10**	2.3E-09	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**7.06E-10**	3.1E-09	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**5.29E-10**	2.3E-09		See POM
Benzo(a)pyrene	1.20E-06	**3.53E-10**	1.5E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**5.29E-10**	2.3E-09		See POM
Benzo(g,h,i)perylene	1.20E-06	**3.53E-10**	1.5E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**5.29E-10**	2.3E-09		See POM
Chrysene	1.80E-06	**5.29E-10**	2.3E-09		See POM
Dibenzo(a,h)anthrace	1.20E-06	**3.53E-10**	1.5E-09		See POM
Fluoranthene	3.00E-06	**8.82E-10**	3.9E-09	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**8.24E-10**	3.6E-09	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyre	1.80E-06	**5.29E-10**	2.3E-09		See POM
Naphthalene	6.10E-04	3.59E-07	7.9E-07	3.33 lb/hr	No
Naphthalene	6.10E-04	**1.79E-07**	7.9E-07	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**5.00E-09**	2.2E-08	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**1.47E-09**	6.4E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-P	3.35E-09	**1.5E-08**	2.0E-06 lb/hr		No
Non-PAH HAPs					
Benzene	2.10E-03	**6.18E-07**	2.7E-06	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	7.06E-07	1.5E-06	20 lb/hr	No
Formaldehyde	7.50E-02	**2.21E-05**	9.7E-05	5.1E-04 lb/hr	No
Hexane	1.80E+00	1.06E-03	2.3E-03	12 lb/hr	No
Toluene	3.40E-03	2.00E-06	4.4E-06	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)	1.60E-05	9.41E-09	2.1E-08		
Butane	2.10E+00	1.24E-03	2.7E-03		
Ethane	3.10E+00	1.82E-03	4.0E-03		
Pentane	2.60E+00	1.53E-03	3.3E-03	118 lb/hr	No
Propane	1.60E+00	9.41E-04	2.1E-03		
Metals (HAPs)					
Arsenic	2.00E-04	**5.88E-08**	2.6E-07	1.5E-06 lb/hr	No
Barium	4.40E-03	2.59E-06	5.7E-06	0.033 lb/hr	No
Beryllium	1.20E-05	**3.53E-09**	1.5E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**3.24E-07**	1.4E-06	3.7E-06 lb/hr	No
Chromium	1.40E-03	8.24E-07	1.8E-06	0.033 lb/hr	No
Cobalt	8.40E-05	4.94E-08	1.1E-07	0.0033 lb/hr	No
Copper	8.50E-04	5.00E-07	1.1E-06	0.013 lb/hr	No
Manganese	3.80E-04	2.24E-07	4.9E-07	0.067 lb/hr	No
Mercury	2.60E-04	1.53E-07	3.3E-07	0.003 lb/hr	No
Molybdenum	1.10E-03	6.47E-07	1.4E-06	0.333 lb/hr	No
Nickel	2.10E-03	**6.18E-07**	2.7E-06	2.7E-05 lb/hr	No
Selenium	2.40E-05	1.41E-08	3.1E-08	0.013 lb/hr	No
Vanadium	2.30E-03	1.35E-06	3.0E-06	0.003 lb/hr	No
Zinc	2.90E-02	1.71E-05	3.7E-05	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.002		

Notes:

1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Unit heaters maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-14: Solvent Recycling Emissions

Solvent Recycling

	Density	Solids	VOC (non-exempt)	Ethylbenzene	Toluene	Methyl n-Amyl Ketone	methyl isoamyl ketone	Xylene	Heptane	V. M. & P. Naphtha	Methyl Alcohol (methanol)	isopropyl alcohol	Acetone	MEK
Dupont 105 Composition	lb/gal	Weight Percentage Content Data	Weight Percentage Content Data	100-41-4	108-88-3	110-43-0	112-12-3	1330-20-7	142-82-5	64742-89-8 8032-32-4	67-56-1	67-63-0	67-64-1	78-93-3
	6.78	0.0%	100.00%	2.0%	19.0%	55.0%	4%	8.0%	15%	15.0%	50%	15%	26.0%	25.0%

			VOC	Ethylbenzene	Toluene	Methyl n-Amyl Ketone	methyl isoamyl	Xylene	Heptane	V. M. & P. Naphtha	Methyl Alcohol	isopropyl alcohol	Acetone	MEK
Use Amount	Daily Use Amount (gal/day)	Use Amount 24-Average (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)	Use Amount 24-hr.-Avg (lbs/hr)
	10.0	2.8	2.83E+00	5.65E-02	5.37E-01	3.11E-02	2.15E-02	2.49E-03	3.22E-03	3.73E-04	1.61E-03	5.59E-05	4.19E-04	1.40E-05

			VOC	Ethylbenzene	Toluene	Methyl n-Amyl Ketone	methyl isoamyl ketone	Xylene	Heptane	V. M. & P. Naphtha	Methyl Alcohol (methanol)	isopropyl alcohol	Acetone	MEK
Amount Emitted			Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)	Amount Emitted 24-hr.-Avg (lbs/hr)
			4.66E-03	9.32E-05	8.86E-04	5.13E-05	3.54E-05	4.10E-06	5.31E-06	6.15E-07	2.66E-06	9.23E-08	6.91E-07	2.31E-08
VOC Amount Emitted (365 day year) (tons/year)	2.0E-02	12.3735												

NOTES

1 Chemical composition 105 Solvent, in addition to MSDS data, provided by Victor, Axalta Coating Systems, 3/19/14 1320 hrs.
2 AP-42, Chapter 4.7, condenser vent 3.3 lbs/ton = 0.165%; emitted from room to outside air via vent on top of Paint Room Storage Building.
Vent on top of Paint Room Storage

Dupont 105	density	acetone	ethylbenzene	methyl alcohol	ethyl ethyl keto	toluene	xylene	heptane 142-82-5	isopropyl alcohol 67-63-0	methyl isoamyl ketone 112-12-3	VM&P naphtha 8032-32-4 64742-89-8 64742-88-7	methyl n-amyl ketone 110-43-0
	6.78	26%	2%	50%	25%	19%	8%	15.00%	15.00%	4.000%	15.00%	55.0%
DEQ 585 EL (lbs./hr.)		119	29	17.3	39	25	29	109.0	10.0	13.7	91.3	15.7
MAX gals/day =EL		74,476	235,944	5,630	25,580	21,411	58,986	118,243	10,848	55,732	99,042	4,645
Limiting TAP	methyl n-amyl ketone											
Limiting TAP (gals/da		4,645										

Table 3-16 Building 10 Media Blast Emissioins

Material	Estimated Max Unrestricted New Media Usage[1]		Estimated Max Restricted New Media Usage[2]		Constituents	CAS Number	Constituent Concentration (max wt%)	Emission Factor 0.013 lbs/lbs media[3]	Unrestricted Uncontrolled Emissions		Restricted Uncontrolled Emissions		Cyclone Efficiency (%)	Control Equipment Efficiency (%)[4]	Unrestricted Controlled Emissions		Restricted Controlled Emissions	
	lb/hr	lb/yr	lb/hr	lb/yr					lb/hr	lb/yr	lb/hr	lb/yr			lb/hr	lb/yr	lb/hr	lb/yr
Ballotini Glass Beads	0.03	219	0.02	100	$PM_{10/2.5}$	NA	100.0%	0.013	3.3E-04	2.85E+00	2.17E-04	1.30E+00	0%	99.90%	3.3E-07	2.85E-03	2.17E-07	1.30E-03
Saint-Gobain Abrasive	0.03	219	0.02	100	PM		100.0%	0.013	3.3E-04	2.85E+00	2.17E-04	1.30E+00	0%	99.90%	3.3E-07	2.85E-03	2.17E-07	1.30E-03
					Silicon Carbide	409-21-2	100.00%		3.3E-04	2.85E+00	2.17E-04	1.30E+00			3.3E-07	2.85E-03	2.17E-07	1.30E-03
					Amorphous Silica-Fused	60676-86-0	30%		9.8E-05	8.54E-01	6.50E-05	3.90E-01			9.8E-08	8.54E-04	6.50E-08	3.90E-04
Saint-Gobain Super Abrasive	0.03	219	0.02	100	PM		100.0%	0.013	3.3E-04	2.85E+00	2.17E-04	1.30E+00	0%	99.90%	3.3E-07	2.85E-03	2.17E-07	1.30E-03
					Aluminum	7429-90-5	100.00%		3.3E-04	2.85E+00	2.17E-04	1.30E+00			3.3E-07	2.85E-03	2.17E-07	1.30E-03
					Aluminum oxide	NA	30.00%		9.8E-05	8.54E-01	6.50E-05	3.90E-01			9.8E-08	8.54E-04	6.50E-08	3.90E-04
					Silicon Carbide	409-21-2	5%		1.6E-05	1.42E-01	1.08E-05	6.50E-02			1.6E-08	1.42E-04	1.08E-08	6.50E-05
					Formaldehyde	50-00-0	0.05%		7.4E-08	6.50E-04	7.42E-08	6.50E-04			7.4E-11	6.50E-07	7.42E-11	6.50E-07
										0.002		0.008						

Abrasive TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL (lbs/hr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Controlled Emissions (lb/hr)	Restricted Controlled Emissions (lb/yr)	% of EL
Aluminum	585 (24 hr)	6.67E-01	2.2E-04	2.2E-07	1.3E-03	0.0%
Aluminum oxide	585 (24 hr)	6.67E-01	6.5E-05	6.5E-08	3.9E-04	0.0%
Formaldehyde	586 (Annual)	5.10E-04	7.4E-08	7.4E-11	6.5E-07	1.5E-07
Silicon Carbide	585 (24 hr)	6.67E-01	2.3E-04	2.3E-07	1.4E-03	0.00003%
Silica-Fused	585 (24 hr)	6.70E-03	6.5E-05	6.5E-08	3.9E-04	0.001%

not modeled

HAP Emissions Summary	Restricted Controlled Emissions	Controlled Emissions
	lbs/hr	tons/yr
Formaldehyde		

Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions (tons/yr)	Restricted Controlled Emissions (lb/hr)	Restricted Controlled Emissions (tons/yr)
$PM_{10/2.5}$	0.004	0.000001	0.000002

Assume negligible substrate PM2.5/10 removed with glass beads, per BAAQMD

1. 100 lbs. Glass Beads/yr according to Tom Hogan, based on info from Carl, Email Tom Hogan to Mark Torf, 5/26/15.
2. Tom Hogan, approx. 1 hour/week total use for abrasive blasting and grinding, email 4/24/15 Example aluminum constituents based on msds, Alcoa
3. From "Abrasive Blasting (Confined)," Bay Area AQMD, May 15, 1998, www.baaqmd.gov/pmt/handbook/s11c01pd.htm and AP-42 13.2.6.
4. Torit Cyclone 20-5 with filter bags; Minimum efficiency 99.9% for >2 micron filter partially loaded, 99.99 for >10 microns

Example Calculation

Calculate 24-average lbs/hr from actual lbs/yr
(100 lbs/yr)/(5 days/week*24 hrs/day*50 weeks/yr) = 0.02 actual lbs/hr
Scale actual restricted to max PTE
(0.02 actual lbs/hr * 24 max. hrs)/(16 actual hours) = 0.025 max. lbs/hr
(0.025 max. lbs/hr * 8760 hrs/yr) = 219 unrestricted lbs/yr

Calculate PM emissions
(restricted lbs/hr) * (constituent %) * (emission factor) * control efficiency = restricted controlled emissions
(0.02 lbs/hr * 0.013 * (100%-99.9%) = Restricted controlled lbs/hr

	Welding Wire	2015 (lbs.)		Building
STEEL	Quantum arc D-2 .035 45#spool	540	100%	10
	Premier arc 6 .035 45#spool	79,785	68.50%	1
			31.50%	10
	Premier arc 6 .045 45# spool	180	100%	10
	Lincolweld L-70 5/64 60# spool	2,400	100%	1
	Lincolnweld L-705 5/64 600# drum	4,800	100%	1
	Lincoln 781 flux	13,400	100%	1
SS	S.S. 308 LSI .035 25# spool		100%	10
	HPG 308LHSO 035 x 25# spool	975	100%	10
	Lin. 308 Lsi 035 x 25# spool	150	100%	10
	UTP Avesta 309L 035 x 33# spool	33	100%	10
ALUM.	Alcotec 5356 3/32 Tig rod 10# box	340	90.00%	8
			10.00%	1
	Alcotec 5356 1/16 Tig rod 10# box	20	100.00%	8
	Alcotec 5356 1/8 Tig rod 10# box	480	90.00%	8
			10.00%	1
	Hobart Maxal 5356 1/8 tig rod 10# box		100.00%	8
	Esab 5356 1/16 20# spool		64.50%	8
			35.50%	1
	Hobart Maxal 5356 3/64 16# spool	4,176	80.00%	8
			20.00%	1
	Hobart Maxal 5356 1/16 16# spool	3,152	60.00%	8
			40.00%	1
	Total	110,431		

Table 3-18: Building 1 Welding Emissions Summary

Building 1 Welding Material Purchases	**TAP/HAP Metal**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
Welding Process/Electrode	CAS No.	7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
Aluminum Fillers	**Annual Use (lbs.**	**Al**	**Cr**		**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[4]GTAW Mig/Tig ALC 4043		93%			0.3%	0.80%	0.05%	0.05%			6.0%	0.1%	0.2%	<0.0003%	
[4]GTAW Mig/Tig ALC 5356	98.4	93%	0.20%		0.1%	0.4%	5.5%	0.2%			0.25%	0.10%	0.25%	<0.0003%	
[4]GMAW Mig/Tig ESAB 5356		93%	0.20%		0.1%	0.4%	5.5%	0.2%			0.25%	0.10%	0.20%	<0.0003%	
[4]GMAW Mig/Tig Hobart Maxal 5356	2,515	99.7%	0.50%		0.50%	1%	6%	2%		0.05%	14%			<0.0003%	
Subtotal Aluminum Wire lbs.	2,614	2,599	13		13	26	156	51	0	1	352	0	0	0.008	0
Carbon Fillers	**Annual Use (lbs.**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[2, 3]GMAW Hobart E70 Quantum Arc D2					5.0%	90.0%		10%	1.0%		5.0%				
[2,3]GMAW Premier Arc 6 0.035 and 0.45 45 lb spool	65,584				5.0%	90.0%		10%	1.0%		5.0%				
705	8,640				0.5%	98.5%		0.50%	0.50%						
Flux	16,080					5.0%		10.0%			5.0%				
Subtotal Carbon Steel Wire lbs.	90,304	-	-		3,322	68,340	-	8,210	699	-	4,083	-	-	-	-
Stainless Steel	**Annual Use (lbs.**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[3]GMAW (Harris) Lin. 308 Lsi 035 x 25# spool			40.0%		1.0%	60.0%		5.0%	1.0%	30.0%	1.5%				1.0%
[3]GMAW (Harris) HPG 308LHSO 035 x 25# spool			40.0%			60.0%		5.0%	1.0%	13.0%	1.0%				1.0%
[4]Avesta 309L 035 x 33# spool,			25.0%							12.5%			12.5%		
316L-Si, 316L, 318-Si, 318, 317L, 307-Si, 309L, 310, 253)			30.0%		2.0%	16.0%		10.0%	5.0%	36.0%	1.0%				
[3]Lincoln Electric Mig 308LSi			40.0%		1.0%	60.0%		5.0%	1.0%	30.0%	1.5%				1.0%
[3]GMAW Harris HPG 308LSI 035 X 25# Stainless 1999			22%		0.75%	62.00%		2.50%	0.75%	11%	1%				
Subtotal Stainless Steel Wire lbs.	0.00		0		0	0		0	0	0	0				
Total Rod Use	92,917														
CAS No.		7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
Metal	**PM10 total**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
TAP		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**	**X**
HAP			**X**	**X**				**X**		**X**				**X**	**X**
Table 12.19-1 and SDAPCD w/NASSCO fume correction			X	X				X		X					X
Table 12.19-2 and SDAPCD w/NASSCO fume correction			X	X				X		X					X
SDAPCD w/ GMAW/SMAW NASSCO fume correction		X	X	X	X	X	X	X	X	X	X	X	X	X	X
SDAPCD Unspecified Process		X	X	X	X	X	X	X	X	X	X	X	X	X	X
IDEQ EL Dust (lbs./hr.)	---	6.7E-01	3.3E-02	5.6E-07	6.7E-02	---	---	3.3E-01	6.7E-01	2.70E-05	6.7E-01	6.7E-01	---	2.80E-05	3.30E-03
Fume lbs/yr	7.9E+02	1.4E+01	1.3E-01	3.5E-03	1.9E+01	7.3E+02	8.5E-01	2.3E+01	5.6E+00	7.2E-02	1.9E+01	5.4E-04	1.3E-03	4.3E-05	6.6E-02
(Assume use in 4 days/week, 50 weeks/yr=200 days/yr; 24 hour average/day; (if 5 days occasionally the value would be lower)	1.64E-01	3.0E-03	2.7E-05	4.0E-07	4.0E-03	1.5E-01	1.8E-04	4.9E-03	1.2E-03	8.3E-06	4.0E-03	1.1E-07	2.8E-07	8.9E-09	1.4E-05
IDEQ EL Fume (lbs./hr.)		---	---	---	1.3E-02	3.3E-01	6.7E-01	6.7E-02	---	---	---	########	---	---	########
		< TAP EL	> TAP EL												

Table 3-18: Building 1 Welding Emissions Summary

NOTES

[1]2015 Welding Wire Use amounts X Growth Factor 1.2

[2]Hobart MSDS No. 415841 and listed hazardous ingredients apply to both Hobart Quantum Arc D2 and Premier Arc 6 material compositions; Kim Wyndance, Western Trailer, via Norco Supplier. 8/29/14.

[3]Calculation Method With AP-42 Emission Factors, AP-42 Table 12.19-1, Table 12.19-2

Hobart GMAW E70S and Premier Arc 6	5.2	lbs/1000 lbs electrode		0.52%	fume generation		Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	0.0001%	ND	0.0001%	0.03%	0.0001%	ND	5%	ND	90%	10%	1%	ND	5
Lincoln Electric and Harris GMAW 308L, 308Lsi	5.4	lbs/1000 lbs electrode		0.54%	fume generation		Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	0.0524%	ND	0.0001%	0.03%	0.0184%	ND	0.75%	22%	62%	3%	1%	11%	1%
Lincoln Electric Weld Flux 781 EM12K1	0.05	lbs/1000 lbs electrode		0.01%	fume generation		Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	ND	ND	ND	ND	ND	ND	ND	ND	5%	10%	ND	ND	5%

[4]Calculation Method Without AP-42 Emission Factors: SDAPCD G99 Gas Metal Arc Weldging (GMAW), Unspecified Electrode, General District-ARB-NASSCO GMAW Emission Estimation Procedure.

Eh = max hourly emissions of each TAP Ea= annual emissions of each TAP

Ea= Ua X EF (fume rate rod lbs fume/lbs rod) X Nasso fume Correction Factor X Concentration metal

Eh=Uh X EF (fume rate rod lbs fume/lbs rod) X Nasso fume Correction Factor X Concentration metal

Welding Process	lbs fume/lbs rod
default fume rates GMAW, MIG, TIG	1%
default fume rates SMAW, FCAW	2%
default fume rates unspecified	5%
default fume Correction Factor GMAW, MIG, TIG	0.5464
default fume Correction Factor SMAW, FCAW	0.2865
default fume Correction Factor unspecified	1.0
default Cr+6 conversion rates GMAW, MIG, TIG	0.05
default Cr+6 conversion rates SMAW, FCAW	0.63
default Cr+6 conversion rates unspecified	0.1
default emission factor (lbs./lbs rod)	
PM10 (PM2.5)	0.01
Cr+3	0.01*0.5464*.95*CI
Cr+6	0.01*0.5464*.05*CI
Cobalt	0.01*0.5464*CI
Manganese	0.01*0.5464*CI
Nickel	0.01*0.5464*CI
Lead	0.01*0.5464*CI
Metals w/o EF	0.01*0.5464*CI

Calculation Map For Welding Wire Products

Welding Wire	Row	AP-42 Table 12.1	AP-42 Table 12.2 Cr, Cr+6, Mn, Co, Pb	Process Type	Correction
GTAW Mig/Tig ALC 4043	5 (9)	NA	NA	1% default	0.5464
GTAW Mig/Tig ALC 5356	6 (9)	NA	NA	1% default	0.5464
GMAW Mig/Tig ESAB 5356	7 (9)	NA	NA	1% default	0.5464
GMAW Mig/Tig Hobart Maxal 5356	8 (9)	NA	NA	1% default	0.5464
GMAW Hobart E70 Quantum Arc D2	12	X	X	NA	NA
GMAW Premier Arc 6	13	X	X	NA	NA
SAW Lincoln Weld L-70 and L-705	14	NA	NA	5% default	1
SAW Lincoln Weld 781 Flux	15	X	X	NA	NA
GMAW Harris HPG 308LS	19	X	X	NA	NA
GMAW Harris HPG 308L	20	X	X	NA	NA
Avesta 309L	21			1% default	0.5464
Lincoln Electric Mig 308LSi	23	X	X	NA	NA

Table 3-19 Building 8 Welding Emissions Summary

Bldg 8 Welding Material Purchases	**TAP/HAP Metal**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
Welding Process/Electrode	CAS No.	7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
Aluminum Fillers	**Annual Use (lbs.)[1]**	**Al**	**Cr**		**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[4]GTAW Mig/Tig ALC 4043		93%			0.3%	0.80%	0.05%	0.05%			6.0%	0.1%	0.2%	<0.0003%	
[4]GTAW Mig/Tig ALC 5356	910	93%	0.20%		0.1%	0.4%	5.5%	0.2%			0.25%	0.10%	0.25%	<0.0003%	
[4]GMAW Mig/Tig ESAB 5356		93%	0.20%		0.1%	0.4%	5.5%	0.2%			0.25%	0.10%	0.20%	<0.0003%	
[4]GMAW Mig/Tig Hobart Maxal 5356	6,278	99.7%	0.50%		0.50%	1%	6%	2%		0.05%	14%			<0.0003%	
Subtotal Aluminum Wire lbs.	7,188	7,105	33		32	66	427	127	0	3	881	1	2	0.022	0
Carbon Fillers	**Annual Use (lbs.)[1]**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[2,3]GMAW Hobart E70 Quantum Arc D2					5.0%	90.0%		10%	1.0%		5.0%				
[2,3]GMAW Premier Arc 6 0.035 and 0.45 45 lb spool					5.0%	90.0%		10%	1.0%		5.0%				
705					0.5%	98.5%		0.50%	0.50%						
Flux						5.0%		10.0%			5.0%				
Subtotal Carbon Steel Wire lbs.	0	-	-		-	-	-	-	-	-	-	-	-	-	-
Stainless Steel	**Annual Use (lbs.)[1]**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[3]GMAW (Harris) Lin. 308 Lsi 035 x 25# spool			40.0%		1.0%	60.0%		5.0%	1.0%	30.0%	1.5%				1.0%
[3]GMAW (Harris?) HPG 308LHSO 035 x 25# spool			40.0%			60.0%		5.0%	1.0%	13.0%	1.0%				1.0%
[4]Avesta 309L 035 x 33# spool			25.0%							12.5%			12.5%		
316L-Si, 316L, 318-Si, 318, 317L, 307-Si, 309L, 310, 253))			30.0%		2.0%	16.0%		10.0%	5.0%	36.0%	1.0%				
[3]Lincoln Electric Mig 308LSi			40.0%		1.0%	60.0%		5.0%	1.0%	30.0%	1.5%				1.0%
[3]GMAW Harris HPG 308LSI 035 X 25#			22%		0.75%	62.00%		2.50%	0.75%	11%	1%				
Subtotal metal lbs.	0		0		0	0		0	0	0	0				
Total Rod Use	7,188														
CAS No.		7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
Metal	**PM10 total**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
TAP		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**	**X**
HAP			**X**	**X**				**X**		**X**				**X**	**X**
Table 12.19-1 and SDAPCD w/NASSCO fume correction			X	X				X		X					X
Table 12.19-2 and SDAPCD w/NASSCO fume correction			X	X				X		X					X
SDAPCD w/ GMAW/SMAW NASSCO fume correction		X	X	X	X	X	X	X	X	X	X	X	X	X	X
SDAPCD Unspecified Process		X	X	X	X	X	X	X	X	X	X	X	X	X	X
IDEQ EL Dust (lbs./hr.)	---	6.7E-01	3.3E-02	5.6E-07	6.7E-02	---	---	3.3E-01	6.7E-01	2.70E-05	6.7E-01	6.7E-01	---	2.80E-05	3.30E-03
Fume lbs/yr	3.9E+01	3.9E+01	1.7E-01	9.1E-03	1.8E-01	3.6E-01	2.3E+00	7.0E-01	1.9E-08	1.7E-02	4.8E+00	5.0E-03	1.2E-02	1.2E-04	0.0E+00
(Assume use in 4 days/week, 50 weeks/yr=200 days/yr; 24 hour average/day; (if 5 days occasionally the value would be lower)	8.18E-03	8.1E-03	3.6E-05	1.0E-06	3.7E-05	7.6E-05	4.9E-04	1.5E-04	3.9E-12	2.0E-06	1.0E-03	1.0E-06	2.6E-06	2.5E-08	0.0E+00
IDEQ EL Fume (lbs./hr.)		---	---	---	1.3E-02	3.3E-01	6.7E-01	6.7E-02	---	---	---	########	---	---	########

< Tap EL > TAP EL

Table 3-19 Building 8 Welding Emissions Summary

NOTES

[1]2015 Welding Wire Use amounts + Growth Factor 1.2

[2]Hobart MSDS No. 415841 and listed hazardous ingredients apply to both Hobart Quantum Arc D2 and Premier Arc 6 material compositions; Kim Wyndance, Western Trailer, via Norco Supplier. 8/29/14.

[3]Calculation Method With AP-42 Emission Factors, AP-42 Table 12.19-1, Table 12.19-2

Hobart GMAW E70S and Premier Arc 6	5.2 lbs/1000 lbs electrode			0.52% fume generation			Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	0.0001%	ND	0.0001%	0.03%	0.0001%	ND	5%	ND	90%	10%	1%	ND	5
Lincoln Electric and Harris GMAW 308L, 308Lsi	5.4 lbs/1000 lbs electrode			0.54% fume generation			Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	0.0524%	ND	0.0001%	0.03%	0.0184%	ND	0.75%	22%	62%	3%	1%	11%	1%
Lincoln Electric Weld Flux 781 EM12K1	0.05 lbs/1000 lbs electrode			0.01% fume generation			Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	ND	ND	ND	ND	ND	ND	ND	ND	5%	10%	ND	ND	5%

[4]Calculation Method Without AP-42 Emission Factors: SDAPCD G99 Gas Metal Arc Weldging (GMAW), Unspecified Electrode, General District-ARB-NASSCO GMAW Emission Estimation Procedure.

Eh = max hourly emissions of each TAP Ea= annual emissions of each TAP

Ea= Ua X EF (fume rate rod lbs fume/lbs rod) X Nasso fume Correction Factor X Concentration metal

Eh=Uh X EF (fume rate rod lbs fume/lbs rod) X Nasso fume Correction Factor X Concentration metal

Welding Process	lbs fume/lbs rod
default fume rates GMAW, MIG, TIG	1%
default fume rates SMAW, FCAW	2%
default fume rates unspecified	5%
default fume Correction Factor GMAW, MIG, TIG	0.5464
default fume Correction Factor SMAW, FCAW	0.2865
default fume Correction Factor unspecified	1.0
default Cr+6 conversion rates GMAW, MIG, TIG	0.05
default Cr+6 conversion rates SMAW, FCAW	0.63
default Cr+6 conversion rates unspecified	0.1
default emission factor (lbs./lbs rod)	
PM10 (PM2.5)	0.01
Cr+3	0.01*0.5464*.95*CI
Cr+6	0.01*0.5464*.05*CI
Cobalt	0.01*0.5464*CI
Manganese	0.01*0.5464*CI
Nickel	0.01*0.5464*CI
Lead	0.01*0.5464*CI
Metals w/o EF	0.01*0.5464*CI

Calculation Map For Welding Wire Products

Welding Wire	Row	AP-42 Table 12.1	AP-42 Table 12.2 Cr, Cr+6, Mn, Co, Pb	Process Type	Correction
GTAW Mig/Tig ALC 4043	5 (9)	NA	NA	1% default	0.5464
GTAW Mig/Tig ALC 5356	6 (9)	NA	NA	1% default	0.5464
GMAW Mig/Tig ESAB 5356	7 (9)	NA	NA	1% default	0.5464
GMAW Mig/Tig Hobart Maxal 5356	8 (9)	NA	NA	1% default	0.5464
GMAW Hobart E70 Quantum Arc D2	12	X	X	NA	NA
GMAW Premier Arc 6	13	X	X	NA	NA
SAW Lincoln Weld L-70 and L-705	14	NA	NA	5% default	1
SAW Lincoln Weld 781 Flux	15	X	X	NA	NA
GMAW Harris HPG 308LS	19	X	X	NA	NA
GMAW Harris HPG 308L	20	X	X	NA	NA
Avesta 309L	21			1% default	0.5464
Lincoln Electric Mig 308LSi	23	X	X	NA	NA

Table 3-19 Building 10 Welding Emissions Summary

Bldg 10 Welding Material Purchases	**TAP/HAP Metal**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
Welding Process/Electrode	CAS No.	7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
Aluminum Fillers	**Annual Use (lbs.)**	**Al**	**Cr**		**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[4]GTAW Mig/Tig ALC 4043		93%			0.3%	0.80%	0.05%	0.05%			6.0%	0.1%	0.2%	<0.0003%	
[4]GTAW Mig/Tig ALC 5356		93%	0.20%		0.1%	0.4%	5.5%	0.2%			0.25%	0.10%	0.25%	<0.0003%	
[4]GMAW Mig/Tig ESAB 5356		93%	0.20%		0.1%	0.4%	5.5%	0.2%			0.25%	0.10%	0.20%	<0.0003%	
[4]GMAW Mig/Tig Hobart Maxal 5356		99.7%	0.50%		0.50%	1%	6%	2%		0.05%	14%			<0.0003%	
Subtotal Aluminum Wire lbs.	0	-	0		0	0	-	0	0	0	0	-	0	0.000	0
Carbon Fillers	**Annual Use (lbs.)**	**Al**	**Cr**		**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[2,3]GMAW Hobart E70 Quantum Arc D2	6.75				5.0%	90.0%		10%	1.0%		5.0%				
[2,3]GMAW Premier Arc 6 0.035 and 0.45 45 lb spool	316.40				5.0%	90.0%		10%	1.0%		5.0%				
L-705					0.5%	98.5%		0.50%	0.50%						
Flux						5.0%		10.0%			5.0%				
Subtotal Carbons Steel Wire lbs.	323	-	-		16	291	-	32	3	-	16	-	-	-	-
Stainless Steel	**Annual Use (lbs.)**	**Al**	**Cr**		**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
[3]GMAW (Harris) Lin. 308 Lsi 035 x 25# spool	1.88		40.0%		1.0%	60.0%		5.0%	1.0%	30.0%	1.5%				1.0%
[3]GMAW (Harris?) HPG 308LHSO 035 x 25# spool	12.19		40.0%			60.0%		5.0%	1.0%	13.0%	1.0%				1.0%
[4]Avesta 309L 035 x 33# spool	0.41		25.0%							12.5%			12.5%		
316L-Si, 316L, 318-Si, 318, 317L, 307-Si, 309L, 310, 253))			30.0%		2.0%	16.0%		10.0%	5.0%	36.0%	1.0%				
[3]Lincoln Electric Mig 308LSi			40.0%		1.0%	60.0%		5.0%	1.0%	30.0%	1.5%				1.0%
[3]GMAW Harris HPG 308LSI 035 X 25#			22%		0.75%	62.00%		2.50%	0.75%	11%	1%				
Subtotal SSWire lbs.	14.48		0		0	0		0	0	0	0				
Total Rod Use	338														
CAS No.		7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
Metal	**PM10 total**	**Al**	**Cr**	**Cr+6**	**Cu**	**Fe**	**Mg**	**Mn**	**Molyb**	**Ni**	**Silicon**	**Zn**	**Titanium**	**Be**	**Co**
TAP		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**	**X**
HAP			**X**	**X**				**X**		**X**				**X**	**X**
Table 12.19-1 and SDAPCD w/NASSCO fume correction			X	X				X		X					X
Table 12.19-2 and SDAPCD w/NASSCO fume correction			X	X				X		X					X
SDAPCD w/ GMAW/SMAW NASSCO fume correction		X	X	X	X	X	X	X	X	X	X	X	X	X	X
SDAPCD Unspecified Process		X	X	X	X	X	X	X	X	X	X	X	X	X	X
IDEQ EL Dust (lbs./hr.)	---	6.7E-01	3.3E-02	5.6E-07	6.7E-02	---	---	3.3E-01	6.7E-01	2.70E-05	6.7E-01	6.7E-01	---	2.80E-05	3.30E-03
Fume lbs/yr	1.6E-01	0.0E+00	7.2E-03	2.8E-05	0.0E+00	2.3E-03	0.0E+00	1.1E-01	3.9E-05	2.8E-03	3.9E-05	0.0E+00	2.8E-04	0.0E+00	3.4E-04
(Assume use in 4 days/week, 50 weeks/yr=200 days/yr; 24 hour average/day; (if 5 days occasionally the value would be lower)	3.28E-05	0.0E+00	1.5E-06	3.2E-09	0.0E+00	4.8E-07	0.0E+00	2.2E-05	8.1E-09	3.3E-07	8.1E-09	0.0E+00	5.9E-08	0.0E+00	7.0E-08
IDEQ EL Fume (lbs./hr.)		---	---	---	1.3E-02	3.3E-01	6.7E-01	6.7E-02	---	---	---	#########	---	---	#########
		< TAP EL	> TAP EL												

Table 3-19 Building 10 Welding Emissions Summary

NOTES

[1]2015 Welding Wire Use amounts + Growth Factor 1.3%

[2]Hobart MSDS No. 415841 and listed hazardous ingredients apply to both Hobart Quantum Arc D2 and Premier Arc 6 material compositions; Kim Wyndance, Western Trailer, via Norco Supplier. 8/29/14.

[3]Calculation Method With AP-42 Emission Factors, AP-42 Table 12.19-1, Table 12.19-2

Hobart GMAW E70S and Premier Arc 6	5.2 lbs/1000 lbs electrode			0.52% fume generation			Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	0.0001%	ND	0.0001%	0.03%	0.0001%	ND	5%	ND	90%	10%	1%	ND	5
Lincoln Electric and Harris GMAW 308L, 308Lsi	5.4 lbs/1000 lbs electrode			0.54% fume generation			Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	0.0524%	ND	0.0001%	0.03%	0.0184%	ND	0.75%	22%	62%	3%	1%	11%	1%
Lincoln Electric Weld Flux 781 EM12K1	0.05 lbs/1000 lbs electrode			0.01% fume generation			Safety Data Sheet Composition						
TAP	Cr	Cr+6	Cobalt	Mn	Ni	Pb	Cu	Cr	Fe	Mn	Moly	Ni	Si
	ND	ND	ND	ND	ND	ND	ND	ND	5%	10%	ND	ND	5%

[4]Calculation Method Without AP-42 Emission Factors: SDAPCD G99 Gas Metal Arc Weldging (GMAW), Unspecified Electrode, General District-ARB-NASSCO GMAW Emission Estimation Procedure.

Eh = max hourly emissions of each TAP Ea= annual emissions of each TAP

Ea= Ua X EF (fume rate rod lbs fume/lbs rod) X Nasso fume Correction Factor X Concentration metal

Eh=Uh X EF (fume rate rod lbs fume/lbs rod) X Nasso fume Correction Factor X Concentration metal

Welding Process	lbs fume/lbs rod
default fume rates GMAW, MIG, TIG	1%
default fume rates SMAW, FCAW	2%
default fume rates unspecified	5%
default fume Correction Factor GMAW, MIG, TIG	0.5464
default fume Correction Factor SMAW, FCAW	0.2865
default fume Correction Factor unspecified	1.0
default Cr+6 conversion rates GMAW, MIG, TIG	0.05
default Cr+6 conversion rates SMAW, FCAW	0.63
default Cr+6 conversion rates unspecified	0.1
default emission factor (lbs./lbs rod)	
PM10 (PM2.5)	0.01
Cr+3	0.01*0.5464*.95*CI
Cr+6	0.01*0.5464*.05*CI
Cobalt	0.01*0.5464*CI
Manganese	0.01*0.5464*CI
Nickel	0.01*0.5464*CI
Lead	0.01*0.5464*CI
Metals w/o EF	0.01*0.5464*CI

Calculation Map For Welding Wire Products

Welding Wire	Row	AP-42 Table 12.1	AP-42 Table 12.2 Cr, Cr+6, Mn, Co, Pb	Process Type	Correction
GTAW Mig/Tig ALC 4043	5 (9)	NA	NA	1% default	0.5464
GTAW Mig/Tig ALC 5356	6 (9)	NA	NA	1% default	0.5464
GMAW Mig/Tig ESAB 5356	7 (9)	NA	NA	1% default	0.5464
GMAW Mig/Tig Hobart Maxal 5356	8 (9)	NA	NA	1% default	0.5464
GMAW Hobart E70 Quantum Arc D2	12	X	X	NA	NA
GMAW Premier Arc 6	13	X	X	NA	NA
SAW Lincoln Weld L-70 and L-705	14	NA	NA	5% default	1
SAW Lincoln Weld 781 Flux	15	X	X	NA	NA
GMAW Harris HPG 308LS	19	X	X	NA	NA
GMAW Harris HPG 308L	20	X	X	NA	NA
Avesta 309L	21			1% default	0.5464
Lincoln Electric Mig 308LSi	23	X	X	NA	NA

Table 3-21: Building 1 Router Emissions

Bldg 1	Router 1 Multicam discharges Al cuttings to exterior Torit-cyclone-bag control[3]					660	in/hr[3]	660*1.2=792	4 day/week, 20 hrs/day;	52 weeks/year				
	Router 2 Komo discharges Al cuttings to interior Torit-cyclone-bag control[4]					660	in/hr[4]	660*1.2=792	4 day/week, 20 hrs/day;	52 weeks/year				
	(length is total material Router 1 and 2)					1320	in/hr	1584						
Source	Material Name	density (lbs/in3)	operating hours	kerf (in)[1]	thickness (in)[1]	length (in)	lbs/hr	length/day (in/day)	lbs/day	lbs/day 24-hr average	lbs/week	ton/year		
Multicam	Aluminum	0.1	1	0.25	0.25	792	4.95	15840	99	4.125	396	21.681		
Komo	Aluminum	0.1	1	0.25	0.25	792	4.95	15840	99	4.125	396	21.681		
												43.362		

Multicam Criteria Air Pollutants	Maximum Cutting Rate		Fraction <10 microns[5]	Potential to Emit		Cyclone and Bag Filter Efficiency[2]	Controlled Emissions		Modeling Threshold	Level I Modeling Required ?	Modeling Threshold	Level II Modeling Required?	Level II Screening Level	% Level II Screening Level
	lb/hr	ton/yr	%	lb/hr (24-hr avg)	ton/yr	%	lb/hr	ton/yr	General		Case-by-Case			
PM_{10}	4.95	10.30	5%	0.21	0.51	99.90%	0.0002	0.0005	0.22 lb/hr	No	2.6 lb/hr	No	0%	0%
$PM_{2.5}$	4.95	10.30	5%	0.21	0.51	99.90%	0.0002	0.0005	0.054 lb/hr	No	0.63 lb/hr	No	0%	0%
									0.35 T/yr	No	4.1 T/yr	No	0%	0%

Komo Criteria Air Pollutants	Maximum Cutting Rate		Fraction <10 microns[5]	Potential to Emit		Cyclone and Bag Filter Efficiency[2]	Controlled Emissions		Modeling Threshold	Modeling Required ?	Modeling Threshold	Modeling Required?	Level II Screening Level	% Level II Screening Level
	lb/hr	ton/yr	%	lb/hr (24-hr avg)	ton/yr	%	lb/hr	ton/yr	General		Case-by-Case			
PM_{10}	4.95	10.30	5%	0.21	0.51	99.90%	0.0002	0.0005	0.22 lb/hr	No	2.6 lb/hr	No	0%	0%
$PM_{2.5}$	4.95	10.30	5%	0.21	0.51	99.90%	0.0002	0.0005	0.054 lb/hr	No	0.63 lb/hr	No	0%	0%
									0.35 T/yr	No	4.1 T/yr	No	0%	0%

Uncontrolled Aluminum Emissions lbs./hr. = 0.21 Aluminum TAP EL = 0.667 lbs./hr.
Controlled Aluminum Emissions lbs./hr. = 0.0002

Notes

[1] Email Tom Hogan, 4/13/15: minimum kerf width we would be seeing is .187", it could often go up to .5". Material thickness would commonly be .187" to .25".

[2] Torit Cyclone 20-5 with filter bags; Minimum efficiency 99.9% for >2 micron filter partially loaded, 99.99 for >10 microns

[3] Tom Hogan, Production Study: 10 hours: MultiCam 659 inch/hr, email 5/14/15.
Tom Hogan, Production Study 2 hours: Komo 1620 inch/hr, email 4/21/15.

[4] Tom Hogan, Production Study 10 hours: Komo 641 inch/hr, email 4/27/15.

[5] Tom Hogan, 9/25/15, Komo 1 lb cutting study; calculated cut weight was .95lbs (430.912 grams), the weight of collected chips was 430 grams.
0.912 grams was either not collected or turned into particles. That equals 2 tenths of a percent or at least 99.98% are large chips. 95% is applied.

Example Calculation Method

Estimate amount of aluminum cuttings and emissions from Mutlicam:
kerf (inches) * thickness (inches) * legth (inches)/hr = cubic inches cut/hr
0.25 * 0.25 * 792 inches/hr cuttings = 49.5 in^3 cuttings/hr
cubic inches * density aluninum (0.1 lbs./cubic inch) = lbs aluminum cut/hr
49.5 * 0.1 = 4.95 lbs/hr
(lbs aluminum cut/hr) * (hrs/day) * (days/week) * (week/yr) /(2000 lbs/ton) = tons/yr aluminum cuttings
(4.95 lbs/hr) * (20 hrs/day) * (4 days/week) * (52 week/yr) / (2000 lbs./ton) = 10.3 ton/yr
lbs aluminum cut/hr * fraction <10 microns * control filter efficiency = lbs/hr controlled $PM_{10/2.5}$ emissions
(4.95 lbs/hr) * (100% <10 microns) * (0.999 control efficiency = 0.0050 lbs/hr controlled $PM_{10/2.5}$ emissions
tons aluminum cut/yr * fraction <10 microns * control filter efficiency = tons aluminum/yr controlled $PM_{10/2.5}$ emissions
(10.3 tons/yr) * (100% <10 microns) * (0.999 control efficiency = 0.0103 tons/yr controlled $PM_{10/2.5}$ emissions

Table 3-22: Building 10 Saw Emissions

Bldg 10 Saw discharges Al cuttings to exterior Torit-cyclone-bag control
SOCO Model MC-260N/FA

[1] Al cuttings in 2014+50% = 432.81 5 day/week, two 8-hr shifts, 2nd shift has 50% of 1st shift; 50 weeks/year
convert yearly weight to hourly weight (24-hour average), 250 days/year (433 lbs/year)*(1 year/50 weeks)*(1 week/5 days)*(24 hrs/da
0.07 lbs/hr cuttings (24-hr. average)

Criteria Air Pollutants	Maximum Cutting Rate		Fraction <10 microns[3]	Potential to Emit		Cyclone and Bag Filter Efficiency[2]	Controlled Emissions		Modeling Threshold	Modeling Required?	Modeling Threshold	Modeling Required?	Level I Screening Level	% Level II Screening Level
	lb/hr (24-hr avg)	ton/yr	%	lb/hr (24-hr avg)	ton/yr	%	lb/hr	ton/yr	General		Case-by-Case			
PM_{10}	0.07	0.22	5%	0.004	0.01	99.9%	0.0000036	0.00001	0.22 lb/hr	No	2.6 lb/hr	No	0%	0%
$PM_{2.5}$	0.07	0.22	5%	0.004	0.01	99.9%	0.0000036	0.00001	0.054 lb/hr	No	0.63 lb/hr	No	0%	0%
									0.35 T/yr	No	4.1 T/yr	No	0%	0%

Uncontrolled Aluminum Emissions lbs./hr. = 0.004 Aluminum TAP EL = 0.667 lbs./hr.
Controlled Aluminum Emissions lbs./hr. = 0.000004

Notes

[1] Tom Hogan, Production Study CJ Saw emissions, 289 lbs/yr, email 4/24 and 4/27/15.

[2] Torit Cyclone 20-25 with filter bags; Minimum efficiency 99.9% for >2 micron filter partially loaded, 99.99 for >10 microns

[3] Tom Hogan, 9/25/15, Komo (surrogate for small router) 1 lb cutting study; calculated cut weight was .95lbs (430.912 grams), the weight of collected chips was 430 grams.

Example Calculation Method

Estimate amount of aluminum cuttings and emissions:

Cuttings estimated 433 lbs/year @ 5 days/week, 50 weeks/yr, 24 hr-average
433 lbsyr / (5 days/week * 50 week/yr* 24) = 0.07 lbs cuttings/hr

(lbs aluminum cut/yr) /(2000 lbs/ton) = tons/yr aluminum cuttings
(433) / (2000 lbs./ton) = 0.22 ton/yr

lbs aluminum cut/hr * fraction <10 microns * (100%-control filter efficiency%) = lbs/hr controlled $PM_{10/2.5}$ emissions
(0.07 lbs/hr) * (5% <10 microns) * (0.001) = 0.0000035 lbs/hr controlled $PM_{10/2.5}$ emissions

tons aluminum cut/yr * fraction <10 microns * (100%-control filter efficiency%) = tons aluminum/yr controlled $PM_{10/2.5}$ emissions
(0.22 tons/yr) * (5% <10 microns) * (0.001) = 0.00001 tons/yr controlled $PM_{10/2.5}$ emissions

Table 3-23: Building 1 Deburring Emissions

Bldg 1	Costas Debur Machines	lbs./day		
	Average	3000		
				Tons/365
	Growth	300%		days
	PTE Max	9000	0.03825	13.96125

Criteria Air Pollutants	Material Processing Rate		Emission Factor .0045 lbs./ton 2.25E-6 lbs./lbs. metal[1]	Potential to Emit		Cyclone and Bag Filter Efficiency[2]	Controlled Emissions		Modeling Threshold	Modeling Required?	Modeling Threshold	Modeling Required?	Level I Screening Level	% Level II Screening Level
	lb/hr	ton/yr		lb/hr (24-hr avg)	ton/yr	%	lb/hr	ton/yr	General		Case-by-Case			
PM_{10}	375.00	1404.00	2.25E-06	0.000844	0.00316	99%	0.000008	0.00003	0.22 lb/hr	No	2.6 lb/hr	No	0%	0%
$PM_{2.5}$	375.00	1404.00	2.25E-06	0.0008	0.003	99%	0.000008	0.00003	0.054 lb/hr	No	0.63 lb/hr	No	0%	0%
									0.35 T/yr	No	4.1 T/yr	No	0%	0%

Notes

[1] EPA Technology Transfer Clearinghouse, Emission Factor Details, SCC 30400715, Steel Foundries, Finishing, PM10 filterable, Uncontrolled, 4.5E-3 lbs per tons metal processed.

[2] Blue Haven Technologies Test Report, Donaldson Ultra Web DFO Filter, June 24, 2014.

Example Calculation Method

Estimate amount of aluminum cuttings and emissions:

Cuttings estimated 303 lbs/year @ 16 hrs/day, 5 days/week, 50 weeks/yr

303 lbsyr / (16 hrs/day * 5 days/week * 50 week/yr) = 0.08 lbs cuttings/hr

(lbs aluminum cut/hr) * (hrs/day) * (days/week) * (week/yr) /(2000 lbs/ton) = tons/yr aluminum cuttings

(0.08 lbs/hr) * (16 hrs/day) * (5 days/week) * (50 week/yr) / (2000 lbs./ton) = 0.15 ton/yr

lbs aluminum cut/hr * fraction <10 microns * control filter efficiency = lbs/hr controlled $PM_{10/2.5}$ emissions

(0.08 lbs/hr) * (100% <10 microns) * (0.999 control efficiency = 0.000076 lbs/hr controlled $PM_{10/2.5}$ emissions

tons aluminum cut/yr * fraction <10 microns * control filter efficiency = tons aluminum/yr controlled $PM_{10/2.5}$ emissions

(0.15 tons/yr) * (100% <10 microns) * (0.999 control efficiency = 0.0001 tons/yr controlled $PM_{10/2.5}$ emissions

Potential to Emit Calculations- Coating Operations

From Teleconferences with Jim Rhoades, Western Trailer, January 20164

Operating Hours hrs/yr

2 shifts/day=20 hours/day; 4 days/week; 52 weeks/year 4160

Material	Desription		max estimated gals./day	8760
Primer	Max. Potential Primer use/day =		24	
Primer	3 primer :1 hardener; reducer 5-10% of mix			
Primer	LV260 Primer	18 gals.		
Primer	LV260 Epxoy Primer Hardener Fast	6 gals.		
Primer	LV260 Reducer	2.4 gals.	2.4	
Primer	LV260 Strong Reducer			
Paint	Max. Potential Paint use/day=		35	
Paint	Binder 50%:tint 40%:10% reducer; hardener 1/3 of mix; accelerator 1 oz/gal.			
Paint	UTE 350 Binder	17.5 gals.		
Paint	Tint	14 gals.		
Paint	UTE 99 Reducer	3.5 gals.		
Paint	UTE 280/350 Hardener	10.5 gals.	10.5	
Paint	UTE 998 Accelerator	35 oz/0.3 gals.	0.3	
Paint	Black Premixed Topcoat, 3 topcoat:1 hardener max. potential=		10	
Paint	UTE 350 RM 99U Black	7.5 gals.		
Paint	UTE 280/350 Hardener	2.5 gals.		
Paint	Reducer in hot weather			
Paint	UTE R200 Reducer, hot weather only	1 oz.	0.01	
		total material gals./day	82.2	

Select Clear spot repair
SIK very seldom used, under primer, 3 gal/trailer
SRA strong reducer seldom used; over top of spot painting 4 gals/yr

Flop control not used anymore

Western Trailer

Table 4-1: Coating Use and Coating Constituent Amounts

PTE Daily Use (gal/day) @4days* 52weeks =208 days/year	PTE Annual Use (gal./year)	Manufacturer	Coating Material (See Notes)	Density	Solids	VOC (non-exempt)	Acetone	1-Butanol	MEK	Methyl acetate	1,2,4-Trimethylbenzene	Cumene	Ethylbenzene	1-Methoxy-2-propanol	Methyl Isobutyl Ketone	1-Methoxy-2-Propanol Acetate	1,3,5-Trimethylbenzene	Toluene
							67-64-1	71-36-3	78-93-3	79-20-9	95-63-6	98-82-8	100-41-4	107-98-2	108-10-1	108-65-6	108-67-8	108-88-3
				lbs./gal.	Weight Percentage Content Data													
18.00	3744	Akzo Nobel	LV260 Primer	14.81	78.9%	21.1%				5.0%			1.0%	10.0%				
6.00	1248	Akzo Nobel	Fast	7.55	26.5%	73.5%		35.0%			10.0%	5.0%	5.0%				5.0%	
3.00	624	Akzo Nobel	Reducer LV260-Slow	7.26	0.0%	100.0%												
0.25	52	Akzo Nobel	SRA Strong Reducer	7.59	0.0%	100.0%										45.0%		25.0%
14.00	2912	Akzo Nobel	UTE Tint Composite	8.68	64.3%	35.7%					5.0%					10.0%		
18.00	3744	Akzo Nobel	UTE 350 Binder	7.83	45.8%	48.0%												
4.00	832	Akzo Nobel	UTE 99 Reducer	7.57	15.46	84.5%												
10.50	2184	Akzo Nobel	UTE 280/350 Hardener	10.26	57.3%	0.0%												
0.30	62	Akzo Nobel	998 Accelerator	7.99	30.6%	69.4%	25.0%											
7.50	1560	Akzo Nobel	UTE 350 RM 99U Black	8.38	56.7%	43.3%	5.0%						5.0%		5.0%	5.0%		
2.50	520	Akzo Nobel	UTE 280/350 Hardener-Topcoat	10.26	57.3%	0.0%												
0.06	12	Akzo Nobel	UTE R200 Reducer	7.14	0.0%	100.0%			25.0%									
84.1	17494.9																	
Component Characteristics			If volatile, enter "1" ==>			1	1	1	1	1	1	1	1	1	1	1	1	1

	Maker	Coating Material	Density	Solids	VOC (non-exempt)	Acetone	1-Butanol	MEK	Methyl acetate	1,2,4-Trimethylbenzene	Cumene	Ethylbenzene	1-Methoxy-2-propanol	Methyl Isobutyl Ketone	1-Methoxy-2-Propanol Acetate	1,3,5-Trimethylbenzene	Toluene
			lbs./gal.	lbs./hr.													
Hourly Spray Calculations (lbs./hr.) (Based on 24-hr averaging period, see sample calc below)	Akzo Nobel	LV260 Primer	14.81	8.76	2.35	0.00	0.00	0.00	0.56	0.00	0.00	0.11	1.11	0.00	0.00	0.00	0.00
	Akzo Nobel	LV260 Epoxy Primer Hardener Fas	7.55	0.50	1.39	0.00	0.66	0.00	0.00	0.19	0.09	0.09	0.00	0.00	0.00	0.09	0.00
	Akzo Nobel	Reducer LV260-Slow	7.26	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	SRA Strong Reducer	7.59	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	Akzo Nobel	UTE Tint Composite	8.68	3.25	1.81	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.51	0.00	0.00
	Akzo Nobel	UTE 350 Binder	7.83	2.69	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 99 Reducer	7.57	1.07	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 280/350 Hardener	10.26	2.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	998 Accelerator	7.99	0.03	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 350 RM 99U Black	8.38	1.49	1.13	0.13	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.13	0.00	0.00
	Akzo Nobel	UTE 280/350 Hardener-Topcoat	10.26	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE R200 Reducer	7.14	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Spray Total (lb/hr)		20.973	11.635	0.156	0.661	0.004	0.555	0.442	0.094	0.336	1.111	0.131	0.673	0.094	0.020
				12.21													

	Maker	Coating Material	Density	Solids	VOC (non-exempt)	Acetone	1-Butanol	MEK	Methyl acetate	1,2,4-Trimethylbenzene	Cumene	Ethylbenzene	1-Methoxy-2-propanol	Methyl Isobutyl Ketone	1-Methoxy-2-Propanol Acetate	1,3,5-Trimethylbenzene	Toluene
			lbs./gal.	tons/yr.													
Annual Spray Calculations (tons/yr.) (See sample calc below)	Akzo Nobel	LV260 Primer	14.81	21.87	5.86	0.00	0.00	0.00	1.39	0.00	0.00	0.28	2.77	0.00	0.00	0.00	0.00
	Akzo Nobel	LV260 Epoxy Primer Hardener Fa	7.55	1.25	3.46	0.00	1.65	0.00	0.00	0.47	0.24	0.24	0.00	0.00	0.00	0.24	0.00
	Akzo Nobel	Reducer LV260-Slow	7.26	0.00	2.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	SRA Strong Reducer	7.59	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.05
	Akzo Nobel	UTE Tint Composite	8.68	8.12	4.52	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.00	1.26	0.00	0.00
	Akzo Nobel	UTE 350 Binder	7.83	6.72	7.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 99 Reducer	7.57	2.66	2.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 280/350 Hardener	10.26	6.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 4-1: Coating Use and Coating Constituent Amounts

PTE Daily Use (gal/day) @4days* 52weeks =208 days/year	PTE Annual Use (gal./year)	Manufacturer	Coating Material (See Notes)	Methyl isoamyl ketone	Methyl n-Amyl Ketone	2-butoxyethyl acetate	n-Butyl Acetate	tert-Butyl acetate	Xylene	Carbon Black	Light Aromatic Hydrocarbons
				110-12-3	110-43-0	112-07-2	123-86-4	540-88-5	1330-20-7	1333-86-4	64742-95-6
18.00	**3744**	Akzo Nobel	LV260 Primer		5.0%		5.0%	5.0%			
6.00	**1248**	Akzo Nobel	Fast						15.0%		20.0%
3.00	**624**	Akzo Nobel	Reducer LV260-Slow		65.0%						
0.25	**52**	Akzo Nobel	SRA Strong Reducer				45.0%				
14.00	**2912**	Akzo Nobel	UTE Tint Composite				25.0%				5.0%
18.00	**3744**	Akzo Nobel	UTE 350 Binder								
4.00	**832**	Akzo Nobel	UTE 99 Reducer	15.0%	25.0%	50.0%	5.0%				
10.50	**2184**	Akzo Nobel	UTE 280/350 Hardener								
0.30	**62**	Akzo Nobel	998 Accelerator	35.0%			5.0%				
7.50	**1560**	Akzo Nobel	UTE 350 RM 99U Black		5.0%		25.0%		5.0%	5.0%	
2.50	**520**	Akzo Nobel	UTE 280/350 Hardener-Topcoat								
0.06	**12**	Akzo Nobel	UTE R200 Reducer		55.0%						
84.1	17494.9										
Component Characteristics			If volatile, enter "1" ==>	1	1	1	1	1	1		

	Maker	Coating Material	Methyl isoamyl ketone	Methyl n-Amyl Ketone	2-butoxyethyl acetate	n-Butyl Acetate	tert-Butyl acetate	Xylene	Carbon Black	Light Aromatic Hydrocarbons
Hourly Spray Calculations (lbs./hr.) (Based on 24-hr averaging period, see sample calc below)	Akzo Nobel	LV260 Primer	0.00	0.56	0.00	0.56	0.56	0.00	0.00	0.00
	Akzo Nobel	LV260 Epoxy Primer Hardener Fas	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.38
	Akzo Nobel	Reducer LV260-Slow	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	SRA Strong Reducer	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE Tint Composite	0.00	0.00	0.00	1.27	0.00	0.00	0.00	0.25
	Akzo Nobel	UTE 350 Binder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 99 Reducer	0.19	0.32	0.63	0.06	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 280/350 Hardener	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	998 Accelerator	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 350 RM 99U Black	0.00	0.13	0.00	0.65	0.00	0.13	0.13	0.00
	Akzo Nobel	UTE 280/350 Hardener-Topcoat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE R200 Reducer	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
		Spray Total (lb/hr)	0.224	1.601	0.631	2.580	0.555	0.414	0.131	0.631

	Maker	Coating Material	Methyl isoamyl ketone	Methyl n-Amyl Ketone	2-butoxyethyl acetate	n-Butyl Acetate	tert-Butyl acetate	Xylene	Carbon Black	Light Aromatic Hydrocarbons
Annual Spray Calculations (tons/yr.) (See sample calc below)	Akzo Nobel	LV260 Primer	0.00	1.39	0.00	1.39	1.39	0.00	0.00	0.00
	Akzo Nobel	LV260 Epoxy Primer Hardener Fa	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.94
	Akzo Nobel	Reducer LV260-Slow	0.00	1.47	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	SRA Strong Reducer	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE Tint Composite	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.63
	Akzo Nobel	UTE 350 Binder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 99 Reducer	0.47	0.79	1.57	0.16	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 280/350 Hardener	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Western Trailer

Table 4-1: Coating Use and Coating Constituent Amounts

	Akzo Nobel	998 Accelerator	7.99	0.08	0.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 350 RM 99U Black	8.38	3.71	2.83	0.33	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.33	0.33	0.00	0.00
	Akzo Nobel	UTE 280/350 Hardener-Topcoat	10.26	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE R200 Reducer	7.14	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Spray Total (tons/yr.)		52.35	29.04	0.39	1.65	0.01	1.39	1.10	0.24	0.84	2.77	0.33	1.68	0.24	0.05

HAP/TAP/Solids Example Calculation:

Methyl acetate is a TAP present in Akzo Nobel LV260 Primer

Methyl acetate HOURLY SPRAY RATE (24-hr Average)

Max Hourly Methyl acetate in LV260 Primer = 18 gal/day * 14.81 lb/gal density * 5.0 wt% Methyl acetate in LV260 Primer * 1 day/24 hrs
= 0.56 lb/hr Methyl acetate in LV260 Primer

Max Hourly methyl acetate in other products, if present, is calculated in a similar manner. Spray Total methyl acetate is calculated by adding all Akzo Nobel methyl acetate.

Metyyl acetate Hourly Spray Total = 0.56 lb/hr Methyl acetate in LV260 Primer + 0.00 lb/hr methyl acetate in other products
= 0.56 lb/hr Methyl acetate in all prodocts

Methyl acetate ANNUAL SPRAY RATE

Max 12-mo Methyl acetate in LV260 Primer = 2885 gal/yr LV260 Primer *14.81 lb/gal density *5.0 wt% Methyl acetate in LV260 Primer * 1 ton/2000 lbs
= 1.07 tons/yr Methyl acetate in LV260 Primer

Max 12-mo Methyl acetate in other products, if present, is calculated in a similar manner. Spray Total Methyl acetate is calculated by adding all Akzo Nobel Methyl acetate

Methyl acetate Annual Spray Total = 1.07 tons/yr Methyl acetate in LV260 Primer + 0.00 tons/yr Methyl acetate in other products
= 1.07 tons/yr Methyl acetate in all prodocts

Solids that can be emitted as particluates are present in several Akzo Nobel products

Particuate HOURLY SPRAY RATE (24-hr Average)

Max Hourly solids in LV260 Primer = 18 gal/day * 14.81 lb/gal density * 78.9 wt% solids in LV260 Primer * 1 day/24 hrs
=8.76 lb/hr solids in LV260 Primer

Max Hourly solids in other products is calculated in a similar manner. Spray Total Particulate Matter is calculated by adding all Akzo Nobel Particulate Matter.

Solids Hourly Spray Total = 8.76 lb/hr solids in LV260 Primer + 12.21 lb/hr solids in other products
=21.0 lb/hr solids in all prodocts

Particulate ANNUAL SPRAY RATE

Max 12-mo solids = 3744 gal/yr LV260 Primer * 14.81 lb/gal density *78.9 wt% solids in LV260 Primer * 1 ton/2000 lbs
=21.87 tons/yr solids in LV260 Primer

Max 12-mo solids in other products is calculated in a similar manner. Spray Total solids is calculated by adding all Akzo Nobel solids.

Solids Annual Spray Total = 21.87 tons/yr solids in LV260 Primer + 30.48 tons/yr solids in other products
= 52.35 tons/yr solids in all products

Table 4-1: Coating Use and Coating Constituent Amounts

	Akzo Nobel	998 Accelerator	0.09	0.00	0.00	0.01	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE 350 RM 99U Black	0.00	0.33	0.00	1.63	0.00	0.33	0.33	0.00
	Akzo Nobel	UTE 280/350 Hardener-Topcoat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Akzo Nobel	UTE R200 Reducer	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
		Spray Total (tons/yr.)	0.56	4.00	1.57	6.44	1.39	1.03	0.33	1.57

HAP/TAP/Solids Example Calculation:	
Methyl acetate is a TAP present in Akzo Nobel LV260 Primer	
Methyl acetate HOURLY SPRAY RATE (24-hr Average)	Max Hourly Methyl acetate in LV260 Primer
	Max Hourly methyl acetate in other products, if pre
	Metyyl acetate Hourly Spray Total
Methyl acetate ANNUAL SPRAY RATE	Max 12-mo Methyl acetate in LV260 Primer
	Max 12-mo Methyl acetate in other products, if pre
	Methyl acetate Annual Spray Total
Solids that can be emitted as particluates are present in several Akzo Nobel prod	
Particuate HOURLY SPRAY RATE (24-hr Average)	Max Hourly solids in LV260 Primer
	Max Hourly solids in other products is calculated ir
	Solids Hourly Spray Total
Particulate ANNUAL SPRAY RATE	Max 12-mo solids
	Max 12-mo solids in other products is calculated ir
	Solids Annual Spray Total

Western Trailer **Table 4-2: Paint Operations Emissions Summary**

Toxic Air Pollutants	CAS	Maximum Spray Rate[1] (lb/hr)	Spray Retention Rate[2] (%)	Potential to Emit (lb/hr)	Paint Filter Efficiency[3,4] (%)	Controlled Emission Rate (lb/hr)
Acetone	67-64-1	0.156	0%	0.156	0%	0.156
1-Butanol	71-36-3	0.661	0%	0.661	0%	0.661
Methyl Ethyl Ketone	78-93-3	0.004	0%	0.004	0%	0.004
Methyl Acetate	79-20-9	0.555	0%	0.555	0%	0.555
1,2,4-Trimethylbenzene	95-63-6	0.442	0%	0.442	0%	0.442
Cumene	98-82-8	0.094	0%	0.094	0%	0.094
Ethylbenzene	100-41-4	0.336	0%	0.336	0%	0.336
1-Methoxy-2-propanol	107-98-2	1.111	0%	1.111	0%	1.111
Methyl Isobutyl Ketone	108-10-1	0.131	0%	0.131	0%	0.131
1-Methoxy-2-Propanol Acetate	108-65-6	0.673	0%	0.673	0%	0.673
1,3,5-trimethylbenzene	108-67-8	0.094	0%	0.094	0%	0.094
Toluene	108-88-3	0.020	0%	0.020	0%	0.020
Methyl isoamyl ketone	110-12-3	1.601	0%	1.601	0%	1.601
Methyl n-Amyl Ketone	110-43-0	1.601	0%	1.601	0%	1.601
2-butoxyethyl acetate	112-07-2	0.631	0%	0.631	0%	0.631
n-Butyl Acetate	123-86-4	2.580	0%	2.580	0%	2.580
tert-Butyl acetate	540-88-5	0.555	0%	0.555	0%	0.555
Xylene	1330-20-7	0.414	0%	0.414	0%	0.414
Carbon Black	1333-86-4	0.131	85%	0.020	99.9000%	0.0000196

Criteria Air Pollutants	Maximum Spray Rate[1]		Spray Retention Rate[2]	Potential to Emit		Paint Filter Efficiency[3]	Controlled Emissions	
	lb/hr	ton/yr	%	lb/hr	ton/yr	%	lb/hr	ton/yr
PM_{10}	20.97	52.35	85%	3.15	7.85	99.90%	0.00315	0.00785
$PM_{2.5}$	20.97	52.35	85%	3.15	7.85	99.90%	0.00315	0.00785
VOC	11.64	29.04	0%	11.64	29.04	0%	11.64	29.04

Hazardous Air Pollutants (HAP)	CAS	Maximum Spray Rate[1] (ton/yr)	Spray Retention Rate (%)	Paint Filter Efficiency[3]	Potential to Emit (ton/yr)
Cumene	98-82-8	0.2356	0%	0%	0.2356
Ethylbenzene	100-41-4	0.8396	0%	0%	0.8396
Methyl Isobutyl Ketone	108-10-1	0.3268	0%	0%	0.3268
Toluene	108-88-3	0.0493	0%	0%	0.0493
Xylene	1330-20-7	1.03	0%	0%	1.03
				Total HAPs (tons) =	2.5
				Total HAPS (lbs.)	4970

Notes:

1. The maximum hourly or annual Spray Total of the coatings.
2. Non-volatile emissions are calculated using a coating retention rate of 85%.

Tables 5-1a to 5-1c:
Facility-Wide Unrestricted Uncontrolled NSR Regulated Pollutant Emissions

Table 5-1a: Pre-Project Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
Paint Buiding MAU1	0	0	0	0	0	0	0
Paint Buiding MAU2	0	0	0	0	0	0	0
Paint Buiding MAU3	0	0	0	0	0	0	0
Blast Building Heaters	0	0	0	0	0	0	0
Building1 Heater1	0	0	0	0	0	0	0
Building1 Heaters2	0	0	0	0	0	0	0
Building8 Heaters	0	0	0	0	0	0	0
Building10 Heaters	0	0	0	0	0	0	0
Building 8 Training Rm Heater	0	0	0	0	0	0	0
Paint Spray Booth	0	0	0	0	0	0	0
Solvent Recyling	0	0	0	0	0	0	0
Media Blasting Blast Bldg	0	0	0	0	0	0	0
Media Blasting Bldg 10	0	0	0	0	0	0	0
Welding	0	0	0	0	0	0	0
Metal Cutting Bldg 1	0	0	0	0	0	0	0
Metal Cutting Bldg 10	0	0	0	0	0	0	0
Metal Deburring Bldg 1	0	0	0	0	0	0	0
Total =	0	0	0	0	0	0	0

Table 5-1b: Post-Project Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
Paint Buiding MAU1	4.90E-02	4.90E-02	3.86E-03	6.44E-01	5.41E-01	3.54E-02	3.22E-06
Paint Buiding MAU2	4.90E-02	4.90E-02	3.86E-03	6.44E-01	5.41E-01	3.54E-02	3.22E-06
Paint Buiding MAU3	1.83E-01	1.83E-01	1.44E-02	2.40E+00	2.02E+00	1.32E-01	1.20E-05
Blast Building Heaters	1.96E-02	1.96E-02	1.55E-03	2.58E-01	2.16E-01	1.42E-02	1.29E-06
Building1 Heater1	9.79E-04	9.79E-04	7.73E-05	1.29E-02	1.08E-02	7.09E-04	6.44E-08
Building1 Heaters2	1.63E-01	1.63E-01	1.29E-02	2.15E+00	1.80E+00	1.18E-01	1.07E-05
Building8 Heaters	1.37E-02	1.37E-02	1.08E-03	1.80E-01	1.51E-01	9.92E-03	9.02E-07
Building10 Heaters	9.30E-03	9.30E-03	7.34E-04	1.22E-01	1.03E-01	6.73E-03	6.12E-07
Building 8 Training Rm Heater	3.26E-03	3.26E-03	2.58E-04	4.29E-02	3.61E-02	2.36E-03	2.15E-07
Paint Spray Booth	1.65E+01	1.65E+01	0.00E+00	0.00E+00	0.00E+00	6.12E+01	0.00E+00
Solvent Recyling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.45E-02	0.00E+00
Media Blasting Blast Bldg	1.95E+02	1.95E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Media Blasting Bldg 10	4.27E-03	4.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Welding	8.71E-01	8.71E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 1	2.17E+00	2.17E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 10	2.37E-02	2.37E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Deburring Bldg 1	6.65E-03	6.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total =	**2.15E+02**	**2.15E+02**	**3.87E-02**	**6.46E+00**	**5.42E+00**	**6.15E+01**	**3.23E-05**

Table 5-1c: Changes in Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
Paint Buiding MAU1	4.90E-02	4.90E-02	3.86E-03	6.44E-01	5.41E-01	3.54E-02	3.22E-06
Paint Buiding MAU2	4.90E-02	4.90E-02	3.86E-03	6.44E-01	5.41E-01	3.54E-02	3.22E-06
Paint Buiding MAU3	1.83E-01	1.83E-01	1.44E-02	2.40E+00	2.02E+00	1.32E-01	1.20E-05
Blast Building Heaters	1.96E-02	1.96E-02	1.55E-03	2.58E-01	2.16E-01	1.42E-02	1.29E-06
Building1 Heater1	9.79E-04	9.79E-04	7.73E-05	1.29E-02	1.08E-02	7.09E-04	6.44E-08
Building1 Heaters2	1.63E-01	1.63E-01	1.29E-02	2.15E+00	1.80E+00	1.18E-01	1.07E-05
Building8 Heaters	1.37E-02	1.37E-02	1.08E-03	1.80E-01	1.51E-01	9.92E-03	9.02E-07
Building10 Heaters	9.30E-03	9.30E-03	7.34E-04	1.22E-01	1.03E-01	6.73E-03	6.12E-07
Paint Spray Booth	1.65E+01	1.65E+01	0.00E+00	0.00E+00	0.00E+00	6.12E+01	0.00E+00
Solvent Recyling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.45E-02	0.00E+00
Media Blasting Blast Bldg	1.95E+02	1.95E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Media Blasting Bldg 10	4.27E-03	4.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Welding	8.71E-01	8.71E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 1	2.17E+00	2.17E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 10	2.37E-02	2.37E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Deburring Bldg 1	6.65E-03	6.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total =	**2.15E+02**	**2.15E+02**	**3.85E-02**	**6.41E+00**	**5.39E+00**	**6.15E+01**	**3.21E-05**

Example Calculations

Heaters	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(20 hrs./day)*(4 days/week)*(52 weeks/year)
Paint Spray Booth	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(20 hrs./day)*(4 days/week)*(52 weeks/year)
Solvent Recycling	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(20 hrs./day)*(365 days/year)
Media Blasting Blast Bldg	Unrestricted Uncontrolled Emissions
Media Blasting Bldg 10	Unrestricted Uncontrolled Emissions
Welding	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(20 hrs./day)*(4 days/week)*(52 weeks/year)
Metal Cutting Bldg 1	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(20 hrs./day)*(4 days/week)*(52 weeks/year)
Metal Cutting Bldg 10	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(16 hrs./day)*5 days/week)*(50 weeks/year)
Deburring	Restricted Uncontrolled Emissions*(24 hours/day)*(365 days/year)/(20 hrs./day)*(4 days/week)*(52 weeks/year)

Tables 5-2a to 5-2c:
Facility-Wide Restricted Controlled NSR Regulated Pollutant Emissions

Table 5-2a: Pre-Project Potential to Emit (based on existing permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead	Greenhouse Gases
	tons/yr							
Paint Buiding MAU1	0	0	0	0	0	0	0	0
Paint Buiding MAU2	0	0	0	0	0	0	0	0
Paint Buiding MAU3	0	0	0	0	0	0	0	0
Blast Building Heaters	0	0	0	0	0	0	0	0
Building1 Heater1	0	0	0	0	0	0	0	0
Building1 Heaters2	0	0	0	0	0	0	0	0
Building8 Heaters	0	0	0	0	0	0	0	0
Building10 Heaters	0	0	0	0	0	0	0	0
Building 8 Training Rm Heater	0	0	0	0	0	0	0	0
Paint Spray Booth	0	0	0	0	0	0	0	0
Solvent Recyling	0	0	0	0	0	0	0	0
Media Blasting Blast Bldg	0	0	0	0	0	0	0	0
Media Blasting Bldg 10	0	0	0	0	0	0	0	0
Welding	0	0	0	0	0	0	0	0
Metal Cutting Bldg 1	0	0	0	0	0	0	0	0
Metal Cutting Bldg 10	0	0	0	0	0	0	0	0
Metal Deburring Bldg 1	0	0	0	0	0	0	0	0
Total =	0	0	0	0	0	0	0	0

Table 5-2b: Post-Project Potential to Emit (based on requested permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead	Greenhouse Gases
	tons/yr							
Paint Buiding MAU1	0.02	0.02	0.00	0.32	0.27	0.02	1.61E-06	3.49E+02
Paint Buiding MAU2	0.02	0.02	0.00	0.32	0.27	0.02	1.61E-06	3.49E+02
Paint Buiding MAU3	0.11	0.11	0.01	1.38	1.16	0.08	6.92E-06	1.50E+03
Blast Building Heaters	0.01	0.01	0.00	0.13	0.11	0.01	6.44E-07	1.39E+02
Building1 Heater1	0.00	0.00	0.00	0.01	0.01	0.00	3.22E-08	6.97E+00
Building1 Heaters2	0.08	0.08	0.01	1.07	0.90	0.06	5.37E-06	1.16E+03
Building8 Heaters	0.01	0.01	0.00	0.09	0.08	0.00	4.51E-07	9.76E+01
Building10 Heaters	0.00	0.00	0.00	0.06	0.05	0.00	3.06E-07	6.62E+01
Building 8 Training Rm Heater	0.00	0.00	0.00	0.02	0.02	0.00	1.07E-07	2.32E+01
Paint Spray Booth	0.01	0.01	0.00	0.00	0.00	29.04	0.00E+00	0.00E+00
Solvent Recyling	0.00	0.00	0.00	0.00	0.00	0.02	0.00E+00	0.00E+00
Media Blasting Blast Bldg	0.28	0.28	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Media Blasting Bldg 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Welding	0.41	0.41	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Metal Cutting Bldg 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Metal Cutting Bldg 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Metal Deburring Bldg 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00
Total =	**0.96**	**0.96**	**0.02**	**3.41**	**2.86**	**29.25**	**1.70E-05**	**3.69E+03**

Table 5-2c: Changes in Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead	Greenhouse Gases
	tons/yr							
Paint Buiding MAU1	2.45E-02	2.45E-02	1.93E-03	3.22E-01	2.71E-01	1.77E-02	1.61E-06	3.49E+02
Paint Buiding MAU2	2.45E-02	2.45E-02	1.93E-03	3.22E-01	2.71E-01	1.77E-02	1.61E-06	3.49E+02
Paint Buiding MAU3	1.05E-01	1.05E-01	8.30E-03	1.38E+00	1.16E+00	7.61E-02	6.92E-06	1.50E+03
Blast Building Heaters	9.79E-03	9.79E-03	7.73E-04	1.29E-01	1.08E-01	7.09E-03	6.44E-07	1.39E+02
Building1 Heater1	4.90E-04	4.90E-04	3.86E-05	6.44E-03	5.41E-03	3.54E-04	3.22E-08	6.97E+00
Building1 Heaters2	8.16E-02	8.16E-02	6.44E-03	1.07E+00	9.02E-01	5.90E-02	5.37E-06	1.16E+03
Building8 Heaters	6.85E-03	6.85E-03	5.41E-04	9.02E-02	7.57E-02	4.96E-03	4.51E-07	9.76E+01
Building10 Heaters	3.01E-03	3.01E-03	3.67E-04	6.12E-02	5.14E-02	3.37E-03	3.06E-07	6.62E+01
Building 8 Training Rm Heater	1.63E-03	1.63E-03	1.29E-04	2.15E-02	1.80E-02	1.18E-03	1.07E-07	2.32E+01
Paint Spray Booth	7.85E-03	7.85E-03	0.00E+00	0.00E+00	0.00E+00	2.90E+01	0.00E+00	0.00E+00
Solvent Recyling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-02	0.00E+00	0.00E+00
Media Blasting Blast Bldg	2.77E-01	2.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Media Blasting Bldg 10	1.95E-06	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Welding	4.14E-01	4.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 1	1.03E-03	1.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 10	3.61E-06	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Deburring Bldg 1	3.16E-05	3.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total =	**9.58E-01**	**9.58E-01**	**2.05E-02**	**3.41E+00**	**2.86E+00**	**2.92E+01**	**1.70E-05**	**3.69E+03**

Example Calculations

Heaters	Restricted Uncontrolled Emissions
Paint Spray Booth	Restricted Uncontrolled Emissions
Solvent Recycling	Restricted Uncontrolled Emissions
Media Blasting Blast Bldg	Restricted Controlled Emissions
Medai Blasting Bldg 10	Restricted Controlled Emissions
Welding	Restricted Uncontrolled Emissions
Metal Cutting	Restricted Controlled Emissions
Deburring	Restricted Controlled Emissions

Table 5-3: Criteria Pollutant Emissions Summary

Criteria Air Pollutants[1]	PTE Emissions		Significance Threshold		Below Regulatory Concern		Modeling Threshold	Modeling Required?	Modeling Threshold	Modeling Required?	% of Level II
	lb/hr	T/yr[2]	T/yr	Exceed?	T/yr	Exceed?	Level I		Level II		
NO_x	1.5	3.543	40	No	4	No	0.2 lb/hr	Yes	2.4 lb/hr	No	64%
							1.2 T/yr	Yes	14 T/yr	No	25%
CO	1.29	2.98	100	No	10	No	15 lb/hr	No	175 lb/hr	No	0.7%
PM_{10}	0.404	0.969	15	No	1.5	No	0.22 lb/hr	Yes	2.6 lb/hr	No	16%
$PM_{2.5}$	0.404	0.969	10	No	1	No	0.054 lb/hr	Yes	0.63 lb/hr	No	64%
							0.35 T/yr	Yes	4.1 T/yr	No	24%
SO_2	0.009	2.1E-02	40	No	4	No	0.21 lb/hr	No	0.9 lb/hr	No	1.0%
							1 T/yr	No	7 T/yr	No	0.13%
VOC	0.08	0.19	40	No	4	No					
Lead	7.7E-06	1.8E-05	0.6	No	0.06	No	14 lb/mo	No	14 lb/mo	No	0.04%
	5.2E-03	lb/month									
Total Criteria Emissions (ton/yr) =		**7.70**									

1 Exempt heaters included in total for the purpose of assessing BRC and modeling thresholds.
2 Based on maxium 5,040 hrs/yr (24 hrs/day, 6 days/week, 35 weeks/year) for gas-fired heater MAU3;
based on maxium 4380 hrs/yr (24 hrs/day, 6 days/week, 30.4 weeks/year) for all other gas-fired heaters including exempt heaters;
other processes based on 4160 hours/year (20 hrs/day, 4 days/week, 52 weeks/year).

Table 5-4:
Facility-Wide Toxic Air Pollutant Uncontrolled Emissions

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	CAS	Restricted UnControlled Hourly Emissions[1]			Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?	% Screening Emission Level
		Pre-Project (lb/hr)	Post Project (lb/hr)	Emission Change (lb/hr)			
Acetone	67-64-1	0	1.56E-01	1.56E-01	1.19E+02	No	0.1%
Isopropyl alcohol	67-63-0	0	9.23E-08	9.23E-08	6.53E+01	No	0.0%
Methyl alcohol	67-56-1	0	2.66E-06	2.66E-06	1.73E+01	No	0.0%
1-Butanol	71-36-3	0	6.61E-01	6.61E-01	1.00E+01	No	6.6%
Methyl ethyl ketone	78-93-3	0	4.46E-03	4.46E-03	3.93E+01	No	0.0%
Methyl Acetate	79-20-9	0	5.55E-01	5.55E-01	4.07E+01	No	1.4%
Dichlorobenzene	95-50-1	0	1.73E-05	1.73E-05	2.00E+01	No	0.0%
1,2,4-Trimethylbenzene	95-63-6	0	4.42E-01	4.42E-01	8.20E+00	No	5.4%
Cumene	98-82-8	0	9.44E-02	9.44E-02	1.63E+01	No	0.6%
Ethylbenzene	100-41-4	0	3.36E-01	3.36E-01	2.90E+01	No	1.2%
1-Methoxy-2-propanol	107-98-2	0	1.11E+00	1.11E+00	2.40E+01	No	4.6%
Methyl Isobutyl Ketone	108-10-1	0	1.31E-01	1.31E-01	1.37E+01	No	1.0%
1-Methoxy-2-Propanol Acetate	108-65-6	0	6.73E-01	6.73E-01	2.40E+01	No	2.8%
1,3,5-trimethylbenzene	108-67-8	0	9.44E-02	9.44E-02	8.20E+00	No	1.2%
Toluene	108-88-3	0	1.98E-02	1.98E-02	2.50E+01	No	0.1%
Methyl n-Amyl Ketone	110-43-0	0	1.60E+00	1.60E+00	1.57E+01	No	10.2%
2-butoxyethyl acetate	112-07-2	0	6.31E-01	6.31E-01	8.33E+00	No	7.6%
Methyl isoamyl ketone	112-12-3	0	3.54E-05	3.54E-05	1.60E+01	No	0.0%
n-Butyl Acetate	123-86-4	0	2.58E+00	2.58E+00	4.73E+01	No	5.5%
Heptane	142-82-5	0	5.31E-06	5.31E-06	1.09E+02	No	0.0%
Silicon Carbide	409-21-2	0	2.28E-04	2.28E-04	6.67E-01	No	0.0%
tert-Butyl acetate	540-88-5	0	5.55E-01	5.55E-01	6.33E+01	No	0.9%
Xylene	1330-20-7	0	4.14E-01	4.14E-01	2.90E+01	No	1.4%
Carbon Black	1333-86-4	0	1.96E-05	1.96E-05	2.30E-01	No	0.0%
Fe - fume	7439-89-6	0	1.53E-01	1.53E-01	3.33E-01	No	45.9%
Mg - fume	7439-96-5	0	6.64E-04	6.64E-04	3.33E-01	No	0.2%
Mn	7439-96-5	0	4.44E-01	4.44E-01	3.33E-01	Yes	133.5%
Mn - fume	7439-96-5	0	5.02E-03	5.02E-03	6.70E-02	No	7.5%
Molyb	7439-98-7	0	1.18E-03	1.18E-03	6.67E-01	No	0.2%
Ba	7440-39-3	0	6.35E-05	6.35E-05	3.30E-02	No	0.2%
Al	7440-47-3	0	2.21E-01	2.21E-01	6.67E-01	No	33.1%
Cr	7440-47-3	0	8.51E-05	8.51E-05	3.30E-02	No	0.3%
Co	7440-48-4	0	1.49E-05	1.49E-05	3.30E-03	No	0.5%
Zn metal/dust	7440-66-6	0	4.19E-04	4.19E-04	6.67E-01	No	0.1%
Zn - fume	7440-66-6	0	1.15E-06	1.15E-06	3.33E-01	No	0.0%
Silicon	7440-21-3	0	3.75E-01	3.75E-01	6.67E-01	No	56.3%
Cu	7440-50-8	0	1.23E-05	1.23E-05	6.70E-02	No	0.0%
Cu - fume	7440-50-8	0	4.05E-03	4.05E-03	1.30E-02	No	31.2%
P	7723-14-0	0	1.30E-02	1.30E-02	7.00E-03	Yes	185.2%
Se	7782-49-2	0	3.46E-07	3.46E-07	1.30E-02	No	0.0%
V. M. & P. Naphtha	64742-89-8 8032-32-4	0	6.15E-07	6.15E-07	9.13E+01	No	0.0%
Carcinogenic Toxic Air Pollutant (Annual Average)	**CAS**	**Restricted UnControlled Hourly Emissions[1]**		**Emission Change (lb/hr)**	**Screening Emission Level (lb/hr)**	**Exceeds Screening Emission Level?**	**% Screening Emission Level**
		Pre-Project (lb/hr)	**Post Project (lb/hr)**				
Formaldehyde	50-00-0	0	6.1E-04	6.1E-04	5.1E-04	Yes	118.9%
Benzo(a)pyrene	50-32-8	0	9.7E-09	9.7E-09	2.0E-06	No	0.5%
3-Methylchloranthene	56-49-5	0	1.5E-08	1.5E-08	2.5E-06	No	0.6%
Benzene	71-43-2	0	1.7E-05	1.7E-05	8.0E-04	No	2.1%
Nickel	7440-02-0	0	2.8E-05	2.8E-05	2.7E-05	Yes	102.0%
Arsenic	7440-38-2	0	1.6E-06	1.6E-06	1.5E-06	Yes	107.8%
Beryllium	7440-41-7	0	1.3E-07	1.3E-07	2.8E-05	No	0.5%
Cadmium	7440-43-9	0	8.9E-06	8.9E-06	3.7E-06	Yes	240.5%
Cr+6	18540-29-9	0	1.4E-06	1.4E-06	5.6E-07	Yes	256.7%
Polyaromatic Hydrocarbon (Max)		0	5.4E-06	5.4E-06	9.1E-05	No	6.0%
Polycyclic Organics: 7-PAH Group		0	9.2E-08	9.2205E-08	2.0E-06	No	4.6%

Table 5-5:
Facility-Wide Toxic Air Pollutant Controlled Emissions

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	CAS	Restricted Controlled Hourly Emissions[1]			Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?	% Screening Emission Level
		Pre-Project (lb/hr)	Post Project (lb/hr)	Emission Change (lb/hr)			
Acetone	67-64-1	0	1.56E-01	1.56E-01	1.19E+02	No	0.1%
Isopropyl alcohol	67-63-0	0	9.23E-08	9.23E-08	6.53E+01	No	0.0%
Methyl alcohol	67-56-1	0	2.66E-06	2.66E-06	1.73E+01	No	0.0%
1-Butanol	71-36-3	0	6.61E-01	6.61E-01	1.00E+01	No	6.6%
Methyl ethyl ketone	78-93-3	0	4.46E-03	4.46E-03	3.93E+01	No	0.0%
Methyl Acetate	79-20-9	0	5.55E-01	5.55E-01	4.07E+01	No	1.4%
Dichlorobenzene	95-50-1	0	1.73E-05	1.73E-05	2.00E+01	No	0.0%
1,2,4-Trimethylbenzene	95-63-6	0	4.42E-01	4.42E-01	8.20E+00	No	5.4%
Cumene	98-82-8	0	9.44E-02	9.44E-02	1.63E+01	No	0.6%
Ethylbenzene	100-41-4	0	3.36E-01	3.36E-01	2.90E+01	No	1.2%
1-Methoxy-2-propanol	107-98-2	0	1.11E+00	1.11E+00	2.40E+01	No	4.6%
Methyl Isobutyl Ketone	108-10-1	0	1.31E-01	1.31E-01	1.37E+01	No	1.0%
1-Methoxy-2-Propanol Acetate	108-65-6	0	6.73E-01	6.73E-01	2.40E+01	No	2.8%
1,3,5-trimethylbenzene	108-67-8	0	9.44E-02	9.44E-02	8.20E+00	No	1.2%
Toluene	108-88-3	0	1.98E-02	1.98E-02	2.50E+01	No	0.1%
Methyl n-Amyl Ketone	110-43-0	0	1.60E+00	1.60E+00	1.57E+01	No	10.2%
2-butoxyethyl acetate	112-07-2	0	6.31E-01	6.31E-01	8.33E+00	No	7.6%
Methyl isoamyl ketone	112-12-3	0	3.54E-05	3.54E-05	1.60E+01	No	0.0%
n-Butyl Acetate	123-86-4	0	2.58E+00	2.58E+00	4.73E+01	No	5.5%
Heptane	142-82-5	0	5.31E-06	5.31E-06	1.09E+02	No	0.0%
Silicon Carbide	409-21-2	0	2.28E-07	2.28E-07	6.67E-01	No	0.0%
tert-Butyl acetate	540-88-5	0	5.55E-01	5.55E-01	6.33E+01	No	0.9%
Xylene	1330-20-7	0	4.14E-01	4.14E-01	2.90E+01	No	1.4%
Carbon Black	1333-86-4	0	1.96E-05	1.96E-05	2.30E-01	No	0.0%
Fe - fume	7439-89-6	0	1.53E-01	1.53E-01	3.33E-01	No	45.9%
Mg - fume	7439-96-5	0	6.64E-04	6.64E-04	3.33E-01	No	0.2%
Mn	7439-96-5	0	1.34E-03	1.34E-03	3.33E-01	No	0.4%
Mn - fume	7439-96-5	0	5.02E-03	5.02E-03	6.70E-02	No	7.5%
Molyb	7439-98-7	0	1.18E-03	1.18E-03	6.67E-01	No	0.2%
Ba	7440-39-3	0	6.35E-05	6.35E-05	3.30E-02	No	0.2%
Al	7440-47-3	0	1.13E-02	1.13E-02	6.67E-01	No	1.7%
Cr	7440-47-3	0	8.51E-05	8.51E-05	3.30E-02	No	0.3%
Co	7440-48-4	0	2.40E-05	2.40E-05	3.30E-03	No	0.7%
Zn metal/dust	7440-66-6	0	4.19E-04	4.19E-04	6.67E-01	No	0.1%
Zn - fume	7440-66-6	0	1.15E-06	1.15E-06	3.33E-01	No	0.0%
Silicon	7440-21-3	0	6.08E-03	6.08E-03	6.67E-01	No	0.9%
Cu	7440-50-8	0	1.02E-05	1.02E-05	6.70E-02	No	0.0%
Cu - fume	7440-50-8	0	4.05E-03	4.05E-03	1.30E-02	No	31.2%
P	7723-14-0	0	3.89E-05	3.89E-05	7.00E-03	No	0.6%
Se	7782-49-2	0	3.46E-07	3.46E-07	1.30E-02	No	0.0%
V. M. & P. Naphtha	64742-89-8 8032-32-4	0	6.15E-07	6.15E-07	9.13E+01	No	0.0%
Carcinogenic Toxic Air Pollutant (Annual Average)	**CAS**	**Restricted UnControlled Hourly Emissions[1]**		**Emission Change (lb/hr)**	**Screening Emission Level (lb/hr)**	**Exceeds Screening Emission Level?**	**% Screening Emission Level**
		Pre-Project (lb/hr)	**Post Project (lb/hr)**				
Formaldehyde	50-00-0	0	6.1E-04	6.1E-04	5.1E-04	Yes	118.9%
Benzo(a)pyrene	50-32-8	0	9.7E-09	9.7E-09	2.0E-06	No	0.5%
3-Methylchloranthene	56-49-5	0	1.5E-08	1.5E-08	2.5E-06	No	0.6%
Benzene	71-43-2	0	1.7E-05	1.7E-05	8.0E-04	No	2.1%
Nickel	7440-02-0	0	2.8E-05	2.8E-05	2.7E-05	Yes	102.0%
Arsenic	7440-38-2	0	1.6E-06	1.6E-06	1.5E-06	Yes	107.8%
Beryllium	7440-41-7	0	1.3E-07	1.3E-07	2.8E-05	No	0.5%
Cadmium	7440-43-9	0	8.9E-06	8.9E-06	3.7E-06	Yes	240.5%
Cr+6	18540-29-9	0	1.4E-06	1.4E-06	5.6E-07	Yes	256.7%
Polyaromatic Hydrocarbon (Max)		0	5.4E-06	5.4E-06	9.1E-05	No	6.0%
Polycyclic Organics: 7-PAH Group		0	9.2E-08	9.2205E-08	2.0E-06	No	4.6%

Table 5-6:
Facility-Wide Hazardous Air Pollutant Emissions

Hazardous Air Pollutant	CAS	Potential to Emit (tons/yr)	Potential to Emit (lbs./yr)
Arsenic	7440-38-2	7.1E-06	1.4E-02
Benzene	71-43-2	7.4E-05	1.5E-01
Beryllium	7440-41-7	5.1E-07	1.0E-03
Cadmium	7440-43-9	3.9E-05	7.8E-02
Chromium	7440-47-3	2.1E-04	4.1E-01
Chromium +6	7440-47-3	6.3E-06	1.3E-02
Cobalt	7440-48-4	3.6E-05	7.2E-02
Dichlorobenzene	95-50-1	4.3E-05	8.5E-02
Ethylbenzene	100-41-4	8.4E-01	1.7E+03
Formaldehyde	50-00-0	2.7E-03	5.3E+00
Hexane	110-54-3	6.4E-02	1.3E+02
Lead		1.8E-05	3.5E-02
Manganese	7439-96-5	1.5E-02	3.1E+01
Mercury	7439-97-6	9.2E-06	1.8E-02
Methyl Isobutyl Ketone	108-10-1	3.3E-01	6.5E+02
Naphthalene	91-20-3	2.2E-05	4.3E-02
Nickel	7440-02-0	1.2E-04	2.4E-01
Polycyclic Organic Matter		4.0E-07	8.1E-04
Selenium	7782-49-2	8.5E-07	1.7E-03
Toluene	108-88-3	4.9E-02	9.9E+01
Xylene	1330-20-7	1.0E+00	2.1E+03
TOTAL =		2.3	4.7E+03

Methyl Ethyl Ketone, 78-93-3 - delisted 2005

Table 8-1:
Air Dispersion Modeling Source Parameters

POINT	Source ID	Stack Release Type (Beta)	FLAT (Non-Default)	Source Description	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	CR6	CADMIUM	FORMALD
					(m)	(m)	(m)	(ft)	(K)	(fps)	(ft)	(lb/hr)	(lb/hr)	(lb/hr)
	PAINTV1			1/6 MAU2-3 Paint B Vik Viking Roof-Top(2	566132.57	4821222.39	895.09	32	300	33.92	2.5		5.79E-07	3.95E-05
	PAINTV2			1/6 MAU2-3 Paint B Vik Viking Roof-Top(2	566135.32	4821215.7	895.09	32	300	33.92	2.5		5.79E-07	3.95E-05
	PAINTV3			1/6 MAU2-3 Paint B Vik Viking Roof-Top(2	566137.8	4821209.2	895.09	32	300	33.92	2.5		5.79E-07	3.95E-05
	PAINTV4			1/6 MAU2-3 Paint B Vik Viking Roof-Top(2	566142	4821211	895.09	32	300	33.92	2.5		5.79E-07	3.95E-05
	PAINTV5			1/6 MAU2-3 Paint B Vik Viking Roof-Top(2	566139.1	4821217.45	895.09	32	300	33.92	2.5		5.79E-07	3.95E-05
	PAINTV6			1/6 MAU2-3 Paint B Vik Viking Roof-Top(2	566136.56	4821223.8	895.09	32	300	33.92	2.5		5.79E-07	3.95E-05

from 9990 acfm

VOLUME	Source ID	FLAT (Non-Defa	Source Description	Easting (X)	Northing (Y)	Base Elevation	Release Height	Init. Horizontal D	Initial Vert. Dime	CR6	CADMIUM	FORMALD	ARSENIC	NICKEL
				(m)	(m)	(ft)	(ft)	(ft)	(ft)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
	BLD1D1		Welding Area Vent Fan	566180	4821217	2938.156168	17.25	0.581364829	16.27887139	1.99E-07	#REF!	#REF!	#REF!	#REF!
	BLD1D2		Welding Area Vent Fan	566173.14	4821233	2938.156168	17.25	0.581364829	16.27887139	1.99E-07	#REF!	#REF!	#REF!	#REF!
	BLD1D3		Bldg1 Reznor-ground	566270	4821270	2938.156168	17.25	0.581364829	16.74409449		#REF!	#REF!	#REF!	#REF!
	BLD1D4		Bldg1 Reznor-ground	566281	4821243	2938.156168	16.5	0.697834646	16.74409449		#REF!	#REF!	#REF!	#REF!
	BLD1D5		Bldg1 Reznor-ground	566289	4821225	2938.156168	16.5	0.697834646	16.74409449		#REF!	#REF!	#REF!	#REF!
	BLD8D1		Welding Area Wall Vent Fa	566140	4821358	2931.463255	13.5	0.534776903	8.837270341	1.04E-06	2.26E-07	1.54E-05	1.96E-08	2.39E-06
	BLD10D1		Welding Area Vent Fan	43.54184	116.181107	2931.463255	10	0.534776903	11.16272966	3.22E-09				3.25044E-07
	PAINTR1		MAU2-1 Paint B Dry Rm R	566150.93	4821180.17	2936.646982	15	0.534776903	11.16272966		8.09E-07	5.51E-05	1.47E-07	1.54412E-06
	PAINTR2		MAU2-2 Paint B Wash Rm	566149.16	4821179.29	2936.646982	15	0.534776903	11.16272966		8.09E-07	5.51E-05	1.47E-07	1.54E-06
	BLST													#REF!
													total Ni	#REF!

lb/hr

	Number of units	hours propose	$PM_{2.5}$	PM_{10}
MAU1 Paint dry	1	4380	0.011176471	0.01117647
MAU2 Paint wash	1	4380	0.011176471	0.01117647
MAU3 Paint Booth	1	5040	0.04172549	0.04172549
Building 1 Space Heater (H1)	1	4380	0.000223529	0.00022353
Building 1 Infrared Heaters (H2)	1	4380	0.037254902	0.0372549
Building 1 Tool Room Furnace (H3)	1	4380	0.000342745	0.00034275
Building 1 Office Furnaces (H4)	1	4380	0.004284314	0.00428431
Building 8 Unit Heaters (H5)	1	4380	0.003129412	0.00312941
Building 8 Training Room Furnace (H6)	1	4380	0.000745098	0.0007451
Building 10 Infrared Unit Heaters (H7)	8	4380	0.000745098	0.0007451
Building 10 Machine Shop Unit Heaters (H8)	3	4380	0.000931373	0.00093137
Building 10 Office Furnaces (H9)	2	4380	0.000447059	0.00044706
Building Blast Heaters (H10)	1	4380	0.004470588	0.00447059

(MAU3, H2, H4, H5, and H10 are correct with 2 units already totaled)

Building 1 weld lb/yr	788.1194304
Building 8 weld lb/yr	39.275232
Building 10 weld lb/yr	0.1572828

8760 hour - tons	$PM_{2.5}$	PM_{10}	SO_2	NO_2
MAU1 Paint dry	0.048952941	0.04895294	0.003864706	0.64411765
MAU2 Paint wash	0.048952941	0.04895294	0.003864706	0.64411765
MAU3 Paint Booth	0.182757647	0.18275765	0.014428235	2.40470588
Building 1 Space Heater (H1)	0.000979059	0.00097906	7.72941E-05	0.01288235
Building 1 Infrared Heaters (H2)	0.163176471	0.16317647	0.012882353	2.14705882
Building 1 Tool Room Furnace (H3)	0.001501224	0.00150122	0.000118518	0.01975294
Building 1 Office Furnaces (H4)	0.018765294	0.01876529	0.001481471	0.24691176
Building 8 Unit Heaters (H5)	0.013706824	0.01370682	0.001082118	0.18035294
Building 8 Training Room Furnace (H6)	0.003263529	0.00326353	0.000257647	0.04294118
Building 10 Infrared Unit Heaters (H7)	0.026108235	0.02610824	0.002061176	0.34352941
Building 10 Machine Shop Unit Heaters (H8)	0.012238235	0.01223824	0.002115926	0.16102941
Building 10 Office Furnaces (H9)	0.003916235	0.00391624	0.000309176	0.05152941
Building Blast Heaters (H10)	0.019581176	0.01958118	0.001545882	0.25764706
total combustion sources	0.543899812	0.54389981	0.044089209	7.15657647

Blast Building MB1	194.68	194.68	0	0
Blast Building MB2	0.004	0.004	0	0
blasting uncontrolled total	195	195	0	0

Building 1 weld	0.394059715	0.39405972		
Building 8 weld	0.019637616	0.01963762		
Building 10 weld	7.86414E-05	7.8641E-05		
Weld total	0.413775973	0.41377597	0	0
Router1	21.68	21.68	0	0
Router2	21.68	21.68	0	0
Debur 1 and 2	13.96	13.96	0	0
Assembly uncontrolled total	57.73377597	57.733776	0	0
Paint	91.86	91.86	0	0
solvent	0	0	0	0
Paint application total (365 days corrected from 208 days reported)				
			50.95961538	
	91.86418269			

SO_2	NO_2	CO	VOC	Lead
0.00088235	0.14705882	0.12352941	0.00808824	7.3529E-07
0.00088235	0.14705882	0.12352941	0.00808824	7.3529E-07
0.00329412	0.54901961	0.46117647	0.03019608	2.7451E-06
1.7647E-05	0.00294118	0.00247059	0.00016176	1.4706E-08
0.00294118	0.49019608	0.41176471	0.02696078	2.451E-06
2.7059E-05	0.0045098	0.00378824	0.00024804	2.2549E-08
0.00033824	0.05637255	0.04735294	0.00310049	2.8186E-07
0.00024706	0.04117647	0.03458824	0.00226471	2.0588E-07
5.8824E-05	0.00980392	0.00823529	0.00053922	4.902E-08
5.8824E-05	0.00980392	0.00823529	0.00053922	4.902E-08
0.00016103	0.0122549	0.01029412	0.00067402	6.1275E-08
3.5294E-05	0.00588235	0.00494118	0.00032353	2.9412E-08
0.00035294	0.05882353	0.04941176	0.00323529	2.9412E-07

MAU1 Paint d
MAU2 Paint w
MAU3 Paint B
Building 1 Spa
Building 1 Infr
Building 1 Toc
Building 1 Offi
Building 8 Uni
Building 8 Tra
Building 10 Int
Building 10 Ma
Building 10 Of
Building Blast

CO	VOC	Lead
0.54105882	0.03542647	3.2206E-06
0.54105882	0.03542647	3.2206E-06
2.01995294	0.13225882	1.2024E-05
0.01082118	0.00070853	6.4412E-08
1.80352941	0.11808824	1.0735E-05
0.01659247	0.00108641	9.8765E-08
0.20740588	0.01358015	1.2346E-06
0.15149647	0.00991941	9.0176E-07
0.03607059	0.00236176	2.1471E-07
0.28856471	0.01889412	1.7176E-06
0.13526471	0.00885662	8.0515E-07
0.04328471	0.00283412	2.5765E-07
0.21642353	0.01417059	1.2882E-06
6.01152424	0.39361171	3.5783E-05
		0
0	0	0
0	0	0
0	0	0

0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	50.96	0
0	12.3735	0

Fuel Usage

hours per yea	NG usage (MMscf/yr)	
4380	6.44117647	6.44117647
4380	6.44117647	6.44117647
5040	27.6705882	27.6705882
4380	0.12882353	0.12882353
4380	21.4705882	21.4705882
4380	0.19752941	0.19752941
4380	2.46911765	2.46911765
4380	1.80352941	1.80352941
4380	0.42941176	0.42941176
4380	0.42941176	3.43529412
4380	0.53676471	1.61029412
4380	0.25764706	0.51529412
4380	2.57647059	2.57647059

total	70.8522353	75.1892941

Table: Post Project Potential to Emit for Regulated Air Pollutants

Source	PM2•5/PM10 lb/hrl'1	T/vl	so, lb/hr1'1	T/v>	NOx lb/hr1»	T/vrlhl
Paint Building MAU1	0.01	0.02	0	0	0.15	0.32
Paint Building MAU2	0.01	0.02	0	0	0.15	0.32
Paint Building MAU3	0.04	0.11	0	0.01	0.55	1.38
Blast Building Heaters	0	0.01	0	0	0.06	0.13
Building1 Heater1	0	0	0	0	0	0.01
Building1 Heaters2	0.04	0.08	0	0.01	0.49	1.07
Buildings Heaters	0	0.01	0	0	0.04	0.09
Building10 Heaters	0.01	0	0	0	0.03	0.06
Building 8 Training Rm Heater	0	0	0	0	0.01	0.02
Paint Spray Booth	0	0.01	0	0	0	0
Solvent Recyling	0	0	0	0	0	0
Media Blasting Blast Bldg	0.11	0.28	0	0	0	0
Media Blasting Bldg 1O	0	0	0	0	0	0
Welding	0.17	0.41	0	0	0	0
Metal Cutting Bldg 1	0	0	0	0	0	0
Metal Cutting Bldg 1O	0	0	0	0	0	0
Metal Deburring Bldg 1	0	0	0	0	0	0
Post Project Totals	0.548545	0.957284	0.008838	0.020449	1.47364	3.40234

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily ope
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual o

Post project based on Torf corrected table

Table 5-2b: Post-Project Potential to Emit (based on requested permit conditions)

	hrs	PM lb/hr	$PM_{2.5}$ tons/yr	PM_{10} tons/yr	Sox Lb/hr	SO_2 tons/yr
Paint Buiding MAU1	4380	0.011	0.025	0.025	0.001	0.002
Paint Buiding MAU2	4380	0.011	0.025	0.025	0.001	0.002
Paint Buiding MAU3	5040	0.042	0.105	0.105	0.003	0.008
Blast Building Heaters	4380	0.004	0.010	0.010	0.000	0.001
Building1 Heater1	4380	0.000	0.000	0.000	0.000	0.000
Building1 Heaters2	4380	0.037	0.082	0.082	0.003	0.006
Building8 Heaters	4380	0.003	0.007	0.007	0.000	0.001
Building10 Heaters	4380	0.008	0.017	0.017	0.001	0.002
Building 8 Training Rm Heater	4380	0.001	0.002	0.002	0.000	0.000
Paint Spray Booth	4160	0.004	0.008	0.008	0.000	0.000
Solvent Recyling	4160	0.000	0.000	0.000	0.000	0.000
Media Blasting Blast Bldg	4160	0.133	0.277	0.277	0.000	0.000
Welding	4160	0.199	0.414	0.414	0.000	0.000
Metal Cutting Bldg 1	4160	0.000	0.001	0.001	0.000	0.000
Metal Cutting Bldg 10	4160	0.000	0.000	0.000	0.000	0.000
Metal Deburring Bldg 1	4160	0.000	0.000	0.000	0.000	0.000
Total =			**0.971**	**0.971**		**0.022**

Based on maxium 5,040 hrs/yr (24 hrs/day, 6 days/week, 35 weeks/y
based on maxium 4380 hrs/yr (24 hrs/day, 6 days/week, 30.4 weeks/
other processes based on 4160 hours/year (20 hrs/day, 4 days/week

co		VOC	
lb/hr1'1	T/v>	lb/hrl'1	T/v>
0.12	0.27	0.01	0.02
0.12	0.27	0.01	0.02
0.46	1.16	0.03	0.08
0.05	0.11	0	0.01
0	0.01	0	0
0.41	0.9	0.03	0.06
0.03	0.08	0	0
0.02	0.05	0	0
0.01	0.02	0	0
0	0	11.6	29
0	0	0	0.02
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1.23921	2.86251	11.68578	29.20785

rating schedule and daily limits.
perating schedule and annual limits.

NOx lb/hr	NO_2 tons/yr	CO lb/hr	CO tons/yr	VOC lb/hr	VOC tons/yr
0.147	0.322	0.124	0.271	0.008	0.018
0.147	0.322	0.124	0.271	0.008	0.018
0.548	1.380	0.460	1.160	0.030	0.076
0.059	0.129	0.049	0.108	0.003	0.007
0.003	0.006	0.002	0.005	0.000	0.000
0.489	1.070	0.412	0.902	0.027	0.059
0.041	0.090	0.035	0.076	0.002	0.005
0.127	0.278	0.107	0.234	0.007	0.015
0.010	0.022	0.008	0.018	0.001	0.001
0.000	0.000	0.000	0.000	13.942	29.000
0.000	0.000	0.000	0.000	0.010	0.020
0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000
	3.630		3.050		29.300

/ear) for gas-fired heater MAU3;
'year) for all other gas-fired heaters including exempt heaters;
, 52 weeks/year).

Table 3-10: Building 10 Welding Area Unit Heaters - Exempt Combustion Emissions

Western Trailer

Source Name/Model	No. of units	Input Duty MBH	Unit MMBtu/hr	Total MMBtu/hr	
Building 10 Infra Red Unit Heaters	8	100	0.1 MMBtu/hr	0.8 MMBtu/hr	Fuel Use:
Re-Verber-Ray Infra-Red Radiant Heater					0.019 MMscf/day
					3.435 MMscf/year

MakeUp Air Heater Duty =

0.8 MMBtu/hr ÷ 1,020 MMBtu/MMscf = 7.84E-04 MMscf/hr — Fuel Use: 0.019 MMscf/day, 3.435 MMscf/year

Operating Assumptions: 24 hr/day; 4,380 hr/yr[3]

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.08	0.17
CO	84	0.07	0.14
PM_{10}	7.6	0.006	0.013
$PM_{2.5}$	7.6	0.006	0.013
SO_2	0.6	4.7E-04	1.0E-03
VOC	5.5	4.3E-03	9.4E-03
Lead	0.0005	3.9E-07	8.6E-07
		2.8E-04	lb/month
Total Criteria Emissions (ton/yr) =			0.34

Greenhouse Gas Emissions	
CO_2 =	CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU = 186 Metric Tons/year
CH_4 =	CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU = 0.004 Metric Tons/year
N_2O =	N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU = 0.000 Metric Tons/year
	Total CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)
CO_2e =	186 Metric Tons/year

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr	Modeling Threshold TAP Screening	Modeling Required?
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**9.41E-09**	4.1E-08	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**7.06E-10**	3.1E-09	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**7.06E-10**	3.1E-09	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**7.06E-10**	3.1E-09	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**9.41E-10**	4.1E-09	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**7.06E-10**	3.1E-09		See POM
Benzo(a)pyrene	1.20E-06	**4.71E-10**	2.1E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**7.06E-10**	3.1E-09		See POM
Benzo(g,h,i)perylene	1.20E-06	**4.71E-10**	2.1E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**7.06E-10**	3.1E-09		See POM
Chrysene	1.80E-06	**7.06E-10**	3.1E-09		See POM
Dibenzo(a,h)anthracene	1.20E-06	**4.71E-10**	2.1E-09		See POM
Fluoranthene	3.00E-06	**1.18E-09**	5.2E-09	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**1.10E-09**	4.8E-09	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**7.06E-10**	3.1E-09		See POM
Naphthalene	6.10E-04	4.78E-07	1.0E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	**2.39E-07**	1.0E-06	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**6.67E-09**	2.9E-08	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**1.96E-09**	8.6E-09	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)	4.47E-09	**2.0E-08**	2.0E-06 lb/hr		No
Non-PAH HAPs					
Benzene	2.10E-03	**8.24E-07**	3.6E-06	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	9.41E-07	2.1E-06	20 lb/hr	No
Formaldehyde	7.50E-02	**2.94E-05**	1.3E-04	5.1E-04 lb/hr	No
Hexane	1.80E+00	1.41E-03	3.1E-03	12 lb/hr	No
Toluene	3.40E-03	2.67E-06	5.8E-06	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.25E-08	2.7E-08		
Butane	2.10E+00	1.65E-03	3.6E-03		
Ethane	3.10E+00	2.43E-03	5.3E-03		
Pentane	2.60E+00	2.04E-03	4.5E-03	118 lb/hr	No
Propane	1.60E+00	1.25E-03	2.7E-03		
Metals (HAPs)					
Arsenic	2.00E-04	**7.84E-08**	3.4E-07	1.5E-06 lb/hr	No
Barium	4.40E-03	3.45E-06	7.6E-06	0.033 lb/hr	No
Beryllium	1.20E-05	**4.71E-09**	2.1E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**4.31E-07**	1.9E-06	3.7E-06 lb/hr	No
Chromium	1.40E-03	1.10E-06	2.4E-06	0.033 lb/hr	No
Cobalt	8.40E-05	6.59E-08	1.4E-07	0.0033 lb/hr	No
Copper	8.50E-04	6.67E-07	1.5E-06	0.013 lb/hr	No
Manganese	3.80E-04	2.98E-07	6.5E-07	0.067 lb/hr	No
Mercury	2.60E-04	2.04E-07	4.5E-07	0.003 lb/hr	No
Molybdenum	1.10E-03	8.63E-07	1.9E-06	0.333 lb/hr	No
Nickel	2.10E-03	**8.24E-07**	3.6E-06	2.7E-05 lb/hr	No
Selenium	2.40E-05	1.88E-08	4.1E-08	0.013 lb/hr	No
Vanadium	2.30E-03	1.80E-06	4.0E-06	0.003 lb/hr	No
Zinc	2.90E-02	2.27E-05	5.0E-05	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.003		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Western Trailer

Source Name/Model	No. of units
Building 10 Machine Shop Unit Heaters Modine PDP125AED130	3

MakeUp Air Heater Duty =

0.375 MMBtu/hr ÷

Operating Assumptions:

Criteria Air Pollutants	Emission Factor[1] lb/MMscf
NO_x	100
CO	84
PM_{10}	7.6
$PM_{2.5}$	7.6
SO_2	0.6
VOC	5.5
Lead	0.0005
Total Criteria Emissions	

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf
PAH HAPs	
2-Methylnaphthalene	2.40E-05
3-Methylchloranthrene	1.80E-06
Acenaphthene	1.80E-06
Acenaphthylene	1.80E-06
Anthracene	2.40E-06
Benzo(a)anthracene	1.80E-06
Benzo(a)pyrene	1.20E-06
Benzo(b)fluoranthene	1.80E-06
Benzo(g,h,i)perylene	1.20E-06
Benzo(k)fluoranthene	1.80E-06
Chrysene	1.80E-06
Dibenzo(a,h)anthracene	1.20E-06
Fluoranthene	3.00E-06
Fluorene	2.80E-06
Indeno(1,2,3-cd)pyrene	1.80E-06
Naphthalene	6.10E-04
Naphthalene	6.10E-04
Phenanathrene	1.70E-05
Pyrene	5.00E-06
Polycyclic Org. Matter (POM, 7-PAH	
Non-PAH HAPs	
Benzene	2.10E-03
Dichlorobenzene	1.20E-03
Formaldehyde	7.50E-02
Hexane	1.80E+00
Toluene	3.40E-03
Non-HAP Organic Compounds	
7,12-Dimethylbenz(a)ar	1.60E-05
Butane	2.10E+00
Ethane	3.10E+00
Pentane	2.60E+00
Propane	1.60E+00
Metals (HAPs)	
Arsenic	2.00E-04
Barium	4.40E-03
Beryllium	1.20E-05
Cadmium	1.10E-03
Chromium	1.40E-03
Cobalt	8.40E-05
Copper	8.50E-04
Manganese	3.80E-04
Mercury	2.60E-04
Molybdenum	1.10E-03
Nickel	2.10E-03
Selenium	2.40E-05
Vanadium	2.30E-03
Zinc	2.90E-02
Total HAP Emissions	

Notes:
1. Emission factors taken from AP-42
2. TAPs lb/hr emissions are 24-hour
3. Air heater maximum estimated use

TORF Environmental Management

Table 3-11: Building 10 Machine Shop Area Unit Heaters - Exempt Combustion Emissions

Western Trailer

Input Duty

BTU/hr	Unit MMBtu/hr	Total MMBtu/hr	
125,000	0.125 MMBtu/hr	0.375 MMBtu/hr	Fuel Use: 0.009 MMscf/day, 1.610 MMscf/year

1,020 MMBtu/MMscf = 3.68E-04 MMscf/hr — Fuel Use: 0.009 MMscf/day, 1.610 MMscf/year

24 hr/day

4,380 hr/yr [3]

Emissions	
lb/hr	T/yr
0.04	0.08
0.03	0.07
0.003	0.006
0.003	0.006
2.2E-04	4.8E-04
2.0E-03	4.4E-03
1.8E-07	4.0E-07
1.3E-04 lb/month	
s (ton/yr) =	0.18

Greenhouse Gas Emissions	
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU	
CO_2 =	87 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU	
CH_4 =	0.002 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU	
N_2O =	0.000 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 298)	
CO_2e =	87 Metric Tons/year

Emissions		Modeling Threshold	Modeling Required?
lb/hr[2]	T/yr	TAP Screening	
4.41E-09	1.9E-08	9.1E-05 lb/hr	No
3.31E-10	1.4E-09	2.5E-06 lb/hr	No
3.31E-10	1.4E-09	9.1E-05 lb/hr	No
3.31E-10	1.4E-09	9.1E-05 lb/hr	No
4.41E-10	1.9E-09	9.1E-05 lb/hr	No
3.31E-10	1.4E-09		See POM
2.21E-10	9.7E-10	2.0E-06 lb/hr	See POM
3.31E-10	1.4E-09		See POM
2.21E-10	9.7E-10	9.1E-05 lb/hr	No
3.31E-10	1.4E-09		See POM
3.31E-10	1.4E-09		See POM
2.21E-10	9.7E-10		See POM
5.51E-10	2.4E-09	9.1E-05 lb/hr	No
5.16E-10	2.3E-09	9.1E-05 lb/hr	No
3.31E-10	1.4E-09		See POM
2.24E-07	4.9E-07	3.33 lb/hr	No
1.12E-07	4.9E-07	9.1E-05 lb/hr	No
3.13E-09	1.4E-08	9.1E-05 lb/hr	No
9.19E-10	4.0E-09	9.1E-05 lb/hr	No
2.10E-09	9.2E-09	2.0E-06 lb/hr	No
3.88E-07	1.7E-06	8.0E-04 lb/hr	No
4.41E-07	9.7E-07	20 lb/hr	No
1.38E-05	6.0E-05	5.1E-04 lb/hr	No
6.62E-04	1.4E-03	12 lb/hr	No
1.25E-06	2.7E-06	25 lb/hr	No
5.88E-09	1.3E-08		
7.72E-04	1.7E-03		
1.14E-03	2.5E-03		
9.56E-04	2.1E-03	118 lb/hr	No
5.88E-04	1.3E-03		
3.68E-08	1.6E-07	1.5E-06 lb/hr	No
1.62E-06	3.5E-06	0.033 lb/hr	No
2.21E-09	9.7E-09	2.8E-05 lb/hr	No
2.02E-07	8.9E-07	3.7E-06 lb/hr	No
5.15E-07	1.1E-06	0.033 lb/hr	No
3.09E-08	6.8E-08	0.0033 lb/hr	No
3.13E-07	6.8E-07	0.013 lb/hr	No
1.40E-07	3.1E-07	0.067 lb/hr	No
9.56E-08	2.1E-07	0.003 lb/hr	No
4.04E-07	8.9E-07	0.333 lb/hr	No
3.88E-07	1.7E-06	2.7E-05 lb/hr	No
8.82E-09	1.9E-08	0.013 lb/hr	No
8.46E-07	1.9E-06	0.003 lb/hr	No
1.07E-05	2.3E-05	0.667 lb/hr	No
s (ton/yr) =	0.002		

), Section 1.4 *Natural Gas Combustion* (7/98)
averages unless shown in bold. Bold emissions are annual averages for carcinogens.
e 6 days/week; 24 hours/day; 30.4 weeks/year (7.6 months/year).

Table 3-12: Buildi

Source Name/Model	No. of units	Input Duty BTU/hr	Unit MMBtu/hr
Building 10 Office Furnaces Bryant 90 Plus	2	60,000	0.06

MakeUp Air Heater Duty =

0.12 MMBtu/hr ÷ 1,020 MMBtu/MMscf = **24 hr/day**

Operating Assumptions: **4,380 hr/yr** [3]

Criteria Air Pollutants	Emission Factor[1] lb/MMscf	Emissions lb/hr	Emissions T/yr
NO_x	100	0.01	0.03
CO	84	0.01	0.02
PM_{10}	7.6	0.001	0.002
$PM_{2.5}$	7.6	0.001	0.002
SO_2	0.6	7.1E-05	1.5E-04
VOC	5.5	6.5E-04	1.4E-03
Lead	0.0005	5.9E-08	1.3E-07
		4.2E-05 lb/month	
Total Criteria Emissions (ton/yr) =			0.05

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1] lb/MMscf	Emissions lb/hr[2]	Emissions T/yr
PAH HAPs			
2-Methylnaphthalene	2.40E-05	1.41E-09	6.2E-09
3-Methylchloranthrene	1.80E-06	1.06E-10	4.6E-10
Acenaphthene	1.80E-06	1.06E-10	4.6E-10
Acenaphthylene	1.80E-06	1.06E-10	4.6E-10
Anthracene	2.40E-06	1.41E-10	6.2E-10
Benzo(a)anthracene	1.80E-06	1.06E-10	4.6E-10
Benzo(a)pyrene	1.20E-06	7.06E-11	3.1E-10
Benzo(b)fluoranthene	1.80E-06	1.06E-10	4.6E-10
Benzo(g,h,i)perylene	1.20E-06	7.06E-11	3.1E-10
Benzo(k)fluoranthene	1.80E-06	1.06E-10	4.6E-10
Chrysene	1.80E-06	1.06E-10	4.6E-10
Dibenzo(a,h)anthracene	1.20E-06	7.06E-11	3.1E-10
Fluoranthene	3.00E-06	1.76E-10	7.7E-10
Fluorene	2.80E-06	1.65E-10	7.2E-10
Indeno(1,2,3-cd)pyrene	1.80E-06	1.06E-10	4.6E-10
Naphthalene	6.10E-04	7.18E-08	1.6E-07
Naphthalene	6.10E-04	3.59E-08	1.6E-07
Phenanathrene	1.70E-05	1.00E-09	4.4E-09
Pyrene	5.00E-06	2.94E-10	1.3E-09
Polycyclic Org. Matter (POM, 7-PAH Grou	6.71E-10		2.9E-09
Non-PAH HAPs			
Benzene	2.10E-03	1.24E-07	5.4E-07
Dichlorobenzene	1.20E-03	1.41E-07	3.1E-07
Formaldehyde	7.50E-02	4.41E-06	1.9E-05
Hexane	1.80E+00	2.12E-04	4.6E-04
Toluene	3.40E-03	4.00E-07	8.8E-07
Non-HAP Organic Compounds			
7,12-Dimethylbenz(a)anthra	1.60E-05	1.88E-09	4.1E-09
Butane	2.10E+00	2.47E-04	5.4E-04
Ethane	3.10E+00	3.65E-04	8.0E-04
Pentane	2.60E+00	3.06E-04	6.7E-04
Propane	1.60E+00	1.88E-04	4.1E-04
Metals (HAPs)			
Arsenic	2.00E-04	1.18E-08	5.2E-08
Barium	4.40E-03	5.18E-07	1.1E-06
Beryllium	1.20E-05	7.06E-10	3.1E-09
Cadmium	1.10E-03	6.47E-08	2.8E-07
Chromium	1.40E-03	1.65E-07	3.6E-07
Cobalt	8.40E-05	9.88E-09	2.2E-08
Copper	8.50E-04	1.00E-07	2.2E-07
Manganese	3.80E-04	4.47E-08	9.8E-08
Mercury	2.60E-04	3.06E-08	6.7E-08
Molybdenum	1.10E-03	1.29E-07	2.8E-07
Nickel	2.10E-03	1.24E-07	5.4E-07
Selenium	2.40E-05	2.82E-09	6.2E-09
Vanadium	2.30E-03	2.71E-07	5.9E-07
Zinc	2.90E-02	3.41E-06	7.5E-06
Total HAP Emissions (ton/yr) =			0.000

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combu*
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. B
3. Air heater maximum estimated use 6 days/week; 24 hours/day; 30.4

ing 10 Office Furnaces Combustion Emissions

Total MMBtu/hr

MMBtu/hr 0.12 MMBtu/hr **Fuel Use:**
0.003 MMscf/day
0.515 MMscf/year

1.18E-04 MMscf/hr **Fuel Use:**
0.003 MMscf/day
0.515 MMscf/year

Greenhouse Gas Emissions	
CO_2 = 1 X 10^{-3} * MMBTU Gas * 53.06 kg CO_2/MMBTU	
CO_2 =	28 Metric Tons/year
CH_4 = 1 X 10^{-3} * MMBTU Gas * 0.001 kg CH_4/MMBTU	
CH_4 =	0.001 Metric Tons/year
N_2O = 1 X 10^{-3} * MMBTU Gas * 0.0001 kg N_2O/MMBTU	
N_2O =	0.000 Metric Tons/year
Total CO_2e = CO_2 + (CH_4 * 25) * (N_2O * 296)	
CO_2e =	**28 Metric Tons/year**

Modeling Threshold TAP Screening	Modeling Required?
9.1E-05 lb/hr	No
2.5E-06 lb/hr	No
9.1E-05 lb/hr	No
9.1E-05 lb/hr	No
9.1E-05 lb/hr	No
	See POM
2.0E-06 lb/hr	See POM
	See POM
9.1E-05 lb/hr	No
	See POM
	See POM
	See POM
9.1E-05 lb/hr	No
9.1E-05 lb/hr	No
	See POM
3.33 lb/hr	No
9.1E-05 lb/hr	No
9.1E-05 lb/hr	No
9.1E-05 lb/hr	No
2.0E-06 lb/hr	No
8.0E-04 lb/hr	No
20 lb/hr	No
5.1E-04 lb/hr	No
12 lb/hr	No
25 lb/hr	No
118 lb/hr	No
1.5E-06 lb/hr	No
0.033 lb/hr	No
2.8E-05 lb/hr	No
3.7E-06 lb/hr	No
0.033 lb/hr	No
0.0033 lb/hr	No
0.013 lb/hr	No
0.067 lb/hr	No
0.003 lb/hr	No
0.333 lb/hr	No
2.7E-05 lb/hr	No
0.013 lb/hr	No
0.003 lb/hr	No
0.667 lb/hr	No

ıstion (7/96)
ıold emissions are annual averages for carcinogens.
ı weeks/year (7.6 months/year).

Tables 5-2a to 5-2c:
Facility-Wide Restricted Controlled NSR Regulated Pollutant Emissions

Table 5-2a: Pre-Project Potential to Emit (based on existing permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead	Greenhouse Gases CO_2e
	tons/yr							
Paint Building MAU1	0	0	0	0	0	0	0	0
Paint Building MAU2	0	0	0	0	0	0	0	0
Paint Building MAU3	0	0	0	0	0	0	0	0
Blast Building Heaters	0	0	0	0	0	0	0	0
Building1 Heater1	0	0	0	0	0	0	0	0
Building1 Heaters2	0	0	0	0	0	0	0	0
Building8 Heaters	0	0	0	0	0	0	0	0
Building10 Heaters	0	0	0	0	0	0	0	0
Building 8 Training Rm Heater	0	0	0	0	0	0	0	0
Paint Spray Booth	0	0	0	0	0	0	0	0
Solvent Recyling	0	0	0	0	0	0	0	0
Media Blasting Blast Bldg	0	0	0	0	0	0	0	0
Media Blasting Bldg 10	0	0	0	0	0	0	0	0
Welding	0	0	0	0	0	0	0	0
Metal Cutting Bldg 1	0	0	0	0	0	0	0	0
Metal Cutting Bldg 10	0	0	0	0	0	0	0	0
Metal Deburring Bldg 1	0	0	0	0	0	0	0	0
Total =	0	0	0	0	0	0	0	0

Table 5-2b: Post-Project Potential to Emit (based on requested permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead	Greenhouse Gases CO_2e
	tons/yr							
Paint Building MAU1	2.45E-02	2.45E-02	1.93E-03	3.22E-01	2.71E-01	1.77E-02	1.61E-06	3.49E+02
Paint Building MAU2	2.45E-02	2.45E-02	1.93E-03	3.22E-01	2.71E-01	1.77E-02	1.61E-06	3.49E+02
Paint Building MAU3	1.05E-01	1.05E-01	8.30E-03	1.38E+00	1.16E+00	7.61E-02	6.92E-06	1.50E+03
Blast Building Heaters	9.79E-03	9.79E-03	7.73E-04	1.29E-01	1.08E-01	7.09E-03	6.44E-07	1.39E+02
Building1 Heater1	4.90E-04	4.90E-04	3.86E-05	6.44E-03	5.41E-03	3.54E-04	3.22E-08	6.97E+00
Building1 Heaters2	8.16E-02	8.16E-02	6.44E-03	1.07E+00	9.02E-01	5.90E-02	5.37E-06	1.16E+03
Building8 Heaters	6.85E-03	6.85E-03	5.41E-04	9.02E-02	7.57E-02	4.96E-03	4.51E-07	9.76E+01
Building10 Heaters	1.67E-02	1.67E-02	1.67E-03	2.78E-01	2.34E-01	1.53E-02	1.39E-06	3.01E+02
Building 8 Training Rm Heater	1.63E-03	1.63E-03	1.29E-04	2.15E-02	1.80E-02	1.18E-03	1.07E-07	2.32E+01
Paint Spray Booth	7.85E-03	7.85E-03	0.00E+00	0.00E+00	0.00E+00	2.90E+01	0.00E+00	0.00E+00
Solvent Recyling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-02	0.00E+00	0.00E+00
Media Blasting Blast Bldg	2.77E-01	2.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Media Blasting Bldg 10	1.95E-06	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Welding	4.14E-01	4.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 1	1.03E-03	1.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 10	3.61E-06	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Deburring Bldg 1	3.16E-05	3.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total =	**9.71E-01**	**9.71E-01**	**2.18E-02**	**3.63E+00**	**3.05E+00**	**2.93E+01**	**1.81E-05**	**3.92E+03**

Table 5-2c: Changes in Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead	Greenhouse Gases CO_2e
	tons/yr							
Paint Building MAU1	2.45E-02	2.45E-02	1.93E-03	3.22E-01	2.71E-01	1.77E-02	1.61E-06	3.49E+02
Paint Building MAU2	2.45E-02	2.45E-02	1.93E-03	3.22E-01	2.71E-01	1.77E-02	1.61E-06	3.49E+02
Paint Building MAU3	1.05E-01	1.05E-01	8.30E-03	1.38E+00	1.16E+00	7.61E-02	6.92E-06	1.50E+03
Blast Building Heaters	9.79E-03	9.79E-03	7.73E-04	1.29E-01	1.08E-01	7.09E-03	6.44E-07	1.39E+02
Building1 Heater1	4.90E-04	4.90E-04	3.86E-05	6.44E-03	5.41E-03	3.54E-04	3.22E-08	6.97E+00
Building1 Heaters2	8.16E-02	8.16E-02	6.44E-03	1.07E+00	9.02E-01	5.90E-02	5.37E-06	1.16E+03
Building8 Heaters	6.85E-03	6.85E-03	5.41E-04	9.02E-02	7.57E-02	4.96E-03	4.51E-07	9.76E+01
Building10 Heaters	1.67E-02	1.67E-02	1.67E-03	2.78E-01	2.34E-01	1.53E-02	1.39E-06	3.01E+02
Building 8 Training Rm Heater	1.63E-03	1.63E-03	1.29E-04	2.15E-02	1.80E-02	1.18E-03	1.07E-07	2.32E+01
Paint Spray Booth	7.85E-03	7.85E-03	0.00E+00	0.00E+00	0.00E+00	2.90E+01	0.00E+00	0.00E+00
Solvent Recyling	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-02	0.00E+00	0.00E+00
Media Blasting Blast Bldg	2.77E-01	2.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Media Blasting Bldg 10	1.95E-06	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Welding	4.14E-01	4.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 1	1.03E-03	1.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Cutting Bldg 10	3.61E-06	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metal Deburring Bldg 1	3.16E-05	3.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total =	**9.71E-01**	**9.71E-01**	**2.18E-02**	**3.63E+00**	**3.05E+00**	**2.93E+01**	**1.81E-05**	**3.92E+03**

Example Calculations

Heaters	Restricted Uncontrolled Emissions
Paint Spray Booth	Restricted Uncontrolled Emissions
Solvent Recycling	Restricted Uncontrolled Emissions
Media Blasting Blast Bldg	Restricted Controlled Emissions
Medal Blasting Bldg 10	Restricted Controlled Emissions
Welding	Restricted Uncontrolled Emissions
Metal Cutting	Restricted Controlled Emissions
Deburring	Restricted Controlled Emissions

Table 5-3: Criteria Pollutant Em

Criteria Air Pollutants[1]	PTE Emissions		Significance Threshold		Below Regu Concer	
	lb/hr	T/yr[2]	T/yr	Exceed?	T/yr	Ex
NO_x	1.6	3.759	40	No	4	
CO	1.37	3.16	100	No	10	
PM_{10}	0.411	0.986	15	No	1.5	
$PM_{2.5}$	0.411	0.986	10	No	1	
SO_2	0.010	2.3E-02	40	No	4	
VOC	0.09	0.21	40	No	4	
Lead	8.2E-06	1.9E-05	0.6	No	0.06	
	5.6E-03	lb/month				
Total Criteria Emissions (ton/yr) =		**8.13**				

1 Exempt heaters included in total for the purpose of assessing BRC and modeling thresholds.
2 Based on maxium 5,040 hrs/yr (24 hrs/day, 6 days/week, 35 weeks/year) for gas-fired heater MAU3;
based on maxium 4380 hrs/yr (24 hrs/day, 6 days/week, 30.4 weeks/year) for all other gas-fired heaters including exe
other processes based on 4160 hours/year (20 hrs/day, 4 days/week, 52 weeks/year).

TORF Environmental Management

nissions Summary

ulatory rn ceed?	Modeling Threshold Level I	Modeling Required?	Modeling Threshold Level II	Modeling Required?	% of Level II
No	0.2 lb/hr	Yes	2.4 lb/hr	No	68%
	1.2 T/yr	Yes	14 T/yr	No	27%
No	15 lb/hr	No	175 lb/hr	No	0.8%
No	0.22 lb/hr	Yes	2.6 lb/hr	No	16%
No	0.054 lb/hr	Yes	0.63 lb/hr	No	65%
	0.35 T/yr	Yes	4.1 T/yr	No	24%
No	0.21 lb/hr	No	0.9 lb/hr	No	1.1%
	1 T/yr	No	7 T/yr	No	0.14%
No					
No	14 lb/mo	No	14 lb/mo	No	0.04%

mpt heaters;

Table 3-19 Building 10 Welding Emissions

Bldg 10 Welding Material Purchases	TAP/HAP Metal	Al	Cr	Cr+6	Cu	Fe	Mg
Welding Process/Electrode	CAS No.	7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96
Aluminum Fillers	Annual Use (lbs.)[1]	Al	Cr		Cu	Fe	Mg
[4]GTAW Mig/Tig ALC 4043		93%			0.3%	0.80%	0.05
[4]GTAW Mig/Tig ALC 5356		93%	0.20%		0.1%	0.4%	5.5
[4]GMAW Mig/Tig ESAB 5356		93%	0.20%		0.1%	0.4%	5.5
[4]GMAW Mig/Tig Hobart Maxal 5356		99.7%	0.50%		0.50%	1%	
Subtotal Aluminum Wire lbs.	0	-	0		0	0	-
Carbon Fillers	Annual Use (lbs.)[1]	Al	Cr		Cu	Fe	Mg
[2,3]GMAW Hobart E70 Quantum Arc D2	6.75				5.0%	90.0%	
[2,3]GMAW Premier Arc 6 0.035 and 0.45 45 lb spool	316.40				5.0%	90.0%	
[4]SAW (Submerged Arc Welding) Lincoln Weld L-70 & L-705					0.5%	98.5%	
[3]SAW (Submerged Arc Welding) Lincoln Weld 781 Flux						5.0%	
Subtotal Carbons Steel Wire lbs.	323	-	-		16	291	-
Stainless Steel	Annual Use (lbs.)[1]	Al	Cr		Cu	Fe	Mg
[3]GMAW (Harris) Lin. 308 Lsi 035 x 25# spool	1.88		40.0%		1.0%	60.0%	
[3]GMAW (Harris?) HPG 308LHSO 035 x 25# spool	12.19		40.0%			60.0%	
[4]Avesta 309L 035 x 33# spool	0.41		25.0%				
[4]Avesta 248 SV(308L-Si, 308L, 308H, 347-Si, 347, 316L-Si, 316L, 318-Si, 318, 317L, 307-Si, 309L, 310, 253))			30.0%		2.0%	16.0%	
[3]Lincoln Electric Mig 308LSi			40.0%		1.0%	60.0%	
[3]GMAW Harris HPG 308LSI 035 X 25#			22%		0.75%	62.00%	
Subtotal SSWire lbs.	14.48		0		0	0	
Total Rod Use	338						
CAS No.		7429-90-5	7440-47-3	18540-29-9	7440-50-8	7439-89-6	7439-96
Metal	PM10 total	Al	Cr	Cr+6	Cu	Fe	Mg
TAP		X	X	X	X	X	X
HAP			X	X			
Table 12.19-1 and SDAPCD w/NASSCO fume correction			X	X			
Table 12.19-2 and SDAPCD w/NASSCO fume correction			X	X			
SDAPCD w/ GMAW/SMAW NASSCO fume correction		X	X	X	X	X	X
SDAPCD Unspecified Process		X	X	X	X	X	X
IDEQ EL Dust (lbs./hr.)	---	6.7E-01	3.3E-02	5.6E-07	6.7E-02	---	---
Fume lbs/yr	1.6E-01	0.0E+00	7.2E-03	2.8E-05	0.0E+00	2.3E-03	0.0E+0
(Assume use in 4 days/week, 50 weeks/yr=200 days/yr; 24 hour average/day; (if 5 days occasionally the value would be lower)	3.28E-05	0.0E+00	1.5E-06	3.2E-09	0.0E+00	4.8E-07	0.0E+0
IDEQ EL Fume (lbs./hr.)		---	---	---	1.3E-02	3.3E-01	6.7E-0
		< TAP EL	> TAP EL				

; Summary

	Mn	Molyb	Ni	Silicon	Zn	Titanium	Be	Co
3-5	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7440-66-6		7440-41-7	7440-48-4
	Mn	Molyb	Ni	Silicon	Zn	Titanium	Be	Co
5%	0.05%			6.0%	0.1%	0.2%	<0.0003%	
5%	0.2%			0.25%	0.10%	0.25%	<0.0003%	
5%	0.2%			0.25%	0.10%	0.20%	<0.0003%	
6%	2%		0.05%	14%			<0.0003%	
	0	0	0	0	-	0	0.000	0
	Mn	Molyb	Ni	Silicon	Zn	Titanium	Be	Co
	10%	1.0%		5.0%				
	10%	1.0%		5.0%				
	0.50%	0.50%						
	10.0%			5.0%				
	32	3	-	16	-	-	-	-
	Mn	Molyb	Ni	Silicon	Zn	Titanium	Be	Co
	5.0%	1.0%	30.0%	1.5%				1.0%
	5.0%	1.0%	13.0%	1.0%				1.0%
			12.5%			12.5%		
	10.0%	5.0%	36.0%	1.0%				
	5.0%	1.0%	30.0%	1.5%				1.0%
	2.50%	0.75%	11%	1%				
	0	0	0	0				
3-5	7439-96-5	7439-98-7	7440-	7440-21-3	7440-66-6		7440-41-7	7440-48-4
	Mn	Molyb	Ni	Silicon	Zn	Titanium	Be	Co
	X	X	X	X	X		X	X
	X		X				X	X
	X		X					X
	X		X					X
	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X
	3.3E-01	6.7E-01	2.70E-05	6.7E-01	6.7E-01	---	2.80E-05	3.30E-03
00	1.1E-01	3.9E-05	2.8E-03	3.9E-05	0.0E+00	2.8E-04	0.0E+00	3.4E-04
00	2.2E-05	8.1E-09	3.3E-07	8.1E-09	0.0E+00	5.9E-08	0.0E+00	7.0E-08
01	6.7E-02	---	---	---	3.330E-01	---	---	3.3E-03

M E M O R A N D U M DRAFT

DATE: January 17, 2017

TO: Tom Burnham, Permit Writer, Air Program

FROM: Kevin Schilling, Stationary Source Modeling Coordinator, Air Program

PROJECT: P-2016.0058 PROJ 61796, PTC for Western Trailer Co.

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

Contents

Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
CFR	Code of Federal Regulations
CMAQ	Community Multi-Scale Air Quality modeling system
CO	Carbon Monoxide
DEQ	Idaho Department of Environmental Quality
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
lb/hr	Pounds per hour
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
O_3	Ozone
Pb	Lead
PM_{10}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
$PM_{2.5}$	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per billion
PTC	Permit to Construct
PTE	Potential to Emit
SIL	Significant Impact Level
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
Torf	Torf Environmental Management
VOC	Volatile Organic Compounds
Western Trailer	Western Trailer Co.
$\mu g/m^3$	Micrograms per cubic meter of air

1.0 Summary

Western Trailer Co. (Western Trailer) submitted a Permit to Construct (PTC) application for their existing unpermitted facility. Project-specific air quality analyses involving atmospheric dispersion modeling of estimated emissions associated with the facility were submitted to DEQ to demonstrate that emissions increases associated with the facility would not cause or significantly contribute to a violation of any applicable ambient air quality standard as required by the Idaho Administrative Procedures Act 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03). This memorandum provides a summary of the ambient air impact analyses submitted with the permit application and DEQ's review of those analyses.

Torf Environmental Management (Torf), on behalf of Western Trailer, prepared the PTC application and performed the ambient air impact analyses for this project to demonstrate compliance with applicable National Ambient Air Quality Standards (NAAQS) and Toxic Air Pollutants (TAPs). The DEQ review of submitted data and analyses summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emissions associated with operation of the facility will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Evaluation of emissions estimates was the responsibility of the DEQ permit writer and is addressed in the main body of the DEQ Statement of Basis, and emissions calculation methods were not evaluated in this modeling review memorandum.

The submitted information and analyses: 1) showed either a) that estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration, or b) that criteria pollutant emissions increases resulting from the proposed project are below site-specific modeling applicability thresholds, developed to assure that emissions below such levels will not result in ambient air impacts exceeding Significant Impact Levels (SILs); 2) showed that TAP emissions increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments.

Table 1 presents key assumptions and results to be considered in the development of the permit.

Idaho Air Rules require air impact analyses be conducted in accordance with methods outlined in 40 CFR 51, Appendix W *Guideline on Air Quality Models* (Appendix W). Appendix W requires that air quality impacts be assessed using atmospheric dispersion models with emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information and analyses demonstrated to the satisfaction of the Department that operation of the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition. The DEQ permit writer should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to assure the requirements of Appendix W are met regarding emissions representative of design capacity or permit allowable rates.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	**Explanation/Consideration**
General Emissions Rates. Emissions rates used in the air impact analyses, as listed in this memorandum, must represent maximum potential emissions as given by design capacity, inherently limited by the nature of the process or configuration of the facility, or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emissions rates greater than those used in the air impact analyses.
TAP Emissions Sources. TAP emissions sources, as constructed and operated, must be accurately represented by the analyses submitted with the PTC application.	Important parameters include release point locations, release height, stack flow rates, and stack release temperature.

Summary of Submittals and Actions

- October 11, 2016: Application received by DEQ.
- November 2, 2016: Application determined incomplete by DEQ.
- November 16, 2016: Information addressing incompleteness issues received by DEQ.
- November 18, 2016: Application determined complete by DEQ.

2.0 Background Information

Background information on the project and the air impact analyses was provided in the Modeling Analysis Report submitted with the application.

2.1 Air Impact Analyses Required for All Permits to Construct

Idaho Air Rules Sections 203.02 and 203.03:

> *No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:*
>
> ***02. NAAQS**. The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*
>
> ***03. Toxic Air Pollutants.** Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

> ***02. Estimates of Ambient Concentrations**. All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).*

2.2 Significant Impact Level and Cumulative NAAQS Impact Analyses

If specific criteria pollutant increases associated with the proposed permitting project cannot qualify for a BRC exemption as per Idaho Air Rules Section 221, then the permit cannot be issued unless the application demonstrates that applicable emissions increases will not cause or significantly contribute to a violation of NAAQS, as required by Idaho Air Rules Section 203.02.

The first phase of a NAAQS compliance demonstration is to evaluate whether the proposed facility/project could have a significant impact to ambient air. Section 3.1.1 of this memorandum describes the applicability evaluation of Idaho Air Rules Section 203.02. The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. Air impact analyses are required by Idaho Air Rules to be conducted in accordance with methods outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in Idaho Air Rules Section 006 (referred to as a "significant contribution" in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emissions sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from facility-wide potential/allowable emissions, and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. If project-specific impacts are below the SIL, then the project does not have a significant contribution to the specific violations.

Table 2. APPLICABLE REGULATORY LIMITS				
Pollutant	**Averaging Period**	**Significant Impact Levels[a] ($\mu g/m^3$)[b]**	**Regulatory Limit [c] ($\mu g/m^3$)**	**Modeled Design Value Used[d]**
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 $\mu g/m^3$)	75 ppb[p] (196 $\mu g/m^3$)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 $\mu g/m^3$)	100 ppb[s] (188 $\mu g/m^3$)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	75 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.

b. Micrograms per cubic meter.

c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.

d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.

e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

f. Not to be exceeded more than once per year on average over 3 years.

g. Concentration at any modeled receptor when using five years of meteorological data.

h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.

j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.

k. 3-year mean of annual concentration.

l. 5-year mean of annual averages at the modeled receptor.

m. Not to be exceeded more than once per year.

n. Concentration at any modeled receptor.

o. Interim SIL established by EPA policy memorandum.

p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.

q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.

r. Not to be exceeded in any calendar year.

s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.

t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.

u. 3-month rolling average.

v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.

w. Annual 4th highest daily maximum 8-hour concentration averaged over three years. The O_3 standard was revised (the notice was signed by the EPA Administrator on October 1, 2015) to 70 ppb. However, this standard will not be applicable for permitting purposes until it is incorporated by reference *sine die* into Idaho Air Rules.

2.3 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> *Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.*

Permitting requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

> *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Per Section 210, if the total project-wide emissions increase of any TAP associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP.

3.0 Analytical Methods and Data

The submitted modeling report provides a detailed discussion of the methods and data used to demonstrate compliance with applicable standards.

3.1 Emission Source Data

Emissions of criteria pollutants and TAPs resulting from operation of the facility were estimated by Torf for various applicable averaging periods.

Emissions rates used in the dispersion modeling analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emissions inventory. All modeled criteria air pollutant and TAP emissions rates must be equal to or greater than the facility's potential emissions calculated in the PTC emissions inventory or proposed permit allowable emissions rates.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emissions Rates

If project-specific emission increases for criteria pollutants would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of one or more pollutants exceeding the BRC threshold of 10 percent of emissions defined by Idaho Air Rules as significant, then a NAAQS compliance demonstration may not be required for those pollutants with emissions below BRC levels. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant.[1]" The interpretation policy also states that the exemption criteria of uncontrolled potential to emit (PTE) not to exceed 100 ton/year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year. The BRC exemption cannot be used to exempt a project from a pollutant-specific NAAQS compliance demonstration in cases where a PTC is required for the action regardless of emissions quantities, such as the modification of an existing emissions or throughput limit.

A NAAQS compliance demonstration must be performed for pollutant increases that would not qualify for the BRC exemption from the requirement to demonstrate compliance with NAAQS. The Western Trailer emissions inventory asserts that facility-wide controlled PTE emissions of specific criteria pollutants are below BRC levels, as listed in Table 3.

Table 3. CRITERIA POLLUTANT NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY

Criteria Pollutant	BRC Level (ton/year)	Applicable Facility Wide PTE Emissions (ton/year)	Air Impact Analyses Required?
PM_{10}[a]	1.5	0.97	No
$PM_{2.5}$[b]	1.0	0.97	No
Carbon Monoxide (CO)	10.0	2.98	No
Sulfur Dioxide (SO_2)	4.0	0.021	No
Nitrogen Oxides (NOx)	4.0	3.54	No
Lead (Pb)	0.06	1.8E-5	No
Volatile Organic Compounds (VOCs)	4.0	0.19	No

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

Site-specific air impact modeling analyses may not be necessary for some pollutants, even where such emissions do not qualify for the BRC exemption. DEQ has developed modeling applicability thresholds, below which a site-specific modeling analysis is not required. DEQ generic air impact modeling analyses that were used to develop the modeling thresholds provide a conservative SIL analysis for projects with emissions below identified threshold levels. Project-specific modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*[2]. These thresholds were based on assuring an ambient impact of less than the established SIL for specific pollutants and averaging periods.

If project-specific total emissions rate increases of a pollutant are below Level I Modeling Thresholds, then project-specific air impact analyses are not necessary for permitting. Use of Level II Modeling Thresholds are conditional, requiring DEQ approval. DEQ approval is based on dispersion-affecting characteristics of the emissions sources such as stack height, stack gas exit velocity, stack gas temperature, distance from sources to ambient air, presence of elevated terrain, and potential exposure to sensitive public receptors.

Torf asserted that facility-wide emissions of all criteria pollutants were below BRC thresholds, and a NAAQS compliance demonstration was therefore not required for permit issuance. A comparison of emissions with modeling applicability thresholds was not necessary since no NAAQS compliance demonstrations were required by Idaho Air Rules Section 203.02.

Ozone (O_3) differs from other criteria pollutants in that it is not typically emitted directly into the atmosphere. O_3 is formed in the atmosphere through reactions of VOCs, NOx, and sunlight. Atmospheric dispersion models used in stationary source air permitting analyses cannot be used to estimate O_3 impacts resulting from VOC and NOx emissions from an industrial facility. O_3 concentrations resulting from area-wide emissions are predicted by using more complex airshed models such as the Community Multi-Scale Air Quality (CMAQ) modeling system. Use of the CMAQ model is very resource intensive and DEQ asserts that performing a CMAQ analysis for a particular permit application is not typically a reasonable or necessary requirement for air quality permitting. Addressing secondary formation of O_3 within the context of permitting a new stationary source has been somewhat addressed in EPA regulation and policy. As stated in a letter from Gina McCarthy of EPA to Robert Ukeiley, acting on behalf of the Sierra Club (letter from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency, to Robert Ukeiley, January 4, 2012):

> *. . . footnote 1 to sections 51.166(I)(5)(I) of the EPA's regulations says the following: "No de minimis air quality level is provided for ozone. However, any net emission increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data."*
>
> *The EPA believes it unlikely a source emitting below these levels would contribute to such a violation of the 8-hour ozone NAAQS, but consultation with an EPA Regional Office should still be conducted in accordance with section 5.2.1.c. of Appendix W when reviewing an application for sources with emissions of these ozone precursors below 100 TPY."*

DEQ determined it was not appropriate or necessary to require a quantitative source specific O_3 impact analysis because allowable emissions estimates of VOCs and NOx are below the 100 tons/year threshold. Additionally, both VOC and NOx emissions satisfied BRC exemption critieria.

Secondary Particulate Formation

The impact from secondary particulate formation resulting from emissions of NOx, SO_2, and/or VOCs was assumed by DEQ to be negligible based on the magnitude of emissions and the short distance from emissions sources to locations where maximum PM_{10} and $PM_{2.5}$ impacts are anticipated.

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 210 are only applicable to new or modified sources constructed after July 1, 1995.

Table 4 provides a summary of TAP emissions increases for the project for those TAPs that had an increase exceeding the ELs of Idaho Air Rules Section 585 or 586. Table 5 lists source-specific emissions of TAPs used in the impact analyses.

Table 4. TAP EMISSIONS INCREASES THAT TRIGGER MODELING

Toxic Air Pollutant	Emissions Increase (lb/hr)[a.]	Screening Emissions Level (lb/hr)
Formaldehye[b]	6.1E-4	5.1E-4
Arsenic[b]	1.6E-6	1.5E-6
Cadmium[b]	8.9E-6	3.7E-6
Chrimium 6+[b]	1.4E-6	5.6E-7
Nickel[b]	2.8E-5	2.7E-5

a. Pounds per hour.
b. Carcinogenic TAP. ELs are a maximum annual average expressed as pounds/hour. The emissions increase is the annual emissions divided by 8,760 hours/year.

Table 5. MODELED EMISSIONS RATES FOR TOXIC AIR POLLUTANTS

Source ID	Source Description	Emissions Rates (pounds/hour)				
		Formalde-hyde[a]	Arsenic[a]	Cadmium[a]	Chromium 6+[a]	Nickel[a]
PAINTV1	MAU2-3 Paint B Vik Viking Roof-top (2)	3.95E-5	1.05E-7	5.79E-7	0.0	1.11E-6
PAINTV2	MAU2-3 Paint B Vik Viking Roof-top (2)	3.95E-5	1.05E-7	5.79E-7	0.0	1.11E-6
PAINTV3	MAU2-3 Paint B Vik Viking Roof-top (2)	3.95E-5	1.05E-7	5.79E-7	0.0	1.11E-6
PAINTV4	MAU2-3 Paint B Vik Viking Roof-top (2)	3.95E-5	1.05E-7	5.79E-7	0.0	1.11E-6
PAINTV5	MAU2-3 Paint B Vik Viking Roof-top (2)	3.95E-5	1.05E-7	5.79E-7	0.0	1.11E-6
PAINTV6	MAU2-3 Paint B Vik Viking Roof-top (2)	3.95E-5	1.05E-7	5.79E-7	0.0	1.11E-6
BLD1D1	Welding Area Vent Fan	3.68E-5	9.80E-8	5.40E-7	2.0E-7	5.18E-6
BLD1D2	Welding Area Vent Fan	3.68E-5	9.80E-8	5.40E-7	2.0E-7	5.18E-6
BLD1D3	NW Wall Vent Fan	3.68E-5	9.80E-8	5.40E-7	0.0	1.03E-6
BLD1D4	N Wall Vent Fan	3.68E-5	9.80E-8	5.40E-7	0.0	1.03E-6
BLD1D5	NE Wall Vent Fan	3.68E-5	9.80E-8	5.40E-7	0.0	1.03E-6
BLD1D6	Heater Reznor FT30	1.10E-6	2.94E-9	1.62E-8	0.0	3.09E-8
BLD1D7	Tool Room Furnace	1.69E-6	4.51E-9	2.48E-8	0.0	4.74E-8
BLD1D8	Office Furnace No. 1	2.11E-5	5.64E-8	3.10E-7	0.0	5.92E-7
BLD1D9	Office Furnace No. 2	2.11E-5	5.64E-8	3.10E-7	0.0	5.92E-7
BLD1D10	Office Furnace No. 3	2.11E-5	5.64E-8	3.10E-7	0.0	5.92E-7
BLD1D11	Office Furnace No. 4	2.11E-5	5.64E-8	3.10E-7	0.0	5.92E-7
BLD1D12	Office Furnace No. 5	2.11E-5	5.64E-8	3.10E-7	0.0	5.92E-7
BLD8D1	Welding Area Wall Vent Fan				1.00E-6	2.00E-6
BLD8D2	Heater 1 Vent	1.54E-5	4.12E-8	2.26E-7		4.32E-7
BLD8D3	Heater 2 Vent	1.54E-5	4.12E-8	2.26E-7		4.32E-7
BLD8D4	Heater 3 Vent	3.68E-6	9.80E-9	5.39E-8		1.03E-7
PAINTR1	Paint Bldg Drying Room Reznor – Vent Fan	5.51E-5	1.47E-7	8.09E-7		1.54E-6
PAINTR2	Paint Bldg Wash Room Reznor – Vent Fan	5.51E-5	1.47E-7	8.09E-7		1.54E-6
BLD10D1	Welding Area Sidewall Vent Fan	3.68E-6	9.80E-9	5.39E-8	3.20E-9	4.33E-7
BLD10D2	Machine Room Heater 1 vent	4.60E-6	1.23E-8	6.74E-8		1.29E-7
BLD10D3	Machine Room Heater 2 vent	4.60E-6	1.23E-8	6.74E-8		1.29E-7
BLD10D4	Machine Room Heater 3 vent	4.60E-6	1.23E-8	6.74E-8		1.29E-7

Table 5. MODELED EMISSIONS RATES FOR TOXIC AIR POLLUTANTS						
Source ID	Source Description	Emissions Rates (pounds/hour)				
		Formalde-hyde[a]	Arsenic[a]	Cadmium[a]	Chromium 6+[a]	Nickel[a]
BLD10D5	Office Heater Upstairs1 vent	2.21E-6	5.88E-9	3.24E-8		6.18E-8
BLD10D6	Office Heater Downstairs2 vent	2.21E-6	5.88E-9	3.24E-8		6.18E-8
BLST1	Blast Booth Roof Heater Roof Vent	2.21E-5	5.88E-8	3.24E-7		6.18E-7
BLST2	Blast Booth Roof Heater Roof Vent	2.21E-5	5.88E-8	3.24E-7		6.18E-7

[a.] Annual average emissions rate in pounds per hour.

3.1.3 DEQ Review

DEQ determined the following from review of the submitted/approved modeling protocol and the Air Modeling Analysis Report submitted with the application:

- The appropriate atmospheric dispersion model was used for the proposed project.
- The Western Trailer facility was properly represented in the model, regarding geographical location, terrain, structures, emission point locations, and areas of potential exposure.
- Appropriate meteorological data were used with the dispersion model.
- Appropriate averaging periods were selected for model output, corresponding to the form of applicable standards.
- The modeling report indicates that all TAPs with project-wide emissions increases above the ELs of Idaho Air Rules Section 585 and 586 were modeled to evaluate compliance with applicable AACs and AACCs.
- Through review of the submitted protocol and the Air Modeling Analysis Report, it appears that the TAPs air impact analyses were performed using recommended data and methods prescribed in the *Idaho Air Quality Modeling Guideline*[2].

DEQ determined the review of the air impact analyses, as described above, was adequate to provide assurance that the proposed project will not result in increases in ambient air TAP levels that exceeded the specific AACs or AACCs. This conclusion is based on the general type and magnitude of the facility, the types of methods and data used in the analyses, and the modeled results in comparison to applicable AACs/AACCs.

4.0 NAAQS and TAPs Air Impact Modeling Results

4.1 Results for NAAQS Analyses

A NAAQS compliance demonstration was not necessary for the facility because potential emissions of criteria pollutants qualify for a BRC exemption, as described in Section 3.1.1 of this memorandum.

4.2 Results for TAPs Impact Analyses

Table 6 lists the maximum modeled impacts for specific TAPs. All modeled impacts are well below applicable AACs and AACCs.

Table 6. TAP AIR IMPACT ANALYSIS RESULTS

TAP	Maximum Modeled Impact ($\mu g/m^3$)[a]	AAC or AACC ($\mu g/m^3$)	Percent of AAC/ AACC
Formaldehyde[b]	1.33E-2	7.7E-2	17
Arsenic[b]	4E-5	2.3E-4	17
Cadmium[b]	1.9E-4	5.6E-4	34
Chromium 6+[b]	4E-5	8.3E-5	48
Nickel[b]	4.4E-4	4.2E-3	17

a. Micrograms per cubic meter.
b. Carinogenic TAP. Modeled impact and AACC represent a 5-year period average concentration.

5.0 Conclusions

The information submitted with the PTC application demonstrated to DEQ's satisfaction that applicable emissions resulting from the Western Trailer facility will not cause or significantly contribute to a violation of any ambient air quality standard.

References

1. *Policy on NAAQS Compliance Demonstration Requirements*. Idaho Department of Environmental Quality Policy Memorandum. July 11, 2014.

2. *State of Idaho Guideline for Performing Air Quality Impact Analyses*. Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf.

NESHAP Subpart HHHHHH Regulatory Review
Western Trailer Co. Application for Permit to Construct

The text of NESHAP Subpart HHHHHH is reprinted below. Sections in the regulation(s) that are applicable to the Western Trailer source(s) are highlighted in underline format below the regulation text.

The spray coating of trailers is covered under NESHAP Subpart HHHHHH and Western Trailer has been complying with the required paint booth, spray equipment, personnel training and recordkeeping requirements. However, in conjunction with this Application for Permit to Construct, a Petition for Exemption has been submitted to the U.S. Environmental Protection Agency Region X.

40 CFR Part 63, Subpart HHHHHH NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

§ 63.11169 What is the purpose of this subpart?
Except as provided in paragraph (d) of this section, this subpart establishes national emission standards for hazardous air pollutants (HAP) for area sources involved in any of the activities in paragraphs (a) through (c) of this section. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission standards contained herein.

(a) Paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl), Chemical Abstract Service number 75092, in paint removal processes;
(b) Autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations;
(c) Spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment.
(d) This subpart does not apply to any of the activities described in paragraph (d)(1) through (6) of this section.
(1) Surface coating or paint stripping performed on site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State), the National Aeronautics and Space Administration, or the National Nuclear Security Administration.
(2) Surface coating or paint stripping of military munitions, as defined in §63.11180, manufactured by or for the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State) or equipment directly and exclusively used for the purposes of transporting military munitions.

(3) Surface coating or paint stripping performed by individuals on their personal vehicles, possessions, or property, either as a hobby or for maintenance of their personal vehicles, possessions, or property. This subpart also does not apply when these operations are performed by individuals for others without compensation. An individual who spray applies surface coating to more than two motor vehicles or pieces of mobile equipment per year is subject to the requirements in this subpart that pertain to motor vehicle and mobile equipment surface coating regardless of whether compensation is received.
(4) Surface coating or paint stripping that meets the definition of "research and laboratory activities" in §63.11180.
(5) Surface coating or paint stripping that meets the definition of "quality control activities" in §63.11180.
(6) Surface coating or paint stripping activities that are covered under another area source NESHAP.

In accordance with §63.11169, subpart HHHHHH establishes national emission standards for hazardous air pollutants (HAP) for area sources involved in auto body refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations. Western Trailer is subject to this subpart.

§ 63.11170 Am I subject to this subpart?
(a) You are subject to this subpart if you operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:
(1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.
(2) Perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.
(3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.

(b) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

In accordance with §63.11170(a), this mobile equipment coating operation is subject to this subpart because the facility will be operated as an area source of HAP. The facility is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. In addition, the facility will perform one or more activities listed in this section, including spray application of coatings, as defined in §63.11180, to mobile equipment including operations that are located in stationary structures at fixed locations.

§ 63.11171 How do I know if my source is considered a new source or an existing source?
(a) This subpart applies to each new and existing affected area source engaged in the activities listed in §63.11170, with the exception of those activities listed in §63.11169(d) of this subpart.
(b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (6) of this section. Not all affected sources will have all of the items listed in paragraphs (b)(1) through (6) of this section.
(1) Mixing rooms and equipment;
(2) Spray booths, ventilated prep stations, curing ovens, and associated equipment;
(3) Spray guns and associated equipment;
(4) Spray gun cleaning equipment;
(5) Equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint; and
(6) Equipment used for paint stripping at paint stripping facilities using paint strippers containing MeCl.
(c) An affected source is a new source if it meets the criteria in paragraphs (c)(1) and (c)(2) of this section.
(1) You commenced the construction of the source after September 17, 2007 by installing new paint stripping or surface coating equipment. If you purchase and install spray booths, enclosed spray gun cleaners, paint stripping equipment to reduce MeCl emissions, or purchase new spray guns to comply with this subpart at an existing source, these actions would not make your existing source a new source.
(2) The new paint stripping or surface coating equipment is used at a source that was not actively engaged in paint stripping and/or miscellaneous surface coating prior to September 17, 2007.
(d) An affected source is reconstructed if it meets the definition of reconstruction in §63.2.
(e) An affected source is an existing source if it is not a new source or a reconstructed source.

In accordance with §63.11171(b), the mobile equipment coating operation is the collection of mixing equipment; spray booths and associated equipment; spray guns and associated equipment; spray gun cleaning equipment; and equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint. Paint stripping is not proposed as a business activity. In accordance with §63.11171(c), this mobile equipment coating operation is an existing source because it commenced construction prior to September 17, 2007, by installing new surface coating equipment, and the new surface coating equipment will be used at a source that was actively engaged in miscellaneous surface coating prior to September 17, 2007.

§63.11172 When do I have to comply with this subpart?
The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) and (b) of this section.
(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:
(1) If the initial startup of your new or reconstructed affected source is after September 17, 2007, the compliance date is January 9, 2008.
(2) If the initial startup of your new or reconstructed affected source occurs after January 9, 2008, the compliance date is the date of initial startup of your affected source.
(b) For an existing affected source, the compliance date is January 10, 2011.

In accordance with §63.11172(a)(2), because the initial startup of the facility occurred prior to January 9, 2008, the compliance date is January 10, 2011.

§63.11173 What are my general requirements for complying with this subpart?
(a) Each paint stripping operation that is an affected area source must implement management practices to minimize the evaporative emissions of MeCl. The management practices must address, at a minimum, the practices in paragraphs (a)(1) through (5) of this section, as applicable, for your operations.
(1) Evaluate each application to ensure there is a need for paint stripping (e.g., evaluate whether it is possible to re-coat the piece without removing the existing coating).
(2) Evaluate each application where a paint stripper containing MeCl is used to ensure that there is no alternative paint stripping technology that can be used.
(3) Reduce exposure of all paint strippers containing MeCl to the air.
(4) Optimize application conditions when using paint strippers containing MeCl to reduce MeCl evaporation (e.g., if the stripper must be heated, make sure that the temperature is kept as low as possible to reduce evaporation).
(5) Practice proper storage and disposal of paint strippers containing MeCl (e.g., store stripper in closed, air-tight containers).
(b) Each paint stripping operation that has annual usage of more than one ton of MeCl must develop and implement a written MeCl minimization plan to minimize the use and emissions of MeCl. The MeCl minimization plan must address, at a minimum, the management practices

specified in paragraphs (a)(1) through (5) of this section, as applicable, for your operations. Each operation must post a placard or sign outlining the MeCl minimization plan in each area where paint stripping operations subject to this subpart occur. Paint stripping operations with annual usage of less than one ton of MeCl, must comply with the requirements in paragraphs (a)(1) through (5) of this section, as applicable, but are not required to develop and implement a written MeCl minimization plan.

(c) Each paint stripping operation must maintain copies of annual usage of paint strippers containing MeCl on site at all times.

(d) Each paint stripping operation with annual usage of more than one ton of MeCl must maintain a copy of their current MeCl minimization plan on site at all times.

(e) Each motor vehicle and mobile equipment surface coating operation and each miscellaneous surface coating operation must meet the requirements in paragraphs (e)(1) through (e)(5) of this section.

(1) All painters must be certified that they have completed training in the proper spray application of surface coatings and the proper setup and maintenance of spray equipment. The minimum requirements for training and certification are described in paragraph (f) of this section. The spray application of surface coatings is prohibited by persons who are not certified as having completed the training described in paragraph (f) of this section. The requirements of this paragraph do not apply to the students of an accredited surface coating training program who are under the direct supervision of an instructor who meets the requirements of this paragraph.

(2) All spray-applied coatings must be applied in a spray booth, preparation station, or mobile enclosure that meets the requirements of paragraph (e)(2)(i) of this section and either paragraph (e)(2)(ii), (e)(2)(iii), or (e)(2)(iv) of this section.

(i) All spray booths, preparation stations, and mobile enclosures must be fitted with a type of filter technology that is demonstrated to achieve at least 98-percent capture of paint overspray. The procedure used to demonstrate filter efficiency must be consistent with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992" (incorporated by reference, see §63.14 of subpart A of this part). The test coating for measuring filter efficiency shall be a high solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non-HVLP) air-atomized spray gun operating at 40 pounds per square inch (psi) air pressure; the air flow rate across the filter shall be 150 feet per minute. Owners and operators may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement. The requirements of this paragraph do not apply to waterwash spray booths that are operated and maintained according to the manufacturer's specifications.

(ii) Spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment must be fully enclosed with a full roof, and four complete walls or complete side curtains, and must be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains. However, if a spray booth is fully enclosed and

has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure.
(iii) Spray booths and preparation stations that are used to coat miscellaneous parts and products or vehicle subassemblies must have a full roof, at least three complete walls or complete side curtains, and must be ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process.
(iv) Mobile ventilated enclosures that are used to perform spot repairs must enclose and, if necessary, seal against the surface around the area being coated such that paint overspray is retained within the enclosure and directed to a filter to capture paint overspray.
(3) All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see §63.14 of subpart A of this part). The requirements of this paragraph do not apply to painting performed by students and instructors at paint training centers. The requirements of this paragraph do not apply to the surface coating of aerospace vehicles that involves the coating of components that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; to the application of coatings on aerospace vehicles that contain fillers that adversely affect atomization with HVLP spray guns; or to the application of coatings on aerospace vehicles that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).
(4) All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done with, for example, hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used.
(5) As provided in §63.6(g), we, the U.S. Environmental Protection Agency, may choose to grant you permission to use an alternative to the emission standards in this section after you have requested approval to do so according to §63.6(g)(2).
(f) Each owner or operator of an affected miscellaneous surface coating source must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings, as defined in §63.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.
(1) A list of all current personnel by name and job description who are required to be trained;

(2) Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training in the topics listed in paragraphs (f)(2)(i) through (2)(iv) of this section.
(i) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
(ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.
(iii) Routine spray booth and filter maintenance, including filter selection and installation.
(iv) Environmental compliance with the requirements of this subpart.
(3) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. Owners and operators who can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required in paragraph (f)(2) of this section are not required to provide the initial training required by that paragraph to these painters.
(g) As required by paragraph (e)(1) of this section, all new and existing personnel at an affected motor vehicle and mobile equipment or miscellaneous surface coating source, including contract personnel, who spray apply surface coatings, as defined in §63.11180, must be trained by the dates specified in paragraphs (g)(1) and (2) of this section. Employees who transfer within a company to a position as a painter are subject to the same requirements as a new hire.
(1) If your source is a new source, all personnel must be trained and certified no later than 180 days after hiring or no later than July 7, 2008, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.
(2) If your source is an existing source, all personnel must be trained and certified no later than 180 days after hiring or no later than January 10, 2011, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.
(3) Training and certification will be valid for a period not to exceed five years after the date the training is completed, and all personnel must receive refresher training that meets the requirements of this section and be re-certified every five years.

Because the facility has not proposed paint-stripping activities, the requirements of §63.11173(a) through (f) are not applicable. Because the facility is a mobile equipment coating operation, in accordance with §63.11173(e), the permittee must meet the requirements of paragraphs (e)(1) through (e)(5) of this section. In accordance with §63.11173(f), this facility's affected mobile equipment coating operation must ensure and certify that all new and existing personnel, including contract personnel, who spray apply

surface coatings, as defined in §53.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.

§63.11173(e)(2), all spray-applied coatings must be applied in a spray booth, preparation station, or mobile enclosure that meets the requirements of paragraph (e)(2)(i) of this section and either paragraph (e)(2)(ii), (e)(2)(iii), or (e)(2)(iv) of this section.

§63.11173(e) (3) All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, airassisted airless spray gun, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see § 63.14 of subpart A of this part).

§63.11173(e) (4) All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done with, for example, hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used.

§63.11173(e) (5) As provided in § 63.6(g), the U.S. Environmental Protection Agency, may choose to grant permission to use an alternative to the emission standards in this section after the facility has requested approval to do so according to § 63.6(g)(2).

In accordance with §63.11173(g), as required by paragraph (e)(1) of this section, all new and existing personnel at the facility's mobile equipment surface coating source, including contract personnel, who spray apply surface coatings, as defined in §63.11180, must be trained by the dates specified in paragraphs (g)(1) and (2) of this section. Employees who transfer within a company to a position as a painter are subject to the same requirements as a new hire.

§ 63.11174 What parts of the General Provisions apply to me?
(a) Table 1 of this subpart shows which parts of the General Provisions in subpart A apply to you.
(b) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status

as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

In accordance with §63.11174(a), Table 1 of this subpart shows which parts of the General Provisions in subpart A apply.

In accordance with §63.11174(b), this facility is an area source subject to this subpart and is exempt from the obligation to obtain a permit under 40 CFR part 70 or 71. This permit application and permitting action involve a Permit to Construct, and will not utilize the requirements and procedures in IDAPA 58.01.01.300-399 for the issuance of Tier I operating permits.

§ 63.11175 What notifications must I submit?
(a) Initial Notification. If you are the owner or operator of a paint stripping operation using paint strippers containing MeCl and/or a surface coating operation subject to this subpart, you must submit the initial notification required by §63.9(b). For a new affected source, you must submit the Initial Notification no later than 180 days after initial startup or July 7, 2008, whichever is later. For an existing affected source, you must submit the initial notification no later than January 11, 2010. The initial notification must provide the information specified in paragraphs (a)(1) through (8) of this section.
(1) The company name, if applicable.
(2) The name, title, street address, telephone number, e-mail address (if available), and signature of the owner and operator, or other certifying company official;
(3) The street address (physical location) of the affected source and the street address where compliance records are maintained, if different. If the source is a motor vehicle or mobile equipment surface coating operation that repairs vehicles at the customer's location, rather than at a fixed location, such as a collision repair shop, the notification should state this and indicate the physical location where records are kept to demonstrate compliance;
(4) An identification of the relevant standard (i.e., this subpart, 40 CFR part 63, subpart HHHHHH);
(5) A brief description of the type of operation as specified in paragraph (a)(5)(i) or (ii) of this section.
(i) For all surface coating operations, indicate whether the source is a motor vehicle and mobile equipment surface coating operation or a miscellaneous surface coating operation, and include the number of spray booths and preparation stations, and the number of painters usually employed at the operation.
(ii) For paint stripping operations, identify the method(s) of paint stripping employed (e.g., chemical, mechanical) and the substrates stripped (e.g., wood, plastic, metal).
(6) Each paint stripping operation must indicate whether they plan to annually use more than one ton of MeCl after the compliance date.
(7) A statement of whether the source is already in compliance with each of the relevant requirements of this subpart, or whether the source will be brought into compliance by the compliance date. For paint stripping operations, the relevant requirements that you must

evaluate in making this determination are specified in §63.11173(a) through (d) of this subpart. For surface coating operations, the relevant requirements are specified in §63.11173(e) through (g) of this subpart.
(8) If your source is a new source, you must certify in the initial notification whether the source is in compliance with each of the requirements of this subpart. If your source is an existing source, you may certify in the initial notification that the source is already in compliance. If you are certifying in the initial notification that the source is in compliance with the relevant requirements of this subpart, then include also a statement by a responsible official with that official's name, title, phone number, e-mail address (if available) and signature, certifying the truth, accuracy, and completeness of the notification, a statement that the source has complied with all the relevant standards of this subpart, and that this initial notification also serves as the notification of compliance status.
(b) Notification of Compliance Status. If you are the owner or operator of a new source, you are not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided you were able to certify compliance on the date of the initial notification, as part of the initial notification, and your compliance status has not since changed. If you are the owner or operator of any existing source and did not certify in the initial notification that your source is already in compliance as specified in paragraph (a) of this section, then you must submit a notification of compliance status. You must submit a Notification of Compliance Status on or before March 11, 2011. You are required to submit the information specified in paragraphs (b)(1) through (4) of this section with your Notification of Compliance Status:
(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.
(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in §63.11173(a) through (d). For surface coating operations, the relevant requirements are specified in §63.11173(e) through (g).
(3) The date of the Notification of Compliance Status.
(4) If you are the owner or operator of an existing affected paint stripping source that annually uses more than one ton of MeCl, you must submit a statement certifying that you have developed and are implementing a written MeCl minimization plan in accordance with §63.11173(b).

In accordance with §63.11175(a), because the facility is a surface coating operation subject to this subpart, the initial notification required by §63.9(b) must be submitted. In accordance with §63.11175(b), because the facility is an existing source, the permittee is not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided the permittee was able to certify

compliance on the date of the initial notification, as part of the initial notification, and the permittee's compliance status has not since changed. The permittee is required to submit the information specified in paragraphs (b)(1) through (4) of this section with the Notification of Compliance Status.

§ 63.11176 What reports must I submit?
(a) Annual Notification of Changes Report. If you are the owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, you are required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. This includes notification when paint stripping affected sources that have not developed and implemented a written MeCl minimization plan in accordance with §63.11173(b) used more than one ton of MeCl in the previous calendar year. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.
(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.
(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.
(b) If you are the owner or operator of a paint stripping affected source that has not developed and implemented a written MeCl minimization plan in accordance with §63.11173(b) of this subpart, you must submit a report for any calendar year in which you use more than one ton of MeCl. This report must be submitted no later than March 1 of the following calendar year. You must also develop and implement a written MeCl minimization plan in accordance with §63.11173(b) no later than December 31. You must then submit a Notification of Compliance Status report containing the information specified in §63.11175(b) by March 1 of the following year and comply with the requirements for paint stripping operations that annually use more than one ton of MeCl in §§63.11173(d) and 63.11177(f).

In accordance with §63.11176(a), because the permittee is an owner of operator of a mobile equipment surface coating affected source, the permittee is required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. The annual notification of changes report must be

submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section. Because the facility has not proposed to conduct paint stripping operations, the MeCl minimization plan requirements are not applicable.

§ 63.11177 What records must I keep?
If you are the owner or operator of a surface coating operation, you must keep the records specified in paragraphs (a) through (d) and (g) of this section. If you are the owner or operator of a paint stripping operation, you must keep the records specified in paragraphs (e) through (g) of this section, as applicable.
(a) Certification that each painter has completed the training specified in §63.11173(f) with the date the initial training and the most recent refresher training was completed.
(b) Documentation of the filter efficiency of any spray booth exhaust filter material, according to the procedure in §63.11173(e)(3)(i).
(c) Documentation from the spray gun manufacturer that each spray gun with a cup capacity equal to or greater than 3.0 fluid ounces (89 cc) that does not meet the definition of an HVLP spray gun, electrostatic application, airless spray gun, or air assisted airless spray gun, has been determined by the Administrator to achieve a transfer efficiency equivalent to that of an HVLP spray gun, according to the procedure in §63.11173(e)(4).
(d) Copies of any notification submitted as required by §63.11175 and copies of any report submitted as required by §63.11176.
(e) Records of paint strippers containing MeCl used for paint stripping operations, including the MeCl content of the paint stripper used. Documentation needs to be sufficient to verify annual usage of paint strippers containing MeCl (e.g., material safety data sheets or other documentation provided by the manufacturer or supplier of the paint stripper, purchase receipts, records of paint stripper usage, engineering calculations).
(f) If you are a paint stripping source that annually uses more than one ton of MeCl you are required to maintain a record of your current MeCl minimization plan on site for the duration of your paint stripping operations. You must also keep records of your annual review of, and updates to, your MeCl minimization plan.
(g) Records of any deviation from the requirements in §63.11173, §63.11174, §63.11175, or §63.11176. These records must include the date and time period of the deviation, and a description of the nature of the deviation and the actions taken to correct the deviation.
(h) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report.

In accordance with §63.11177, because the permittee is the owner or operator of a surface coating operation, the permittee must keep the records specified in paragraphs (a) through (d) and (g) of this section. Because the permittee has not proposed to conduct paint stripping operations, the requirements of paragraphs (e) and (f) of this section are not applicable.

§ 63.11178 In what form and for how long must I keep my records?

(a) If you are the owner or operator of an affected source, you must maintain copies of the records specified in §63.11177 for a period of at least five years after the date of each record. Copies of records must be kept on site and in a printed or electronic form that is readily accessible for inspection for at least the first two years after their date, and may be kept off-site after that two year period.

In accordance with 40 CFR 63.11178(a) because the permittee is the owner or operator of an affected source, the permittee must maintain copies of the records described in this section.

§ 63.11179 Who implements and enforces this subpart?
(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.
(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.
(c) The authority in §63.11173(e)(5) will not be delegated to State, local, or tribal agencies.

In accordance with §63.11179(a), this subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority. At the time of this permitting action, the EPA has not delegated authority to the State of Idaho. However, IDAPA 58.01.01.107.03i incorporates by reference all Federal Clean Air Act requirements including 40 CFR 63, Subpart HHHHHH. Therefore, the requirements of this subpart would be placed in the permit.

§ 63.11180 What definitions do I need to know?
Terms used in this subpart are defined in the Clean Air Act, in 40 CFR 63.2, and in this section as follows:
Additive means a material that is added to a coating after purchase from a supplier (e.g., catalysts, activators, accelerators).
Administrator means, for the purposes of this rulemaking, the Administrator of the U.S. Environmental Protection Agency or the State or local agency that is granted delegation for implementation of this subpart.
Aerospace vehicle or component means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.
Airless and air-assisted airless spray mean any paint spray technology that relies solely on the fluid pressure of the paint to create an atomized paint spray pattern and does not apply any atomizing compressed air to the paint before it leaves the paint nozzle. Air-assisted airless

spray uses compressed air to shape and distribute the fan of atomized paint, but still uses fluid pressure to create the atomized paint.

Appurtenance means any accessory to a stationary structure coated at the site of installation, whether installed or detached, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

Architectural coating means a coating to be applied to stationary structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs.

Cleaning material means a solvent used to remove contaminants and other materials, such as dirt, grease, or oil, from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

Coating means, for the purposes of this subpart, a material spray-applied to a substrate for decorative, protective, or functional purposes. For the purposes of this subpart, coating does not include the following materials:

(1) Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances.

(2) Paper film or plastic film that may be pre-coated with an adhesive by the film manufacturer.

(3) Adhesives, sealants, maskants, or caulking materials.

(4) Temporary protective coatings, lubricants, or surface preparation materials.

(5) In-mold coatings that are spray-applied in the manufacture of reinforced plastic composite parts.

Compliance date means the date by which you must comply with this subpart.

Deviation means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source fails to meet any requirement or obligation established by this subpart.

Dry media blasting means abrasive blasting using dry media. Dry media blasting relies on impact and abrasion to remove paint from a substrate. Typically, a compressed air stream is used to propel the media against the coated surface.

Electrostatic application means any method of coating application where an electrostatic attraction is created between the part to be coated and the atomized paint particles.

Equipment cleaning means the use of an organic solvent to remove coating residue from the surfaces of paint spray guns and other painting related equipment, including, but not limited to stir sticks, paint cups, brushes, and spray booths.

Facility maintenance means, for the purposes of this subpart, surface coating performed as part of the routine repair or renovation of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity. *Facility maintenance* also includes surface coating associated with the installation of new equipment or structures, and the application of any surface coating as part of janitorial activities. *Facility maintenance* includes the application of coatings

to stationary structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. *Facility maintenance* also includes the refinishing of mobile equipment in the field or at the site where they are used in service and at which they are intended to remain indefinitely after refinishing. Such mobile equipment includes, but is not limited to, farm equipment and mining equipment for which it is not practical or feasible to move to a dedicated mobile equipment refinishing facility. Such mobile equipment also includes items, such as fork trucks, that are used in a manufacturing facility and which are refinished in that same facility. *Facility maintenance* does not include surface coating of motor vehicles, mobile equipment, or items that routinely leave and return to the facility, such as delivery trucks, rental equipment, or containers used to transport, deliver, distribute, or dispense commercial products to customers, such as compressed gas canisters.
High-volume, low-pressure (HVLP) spray equipment means spray equipment that is permanently labeled as such and used to apply any coating by means of a spray gun which is designed and operated between 0.1 and 10 pounds per square inch gauge (psig) air atomizing pressure measured dynamically at the center of the air cap and at the air horns.
Initial startup means the first time equipment is brought online in a paint stripping or surface coating operation, and paint stripping or surface coating is first performed.
Materials that contain HAP or *HAP-containing materials* mean, for the purposes of this subpart, materials that contain 0.1 percent or more by mass of any individual HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4), or 1.0 percent or more by mass for any other individual HAP.
Military munitions means all ammunition products and components produced or used by or for the U.S. Department of Defense (DoD) or for the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the National Nuclear Security Administration (NNSA), U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DoD components, including bulk explosives and chemical warfare agents, chemical munitions, biological weapons, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, nonnuclear components of nuclear weapons, wholly inert ammunition products, and all devices and components of any items listed in this definition.
Miscellaneous parts and/or products means any part or product made of metal or plastic, or combinations of metal and plastic. Miscellaneous parts and/or products include, but are not limited to, metal and plastic components of the following types of products as well as the products themselves: motor vehicle parts and accessories for automobiles, trucks, recreational vehicles; automobiles and light duty trucks at automobile and light duty truck assembly plants; boats; sporting and recreational goods; toys; business machines; laboratory and medical equipment; and household and other consumer products.
Miscellaneous surface coating operation means the collection of equipment used to apply surface coating to miscellaneous parts and/or products made of metal or plastic, including applying cleaning solvents to prepare the surface before coating application, mixing coatings

before application, applying coating to a surface, drying or curing the coating after application, and cleaning coating application equipment, but not plating. A single surface coating operation may include any combination of these types of equipment, but always includes at least the point at which a coating material is applied to a given part. A surface coating operation includes all other steps (such as surface preparation with solvent and equipment cleaning) in the affected source where HAP are emitted from the coating of a part. The use of solvent to clean parts (for example, to remove grease during a mechanical repair) does not constitute a miscellaneous surface coating operation if no coatings are applied. A single affected source may have multiple surface coating operations. Surface coatings applied to wood, leather, rubber, ceramics, stone, masonry, or substrates other than metal and plastic are not considered miscellaneous surface coating operations for the purposes of this subpart.
Mobile equipment means any device that may be drawn and/or driven on a roadway including, but not limited to, heavy-duty trucks, truck trailers, fleet delivery trucks, buses, mobile cranes, bulldozers, street cleaners, agriculture equipment, motor homes, and other recreational vehicles (including camping trailers and fifth wheels).
Motor vehicle means any self-propelled vehicle, including, but not limited to, automobiles, light duty trucks, golf carts, vans, and motorcycles.
Motor vehicle and mobile equipment surface coating means the spray application of coatings to assembled motor vehicles or mobile equipment. For the purposes of this subpart, it does not include the surface coating of motor vehicle or mobile equipment parts or subassemblies at a vehicle assembly plant or parts manufacturing plant.
Non-HAP solvent means, for the purposes of this subpart, a solvent (including thinners and cleaning solvents) that contains less than 0.1 percent by mass of any individual HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and less than 1.0 percent by mass for any other individual HAP.
Paint stripping and/or miscellaneous surface coating source or facility means any shop, business, location, or parcel of land where paint stripping or miscellaneous surface coating operations are conducted.
Paint stripping means the removal of dried coatings from wood, metal, plastic, and other substrates. A single affected source may have multiple paint stripping operations.
Painter means any person who spray applies coating.
Plastic refers to substrates containing one or more resins and may be solid, porous, flexible, or rigid. Plastics include fiber reinforced plastic composites.
Protective oil means organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils.
Quality control activities means surface coating or paint stripping activities that meet all of the following criteria:
(1) The activities associated with a surface coating or paint stripping operation are intended to detect and correct defects in the final product by selecting a limited number of samples from the operation, and comparing the samples against specific performance criteria.

(2) The activities do not include the production of an intermediate or final product for sale or exchange for commercial profit; for example, parts that are surface coated or stripped are not sold and do not leave the facility.
(3) The activities are not a normal part of the surface coating or paint stripping operation; for example, they do not include color matching activities performed during a motor vehicle collision repair.
(4) The activities do not involve surface coating or stripping of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity; that is, the activities are not facility maintenance.
Research and laboratory activities means surface coating or paint stripping activities that meet one of the following criteria:
(1) Conducted at a laboratory to analyze air, soil, water, waste, or product samples for contaminants, or environmental impact.
(2) Activities conducted to test more efficient production processes, including alternative paint stripping or surface coating materials or application methods, or methods for preventing or reducing adverse environmental impacts, provided that the activities do not include the production of an intermediate or final product for sale or exchange for commercial profit.
(3) Activities conducted at a research or laboratory facility that is operated under the close supervision of technically trained personnel, the primary purpose of which is to conduct research and development into new processes and products and that is not engaged in the manufacture of products for sale or exchange for commercial profit.
Solvent means a fluid containing organic compounds used to perform paint stripping, surface prep, or cleaning of surface coating equipment.
Space Vehicle means vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites, space stations, and the Space Shuttle System (including orbiter, external tanks, and solid rocket boosters).
Spray-applied coating operations means coatings that are applied using a hand-held device that creates an atomized mist of coating and deposits the coating on a substrate. For the purposes of this subpart, spray-applied coatings do not include the following materials or activities:
(1) Coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters).
(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens.
(3) Thermal spray operations (also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names) in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact.
Surface preparation or *Surface prep* means use of a cleaning material on a portion of or all of a substrate prior to the application of a coating.

Target HAP are compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).
Target HAP containing coating means a spray-applied coating that contains any individual target HAP that is an Occupational Safety and Health Administration (OSHA)-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) at a concentration greater than 0.1 percent by mass, or greater than 1.0 percent by mass for any other individual target HAP compound. For the purpose of determining whether materials you use contain the target HAP compounds, you may rely on formulation data provided by the manufacturer or supplier, such as the material safety data sheet (MSDS), as long as it represents each target HAP compound in the material that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other target HAP compounds.
Transfer efficiency means the amount of coating solids adhering to the object being coated divided by the total amount of coating solids sprayed, expressed as a percentage. Coating solids means the nonvolatile portion of the coating that makes up the dry film.
Truck bed liner coating means any coating, excluding color coats, labeled and formulated for application to a truck bed to protect it from surface abrasion.

Terms used in this subpart are applicable to this facility.

Table 1 to Subpart HHHHHH of Part 63—Applicability of General Provisions to Subpart HHHHHH of Part 63

Citation	Subject	Applicable to subpart HHHHHH	Explanation
§63.1(a)(1)-(12)	General Applicability	Yes	
§63.1(b)(1)-(3)	Initial Applicability Determination	Yes	Applicability of subpart HHHHHH is also specified in §63.11170.
§63.1(c)(1)	Applicability After Standard Established	Yes	
§63.1(c)(2)	Applicability of Permit Program for Area Sources	Yes	(63.11174(b) of Subpart HHHHHH exempts area sources from the obligation to obtain Title V operating permits.
§63.1(c)(5)	Notifications	Yes	
§63.1(e)	Applicability of Permit Program to Major Sources Before Relevant Standard is Set	No	(63.11174(b) of Subpart HHHHHH exempts area sources from the obligation to obtain Title V operating permits.
§63.2	Definitions	Yes	Additional definitions are specified in §63.11180.
§63.3(a)-(c)	Units and Abbreviations	Yes	
§63.4(a)(1)-(5)	Prohibited Activities	Yes	
§63.4(b)-(c)	Circumvention/Fragmentation	Yes	
§63.5	Construction/Reconstruction of major sources	No	Subpart HHHHHH applies only to area sources.
§63.6(a)	Compliance With Standards	Yes	

Citation	Subject	Applicable to subpart HHHHHH	Explanation
	and Maintenance Requirements—Applicability		
§63.6(b)(1)-(7)	Compliance Dates for New and Reconstructed Sources	Yes	§63.11172 specifies the compliance dates.
§63.6(c)(1)-(5)	Compliance Dates for Existing Sources	Yes	§63.11172 specifies the compliance dates.
§63.6(e)(1)-(2)	Operation and Maintenance	Yes	
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	No	No startup, shutdown, and malfunction plan is required by subpart HHHHHH.
§63.6(f)(1)	Compliance Except During Startup, Shutdown, and Malfunction	Yes	
§63.6(f)(2)-(3)	Methods for Determining Compliance	Yes	
§63.6(g)(1)-(3)	Use of an Alternative Standard	Yes	
§63.6(h)	Compliance With Opacity/Visible Emission Standards	No	Subpart HHHHHH does not establish opacity or visible emission standards.
§63.6(i)(1)-(16)	Extension of Compliance	Yes	
§63.6(j)	Presidential Compliance Exemption	Yes	
§63.7	Performance Testing Requirements	No	No performance testing is required by subpart HHHHHH.
§63.8	Monitoring Requirements	No	Subpart HHHHHH does not require the use of continuous monitoring systems.
§63.9(a)-(d)	Notification Requirements	Yes	§63.11175 specifies notification requirements.
§63.9(e)	Notification of Performance Test	No	Subpart HHHHHH does not require performance tests.
§63.9(f)	Notification of Visible Emissions/Opacity Test	No	Subpart HHHHHH does not have opacity or visible emission standards.
§63.9(g)	Additional Notifications When Using CMS	No	Subpart HHHHHH does not require the use of continuous monitoring systems.
§63.9(h)	Notification of Compliance Status	No	§63.11175 specifies the dates and required content for submitting the notification of compliance status.
§63.9(i)	Adjustment of Submittal Deadlines	Yes	
§63.9(j)	Change in Previous Information	Yes	§63.11176(a) specifies the dates for submitting the notification of changes report.
§63.10(a)	Recordkeeping/Reporting—Applicability and General Information	Yes	
§63.10(b)(1)	General Recordkeeping Requirements	Yes	Additional requirements are specified in §63.11177.
§63.10(b)(2)(i)-	Recordkeeping Relevant to	No	Subpart HHHHHH does not require startup,

Citation	Subject	Applicable to subpart HHHHHH	Explanation
(xi)	Startup, Shutdown, and Malfunction Periods and CMS		shutdown, and malfunction plans, or CMS.
§63.10(b)(2)(xii)	Waiver of recordkeeping requirements	Yes	
§63.10(b)(2)(xiii)	Alternatives to the relative accuracy test	No	Subpart HHHHHH does not require the use of CEMS.
§63.10(b)(2)(xiv)	Records supporting notifications	Yes	
§63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations	Yes	
§63.10(c)	Additional Recordkeeping Requirements for Sources with CMS	No	Subpart HHHHHH does not require the use of CMS.
§63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements are specified in §63.11176.
§63.10(d)(2)-(3)	Report of Performance Test Results, and Opacity or Visible Emissions Observations	No	Subpart HHHHHH does not require performance tests, or opacity or visible emissions observations.
§63.10(d)(4)	Progress Reports for Sources With Compliance Extensions	Yes	
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	No	Subpart HHHHHH does not require startup, shutdown, and malfunction reports.
§63.10(e)	Additional Reporting requirements for Sources with CMS	No	Subpart HHHHHH does not require the use of CMS.
§63.10(f)	Recordkeeping/Reporting Waiver	Yes	
§63.11	Control Device Requirements/Flares	No	Subpart HHHHHH does not require the use of flares.
§63.12	State Authority and Delegations	Yes	
§63.13	Addresses of State Air Pollution Control Agencies and EPA Regional Offices	Yes	
§63.14	Incorporation by Reference	Yes	Test methods for measuring paint booth filter efficiency and spray gun transfer efficiency in §63.11173(e)(2) and (3) are incorporated and included in §63.14.
§63.15	Availability of Information/Confidentiality	Yes	
§63.16(a)	Performance Track Provisions—reduced reporting	Yes	
§63.16(b)-(c)	Performance Track Provisions—reduced	No	Subpart HHHHHH does not establish numerical emission limits.

The following comments were received from the facility on January 18, 2017:

Facility comments were received from their consultant in Word strikethrough/underline format with comments to the side. Comments are referred to by the numbering in that Word document, with brackets for added clarifications. With the exception of spell checking, the comments are verbatim from the facility draft comments received from the consultant. A second draft is being proposed.

Facility Comment: A1 –A4, and A6 – A10

Indirect heaters < 50 MMBTU using natural gas exempt from PTC (222.02.c) [to be removed from permit]

DEQ Response: IDAPA 58.01.01.220.01 states Sections 220 through 223 may be used by owners or operators to exempt certain sources from the requirement to obtain a permit to construct. So, the exemptions are from the requirement to obtain a permit. Once a permit is required, all sources are subject to IDAPA 58.01.01.200-228 .

Facility Comment: A5, A12, A13, A16, A19, A22, A23, A24

Western Trailer has decided to eliminate this equipment and process.[abrasive blasting 2]

DEQ Response: The permit has been modified to show this, with the understanding that the equipment is no longer on site.

Facility Comment: A11

Permitted heaters MAU1-6.44 MMscf/yr +MAU2-6.44 MMscf/yr + MAU3-27.67 MMscf/yr + H2(50) 21.47 MMscf/yr + H7(8) 3.44 MMscf/yr = 52.59

DEQ Response: With all heaters counted toward the natural gas usage limit, the total remains unchanged.

Facility Comment: A14, A17, A20

The hourly PM limit is not required or necessary because there is no corresponding hourly PM/PM10/PM2.5 standard since the facility is BRC for criteria pollutants and the hourly level/limit is not a surrogate for TAP or HAP limits. Since the limit is based on rolling 12-month average only monthly monitoring is applicable.

DEQ Response: The PM or PM_{10} limit was not changed. The modeled, original application EI had 0.2773 tons per year for 8320 hours of spraying. If the limit was reduced, the spraying would be reduced to 4800 hours, so this was not changed. Monitoring and recordkeeping requirements have been changed to reflect monthly tracking.

Facility Comment: A15

The annual PM limit is revised according to the revised annual PM emissions as demonstrated in revised Table 3-15 Blast Booth Emissions, provided. The revised Table 3-15 Blast Booth Emissions is based on max. daily and annual spraying hours, using the permit filter efficiency 99.9%. Comment 21, below, provides additional detail.

DEQ Response: Hourly spraying rates have been incorporated for facility convenience, as requested by the commenter. However, the original application EI was for 20 hours per day, 4 days per week, 52 weeks per year, totaling 4160 hours.

Facility Comment: A18

Provides flexibility to change media type with similar or lesser concentrations of regulated TAP or HAP pollutants.

DEQ Response: This is a reasonable request and has been included in the permit.

Facility Comment: A21

The amount of media added to the system on a daily basis is not easily measured or amenable to daily record keeping. Since the amount of media sprayed is a result of the maximum capacity of the spray guns and the maximum hours sprayed, hours sprayed is proposed as a better limit and more amenable to daily tracking. A revised Table 3-15 Blast Booth Emissions based on max. daily spray hours, using the permit filter efficiency 99.9%, is provided. Revised affected Tables 5-2a to 5-2c: Facility-Wide Restricted Controlled NSR Regulated Pollutant Emissions, Tables 5-1a to 5-1c: Facility-Wide Unrestricted Uncontrolled NSR Regulated Pollutant Emissions, and Table 5-3: Criteria Pollutant Emissions Summary are provided.

DEQ Response: This is a reasonable request and has been included in the permit.

Facility Comment: A25

Weekly see-no-see inspection frequency seems unreasonable, especially since the filtered emissions are routed into the building not to outdoor air like most facilities; plus there will be a filter system operation plan and inspection. Eliminating the see-no-see requirement is the preferred option. At the most, a quarterly see-no-see frequency is proposed. Recent examples of PTC permits with less restrictive see-no-see inspection frequencies include the following:

1. BASF, Sept. 2015, limestone silo and seed drying; Torit filter control, no see-no-see requirement;
2. Koonz-Wagner, Jan 2016, blasting, no see-no-see requirement;

Double L Manufacturing, Dec 2014, blasting, quarterly see-no-see;

DEQ Response: An O&M manual requirement has been put in the place of the standard baghouse language, due to the indoor location and use of cartridge filters.

Facility Comment: A26

The specific number of welders is not significant and is not used to estimate emissions or determine limits.

DEQ Response: The word “approximately” has been added and the number changed to “85” as suggested.

Facility Comment: A27

Welding processes occur in Building 1, Building 8 and Building 10

DEQ Response: Building 10 vent was added to the list.

Facility Comment: A28

The caveat for combined water is language I see in many permits to distinguish between water vapor and PM opacity.

DEQ Response: There should be no NO_x or water in these emissions. In the case of the earlier suggested insertions of this caveat, specifically the combustion source, the water and NO_x present are taken into account during an inspection in accordance with IDAP 58.01.01.625 already in the permit. Therefore no change has been made to the permit.

Facility Comment: A29

Applying a total facility welding electrode limit includes electrodes that do not contribute to compliance limiting pollutants and does not appropriately ensure compliance with standards. Compliance with standards is limited primarily due to the amount of chromium+6 and nickel emitted from aluminum welding using Alcotec 5356 and Hobart Maxall 5356 at Building 1 and Building 8; and the amount of chromium+6 and nickel emitted from stainless steel welding using HPG 308LSI, Lincoln Electric 308LSI, and Lincoln Electric 3098LSI in Building 1 and HPG 308LSI and Lincoln Electric 309LSI in Building 10.

DEQ Response: The individual types of welding rod usage have been separated out in the permit based on the 2015 usage table in the original EI. However, the amounts used in each building was not found to be necessary as most of the Cr6+ and Ni are in the stainless steel wire, which is now regulated separately.

Facility Comment: A30

In order to provide the facility flexibility to adjust the types of welding electrodes used, this section should be changed to allow alternate types and amounts of welding electrodes that do not exceed TAP and HAP limits, similar to alternate abrasive blast media, above, and paint coating formulations, below.

DEQ Response: This is a reasonable request and has been included in the permit.

Facility Comment: A31-A33

Using the proposed filter bag dust collector system, routers do not emit significant amounts of PM or aluminum and do not risk compliance with PM or TAP limits. Limiting router operations would require difficult recording and measuring of custom cutting shapes. This limit should be removed. Use of the cyclone and filter bag dust collector system assures compliance.

DEQ Response: Emissions inventory for these processes (aluminum saw, routers, and deburring) have been recalculated at 8760 hours per year and are still below regulatory concern. Therefore, the limits have been removed, as well as operational monitoring and recordkeeping requirements.

Facility Comment: A34, A35

The dust control systems utilize a filter bag system that combines a cyclone and filter bag. The draft language only lists the cyclone. It is proposed to change the requirement to pressure drop "across the cyclone and filter." In addition, consider whether the requirement should be "maintained below 5 inches of water." I am not familiar with a monitoring pressure drop across a cyclone, whereas it is sometimes required for filter units.

DEQ Response: Appendix B for the Donaldson Torit Downflow II DFT describes a cyclone dust collector and the Multiple Rating Table is highlighted with model 20-5. The external static pressure for that model is 11.4- 5.0 inches wg. The language was changed to “in accordance with the O&M manual”.

Facility Comment: A36

As described in Comments 29, 30 and 31 above, routers, aluminum saw and deburring machines do not emit significant amounts of regulated pollutants and limits are not necessary or appropriate. This monitoring requirement should be removed.

DEQ Response: See response to comment A31-A33.

Facility Comment: A37

The draft permit does not include a requirement to operate a dust filter for the deburring machine. This is appropriate because the uncontrolled emissions levels are small and insignificant. Although the facility proposes to include a dust filter, the optional filter should not be subject to regular inspection requirement.

DEQ Response: There is a Donaldson Torit Downflow II DFT listed as the control unit for deburring in the application on Emissions Unit – General Form EU0. The text in section 3.6 refers to appendix B for the Donaldson Torit Downflow II DFT cyclone dust collector and the Multiple Rating Table is highlighted with model 20-5. The external static pressure for that model is 11.4- 5.0 inches water gauge. This resulted in no change to the permit.

Facility Comment: A38

Is the number of trucks painted each day necessary for the Permit? The number of trucks painted is not an indication or direct measure of compliance with standards. If necessary, perhaps include in the SOB.

DEQ Response: This was in the description in the application and was used to describe this section of the permit. It was not intended to be a limit, but has been removed at the commenter's request.

Facility Comment: A39

The paint booth emissions do not significantly contribute to PM10 emissions and, therefore, limits are unnecessary. The application of PM10 limits create an obligation for record keeping that is onerous and unnecessary. In addition, since there are no hourly VOC standards, hourly VOC limits are an unnecessary burden. The paint booth material exhibiting the highest fraction of a TAP EL is only 10% of the EL. Consequently, neither an hourly or annual VOC limit are needed to control paint booth TAP emissions.

Further, since the paint booth VOCs are more than 99% of the facility VOC emission, and since the relevant VOC standard is 100 tons per year, in order to provide the facility flexibility to adjust the types and amounts of coatings used, the paint booth annual VOC limit should be changed to 99 tons per year.

DEQ Response: For uncontrolled PTE for paints listed in the application the PM is over 52 tons per year and VOCs over 29 tons per year. These are significant levels. The limits will remain in the permit to ensure the emissions of the original application. However, since controls are in place, monitoring and recordkeeping will only be required monthly to meet the 12-month rolling limit, thus achieving the hourly limit. This will also melt with monthly TAPs reporting. One reason for this is to determine what the increment actually is, when analyzing a modification, such as a paint change. Another reason is to have federally enforceable controls, such as operational (filters and application equipment in proper working condition, etc.), monitoring and recordkeeping. After reading through all the comments on the paint section it appears that the desire of the facility is to have total flexibility. This is as close as can be achieved with this monthly monitoring and tracking TAPs to apply the increment allowed in IDAPA 58.01.01.585-586. The facility will need to do additional recordkeeping on a monthly basis verses just daily usage limits.

Facility Comment: A40

The emissions from solvent recycling do not significantly contribute to VOC emissions and, therefore, limits are unnecessary. The application of limits creates an obligation for record keeping that is onerous an unnecessary.

DEQ Response: The PTE for VOC is BRC at 6 gallons a day. At maximum capacity of 10 gallons per year equating to 3650 gallons a year represents approximately 12.4 tons of VOC, there is nothing left to regulate/limit. The limit was only included because the application emissions inventory had reduced daily usage down to 2.8 gallons per day. This requirement has been removed because the usable capacity represents BRC levels of VOC.

Facility Comment: A41

As described in Comment 36 [39], above, paint booth emissions do not significantly contribute to PM10 emissions. In addition, the paint booth material exhibiting the highest fraction of a TAP EL is only 10% of the EL. Consequently, paint booth emissions are effectively limited by the VOC limit in Section 5.3, above, and specific limits on the maximum amounts of coating materials used are not necessary.

DEQ Response: TAPs monitoring is changed to weekly and reporting monthly, as the percent of the EL screening for each pollutant is low. See response to comment A39.

Facility Comment: A42

As described in Comment 38, above, listing the specific coatings in the Permit is only necessary to document when alternate coatings are used.

DEQ Response: Usage limits were requested on Form EU3 Spray Paint Booth Information, with a note to see Table 4.1. Table 4.1 described each coating, with the amount used per year. Whenever an alternative coating is used Permit Condition 5.11 requires an analysis of the new coating to ensure that no individual pollutant limits or TAP screening emission levels are not exceeded.

Facility Comment: A43

As described in Comment 37, above, the emissions from solvent recycling do not significantly contribute to VOC emissions or TAP ELs or HAP thresholds and, therefore, limits and record keeping are an unnecessary burden.

DEQ Response: This requirement has been removed (see response to comment A40).

Facility Comment: A44

As described in Comment 36 [39], above, paint booth PM10 emissions limits and, therefore, recordkeeping are unnecessary.

DEQ Response: Since there is a large PTE for PM, the monthly recordkeeping is requested.

Facility Comment: A45

This section on Coating Usage Monitoring duplicates Section 5.10. As noted in Comment 38, only monitoring and recording alternate coatings is necessary to demonstrate compliance.

DEQ Response: This permit condition was indeed redundant and has been removed.

Facility Comment: A46

An application for Exemption from 6-H requirements was submitted to the EPA in October 2016. Ms. Madonna Narvaez (narvaez.madonna@epa.gov) reports on 1/4/17 that the Western Trailer application for exemption is approved and the letter approving the exemption is awaiting signature. Western Trailer requests that the Sections relating to Subpart HHHHHH be deleted.

DEQ Response: Until DEQ receives the signed letter for 6H exemption, these permit conditions must remain. Each condition relating the 6H is prefaced with "Unless an exemption from the EPA has been granted to this facility in accordance with…" to prevent any unnecessary regulatory burden after the letter is received..

The Statement of Basis has been updated to reflect the responses to these comments. However, changes to the tables requested were not included as that would essentially constitute a change in scope.

PTC Fee Calculation

Instructions:
Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company:	**Western Trailer Co.**
Address:	**PO Box 5598**
City:	**Boise**
State:	**ID**
Zip Code:	**83705-0598**
Facility Contact:	**Tom Hogan**
Title:	**Facility Permitting Contact**
AIRS No.:	**001-00337**

N	Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
Y	Did this permit require engineering analysis? Y/N
N	Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	3.4	0	3.4
SO_2	0.0	0	0.0
CO	2.9	0	2.9
PM10	1.0	0	1.0
VOC	29.2	0	29.2
TAPS/HAPS	4.7	0	4.7
Total:			**41.1**
Fee Due	**$ 5,000.00**		

Comments: