

Statement of Basis

**Permit to Construct No. P-2018.0005
Project ID 61993**

**Trinity Trailer Mfg., Inc. - Eisenman
Boise, Idaho**

Facility ID 001-00341

Final

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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.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
BRC	below regulatory concern
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GACT	Generally Available Control Technology
gal/yr	gallon per year
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar months period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
lb/yr	pound per consecutive 12 calendar months period
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard

NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SDS	safety data sheet
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
Trinity	Trinity Trailer Mfg., Inc. – Eisenman
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Trinity Trailer Mfg., Inc. – Eisenman manufacturers self-unloading belt trailers that are primarily used in the field of agriculture. The manufacturing process involves laser metal cutting, plasma metal cutting, welding, abrasive blasting (abrasive cleaning), spray coating, and installing electrical and hydraulic systems and other components.

Particulate matter emissions from the laser cutter are controlled by an integral vacuum system that exhausts emissions through the on-board filter and are vented into the work area inside the building. Emissions from the plasma cutters and welding are controlled using portable Kemper XL fume extraction filter units and are vented into the work area inside the building. The carbon steel components on the trailer are cleaned with abrasive media in an enclosed blasting booth. Abrasive blasting emissions are filtered using Donaldson Torrit Endura-Tek cartridge filters located outside adjacent to the spray booth building and vent to the outdoor air. The carbon steel components on the trailers are then coated by spraying in an enclosed spray booth. The spray booth is equipped with filters to control emissions and vent to the outdoor air. Electrical and hydraulic systems and other components are installed. No regulated air pollutants are emitted during this work.

All heaters are natural gas fired. The heaters use indirect heat transfer except for the paint booth heater that uses direct heat transfer.

Permitting History

This is the initial Permit to Construct (PTC) for an existing facility that was constructed in 1974 according to DEQ's 2017 inspection report, thus there is no permitting history.

Application Scope

This permit is the initial PTC for an existing facility that was constructed in 1974 without a PTC.

Application Chronology

January 19, 2018	DEQ received an application.
January 22, 2018	DEQ received an application fee.
January 29 – February 13, 2018	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
February 20, 2018	DEQ determined that the application was incomplete.
March 20 and May 17, 2018	DEQ received the revised application and additional information.
April 17, 2018	DEQ determined that the application was complete.
June 1, 2018	DEQ made available the draft permit and statement of basis for peer and regional office review.
June 12, 2018	DEQ made available the draft permit and statement of basis for applicant review.
June 22, 2016	DEQ received comments on the draft permit with a revised EI from the applicant.
July 19 – August 20, 2018	DEQ provided a public comment period on the proposed action.
October 23, 2018	DEQ received the permit processing fee.
December 26, 2018	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION ^(a)

Source	Control Equipment
<p><u>Natural Gas-Fired Heaters</u></p> <p>Three (3) Fab Shop Tube Heaters (H1) Manufacturer: Robert Gordon Model: Vantage Cth1-150 Heat input rate: 0.15 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 1992</p> <p>Three (3) Fab Shop Tube Heaters (H2) Manufacturer: Robert Gordon Model: Vantage Cth1-125 Heat input rate: 0.125 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 1992</p> <p>Fab Shop Changing Room (H3) Manufacturer: Payne Model: M1MB090ABW Heat input rate: 0.09 MMBtu/hr Allowable fuel type: natural gas Manufactured: 2016</p> <p>Four (4) Fab Shop Tube Heaters (H4) Manufacturer: Robert Gordon Model: Vantage Cth1-150 Heat input rate: 0.15 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 1995</p> <p>10 Fab Shop Radiant Heaters (H5) Manufacturer: Sunstar Model: SG6-L5C Heat input rate: 0.06 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2015</p> <p>15 Fab Shop Radiant Heaters (H6) Manufacturer: Robert Gordon Model: EG-60 Heat input rate: 0.054 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2007</p> <p>Fab Shop Break Room (H7) Manufacturer: Payne Model: PG92SBS48080B Heat input rate: 0.08 MMBtu/hr Allowable fuel type: natural gas Manufactured: 2016</p>	<p style="text-align: center;">None</p>

Source	Control Equipment
<p>Chain And Axel Tube Heater (H8) Manufacturer: Robert Gordon Model: VANTAGE CTH1-150 Heat input rate: 0.15 MMBtu/hr Allowable fuel type: natural gas Manufactured: 1995</p>	
<p>Paint Shop Paint Booth (H9) Manufacturer: Viking Model: DEM-2000LX68 Heat input rate: 2.8 MMBtu/hr Allowable fuel type: natural gas Manufactured: 1990</p>	
<p>Paint Shop Paint Booth (H10) Manufacturer: Dayton Model: 4LX68 Heat input rate: 0.4 MMBtu/hr Allowable fuel type: natural gas Manufactured: 2013</p>	
<p>Paint Shop Wash Bay Power Washer (H11) Manufacturer: Hydrotek Model: HN30008E4R Heat input rate: 0.7 MMBtu/hr Allowable fuel type: natural gas Manufactured: 2010</p>	
<p>Paint Shop Main Heater (H12) Manufacturer: Dayton Model: 4LX68 Heat input rate: 0.4 MMBtu/hr Allowable fuel type: natural gas Manufactured: 2013</p>	None
<p>Six (6) Paint Shop Radiant Heater (H13) Manufacturer: Dayton Model: 5VD65A Heat input rate: 0.09 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2014</p>	
<p>Supervisor Office Heater (H14) Manufacturer: Payne Model: E4EB-015H Heat input rate: 0.08 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2016</p>	
<p>Front Office Heater (H15) Manufacturer: Trane Model: TUX100R948VO Heat input rate: 0.1 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 1998</p>	
<p>Front Office Heater (H16) Manufacturer: Carrier Model: TG9S100C16MP11A Heat input rate: 0.1 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2001</p>	

Source	Control Equipment
<p>Two (2) Compressor Room Heater (H17) Manufacturer: Dayton Model: 5VD63A Heat input rate: 0.06 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2013</p> <p>Maintenance Room Heater (H18) Manufacturer: Payne Model: PG8JAA036070AFJA Heat input rate: 0.07 MMBtu/hr, each Allowable fuel type: natural gas Manufactured: 2013</p>	<p>None</p>
<p>Laser Cutting (LSR1) Manufacturer: Trumpf Model: 3030 Date of Construction: 2001</p>	<p>Filter (LSRF1) (integral vacuum system) Manufacturer and Model Number: Richardson Electronics RFT064/10 Filter control efficiency: 99.75%</p>
<p>Hand-Held Plasma Cutting</p> <p>Five (5) Plasma Cutting (PC1, PC2, PC3, PC4, and PC5) Manufacturer: Hypertherm Model: Powermax 65 With Nozzle Ht220819 Manufactured: 2001</p> <p>Four (4) Plasma Cutting (PC6, PC7, PC7, and PC9) Manufacturer: Hypertherm Model: Powermax 1000 Manufactured: 2001</p> <p>Two (2) Plasma Cutting (PC10 and PC11) Manufacturer: Hypertherm Model: Powermax 900 Manufactured: 2001</p> <p>One (1) Plasma Cutting (PC12) Manufacturer: Hypertherm Model: Powermax 800 Manufactured: 2001</p>	<p>Portable Kemper: K1 – K33 Manufacturer and Model Number: Kemper Filter Master XL Date of installation: 07/2017 Filter control efficiency: 99.98% Fume capture efficiency: 100%</p>
<p>Welding (W1-W51) Manufacturers: Miller Electric Mfg Company Model: (23) XMT-350, (1) syncrowave 250dx, (2) millermatic 180, (6) alt 304, (7) CP-302, (2) XMT-300, (8) CP-200, (2) XMT-450. Date of Construction: 2001</p>	<p>Portable Kemper: K1- K33 Manufacturer and Model Number: Kemper Filter Master XL Filter control efficiency: 99.98% Fume capture efficiency: 100%</p>
<p>Abrasive Blaster (AB1) Manufacturer: Marco Model: BLASTMASTER 160 Maximum capacity: 160 ft³ Manufactured: 2001</p>	<p>Blast Filter (ABF1) Manufacturer and Model Number: Donaldson Torit Endura-Tek Filter efficiency: 80% for PM/PM₁₀ and 50% for PM_{2.5}</p>
<p>Paint Booth Type: Side draft, dry filters Manufactured: 2001 Heater - refer to Paint Shop Paint Booth (H9) for details Two (2) Spray Guns: Graco G40 air assisted airless Transfer efficiency by manufacturer: 75%</p>	<p>Filter Manufacturer: Paint Pockets Model: Green Filter Efficiency: 99.43%</p>

Source	Control Equipment
Solvent Recycling Manufacturer: Uni-Ram Corporation Model: 1600 Recycler maximum capacity: 16 gallon Manufactured: 1998	None

(a) Unless it is specifically listed, the control equipment was installed the same time as when the emissions unit was installed.

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit (PTE) 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 natural gas-fired heaters, plasma and laser cutting, welding, abrasive blasting, paint booth, and solvent recycling 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, San Diego Air Pollution Control District (APCD), Louisville Metro Air Pollution Control District, Iowa, North American Stainless, Fisher Group, South Coast 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, 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.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Heaters	0.3	0.3	0.02	3.6	3.1	0.2	1.8E-05
Solvent Recycling	0.00	0.00	0	0	0	42	0
Paint Booth	158	158	0	0	0	151	0
Plasma Cutting	61	61	0	5.5	0	0	0
Laser Cutting	2.19	2.19	0	0	0	0	0

Source	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Media Blasting	0.45	3.26	0	0	0	0	0
Welding	0.4	0.4	0	0	0	0	0
Total	223	226	0.02	9	3	194	1.8E-05

The following table presents the uncontrolled Potential to Emit for hazardous air pollutants (HAP) 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.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
Arsenic	4.4E-05
Benzene	6.5E-08
Beryllium	6.5E-02
Cadmium	1.2E-04
Chromium	4.5E+00
Cobalt	4.0E-06
Dichlorobenzene	4.4E-05
Ethylbenzene	1.9E+00
Formaldehyde	2.7E-03
HMI	4.0E-02
Lead	1.8E-05
Manganese	9.3E-01
Methanol	3.0E+01
Mercury	9.4E-06
Naphthalene	2.2E-05
Nickel	2.0E+00
Polycyclic Organic Matter	4.1E-07
Selenium	8.7E-07
Toluene	1.8E+01
Xylene	7.7E+00
Total	65.3

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 submitted by the Applicant and verified 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 _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Heaters	0.11	0.11	0.01	1.45	1.22	0.08	7.3E-06
Solvent Recycling	0.00	0.00	0	0	0	14.1	0
Paint Booth	0.53	0.53	0	0	0	50.4	0
Plasma Cutting	0.0010	0.0010	0	1.18	0	0	0
Laser Cutting	0.0016	0.0016	0	0	0	0	0
Abrasive Blasting	0.22	0.65	0	0	0	0	0
Welding	2.4E-05	2.4E-05	0	0	0	0	0
Post Project Totals	0.87	1.29	0.01	2.63	1.22	64.60	7.3E-06

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 _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	0.87	1.29	0.01	2.63	1.22	64.60	7.3E-06
Changes in Potential to Emit	0.87	1.29	0.01	2.63	1.22	64.60	7.3E-06

TAP Emissions

A summary of the estimated PTE for emissions increase of toxic air pollutants (TAP) is provided in the following table. Pre- and post-project, as well as the change in, 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 Pollutant (24 hr Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Acetone	0	7.36E-01	7.36E-01	1.19E+02	No
Aluminum	0	2.99E-04	2.99E-04	6.67E-01	No
Barium	0	3.65E-05	3.65E-05	3.30E-02	No
Butyl Acetate	0	4.10E+00	4.10E+00	4.73E+01	No
Calcium Oxide	0	5.08E-02	5.08E-02	1.33E-01	No
Carbon Black	0	4.00E-03	4.00E-03	2.30E-01	No
Chromium	0	7.26E-05	7.26E-05	3.30E-02	No
Cobalt	0	6.98E-07	6.98E-07	3.30E-03	No
Copper	0	1.26E-05	1.26E-05	6.70E-02	No
Dichlorobenzene	0	9.95E-06	9.95E-06	2.00E+01	No

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Ethyl Benzene	0	0.00E+00	0.00E+00	2.90E+01	No
Heptane	0	0.00E+00	0.00E+00	1.09E+02	No
HMDI	0	0.00E+00	0.00E+00	2.00E-03	No
iron (oxide fume)	0	4.83E-04	4.83E-04	0.3330	No
Magnesium (oxide fume)	0	1.27E-06	1.27E-06	0.0012	No
Manganese	0	1.84E-05	1.84E-05	6.70E-02	No
Mercury	0	2.16E-06	2.16E-06	3.00E-03	No
Methanol	0	1.42E+00	1.42E+00	1.73E+01	No
Methyl n-Amyl Ketone	0	1.20E+00	1.20E+00	1.57E+01	No
Molybdenum	0	2.21E-05	2.21E-05	3.33E-01	No
Naphthalene	0	5.06E-06	5.06E-06	3.33E+00	No
Pentane		2.16E-02	2.16E-02	1.18E+02	No
Phenol	0	2.23E-02	2.23E-02	2.40E+01	No
Propyl alcohol	0	3.43E-01	3.43E-01	2.40E+01	No
Selenium	0	1.99E-07	1.99E-07	1.30E-02	No
Silica- quartz	0	6.66E-03	6.66E-03	6.67E-03	No
Silicon	0	2.94E-05	2.94E-05	6.67E-01	No
Silicon Dioxide	0	3.28E-01	3.28E-01	6.67E-01	No
Toluene	0	2.82E-05	2.82E-05	2.50E+01	No
Trimethyl benzene	0	6.10E-02	6.10E-02	8.20E+00	No
Vanadium	0	1.91E-05	1.91E-05	3.00E-03	No
VM&P Naphtha	0	2.16E-01	2.16E-01	9.13E+01	No
Xylene	0	0.00E+00	0.00E+00	2.90E+01	No
Zinc	0	2.41E-04	2.41E-04	6.67E-01	No
Carcinogenic Toxic Air Pollutant (Annual Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Arsenic	0	6.6E-07	6.6E-07	1.5E-06	No
Benzene	0	7.0E-06	7.0E-06	8.0E-04	No
Beryllium	0	4.0E-08	4.0E-08	2.8E-05	No
Cadmium	0	3.6E-06	3.6E-06	3.7E-06	No
Chromium+6	0	4.4E-08	4.4E-08	5.6E-07	No
Formaldehyde	0	2.5E-04	2.5E-04	5.1E-04	No
3-Methylchloranthene	0	6.0E-09	6.0E-09	2.5E-06	No
Nickel	0	2.67E-05	2.7E-05	2.7E-05	No
Polyaromatic Hydrocarbon (Max)	0	6.9E-07	6.9E-07	9.1E-05	No
Polycyclic Organics: 7-PAH Group	0	3.8E-08	3.8E-08	2.0E-06	No

None of these TAP's were over TAP screening levels identified in IDAPA 58.01.01.585 and 586 as a result of this project. Therefore, modeling is not required for any TAP.

TAP emitted from the painting operation and solvent recycling that are hazardous air pollutants (HAP) are not included in the above tables because the painting operation, including solvent recycling is regulated by 40 CFR 63 Subpart HHHHHH. It is presumed that EPA evaluated the 187 HAP 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 TAP that is not one of the 187 HAP will still need to be evaluated for compliance with IDAPA 58.01.01.210. 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.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 7 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (T/yr)
Arsenic	1.7E-05
Benzene	2.6E-08
Beryllium	2.6E-02
Cadmium	4.9E-05
Chromium	2.0E-04
Cobalt	1.2E-06
Dichlorobenzene	1.7E-05
Ethylbenzene	5.6E-01
Formaldehyde	1.1E-03
HMI	9.6E-03
Lead	7.3E-06
Manganese	2.7E-05
Methanol	7.1E+00
Mercury	3.8E-06
Naphthalene	8.9E-06
Nickel	1.2E-04
Polycyclic Organic Matter	1.7E-07
Selenium	3.5E-07
Toluene	4.4E+00
Xylene	1.8E+00
Total	13.7

Ambient Air Quality Impact Analyses

Ambient air quality impact analyses are not required for this permitting action because the PM_{2.5}, SO₂, NO_x, CO, VOC, and TAP emissions from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline.¹

¹ Criteria pollutant thresholds in Table 2, State of Idaho Guideline for Performing Air Quality Impact Analyses, Doc ID AQ-011, September 2013

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}, PM₁₀, SO₂, NO₂, 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 ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 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 ≥ 8 T/yr of a single HAP or ≥ 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 ≥ 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 ≥ 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	> 100	< 100	100	SM
PM ₁₀ /PM _{2.5}	> 100	< 100	100	SM
SO ₂	< 100	< 100	100	B
NO _x	< 100	< 100	100	B
CO	< 100	< 100	100	B
VOC	> 100	< 100	100	SM
HAP (single)	> 10	< 10	10	SM
HAP (Total)	> 25	< 25	25	SM

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, 4.4, 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 58.01.01.677)

IDAPA 58.01.01.677 Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of less than 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 and 2.6.

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_{2.5}/PM₁₀, SO₂, 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)

Exempted

The facility has proposed to operate as a minor source of HAP and could be 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 EPA. EPA granted the exemption on July 21, 2017 that is included in Appendix B of the SOB.

Non-applicable

40 CFR 63 Subpart MMMM—National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

Trinity Trailer performs surface coating of truck trailers. However, this rule affects a miscellaneous metal parts and products surface coating facility that uses 250 gallons per year or more of coatings that contain hazardous air pollutants and is a major source, or is located at a major source, or is part of a major source of HAP emissions. Although Trinity Trailer uses more than 250 gallons per year of coatings that contain hazardous air pollutants, since Trinity Trailer is not a major source and is not a major source of HAP emissions, this subpart does not apply to Trinity Trailer. Refer to Section 7 of the application (2018AAG1099) for more details.

40 CFR Part 63, Subpart XXXXXX - National Emission Standards For Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

Trinity Trailer operations, manufacturing truck trailers, are not included in the nine manufacturing subcategories regulated by this subpart. Refer to Section 7 of the application for more details.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

PERMIT SCOPE

Initial Permit Condition 1.1 and Table 1.1

Permit Condition 1.1 and Table 1.1 describe the permitting action and regulated sources.

COMBUSTION SOURCES

Initial Permit Conditions 2.1 and 2.2

The combustion sources and their controls, as presented by the applicant, are described in these permit conditions.

Initial Permit Condition 2.3

This permit condition incorporates opacity limits in accordance with IDAPA 58.01.01.625.

Initial Permit Condition 2.4

This permit condition incorporates the grain loading standard to each indirect heat transfer heaters in accordance with IDAPA 58.01.01.677.

Initial Permit Condition 2.5

Annual emissions limits for combustion sources are for keeping the facility-wide NO_x emissions below the regulatory concern (BRC) level so that modeling will not be required and for keeping facility-wide cadmium, formaldehyde, and nickel emissions below their respective ELs so that modeling will not be required.

Initial Permit Condition 2.6

All heaters are required to burn natural gas exclusively as emissions estimations are based on burning natural gas only. This fuel requirement is also to ensure compliance with the grain loading standard for indirect heat transfer heaters.

The fuel usage limit is for compliance with the annual emissions limits established in Permit Condition 2.5. This fuel amount is used to estimate emissions from the combustion sources in the 062218 revised EI spreadsheet.

Initial Permit Condition 2.7

This is a fuel usage monitoring and recordkeeping requirement to demonstrate compliance with the fuel usage limit in PC 2.6.

CUTTING AND WELDING (FABRICATION)

Initial Permit Conditions 3.1 and 3.2 and Table 3.1

Permit conditions 3.1 and 3.2 and Table 3.1 describe the fabrication process, including plasma cutting, laser cutting, and welding and their emissions controls.

Initial Permit Condition 3.3

The NO_x, PM₁₀ and PM_{2.5} annual emissions limits are for keeping the facility-wide NO_x, PM₁₀ and PM_{2.5} emissions below the respective BRC levels so that modeling analysis would not be required. With the requirement of using control devices and with the operating limits specified in the permit, the particulate emissions from welding, plasma cutting, and laser cutting are low. The applicant needs to comply with the control and operating requirements in the permit to keep emissions at or below the respective permitted levels.

Initial Permit Condition 3.4

Permit condition 3.4 states that building vents and stacks are subject to 20% opacity limit. Emissions from the filters are vented inside the building according to the application.

Initial Permit Condition 3.5

The annual limit of the aggregate number of operational hours by all of the individual cutters along with the use of controls as specified in the permit are for keeping the facility-wide annual average nickel emissions below its EL and for keeping the facility-wide PM₁₀ and PM_{2.5} emissions below BRC levels so that modeling analyses would not be required.

Short term limits are not needed as short term emissions from plasma cutters are below the respective ELs for non-carcinogenic TAP when assuming the permitted annual production rates happening in one day.

Refer to 5/17/2018 email (2018AAG1099) for more discussions and details on why the limits on aggregate number of operational hours by all of the individual cutters are proposed in the application and are used in the permit.

Initial Permit Condition 3.6

Permit Condition 3.6 limits annual throughput of the amount of material removed by laser cutting for stainless steel, steel, and aluminum, respectively. The annual throughput limit for laser cutting along with the use of controls as specified in the permit are operating requirements to keep the facility-wide annual average nickel and chromium 6+ emissions below their respective ELs and to keep the facility-wide PM₁₀ and PM_{2.5} emissions below the respective BRC levels so that modeling analyses would not be required.

Short term limits are not needed as short term emissions from laser cutters are below the respective ELs for non-carcinogenic TAP when assuming the permitted annual production rate happening in one day.

The amount of material removed by laser cutting for stainless steel, steel, and aluminum is proposed in the "3-5 Laser Cutting-lbs" worksheet of the 062218 revised EI spreadsheet (2018AAG1182). During the public comment period, the applicant requested to include the throughput limits for all three materials instead of just for stainless steel. The request is granted.

Initial Permit Condition 3.7.1

The EFs used to estimate emissions from welding operation are welding process (e.g., GMAW, MIG, TIG) and welding rod type (e.g., Lincoln BLUE MAX, mig 308LSi) specific. Therefore the welding process and welding rod type are specified in PC 3.7.1 (i.e., Table 3.4 of the permit).

With the use of Kemper fume extraction filter units (the applicant has assumed 100% capture efficiency and 99.98% filter control efficiency), the emissions from using these two welding electrode rods are very low. Throughput limits of rods usage (i.e., 450 lb/week) are unnecessary as long as the applicant uses the welding process and welding rod type specified in PC 3.7.1 and the control specified in PC 3.8.

Initial Permit Condition 3.7.2

During the public comment period on the proposed permit, the permittee requested to allow using an alternate welding electrode rod that may emit new TAP or emit TAP at higher rates than the rates in Table 3-6 of the emissions inventory in Appendix A of SOB. This request is addressed by adding Section 6 to the permit

Refer to discussions for Section 6 of the permit for more details. Refer to p. 3-23 to 3-25 in the 3/20/2018 application (2018AAG845) and table 3-6 in the EI spreadsheet (2018AAG1182) for emissions calculation methods and details.

Initial Permit Condition 3.8

To keep emissions below the thresholds that trigger modeling analyses, the facility needs to keep the minimum overall control efficiency of 99.98% for each plasma cutter operation and each welding operation and 99.75% for laser cutting operation. The applicant has assumed 100% capture efficiency, 99.98% filter control efficiency for plasma cutter operation and welding operation, and 99.75% for laser cutting operation in the EI spreadsheet.

Initial Permit Condition 3.9

The permittee is required to monitor the aggregate number of operational hours by all of the individual cutters to demonstrate compliance with Plasma Cutting Aggregated Hours Limit permit condition.

Initial Permit Condition 3.10

The permittee is required to monitor amount of material removed during laser cutting to demonstrate compliance with the amounts of material removed limit.

Initial Permit Condition 3.11

To demonstrate compliance with PC 3.7, the permittee is required to keep the safety data sheet (SDS) of welding rods used at the facility; if alternate welding rod is used, the permittee shall keep the description of the respective welding process (e.g., GMAW, MIG, TIG, GMAW).

Initial Permit Condition 3.12

The permittee is required to keep records of the filters used in the dust collectors to demonstrate compliance with the filter control efficiency requirements specified in Dust Collector Operation permit condition.

Initial Permit Condition 3.13

The permittee is required to check and replace the filters as outlined in the O&M Manual.

Initial Permit Condition 3.14

The permittee is required to develop an O&M manual for the dust collectors.

ABRASIVE BLASTING

After cutting, carbon steel components surfaces are cleaned by media blasting in an enclosed custom-made blast booth. Environmental Abrasives' Fusion Red media is sprayed using two spray nozzles connected to a skid-mounted Blast machine, Model BLASTMASTER 160, 160 cubic feet, 1,350 lb/hr at 125 psi. Blasting media is not currently reused. Emissions are routed to Donaldson Torrit Endura-Tek cartridge filters. Thirty six cartridges are installed in the filter unit. The cartridges are rated MERV 10 (ASHRAE 52.2 1999) by the manufacturer with control efficiency of 80% for PM/PM₁₀ and 50% for PM_{2.5}.

Initial Permit Conditions 4.1 and 4.2

These permit conditions describe the abrasive blasting process along with the associated control device and emission point as presented by the applicant.

Initial Permit Condition 4.3

The annual PM₁₀ and PM_{2.5} emissions limits are for keeping the facility-wide PM₁₀ and PM_{2.5} emissions below the BRC levels so that modeling analyses would not be required. They are calculated by multiplying the daily emissions limits by 5 days/week and 52 weeks/yr same as the calculation method used in the revised 062218 EI spreadsheet.

The 24-hour lb/hr emissions limit for silica- quartz (14808-60-7) is for keeping its facility-wide lb/hr rate less than or equal to the silica- quartz EL so that modeling analyses would not be required. The revised 062218 EI shows that the facility-wide Silica- quartz (14808-60-7) emissions is 99.8% of the EL.

Initial Permit Condition 4.4

This permit condition incorporates opacity limits in accordance with IDAPA 58.01.01.625. As provided in the application, all of the abrasive blasting is done in blast booth.

Initial Permit Conditions 4.5.1 and 4.6

The annual and daily abrasive blasting media usage limits along with the use of blasting filter unit are for assuring compliance with the annual and daily emissions limits in PC 4.3 when using Fusion Red Glass.

The PM₁₀ and PM_{2.5} emissions were calculated using the EFs provided in the 062218 EI spreadsheet. These EFs were used in other states, such as Iowa, Louisville, and Minnesota for glass bead and garnet abrasive media according to the application. Be aware that these EFs are components and material specific.

DEQ staff has corrected the EFs used for PM₁₀ and PM_{2.5} emissions calculation in cell I3 and cell M3 in Table 3-3 of the 062218 spreadsheet because the Fusion Red Glass abrasive media is a mixture of crushed glass and garnet with maximum garnet composition of 40% according to the abrasive blast media vendor. The revised EFs are developed using the garnet EFs and glass EFs provided in Table 3-3 of the 062218 EI spreadsheet. To provide more flexibility and still keep PM_{2.5} and PM₁₀ below BRC level, maximum 50% garnet component is used. The revised EFs are calculated as follows:

$$50\% \times \text{PM}_{10} \text{ EF for glass} + 50\% \times \text{PM}_{10} \text{ EF for garnet} = 50\% \times 0.13\% + 50\% \times 0.4\% = 0.27\%$$

$$50\% \times \text{PM}_{2.5} \text{ EF for glass} + 50\% \times \text{PM}_{2.5} \text{ EF for garnet} = 50\% \times 0.013\% + 50\% \times 0.06\% = 0.037\%$$

“The garnet composition in abrasive blasting media shall not exceed 50%.” is added to PC 4.5.1.

DEQ staff has also corrected the EF in cell D23 in Table 3-3 of the 062218 EI spreadsheet from 0.5% to 0.553% to be the same as the cited EF in Cell A36 of Table 3-3 of the 062218 EI spreadsheet.

Initial Permit Conditions 4.5.2

During the public comment period on the proposed permit, the permittee requested to allow using alternate abrasive blast media that may emit new TAP or emit TAP at higher rates than the rates in Table 3-3 of the emissions inventory in Appendix A of SOB. This request is addressed by adding Section 6 to the permit.

Permit Condition 4.5.2 reads:

Prior to use an alternate abrasive blasting media, the permittee shall in addition comply with Section 6 of the permit.

Refer to discussions for Section 6 of the permit for more details. Refer to p.3-5 to 3-7 in the 3/20/2018 application (2018AAG845) and Table 3-3 in the revised 062218 EI spreadsheet (2018AAG1182) for emissions calculation methods and details.

Initial Permit Condition 4.7

The permittee is required to monitor throughput to demonstrate compliance with the throughput limits.

Initial Permit Condition 4.8

The permittee is required to keep safety data sheet (SDS) of each abrasive blasting media used at the facility onsite.

Initial Permit Condition 4.9

The permittee is required to keep records of the cartridges used in the blast filter unit to demonstrate compliance with the filter control efficiency requirements specified in Blast Filter Unit Operation permit condition.

Initial Permit Condition 4.10

The permittee is required to check and replace the cartridges as outlined in the O&M Manual.

Initial Permit Condition 4.11

The permittee is required to develop an O&M manual for the blast filter unit.

COATING OPERATION

Coatings are sprayed on metal in a totally enclosed booth using two Grayco G40 Air Assisted spray guns, rated at 75-85% by the manufacturer. Transfer efficiency studies reported by Trinity Trailer indicate 58% of the primer spray and 69% of the primer spray reaches its target. For the purpose of estimating emissions, 60% transfer efficiency is applied for non-volatile constituents' coatings. Volatile constituents are assumed emitted at 100% of their respective feed rates. Emissions are controlled with Paint Pockets Green Filter. The manufacturer test report indicates 99.43% control efficiency.

Initial Permit Conditions 5.1 and 5.2

These permit conditions describe the paint application process along with the associated solvent recycling, the control device, and emission points as presented by the applicant.

Initial Permit Condition 5.3

Particulate matter annual limits are for keeping the facility-wide PM₁₀ and PM_{2.5} emissions below BRC levels so that modeling analyses would not be required. The VOC and HAP annual limits are for keeping the rates below the major source thresholds for VOC and HAP.

No short term limits are necessary when using the coating materials listed in PCs 5.7.1 and 5.7.2 because non-carcinogenic TAP emissions from using these coating material materials are well below the respective ELs.

Short term limits only apply when using an alternate coating material. Refer to discussions on Section 6 of the permit for details.

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 the paint booth.

Initial Permit Condition 5.6

The throughput limits for primer, topcoat finish paint, and solvent recycling are for ensuring compliance with the emissions limits for the coating operation in PC 5.3.

Throughput limits for other coating materials, such as thinner and cures are not specifically listed in the permit because they are correlated with the usage of primer or topcoat finish paint and are inherently limited by limiting the primer and topcoat finish paint usages according to the application. Their particulate emissions are relatively low. This approach reduces the unnecessary recordkeeping burden for the applicant.

Initial Permit Condition 5.7.1

Permit Condition 5.7.1 specifies the coating material formulations. It is for ensuring compliance with the limits in Appendix A of the permit and for staying below TAP ELs.

Initial Permit Condition 5.7.2

Permit Condition 5.7.2 allows the use of coating materials that are equivalent to the ones listed in Appendix B of the permit or in Table 4-1 of the emissions inventory in Appendix A of the SOB as long as the coating material meets the definition of "equivalent" in Permit Condition 5.7.2.

This permit condition provides the applicant flexibilities to use equivalent coating materials without perform additional calculations and without monitoring and recordkeeping daily coating usages.

Initial Permit Condition 5.7.3

During the public comment period on the proposed permit, the permittee requested to allow using an alternate coating material that emits new TAP or emit TAP at higher rates than the rates listed in Appendix B of the permit or in Table 4-1 and Table 4-2 of the emissions inventory in Appendix A of SOB. This request is addressed by adding Section 6 in the permit. Refer to discussions for Section 6 of the permit for details.

Permit Condition 5.7.3 reads:

Prior to use an alternate coating material that does not meet the definition of “equivalent” for this permit condition, the permittee shall in addition comply with Section 6 of the permit.

Refer to p.4-28 to 4-32 of the 3/20/2018 application (2018AAG845) and Table 3-2, Table 4-1, Table 4-2, and Table 5-5 of the revised 062218 EI spreadsheet (2018AAG1182) for emissions calculation methods and details.

Initial Permit Condition 5.8

This permit condition specifies that all coating activities at this facility shall be conducted inside a paint spray booth with filter system in place and exhaust fans operating. A spray booth filter system shall have a minimum control efficiency of 99.43% for particulate emissions as documented by the filter manufacturer. The filter system shall be operated at all times when the paint spray booth is operating.

Initial Permit Condition 5.9

This permit condition specifies that all painting shall be conducted with air-assisted airless, airless, HVLP, or equivalent technology, with a minimum 75% transfer efficiency as documented by the spray gun manufacturer.

Initial Permit Condition 5.10

This permit condition specifies that the permittee shall install, maintain, and operate the solvent recovery system according to the O&M Manual.

Initial Permit Condition 5.11

This monitoring and recordkeeping permit condition requires the permittee to include recording and correcting odor complaints.

Initial Permit Condition 5.12

The permittee is required to monitoring coating material usage to demonstrate compliance with Coating Material Usage Limits permit condition.

When an alternate coating material is used, the permittee is required to monitor and record each alternate coating material usage daily to demonstrate compliance with the daily usage limit in Permit Condition 5.6.

Initial Permit Condition 5.13

This is a coating material formulations monitoring requirement.

For each material not listed in Table 5.2, the permittee shall demonstrate that the coating material meets the “equivalent” definition in Permit Condition 5.7. Refer to Appendix A of SOB for the components of materials listed in Table 5.2.

Initial Permit Condition 5.14

This permit condition requires records of the spray booth filter system minimum control efficiency.

Initial Permit Condition 5.15

This permit condition requires records of the spray gun minimum transfer efficiency.

Initial Permit Condition 5.16

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

Initial Permit Condition 5.17

This permit condition requires developing an O&M manual for the paint booth and solvent recovery system. The permittee shall operate the paint booth filtration and solvent recovery system in accordance with O&M Manual.

REQUIREMENTS WHEN USING ALTERNATE MATERIAL

Initial Permit Condition 6.1

When using an alternate welding rod as specified in Permit Condition 3.7.2, an alternate abrasive blasting media as specified in Permit Condition 4.5.2, and/or an alternate coating material as specified in Permit Condition 5.7.3, the applicant is required in addition to comply with the requirements in Section 6 of the permit.

Initial Permit Condition 6.2

The approach used in Permit Condition 6.2 follows the approach used in DEQ's boilerplate permit conditions for coating operation except that this facility has a few other operations in addition to coating operation while the boilerplate permit conditions are for having only coating operation.

Initial Permit Condition 6.3

Permit Condition 6.3 is to ensure that facility-wide PM₁₀ and PM_{2.5} emissions continue stay below their BRC levels when using an alternate coating material. It is also to ensure that the facility would not become major source for VOC, or HAP when using an alternate coating material.

It specifies how to calculate emissions and how to demonstrate compliance with emissions limits when using an alternate coating material. The daily emissions limits for painting booth in Appendix A of the permit and the corresponding daily coating monitoring required in Section 6 of the permit only apply when using an alternate coating material.

The PM₁₀, PM_{2.5}, VOC, and HAP lb/day emissions limits are calculated by dividing T/yr permit limits by 5 days/week and 52 weeks/yr. The 5 days/week and 52 weeks/yr operational schedule was used in the revised 062218 revised EI spreadsheet when calculating annual material usage and annual emissions rates (e.g., daily material usage in gal/day x 5 day/week x 52 weeks/yr = annual material usage in gal/yr; $\sum(\text{annual material usage of each coating in gal/yr} \times \text{density in lb/gal} \times \text{solid wt}\%) = \text{lb/yr annual emissions rate}$).

The approach used here follows the approach used in DEQ's boilerplate permit conditions for coating operation.

Initial Permit Condition 6.4

Permit Condition 6.4 specifies the calculation methods when using an alternate abrasive blasting media. It ensures that the permittee complies with the emissions limits for Abrasive Blasting in Appendix A of the permit when using an alternate abrasive blasting media. Compliance with the daily emissions limits does not ensure compliance with the annual emissions limits if the facility operates more than 260 days per year. That is why compliance of annual emissions limits is also specified and required in Permit Condition 6.4.

Be aware that the EFs used in revised 062218 EI spreadsheet are components and material specific. Permit Condition 6.4 requires the permittee to provide supporting documentation for EFs if they have not been approved by this permitting action.

Initial Permit Condition 6.5

When using an alternate welding rod, by using controls as specified in Abrasive Blasting section of the permit, the particulate and HAP emissions from the welding operation at the proposed production rates (i.e., 450 lb/week for each of the two type of rods) are well below 0.01 T/yr; therefore, no specific calculations for particulate and HAP emissions are required when using an alternate welding rod.

Initial Permit Condition 6.6

Permit Conditions 6.6 to 6.10 are related to TAP calculation and compliance methods.

While the permittee is required to calculate emissions for PM₁₀/PM_{2.5}, VOC, and HAP for each Daily Operation Scenario because the annual emissions rate based on the past consecutive 12-month period could be different each day, the permittee only need to calculate TAP emissions for a new Daily Operation Scenario because once a Daily Operation Scenario demonstrates compliance with the TAP standards based on the same proposed daily

maximum usage limit(s) and the same materials for the Scenario, the daily emissions rates don't change.

Permit Condition 6.6 reads: "For each new Daily Operation Scenario that uses an alternate material, for each TAP emitted from an operation using an alternate material, the permittee shall estimate facility-wide emissions rate for that TAP from all operations at the facility as specified in the following, and compare the facility-wide TAP rate for that TAP against the TAP Screening Emission Rate in IDAPA 58.01.01.585 and 586. The permittee shall not use or implement any Daily Operation Scenario that TAP emissions exceed any TAP Screening Emission Rates in IDAPA 58.01.01.585 and 586."

Initial Permit Condition 6.7

Permit Condition 6.7 specifies how facility-wide TAP would be estimated when using an alternate material(s) in one operation or when using alternate materials in multiple operations.

Initial Permit Condition 6.8

Permit Condition 6.8 specifies how TAP would be estimated when using an alternate coating material(s). It follows the approach used in DEQ's boilerplate permit conditions for coating operation.

According to IDAPA 58.01.01.210.20, Table 6.1, copied from DEQ's boilerplate permit conditions for coating operation, does not include TAPs that are HAPs because the coating operation at the facility is regulated by 40 CFR 63 Subpart HHHHHH and is an exempted source by 40 CFR 63 Subpart HHHHHH.

Initial Permit Condition 6.9

Permit Condition 6.9 specifies how TAP would be estimated when using an alternate abrasive blasting media. It uses the same emissions estimation method as that used in revised 062218 EI spreadsheet for TAP.

Be aware that the EFs used in revised 062218 EI spreadsheet are components and material specific. Permit Condition 6.9 requires the permittee to provide supporting documentation for EFs if they have not been approved through this permitting action.

Initial Permit Condition 6.10

Permit Condition 6.10 specifies how TAP would be estimated when using an alternate welding electrode rod. It uses the same emissions estimation method as that used in revised 062218 EI spreadsheet for TAP.

Be aware that EFs used to estimate emissions from welding operation are welding process (e.g., GMAW, MIG, TIG) and welding rod type (e.g., Lincoln BLUE MAX, mig 308LSi) specific. Permit Condition 6.10 requires the permittee to provide supporting documentation for EFs if they have not been approved through this permitting action.

Initial Permit Conditions 6.11 – 6.13

Permit Condition 6.11 to 6.13 are monitoring, recordkeeping, and reporting requirements. They follow the approach used in DEQ's boilerplate permit conditions for coating operation.

GENERAL PROVISIONS

Initial Permit Condition 7.1

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 7.2

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 7.3

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 7.4

The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to

Idaho Code §39-108.

Initial Permit Condition 7.5

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 7.6

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 7.7

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 7.8

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 7.9

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 7.10

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 7.11

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 7.12

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 7.13

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 7.14

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 7.15

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 7.16

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

APPENDISES

The reasons to have these emissions limits in Appendix A of the permit are discussed under Permit Condition Reviews section. SO₂ and CO emissions limits are not needed because they are from combustion sources only and are inherently limited by the other emissions limits for the combustion sources.

Appendix B provides chemical components of the coating materials listed in Table 5.2 of the permit.

Appendix C lists TAP emissions rates from all sources without using any alternative material.

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. During this time, there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity 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 submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

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

Revised 062218 EI (2018AAG1182)

Trinity Trailer

Table 3-1: MAU1 Combustion Emissions

Equipment	Model	Year	Capacity	Efficiency	Gas	Volume	BTU/hr	MMBTU/hr	Notes
Finish Shop tube heaters	H4	1995	Robert Gordan Vantage CTH1-15	none available	4	150,000	0.60	MMBTU/hr	Indirect
Finish Shop Radiant heaters	H5	2015	Sunstar SG6-L5c	none available	10	60,000	0.60	MMBTU/hr	Indirect
Finish Shop Radiant heaters	H6	2007	Robert Gordan EG-60	none available	15	54,000	0.81	MMBTU/hr	Indirect
Finish Shop Break Room	H7	2016	Payne PG92SBS48090B	0816A60400	1	80,000	0.08	MMBTU/hr	Indirect
Chain and Axle tub heater	H8	1995	Robert Gordan Vantage CTH1-15	none available	1	150,000	0.15	MMBTU/hr	Indirect
Paint Shop Paint Booth	H9	1990	Viking DEM-2000LX68	290182	1	2,800,000	2.80	MMBTU/hr	Direct
Paint Shop Wash Bay	H10	2013	Dayton 4LX68	none available	1	400,000	0.40	MMBTU/hr	Indirect
Paint Shop Wash Bay-Power Wash	H11	2010	Hydrotek HN3000BE4R	201200177	1	700,000	0.70	MMBTU/hr	Indirect
Paint Shop Main Heater	H12	2013	Dayton 4LX68	5014185420090	1	400,000	0.40	MMBTU/hr	Indirect
Paint Shop Radiant Heater	H13	2014	Dayton 5vd65A	none available	6	90,000	0.54	MMBTU/hr	Indirect
Supervisor Office heater	H14	2016	Payne E4EB-015H	E4G160327654	1	80,000	0.08	MMBTU/hr	Indirect
Front Office heater	H15	1998	Trane TUX100R948VO	N475cn7G	1	100,000	0.10	MMBTU/hr	Indirect
Front Office heater	H16	2001	Carrier TG9S100C16MP11A	W182583059	1	100,000	0.10	MMBTU/hr	Indirect
Compressor Room heater	H17	2013	Dayton 5vd63A	1101250012B	2	60,000	0.12	MMBTU/hr	Indirect
Maintenance Room heater	H18	2013	Payne PG8JAA036070AFJA	3013A19378	1	66,000	0.07	MMBTU/hr	Indirect
					Total	54	5,655,000	8.46	MMBTU/hr

MakeUp Air Heater Duty =

8.46 MMBtu/hr +

1,020 MMBtu/MMscf = 8.30E-03 MMscf/hr

Fuel Use:

Operating Assumptions:

24 hr/day
3,504 hr/yr³

% NGas Limit Used in 201 20%
40% (Cd Limited)

0.199 MMscf/day
29.066 MMscf/year

Criteria Air Pollutants	Emission Factor ¹ lb/MMscf	Emissions		Greenhouse Gas Emissions ⁶
		lb/hr	T/yr	
NO ₂	100	0.83	1.45	CO ₂ = 0.054 kg/scf Natural Gas CO ₂ = 1.7E+03 Tons/year CH ₄ = 0.00103 g/scf Natural Gas
CO	84	0.70	1.22	CH ₄ = 3.3E-02 Tons/year
PM ₁₀	7.6	0.063	0.11	N ₂ O = 0.0001 g/scf Natural Gas
PM _{2.5}	7.6	0.063	0.11	N ₂ O = 3.3E-02 Tons/year Total CO ₂ e = CO ₂ + (CH ₄ * 25) * (N ₂ O * 298)
SO ₂	0.6	5.0E-03	8.7E-03	CO ₂ e = 1737.18 Tons/year
VOC	5.5	4.6E-02	8.0E-02	
Lead	0.0005	4.1E-06	7.3E-06	
		3.0E-03	lb/month	
Total Criteria Emissions (ton/yr) =		2.87		

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor ¹ lb/MMscf	Emissions		Modeling Threshold TAP Screening Emission Level	Modeling Required?
		lb/hr ²	T/yr		
PAH HAPs					
2-Methylnaphthalene	2.40E-05	7.96E-08	3.5E-07	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	5.97E-09	2.6E-08	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	5.97E-09	2.6E-08	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	5.97E-09	2.6E-08	9.1E-05 lb/hr	No
Anthracene	2.40E-06	7.96E-09	3.5E-08	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	5.97E-09	2.6E-08		See POM
Benzo(a)pyrene	1.20E-06	3.98E-09	1.7E-08	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	5.97E-09	2.6E-08		See POM
Benzo(g,h,i)perylene	1.20E-06	3.98E-09	1.7E-08	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	5.97E-09	2.6E-08		See POM
Chrysene	1.80E-06	5.97E-09	2.6E-08		See POM
Dibenzo(a,h)anthracene	1.20E-06	3.98E-09	1.7E-08		See POM
Fluoranthene	3.00E-06	9.95E-09	4.4E-08	9.1E-05 lb/hr	No
Fluorene	2.80E-06	9.29E-09	4.1E-08	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	5.97E-09	2.6E-08		See POM
Naphthalene	6.10E-04	5.06E-06	8.9E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	2.02E-06	8.9E-06	9.1E-05 lb/hr	No
Phenanthrene	1.70E-05	5.64E-08	2.5E-07	9.1E-05 lb/hr	No
Pyrene	5.00E-06	1.66E-08	7.3E-08	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)		3.78E-08	1.7E-07	2.0E-06 lb/hr	No
Non-POM PAH		1.58E-07	6.92E-07		
Non-PAH HAPs					
Benzene	2.10E-03	6.97E-06	3.1E-05	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	9.95E-06	1.7E-05	20 lb/hr	No
Formaldehyde	7.50E-02	2.49E-04	1.1E-03	5.1E-04 lb/hr	No
Hexane	1.80E+00	1.49E-02	2.6E-02	12 lb/hr	No
Toluene	3.40E-03	2.82E-05	4.9E-05	25 lb/hr	No
Non-HAP Organic Compounds					
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.33E-07	2.3E-07		
Butane	2.10E+00	1.74E-02	3.1E-02		
Ethane	3.10E+00	2.57E-02	4.5E-02		
Pentane	2.60E+00	2.16E-02	3.8E-02	118 lb/hr	No
Propane	1.60E+00	1.33E-02	2.3E-02		
Metals (HAPs)					
Arsenic	2.00E-04	6.64E-07	2.9E-06	1.5E-06 lb/hr	No
Barium	4.40E-03	3.65E-05	6.4E-05	0.033 lb/hr	No
Beryllium	1.20E-05	3.98E-08	1.7E-07	2.8E-05 lb/hr	No
Cadmium	1.10E-03	3.65E-06	1.6E-05	3.7E-06 lb/hr	No
Chromium	1.40E-03	1.16E-05	2.0E-05	0.033 lb/hr	No
Cobalt	8.40E-05	6.97E-07	1.2E-06	0.0033 lb/hr	No
Copper	8.50E-04	7.05E-06	1.2E-05	0.013 lb/hr	No
Manganese	3.80E-04	3.15E-06	5.5E-06	0.067 lb/hr	No

Trinity Trailer

Table 3-2: Solvent Recycling Emissions

Solvent Name	Density	Solids	VOC	Methyl Alcohol	Acetone	Ethylbenzene	Toluene	Xylene	Petroleum Distillates
			(non-exempt)						
105 Lacquer Thinner ¹	lb/gal	Weight Percentage Content Data	Weight Percentage Content Data	67-56-1	67-64-1	100-41-4	108-88-3	1330-20-7	64742-47-8 (VM & P Naphtha)
	6.78	0.0%	100.00%	50%	26%	2%	19%	8%	4%

Use Amount ²	Solids	VOC	Methyl Alcohol	Acetone	Ethylbenzene	Toluene	Xylene	Petroleum Distillates
Max. Daily Use Amount	Daily Use Amount	Daily Use Amount	Daily Use Amount	Daily Use Amount	Daily Use Amount	Daily Use Amount	Daily Use Amount	Daily Use Amount
(gal/day)	(lbs./day)							
16.0	0.00E+00	1.08E+02	5.42E+01	2.82E+01	2.17E+00	2.06E+01	8.68E+00	4.34E+00

Amount Emitted ³	VOC	Methyl Alcohol	Acetone	Ethylbenzene	Toluene	Xylene	Petroleum Distillates
	Amount Emitted						
	24-hr.-Avg (lbs/hr)						
	7.46E-03	3.73E-03	1.94E-03	1.49E-04	1.42E-03	5.97E-04	2.98E-04
DEQ 585 EL (lbs./hr.)		1.73E+01	119	NA	NA	NA	9.13E+01
TAP Exceeds EL?		No	No	NA	NA	NA	No
VOC Amount Emitted (Assume 5*52=260 days/ year) (tons/year)	1.4E+01						

NOTES

- 1 Chemical composition Thinner from MSDS
- 2 Trinity Trailer estimates 10 gals./day every 3 days; assume 16 gals./day 365 days/year;
- 3 AP-42, Chapter 4.7, condenser vent 3.3 lbs/ton = 0.165%.
- 4 TAP constituents ethylbenzene, toluene and xylene are not estimated due to NESHAP applicability.

TAPs also HAPs, NESHAPS 6H, No Idaho TAPs Analysis Required

Table 3-3: Abrasive Blasting Emissions

Abrasive Blasting	Abrasive Max Usage	Abrasive Max Usage	Abrasive Max Usage	Particulate Emissions ^{1,2,3}	Estimated Uncontrolled PM Emissions	Estimated Controlled PM Emission ³	10% Significant PM Emission Rate	PM ₁₀ Emission Factor ^{1,7}	Estimated Uncontrolled PM ₁₀ Emissions	Estimated Controlled PM ₁₀ Emissions ³	10% Significant PM ₁₀ Emission Rate	PM _{2.5} Emissions Emission Factor ^{1,7}	Estimated Uncontrolled PM _{2.5} Emissions	Estimated Controlled PM _{2.5} Emissions ³	10% Significant PM _{2.5} Emission Rate
	lbs/yr	lbs/day	ton/yr	wt%	ton/yr	ton/yr	ton/yr	wt%	ton/yr	ton/yr	ton/yr	wt%	ton/yr	ton/yr	ton/yr
Crushed Glass															
Fusion Red Glass Restricted Use	2,462,824	9,472	1231.412	0.75%	9.2	1.85	2.5	0.27%	3.3	0.65	1.5	0.037%	0.45	0.225	1.5
Max Unrestricted Usage	10,372,276.0	28,417.2	5,186.1		Max Unrestricted Emission	77,792.1	38.9								

Media 1393 lbs/hr used 6.8 hrs./day

Abrasive Blasting	Abrasive Max Usage	Abrasive Max Usage	Particulate Emissions ¹	TAP Component	CAS	TAP Content	Filter Efficiency	Estimated Unrestricted TAP Emissions (lb/hr)	Screening Emissions Level (lb/hr)	BRC TAP Exemption	% BRC Exceedance	Level I TAP Exemption	% TAP Exceedance
Fusion Red Glass	lbs/yr	lbs/day	wt%			wt%				Unrestricted Uncontrolled Below 10% Screening Level? (Y/N)		Below Screening Level? (Y/N)	
Unrestricted Usage	10,372,276.0	28,417.2	0.75%	silicon dioxide (assume amorphous)	NA	43.20%		3.8E+00	6.67E-01	NO	5752%	NO	575%
				calcium oxide	1305-78-8	6.00%		5.3E-01	1.33E-01	NO	4006%	NO	401%
				silica crystalline	14808-60-7	1.20%		1.1E-01	6.70E-03	NO	15905%	NO	1591%

Abrasive Blasting	Restricted Daily Usage	Restricted Daily Usage	Particulate Emissions ³	TAP Component	CAS	TAP Content	Filter Efficiency	Estimated TAP Emissions (lb/hr)	Screening Emissions Level (lb/hr)	PTC TAP Compliance	TAP EL Exceedance	
Fusion Red Glass	lbs/yr	lbs/day	wt%			wt%				Controlled Below Screening Level? (Y/N)		
Restricted Controlled Usage	2,462,824	9,472.4	0.91%	silicon dioxide (assume amorphous)	PM	NA	43.20%	80%	3.1032E-01	6.7E-01	Yes	46.5%
			0.13%	silicon dioxide (assume amorphous)	PM ₁₀	1305-78-8	6.00%	80%	6.1571E-03	6.7E-01	Yes	0.9%
			0.013%	silicon dioxide (assume amorphous)	PM _{2.5}	NA	43.20%	50%	1.1083E-02	6.7E-01	Yes	1.7%
			0.91%	calcium oxide	PM	1305-78-8	6.00%	80%	4.3099E-02	1.3E-01	Yes	32.4%
			0.13%	calcium oxide	PM ₁₀	1305-78-8	6.00%	80%	6.1571E-03	1.3E-01	Yes	4.6%
			0.013%	calcium oxide	PM _{2.5}	1305-78-8	6.00%	50%	1.5393E-03	1.3E-01	Yes	1.2%
			0.553%	silica crystalline	PM/PM ₁₀	14808-60-7	1.20%	80%	5.2382E-03	6.7E-03	Yes	78.2%
			0.06%	silica crystalline	PM _{2.5}	14808-60-7	1.20%	50%	1.4209E-03	6.7E-03	Yes	21.2%

Skid Mounted Big Red Series Blast machine, Model BM 160, 160 c. ft., 1393 lbs/hr at 125 p.s.i., assume abrasive blasting 8 hours/day (11,144 lbs./day), 5 days/week

1. U.S. Environmental Protection Agency, Compilation of Air Emission Factors, Chapter 13.2.6 Abrasive Blasting, September 1997, Table 13.2.6 and page 13.2.8-2 (steel shot emissions 10% of sand emissions)
 Based on AP-42 Steel Shot 10% of Sand Uncontrolled emissions, assume glass equivalent to steel shot - PM 2.7 lbs/1000 lbs. media (0.27%); PM10 1.3 lbs/1000 lbs. media (0.13%); PM2.5 0.13 lbs/1000 lbs. media (0.013%)

2. San Diego Air Pollution Control District, Abrasive Blasting, Garnet, Uncontrolled
http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/APCD_Garnet_Blast_Medium_Site_Specific_Controls.pdf
 PMtotal 8 lbs./ton abrasive (0.4%); PM10 8 lbs./ton abrasive (0.4%);

3. State of Iowa Department of Natural Resources
 Garnet PMtotal 5.53 lbs./1,000 lbs. abrasive (0.5%); PM10 5.53 lbs./1,000 lbs. abrasive (0.553%); PM2.5 0.553 lbs./1,000 lbs. abrasive (0.0553%) (University of New Orleans Research 2003)
 Glass beads PMtotal 9.1 lbs./1,000 lbs. abrasive (0.91%); PM10 1.3 lbs./1,000 lbs. abrasive (0.13%); PM2.5 0.13 lbs./1,000 lbs. abrasive (0.013%)

4. Datar, Sanjay, "Environmental Performance of Coal Slag and Garnet as Abrasives" (2003) University of New Orleans Theses and Dissertations Paper 46, University of New Orleans, 12/19/2003

5. Control Efficiencies of Edura-Tek Filter MERV 10
 3-10 microns 80%
 1-3 microns 50% - 65% <=50 per ASHRAE 52.2 2017 Update

6. Fusion Red composition, max garnet 40% per Chris Nelson, Environmental Abrasives

7. According to the application in page 3-5, Fusion Red Glass composition: 60% glass and 40% garnet. To provide more flexibility and still keep PM-2.5 and PM-10 BRC, this spreadsheet uses the following composition:
 50% glass
 50% garnet

if 97% garnet, PM-2.5 > 1.1 T/yr
 if 82%, PM-10 > 1.5 T/yr

Table 3-4: Plasma Cutting Emissions

Material	Estimated Max Unrestricted Hours Operation ¹		Estimated Max Restricted Hours Operation ²		TAP Constituents ³	CAS Number	Constituent Concentration (max wt%) ³	Emission Factor (lbs./hr.) ⁴	Unrestricted Uncontrolled Emissions		Restricted Uncontrolled Emissions		Cyclone Efficiency (%)	Control Equipment Efficiency (%) ⁵	Unrestricted Controlled Emissions		Restricted Controlled Emissions								
	hrs./day	hrs./yr	hrs./day	hrs./yr					lb/hr	lb/yr	lb/hr	lb/yr			lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr					
	Stainless Steel	24	8,760.0	4.80					1,248	Chromium Total	7440-47-3	18.648%			5.29	9.9E-01	8.6E+03	2.0E-01	1.2E+03	99.98%	99.98%	2.0E-04	1.7E+00	3.9E-05	2.5E-01
Chromium +6 ⁶					7440-47-3	Not Reported	4.1E-05	3.6E-01		5.8E-06	5.1E-02	8.2E-09	7.2E-05	1.2E-09		1.0E-05									
Copper					7440-50-8	0.5215%	2.6E-02	2.4E+02		5.5E-03	3.4E+01	5.5E-06	4.8E-02	1.1E-06		6.9E-03									
Iron					1309-37-1	70%	3.7E+00	3.3E+04		7.4E-01	4.6E+03	7.4E-04	6.5E+00	1.5E-04		9.3E-01									
Manganese					7439-96-5	1.825%	9.7E-02	8.5E+02		1.9E-02	1.2E+02	1.9E-05	1.7E-01	3.9E-06		2.4E-02									
Molybdenum					7439-98-7	0.3660%	1.9E-02	1.7E+02		3.9E-03	2.4E+01	3.9E-06	3.4E-02	7.7E-07		4.8E-03									
Nickel					7440-02-0	8.0535%	4.3E-01	3.7E+03		6.1E-02	5.3E+02	8.5E-05	7.5E-01	1.2E-05		1.1E-01									
Phosphorus					7723-14-0	0.032%	1.7E-03	1.5E+01		3.4E-04	2.1E+00	3.4E-07	3.0E-03	6.8E-08		4.2E-04									
Silicon						0.278%	1.5E-02	1.3E+02		2.9E-03	1.8E+01	2.9E-06	2.6E-02	5.9E-07		3.7E-03									
Carbon						0.0464%	2.5E-03	2.2E+01		4.9E-04	3.1E+00	4.9E-07	4.3E-03	9.8E-08		6.1E-04									
Nitrogen						0.0794%	4.2E-03	3.7E+01		8.4E-04	5.2E+00	8.4E-07	7.4E-03	1.7E-07		1.0E-03									
Sulfur						0.0015%	7.9E-05	7.0E-01		1.6E-05	9.9E-02	1.6E-08	1.4E-04	3.2E-09		2.0E-05									
Steel	24	8,760.0	0.80	208	Chromium Total	7440-47-3	1.0%	3.439	3.4E-02	3.0E+02	1.1E-03	7.2E+00	99.98%	99.98%	6.9E-06	6.0E-02	2.3E-07	1.4E-03							
					Chromium +6 ⁶	7440-47-3			2.2E-06	1.9E-02	5.2E-08	4.6E-04			4.4E-10	3.9E-06	1.0E-11	9.2E-08							
					Copper	7440-50-8	1.0%		3.4E-02	3.0E+02	1.1E-03	7.2E+00			6.9E-06	6.0E-02	2.3E-07	1.4E-03							
					Iron	1309-37-1	99.0%		3.4E+00	3.0E+04	1.1E-01	7.1E+02			6.8E-04	6.0E+00	2.3E-05	1.4E-01							
					Manganese	7439-96-5	2.0%		6.9E-02	6.0E+02	2.3E-03	1.4E+01			1.4E-05	1.2E-01	4.6E-07	2.9E-03							
					Molybdenum	7439-98-7	1.0%		3.4E-02	3.0E+02	1.1E-03	7.2E+00			6.9E-06	6.0E-02	2.3E-07	1.4E-03							
					Nickel	7440-02-0	1.0%		3.4E-02	3.0E+02	8.2E-04	7.2E+00			6.9E-06	6.0E-02	1.6E-07	1.4E-03							
					Phosphorus	7723-14-0	1.0%		3.4E-02	3.0E+02	1.1E-03	7.2E+00			6.9E-06	6.0E-02	2.3E-07	1.4E-03							
					Silicon		1.0%		3.4E-02	3.0E+02	1.1E-03	7.2E+00			6.9E-06	6.0E-02	2.3E-07	1.4E-03							
					Carbon		1.0%		3.4E-02	3.0E+02	1.1E-03	7.2E+00			6.9E-06	6.0E-02	2.3E-07	1.4E-03							
					Nitrogen				0.0E+00	0.0E+00	0.0E+00	0.0E+00			0.0E+00	0.0E+00	0.0E+00	0.0E+00							
					Sulfur		1.0%		3.4E-02	3.0E+02	1.1E-03	7.2E+00			6.9E-06	6.0E-02	2.3E-07	1.4E-03							
Aluminum	24	8,760.0	1.60	416	Chromium Total	7440-47-3	0.1%	5.29	5.3E-03	4.6E+01	3.5E-04	2.2E+00	99.98%	99.98%	1.1E-06	9.3E-03	7.1E-08	4.4E-04							
					Chromium +6 ⁶	7440-47-3	Not Reported		2.2E-07	1.9E-03	3.1E-08	2.7E-04			4.4E-11	3.9E-07	2.1E-12	1.8E-08							
					Copper	7440-50-8	4.9%		2.6E-01	2.3E+03	1.7E-02	1.1E+02			5.2E-05	4.5E-01	3.5E-06	2.2E-02							
					Iron	1309-37-1	0.5%		2.6E-02	2.3E+02	1.8E-03	1.1E+01			5.3E-06	4.6E-02	3.5E-07	2.2E-03							
					Manganese	7439-96-5	0.9%		4.8E-02	4.2E+02	3.2E-03	2.0E+01			9.5E-06	8.3E-02	6.3E-07	4.0E-03							
					Magnesium		1.8%		9.5E-02	8.3E+02	6.3E-03	4.0E+01			1.9E-05	1.7E-01	1.3E-06	7.9E-03							
					Nickel	7440-02-0			0.0E+00	0.0E+00	0.0E+00	0.0E+00			0.0E+00	0.0E+00	0.0E+00	0.0E+00							
					Phosphorus	7723-14-0			0.0E+00	0.0E+00	0.0E+00	0.0E+00			0.0E+00	0.0E+00	0.0E+00	0.0E+00							
					Silicon		0.5%		2.6E-02	2.3E+02	1.8E-03	1.1E+01			5.3E-06	4.6E-02	3.5E-07	2.2E-03							
					Aluminum		94.7%		5.0E+00	4.4E+04	3.3E-01	2.1E+03			1.0E-03	8.8E+00	6.7E-05	4.2E-01							
					Conservative Production Factor Increase		160%			7.20	1872.00														

TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL	Unrestricted Uncontrolled Emissions (lb/hr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Controlled Emissions (lb/hr)	Unrestricted Uncontrolled TAP Less Than EL?	Restricted Controlled TAP Less Than EL	Restricted Controlled TAP % of EL
Chromium+6	586 (Annual)	5.60E-07	4.1E-05	5.8E-06	1.2E-09	No	Yes	0.2%
Copper Fume	585 (24 hr)	1.30E-02	2.8E-02	5.5E-03	1.1E-06	No	Yes	0.01%
Iron Oxide Fume	585 (24 hr)	3.33E-01	3.7E+00	7.4E-01	1.5E-04	No	Yes	0.04%
Manganese Fume	585 (24 hr)	6.70E-02	9.7E-02	1.9E-02	3.9E-06	No	Yes	0.01%
Molybdenum	585 (24 hr)	3.33E-01	1.9E-02	3.9E-03	7.7E-07	Yes	Yes	0.0002%
Nickel	586 (Annual)	2.75E-05	4.3E-01	6.1E-02	1.2E-05	No	Yes	44.2%
Phosphorus	585 (24 hr)	7.00E-03	1.7E-03	3.4E-04	6.8E-08	Yes	Yes	0.001%
Silicon	585 (24 hr)	6.67E-01	1.5E-02	2.9E-03	5.9E-07	Yes	Yes	0.0001%

HAP Emissions Summary	Restricted Controlled Emissions (lb/yr)	Restricted Controlled Emissions (tons/yr)
Chromium	2.5E-01	1.2E-04
Manganese	2.4E-02	1.2E-05
Nickel	1.1E-01	5.3E-05

Trinity Trailer

Table 3-4: Plasma Cutting Emissions

Steel	TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL	Unrestricted Uncontrolled Emissions (lb/hr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Controlled Emissions (lb/hr)	Unrestricted Uncontrolled TAP Less Than EL?	Restricted Controlled TAP Less Than EL	Restricted Controlled TAP % of EL
	Chromium	585 (24 hr)	3.30E-02	3.4E-02	1.1E-03	2.3E-07	No	Yes	0.00%
	Chromium+6	586 (Annual)	5.60E-07	2.2E-06	5.2E-08	1.0E-11	No	Yes	0.00%
	Copper Fume	585 (24 hr)	1.30E-02	3.4E-02	1.1E-03	2.3E-07	No	Yes	0.00%
	Iron Oxide Fume	585 (24 hr)	3.33E-01	3.4E+00	1.1E-01	2.3E-05	No	Yes	0.0%
	Manganese Fume	585 (24 hr)	6.70E-02	6.9E-02	2.3E-03	4.6E-07	No	Yes	0.00%
	Molybdenum	585 (24 hr)	3.33E-01	3.4E-02	1.1E-03	2.3E-07	Yes	Yes	0.000%
	Nickel	586 (Annual)	2.75E-05	3.4E-02	8.2E-04	1.6E-07	No	Yes	0.6%
	Phosphorus	585 (24 hr)	7.00E-03	3.4E-02	1.1E-03	2.3E-07	No	Yes	0.00%
	Silicon	585 (24 hr)	6.67E-01	3.4E-02	1.1E-03	2.3E-07	Yes	Yes	0.0000%

HAP Emissions Summary	Restricted Controlled Emissions (lb/yr)	Restricted Controlled Emissions (tons/yr)
Chromium	1.4E-03	7.2E-07
Manganese	2.9E-03	1.4E-06
Nickel	1.4E-03	7.2E-07

Table 3-4: Plasma Cutting Emissions

	TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL	Unrestricted Uncontrolled Emissions (lb/hr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Controlled Emissions (lb/hr)	Unrestricted Uncontrolled TAP Less Than EL?	Restricted Controlled TAP Less Than EL	Restricted Controlled TAP % of EL
Aluminum	Chromium	585 (24 hr)	3.30E-02	5.3E-03	3.5E-04	7.1E-08	Yes	Yes	0.00%
	Chromium+6	586 (Annual)	5.60E-07	2.2E-07	3.1E-08	2.1E-12	Yes	Yes	0.00%
	Copper Fume	585 (24 hr)	1.30E-02	2.6E-01	1.7E-02	3.5E-06	No	Yes	0.03%
	Iron Oxide Fume	585 (24 hr)	3.33E-01	2.6E-02	1.8E-03	3.5E-07	Yes	Yes	0.0%
	Manganese Fume	585 (24 hr)	6.70E-02	4.8E-02	3.2E-03	6.3E-07	Yes	Yes	0.00%
	Magnesium	585 (24 hr)	6.67E-01	9.5E-02	6.3E-03	1.3E-05	Yes	Yes	0.000%
	Nickel	586 (Annual)	2.75E-05	0.0E+00	0.0E+00	0.0E+00	Yes	Yes	0.0%
	Phosphorus	585 (24 hr)	7.00E-03	0.0E+00	0.0E+00	0.0E+00	Yes	Yes	0.00%
	Silicon	585 (24 hr)	6.67E-01	2.6E-02	1.8E-03	3.5E-07	Yes	Yes	0.0001%
	Aluminum	585 (24 hr)	6.67E-01	5.0E+00	3.3E-01	6.7E-05	No	Yes	0.0100%

HAP Emissions Summary	Restricted Controlled Emissions (lb/yr)	Restricted Controlled Emissions (tons/yr)
Chromium	4.4E-04	2.2E-07
Manganese	4.0E-03	2.0E-06
Nickel	0.0E+00	0.0E+00

	TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL	Unrestricted Uncontrolled Emissions (lb/hr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Controlled Emissions (lb/hr)	Unrestricted Uncontrolled TAP Less Than EL?	Restricted Controlled TAP Less Than EL	Restricted Controlled TAP % of EL
Combined Stainless, Steel, Aluminum	Chromium	585 (24 hr)	3.30E-02	1.0E+00	2.0E-01	4.0E-05	No	Yes	0.1%
	Chromium+6	586 (Annual)	5.60E-07	4.3E-05	5.9E-06	1.2E-09	No	Yes	0.2%
	Copper Fume	585 (24 hr)	1.30E-02	3.2E-01	2.4E-02	4.8E-06	No	Yes	0.04%
	Iron Oxide Fume	585 (24 hr)	3.33E-01	7.1E+00	8.6E-01	1.7E-04	No	Yes	0.1%
	Manganese Fume	585 (24 hr)	6.70E-02	2.1E-01	2.5E-02	5.0E-06	No	Yes	0.01%
	Molybdenum	585 (24 hr)	3.33E-01	5.4E-02	5.0E-03	1.0E-06	Yes	Yes	0.000%
	Magnesium	585 (24 hr)	6.67E-01	9.5E-02	6.3E-03	1.3E-06	Yes	Yes	0.000%
	Nickel	586 (Annual)	2.75E-05	4.6E-01	6.2E-02	1.2E-05	No	Yes	44.7%
	Phosphorus	585 (24 hr)	7.00E-03	3.6E-02	1.5E-03	3.0E-07	No	Yes	0.00%
	Silicon	585 (24 hr)	6.67E-01	7.6E-02	5.9E-03	1.2E-06	Yes	Yes	0.000%
	Aluminum	585 (24 hr)	6.67E-01	5.0E+00	3.3E-01	6.7E-05	No	Yes	0.0%

HAP Emissions Summary	Restricted Controlled Emissions (lb/yr)	Restricted Controlled Emissions (tons/yr)
Chromium	2.5E-01	1.2E-04
Manganese	2.7E-02	1.3E-05
Nickel	1.1E-01	5.4E-05

Stainless	Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions (lbs./hr.)	Unrestricted Uncontrolled Emissions (lbs./yr)	Unrestricted Uncontrolled Emissions (tons/yr)	Restricted Uncontrolled Emissions (lbs./hr.)	Restricted Uncontrolled Emissions (lbs./yr)	Restricted Uncontrolled Emissions (tons/yr)	Restricted Controlled Emissions (lbs./hr.)	Restricted Controlled Emissions (lbs./yr)	Restricted Controlled Emissions (tons/yr)
	PM _{2.5/10}	5.291	46349.510	23.1748	1.05821	6803.21792	3.30161	0.00021	1.32064	0.00066

Steel	Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions (lbs./hr.)	Unrestricted Uncontrolled Emissions (lbs./yr)	Unrestricted Uncontrolled Emissions (tons/yr)	Restricted Uncontrolled Emissions (lbs./hr.)	Restricted Uncontrolled Emissions (lbs./yr)	Restricted Uncontrolled Emissions (tons/yr)	Restricted Controlled Emissions (lbs./hr.)	Restricted Controlled Emissions (lbs./yr)	Restricted Controlled Emissions (tons/yr)
	PM _{2.5/10}	3.439	30127.182	15.0636	0.11464	715.34861	0.35767	0.0000	0.14307	0.00007

Aluminum	Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions (lbs./hr.)	Unrestricted Uncontrolled Emissions (lbs./yr)	Unrestricted Uncontrolled Emissions (tons/yr)	Restricted Uncontrolled Emissions (lbs./hr.)	Restricted Uncontrolled Emissions (lbs./yr)	Restricted Uncontrolled Emissions (tons/yr)	Restricted Controlled Emissions (lbs./hr.)	Restricted Controlled Emissions (lbs./yr)	Restricted Controlled Emissions (tons/yr)
	PM _{2.5/10}	5.291	46349.510	23.1748	0.35274	2201.07264	1.10054	0.0001	0.44021	0.00022

Combined Stainless, Steel, Aluminum	Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions (lbs./hr.)	Unrestricted Uncontrolled Emissions (lbs./yr)	Unrestricted Uncontrolled Emissions (tons/yr)	Restricted Uncontrolled Emissions (lbs./hr.)	Restricted Uncontrolled Emissions (lbs./yr)	Restricted Uncontrolled Emissions (tons/yr)	Restricted Controlled Emissions (lbs./hr.)	Restricted Controlled Emissions (lbs./yr)	Restricted Controlled Emissions (tons/yr)
	PM _{2.5/10}	14.021	122826.203	61.4131	1.52558	9519.63917	4.75982	0.0003	1.90393	0.00095

Table 3-4: Plasma Cutting Emissions

Gas	density	specific grav air	0.004189 lbs NO2/liter		
NO2	X	1.58			
Air	1.205 kg/m3	1.00			
sp. Grav gas = ρ_{Gas}/ρ_{Air}					
$(X) / 1.205 = 1.58 \quad 1.58 * 1.205 = X = 1.904 \text{ kg/m}^3 \text{ NO}_2$					
1.904 kg NO2/m3 =					
Emission Fact 4.4-5.5 liters NOx/minute dry steel and stainless steel 8 mm					
@5 l/min NOx (5 liters/min.) X (4.189E-3 lbs NO2/liter) = 0.0209 lbs NO2/min					
assume NOx=NO2 2.1E-2 lbs NO2/min X 60 min/hr = 1.257 lbs NO2/hr					
NOx lbs/hr	lbs/yr @8760 hrs/yr	tons/yr @8760 hrs/yr	lbs/yr @restricted hrs/yr	tons/yr @restricted hrs/yr	% of BRC
1.257	11011.3	5.5	2353.1	1.18	29.4%

1 gram = 0.0022046 lbs

12 Hypertherm plasma cutters: Powermax 65 (5), Powermax 1000 (4), Powermax 900 (2), Powermax 800 (1)

Notes

1. Unrestricted uncontrolled media usage based on maximum actual use rate prorated from 8 hrs/day, 5 days/week, 52 weeks/yr (2000 hrs/yr) to 24 hrs/day, 7 days/week, 52 weeks/yr (8760 hrs/yr) dry cutting.
2. Trinity Trailer measure amount of materials cut/day; 2.2 hrs./day stainless steel, 0.4 hrs./day aluminum, 1 min./day steel; Conservative estimate based on 3 hrs./day stainless steel, 1 hrs. aluminum and 0.5 hr. day steel increased 240% for future increase, up to 5 days/week.
3. TAP material composition for stainless steel from highest values in 6 tests listed on 2 metallurgical test reports for stainless steel provided by North American Stainless and 4 test reports for stainless steel tubing provided by Fisher Group. TAP material composition for steel from example steel SDS. TAP material composition for aluminum from example SDS.
4. 40 grams/minute dry cutting stainless steel and 26 grams/minute dry cutting steel, EPA AP-42, Chapter 12, Other Emission Factor Documents, "Emission of fume, nitrogen oxides and noise in plasma cutting of stainless and mild steel", Bromssen B. et al, The Swedish Institute of Production Engineering Research, March, 1994, <http://www.epa.gov/ttn/chieff/efdocs/welding.pdf>
5. Kemper 99.98% efficient.
6. Emission Factor 0.00022 lbs Cr+6/lbs per lb Cr, From SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, PAGE 1 of 9, APP. NUMBERS 480171/2, Coating, Printing, Aerospace and Chemical Operations Team, Reviewed by APPLICATION PROCESSING AND CALCULATIONS DATE 07/30/08, AMERICAN SECURITY PRODUCTS, INC., Jul-08.
7. 4.4-5.5 liters NOx/minute dry cutting 8mm steel and stainless steel, EPA AP-42, Chapter 12, Other Emission Factor Documents, "Emission of fume, nitrogen oxides and noise in plasma cutting of stainless and mild steel",

Table 3-5: Laser Cutting Emissions

Laser Cutter	Material	Estimated Max Unrestricted		Estimated Max Restricted		Constituents ³	CAS Number	Constituent Concentration (max wt%)	Emission Factor (% of kerf) ⁴	Unrestricted Uncontrolled		Restricted Uncontrolled		Cyclone Efficiency (%) ⁵	Control Equipment Efficiency (%) ⁶	Unrestricted Controlled		Restricted Controlled	
		lb/hr	lb/yr	lb/hr	lb/yr					lb/hr	lb/yr	lb/hr	lb/yr			lb/hr	lb/yr	lb/hr	lb/yr
		Substrate Steel	9.82	85,994	1.84					10,602	5%	0%	99.75%			Aluminum	7429-90-5	0.09%	4.2E-04
								Antimony	7440-36-0	Not Reported									
								Arsenic	7440-38-2	Not Reported									
								Beryllium	7440-41-7	Not Reported									
								Bismuth	7440-69-9	Not Reported									
								Boron	7440-42-8	0.0002%	9.8E-07	0.01	1.8E-07	0.0	2.5E-09	2.1E-05	4.6E-10	2.7E-06	
								Cadmium	7440-43-9	Not Reported									
								Calcium	1305-78-8	ND									
								Carbon	7440-44-0	0.1%	5.9E-04	5.2	1.1E-04	0.64	1.5E-06	1.3E-02	2.8E-07	1.6E-03	
								Chromium Total	7440-47-3	0.08%	3.9E-04	3.4	7.4E-05	0.4	9.8E-07	8.6E-03	1.8E-07	1.1E-03	
								Chromium+6 ⁷		Not Reported	1.7E-06	0.0151	2.1E-07	0.00	4.3E-09	3.8E-05	5.3E-10	4.7E-06	
								Cobalt	7440-48-4	Not Reported									
								Copper	7440-50-8	0.02%	9.8E-05	0.9	1.8E-05	0.11	2.5E-07	2.1E-03	4.6E-08	2.7E-04	
								Iron	7439-89-6	99%	4.9E-01	4256.7	9.1E-02	524.8	1.2E-03	1.1E+01	2.3E-04	1.3E+00	
								Lead	7439-92-1	Not Reported									
								Magnesium	7439-95-4	Not Reported									
								Manganese	7439-96-5	3.32%	1.6E-02	142.8	3.1E-03	17.6	4.1E-05	3.6E-01	7.6E-06	4.4E-02	
								Molybdenum	7439-98-7	5%	2.5E-02	215.0	4.6E-03	26.5	6.1E-05	5.4E-01	1.2E-05	6.6E-02	
								Nickel	7440-02-0	0.13%	6.4E-04	5.6	7.9E-05	0.69	1.6E-06	1.4E-02	2.0E-07	1.7E-03	
								Niobium	7440-03-1	0.12%	6.0E-04	5.2	1.1E-04	0.6	1.5E-06	1.3E-02	2.8E-07	1.6E-03	
								Phosphorus	7723-14-0	0.03%	1.5E-04	1.3	2.8E-05	0.2	3.7E-07	3.2E-03	6.9E-08	4.0E-04	
								Selenium	7782-49-2	Not Reported									
								Silicon	7440-21-3	0.1%	5.9E-04	5.2	1.1E-04	0.6	1.5E-06	1.3E-02	2.8E-07	1.6E-03	
								Sulfur	7446-09-05	0.004%	2.0E-05	0.2	3.7E-06	0.0	4.9E-08	4.3E-04	9.2E-09	5.3E-05	
								Tantalum	7440-25-7	Not Reported									
								Tellurium	13494-80-9	Not Reported									
								Tin	7440-31-5	Not Reported									
								Titanium	7440-32-6	0.24%	1.2E-03	10.3	2.2E-04	1.3	2.9E-06	2.6E-02	5.5E-07	3.2E-03	
								Tungsten	7440-33-7	Not Reported									
								Vanadium	7440-62-2	0.04%	2.0E-04	1.7	3.7E-05	0.2	4.9E-07	4.3E-03	9.2E-08	5.3E-04	
								Zinc	7440-66-6	Not Reported									
Substrate Stainless	3.37	1,228	0.59	3,393	7%	2%	0%	99.75%	Aluminum	7429-90-5	2%	4.7E-03	1.7	8.2E-04	4.75	1.2E-05	4.3E-03	2.1E-06	1.2E-02
								Antimony	7440-36-0	Not Reported									
								Arsenic	7440-38-2	Not Reported									
								Beryllium	7440-41-7	Not Reported									
								Bismuth	7440-69-9	Not Reported									
								Boron	7440-42-8	Not Reported									
								Cadmium	7440-43-9	Not Reported									
								Calcium	1305-78-8	Not Reported									
								Carbon	7440-44-0	0.08%	1.9E-04	0.1	3.3E-05	0.19	4.7E-07	1.7E-04	8.2E-08	4.7E-04	
								Chromium Total	7440-47-3	20%	4.7E-02	17.2	8.2E-03	47.5	1.2E-04	4.3E-02	2.1E-05	1.2E-01	
								Chromium+6 ⁷		Not Reported	6.2E-06	5.4E-02	1.7E-05	1.5E-01	1.5E-08	1.4E-04	4.3E-08	3.7E-04	
								Cobalt	7440-48-4	Not Reported									
								Copper	7440-50-8	0.41%	9.7E-04	0.4	1.7E-04	0.97	2.4E-06	8.8E-04	4.2E-07	2.4E-03	
								Iron	7439-89-6	81%	1.9E-01	69.7	3.3E-02	192.36	4.8E-04	1.7E-01	8.3E-05	4.8E-01	

Table 3-5: Laser Cutting Emissions

Material	Estimated Max Unrestricted		Estimated Max Restricted		Constituents ³	CAS Number	Constituent Concentration (max wt%)	Emission Factor (% of)	Unrestricted Uncontrolled		Restricted Uncontrolled		Cyclone Efficiency (%) ⁵	Control Equipment Efficiency	Unrestricted Controlled		Restricted Controlled	
	lb/hr	lb/yr	lb/hr	lb/yr					lb/hr	lb/yr	lb/hr	lb/yr			lb/hr	lb/yr	lb/hr	lb/yr
Steel					Lead	7439-92-1	Not Reported											
					Magnesium	7439-95-4	Not Reported											
					Manganese	7439-96-5	2%		4.7E-03	1.7	8.2E-04	4.75			1.2E-05	4.3E-03	2.1E-06	1.2E-02
					Molybdenum	7439-98-7	0.30%		7.1E-04	0.3	1.2E-04	0.71			1.8E-06	6.4E-04	3.1E-07	1.8E-03
					Nickel	7440-02-0	10.5%		1.0E-03	9.0	2.8E-03	24.9			2.6E-06	2.3E-02	7.1E-06	6.2E-02
					Niobium	7440-03-1	5%		1.2E-02	4.3	2.1E-03	11.87			2.9E-05	1.1E-02	5.2E-06	3.0E-02
					Phosphorus	7723-14-0	0.045%		1.1E-04	0.0	1.9E-05	0.11			2.7E-07	9.7E-05	4.6E-08	2.7E-04
					Selenium	7782-49-2	0.35%		8.2E-04	0.3	1.4E-04	0.83			2.1E-06	7.5E-04	3.6E-07	2.1E-03
					Silicon	7440-21-3	1%		2.4E-03	0.9	4.1E-04	2.37			5.9E-06	2.1E-03	1.0E-06	5.9E-03
					Sulfur	7446-09-05	0.03%		7.1E-05	0.0	1.2E-05	0.07			1.8E-07	6.4E-05	3.1E-08	1.8E-04
					Tantalum	7440-25-7	5%		1.2E-02	4.3	2.1E-03	11.87			2.9E-05	1.1E-02	5.2E-06	3.0E-02
					Tellurium	13494-80-9	Not Reported											
					Tin	7440-31-5	Not Reported											
					Titanium	7440-32-6	0.7%		1.6E-03	0.6	2.9E-04	1.66			4.1E-06	1.5E-03	7.2E-07	4.2E-03
					Tungsten	7440-33-7	Not Reported											
					Vanadium	7440-62-2	Not Reported											
					Zinc	7440-66-6	Not Reported											
Aluminum	9.82	85,994	1.84	10,602	Aluminum	7429-90-5	100%	5%	4.9E-01	4299.7	9.2E-02	530.10	0%	99.75%	1.2E-03	1.1E+01	2.3E-04	1.3E+00
Aluminum Production Factor Increase	160%																	

Table 3-6: Welding Emissions

Welding Process/Electrode	TAPHAP Metal		Al	Cr	Cr+6	Cu	Fe	Mg	Mn	Molybdenum	Ni	Silicon	Zn	Titanium	Be	Co	P
	CAS No	7429-90-6	7440-47-3			7440-50-8	7439-89-6	7439-96-5	7439-96-5	7439-98-7	7440-21-3	7440-21-3	7440-66-6		7440-41-7	7440-48-4	
Carbon Fillers	Restricted Weekly Use (lbs.) ¹	Al	Cr	Cr+6	Cu	Fe	Mg	Mn	Molyb	Ni	Silicon	Zn	Titanium	Be	Co	P	
Quantum Arc ER80S-D2 Hobart ²	450.0	0.1%			5.0%	90.0%		10%	1.9%		5.0%		0.2%				
Lincoln BLUE MAX, mg 308LS ³	450.0		50.0%		1.0%	100.0%		5.0%	1.0%	20.0%	1.0%					1.0%	
TAP		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HAP			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SDAPCD w/ GMAW/SAW NAASSCO fume correction ²	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Table 12.19-1 and SDAPCD w/NAASSCO fume correction ²	X	X															
Table 12.19-2 ³			X	X							X					X	
SDAPCD Unspecified Process																	
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	7.0E-03	
Restricted Uncontrolled PM and TAP Fume lbs./yr., 52 wk/yr (note: 50 wk/yr was used in the calculation and is changed to 52 wk/yr)	2.5E+02	1.3E-01	1.2E+01	0.0E+00	7.7E+00	2.4E+02	0.0E+00	2.0E+01	3.7E+00	4.3E+00	7.7E+00	0.0E+00	2.6E-01	0.0E+00	2.3E-02	0.0E+00	
Restricted Uncontrolled PM and TAP Fume lbs/week	4.89E+00	2.5E-03	2.4E-01	0.0E+00	1.5E-01	4.6E+00	0.0E+00	3.8E-01	7.1E-02	8.3E-02	1.5E-01	0.0E+00	4.9E-03	0.0E+00	4.5E-04	0.0E+00	
Restricted Uncontrolled PM and TAP Hourly (24-hour average 585 TAPs, annual-average 586 TAPs) Fume Emissions lbs./hr.	4.07E-02	2.05E-05	1.97E-03	0.00E+00	1.23E-03	3.87E-02	0.00E+00	3.17E-03	5.92E-04	4.92E-04	1.23E-03	0.00E+00	4.10E-05	0.00E+00	3.75E-06	0.00E+00	
Restricted Controlled PM and TAP Fume lbs/yr	5.08E-02	2.56E-05	2.45E-03	0.00E+00	1.53E-03	4.83E-02	0.00E+00	3.96E-03	7.38E-04	8.81E-04	1.53E-03	0.00E+00	5.11E-05	0.00E+00	4.68E-06	0.00E+00	
Restricted Controlled PM and TAP Fume lbs/week	9.78E-04	4.92E-07	4.72E-05	0.00E+00	2.94E-05	9.29E-04	0.00E+00	7.82E-05	1.42E-05	1.88E-05	2.94E-05	0.00E+00	9.84E-07	0.00E+00	9.00E-08	0.00E+00	
Restricted Controlled PM and TAP Hourly (24-hour average 585 TAPs, annual-average 586 TAPs) Fume Emissions lbs./hr.	8.15E-06	4.10E-09	3.93E-07	0.00E+00	2.45E-07	7.74E-06	0.00E+00	6.35E-07	1.18E-07	9.83E-08	2.45E-07	0.00E+00	8.20E-09	0.00E+00	7.50E-10	0.00E+00	
IDEQ EL Fume (lbs./hr.)		---	---	---	1.3E-02	3.3E-01	6.7E-01	6.7E-02	---	---	---	3.330E-01	---	---	0.003	---	

Uncontrolled PM2.5 <BRC 1 ton/yr	Yes										No	Yes	Yes	NA	Yes	Yes	Yes
Uncontrolled TAP <BRC 10% EL	Yes	NA	Yes	Yes	Yes												
Uncontrolled TAP < EL	Yes	NA	Yes	Yes	Yes												
Controlled TAP <EL	Yes																

Assume Production 8 hrs./day, 5 days/week
 Conservative Production Factor Increase
 Kemper Fume Control Efficiency

200%
 99.98%

¹ Dean Hearst: 225 lbs/week Hobart Quantum Arc D2; 225 lbs/week Lincoln Blue MAX, assume Production Increase Factor 200%

² Hobart ER80S-D2 not listed in AP-42, apply SDAPCD and NAASSCO emission factors

³ Lincoln BLUE MAX, mg 308LS listed in AP-42, apply AP-42 emission factors for listed PM/TAPs/HAPs, apply SDAPCD and NAASSCO emission factors for unlisted TAPs/HAPs

TAP	5.4 lbs/1000 lbs electrode			0.54% fume generation		
	Cr	Cr+6	Cobalt	Mn	Ni	Pb
GMAW 308L, 308LS	0.0524%	ND	0.0001%	0.03%	0.0184%	ND

Calculation Method Without AP-42 Emission Factors

Eh = max hourly 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

⁴SDAPCD G99 Gas Metal Arc Welding (GMAW), Unspecified Electrode, General District-ARB-NAASSCO GMAW Emission Estimation Procedure

default fume rates GMAW, MIG, TIG	1% lbs fume/lbs rod
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)	Cl (lbs TAP/lbs rod)
PM10 (PM2.5)	0.01
Cr+3	0.01*0.5464*95*Cl
Cr+6	0.01*0.5464*05*Cl
Cobalt	0.01*0.5464*Cl
Manganese	0.01*0.5464*Cl
Nickel	0.01*0.5464*Cl
Lead	0.01*0.5464*Cl
Metals w/o EF	0.01*0.5464*Cl

Trinity Trailer

Table 4-1: Paint Analysis

PTE Daily Use (gal/day)	PTE Annual Use (gal/year)	Maker	Coating Material (see Notes)	Density	Solids	VOC (non-exempt)	methanol 67-56-1	acetone 67-64-1	Propyl alcohol 71-23-8	MEK 78-93-3	naphthalene 91-20-3	trimethyl benzene 95-63-6 25551-13-7	ethyl benzene 100-41-4	toluene 108-88-3	Phenol 108-95-2	methyl n-aryl ketone 110-43-0	butyl acetate 123-86-4	hexa-methylene diisocyanate 822-06-0	xylylene 1330-20-7	carbon black 1333-86-4	naphtha (petroleum), light aromatic 64742-95-6	VM&P naphtha 8032-32-4 64742-89-8 64742-88-7	silica - quartz 14808-60-7
				lb/gal	Weight Percentage Content Data																		
		PPG	AMERCOAT 65 THINNER	7.26	0.00%	100.00%							16.00%	1%					90.00%				
4.20	1092	PPG	AMERCOAT 101 THINNER	7.43	0.00%	100.00%					10%	1.7%											
4.20	1092	PPG	AMERCOAT 923 THINNER	6.84	0.00%	100.00%																	
5.25	1365	PPG	AMERCOAT 370 CURE (Primer)	7.84	80%	20%			20%							1%							
42.00	10920	PPG	AMERCOAT 370 PEARL GRAY RESIN (Primer)	15.69	83%	17%																	
2.53	662.5	PPG	AMERCOAT 866M ACCELERATOR	8.18	1.27%	98.77%																	
5.25	1365	PPG	AMERSHIELD CURE (Topcoat)	9.35	90.00%	10.00%						1.90%					5%	1.00%			5.00%		
		PPG	AMERSHIELD BLACK RESIN	10.77	74.53%	25.47%																	
		PPG	AMERSHIELD DEEP TINT RESIN	11.43	79.69%	20.31%						1.00%											
		PPG	AMERSHIELD LIGHT TINT RESIN	11.18	77.13%	22.87%						1.00%											
		PPG	AMERSHIELD NEUTRAL TINT RESIN	11.18	81.14%	18.86%																	
		PPG	AMERSHIELD BRIGHT RED RESIN	10.26	72.61%	27.39%																	
		PPG	AMERSHIELD TRINITY WHITE RESIN	11.18	74.67%	25.13%																	
42.00	10920	PPG	Composite Topcoat Finish Paint	11.43	81%	27%	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	20%	0.00	0.00	5%	0.00	0.00
10.00	2600	Axalta	Axalta Lacquer Thinner	6.78	0.00%	74.00%	50.00%	26.00%					2.00%	19.00%									4.00%
115.83	30036.50																						

Future Production Growth Factor 300.0%

Component Characteristics		If volatile, enter "1" ==>																					
Hourly Spray Calculations (lb/hr) (Based on 24-hr averaging period, see sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	methanol 67-56-1	acetone 67-64-1	Propyl alcohol 71-23-8	MEK 78-93-3	naphthalene 91-20-3	trimethyl benzene 95-63-6 25551-13-7	ethyl benzene 100-41-4	toluene 108-88-3	Phenol 108-95-2	methyl n-aryl ketone 110-43-0	butyl acetate 123-86-4	HDI Monomer 822-06-0	xylylene 1330-20-7	carbon black 1333-86-4	naphtha (petroleum), light aromatic 64742-95-6	VM&P naphtha 8032-32-4 64742-89-8 64742-88-7	silica - quartz 14808-60-7	
				lb/gal	Pounds per Hour																		
	PPG	AMERCOAT 65 THINNER																					
	PPG	AMERCOAT 101 THINNER	7.43	0.00	1.30	0.000	0.000	0.000	0.000	0.130	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	AMERCOAT 923 THINNER	6.84	0.00	1.20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.197	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	AMERCOAT 370 CURE (Primer)	7.84	1.37	0.34	0.000	0.000	0.343	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	AMERCOAT 370 PEARL GRAY RESIN (Primer)	15.69	22.79	4.66	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
	PPG	AMERCOAT 866M ACCELERATOR	8.18	0.01	0.88	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
	PPG	AMERSHIELD CURE (Topcoat)	9.35	1.84	0.20	0.000	0.000	0.000	0.000	0.000	0.039	0.000	0.000	0.000	0.000	0.000	0.102	0.020	0.000	0.000	0.102	0.000	0.000
	PPG	AMERSHIELD BLACK RESIN																					
	PPG	AMERSHIELD DEEP TINT RESIN																					
	PPG	AMERSHIELD LIGHT TINT RESIN																					
	PPG	AMERSHIELD NEUTRAL TINT RESIN																					
	PPG	AMERSHIELD BRIGHT RED RESIN																					
	PPG	AMERSHIELD TRINITY WHITE RESIN																					
	PPG	Composite Topcoat Finish Paint	11.43	16.23	5.48	0.000	0.000	0.000	0.000	0.200	0.000	0.000	0.000	0.000	0.000	0.000	4.001	0.000	0.000	1.000	0.000	0.000	0.000
	Axalta	Axalta Lacquer Thinner	6.78	0.00	2.09	1.413	0.735	0.000	0.000	0.000	0.000	0.057	0.537	0.000	0.000	0.000	0.000	0.000	0.226	0.000	0.000	0.113	0.000
		Spray Total (lb/hr)		42.248	16.161	1.413	0.735	0.343	0.000	0.330	0.061	0.057	0.537	0.022	1.197	4.103	0.020	0.226	1.000	0.102	0.113	0.000	0.000

Annual Spray Calculations (tons/yr) (See sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	methanol 67-56-1	acetone 67-64-1	Propyl alcohol 71-23-8	MEK 78-93-3	naphthalene 91-20-3	trimethyl benzene 95-63-6 25551-13-7	ethyl benzene 100-41-4	toluene 108-88-3	Phenol 108-95-2	methyl n-aryl ketone 110-43-0	butyl acetate 123-86-4	HDI Monomer 822-06-0	xylylene 1330-20-7	carbon black 1333-86-4	naphtha (petroleum), light aromatic 64742-95-6	VM&P naphtha 8032-32-4 64742-89-8 64742-88-7	silica - quartz 14808-60-7	
				lb/gal	Tons per Year																		
	PPG	AMERCOAT 65 THINNER																					
	PPG	AMERCOAT 101 THINNER	7.43	0.00	4.06	0.000	0.000	0.000	0.000	0.406	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	AMERCOAT 923 THINNER	6.84	0.00	3.73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.735	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	AMERCOAT 370 CURE (Primer)	7.84	4.28	1.06	0.000	0.000	1.070	0.000	0.000	0.000	0.000	0.000	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	AMERCOAT 370 PEARL GRAY RESIN (Primer)	15.69	71.11	14.55	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
	PPG	AMERCOAT 866M ACCELERATOR	8.18	0.04	2.76	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
	PPG	AMERSHIELD CURE (Topcoat)	9.35	3.74	0.64	0.000	0.000	0.000	0.000	0.000	0.121	0.000	0.000	0.000	0.000	0.000	0.319	0.064	0.000	0.000	0.319	0.000	0.000
	PPG	AMERSHIELD BLACK RESIN																					
	PPG	AMERSHIELD DEEP TINT RESIN																					
	PPG	AMERSHIELD LIGHT TINT RESIN																					
	PPG	AMERSHIELD NEUTRAL TINT RESIN																					
	PPG	AMERSHIELD BRIGHT RED RESIN																					
	PPG	AMERSHIELD TRINITY WHITE RESIN																					
	PPG	Composite Topcoat Finish Paint	11.43	50.64	17.09	0.000	0.000	0.000	0.000	0.624	0.000	0.000	0.000	0.000	0.000	0.000	12.482	0.000	0.000	3.120	0.000	0.000	0.000
	Axalta	Axalta Lacquer Thinner	6.78	0.00	6.52	4.407	2.292	0.000	0.000	0.000	0.000	0.176	1.675	0.000	0.000	0.000	0.000	0.000	0.705	0.000	0.000	0.353	0.000
		Spray Total (tons/yr)		131.81	50.42	4.41	2.29	1.07	0.00	1.03	0.19	0.18	1.67	0.07	3.73	12.80	0.06	0.71	3.12	0.33	0.35	0.00	0.00

Notes: 5 days/week; 52 weeks/year

- Trinity Trailer estimated max primer use 14 gallons/day; 1 gallon primer 1 pint cure; for permit analysis assume 25 gallons/day
- Trinity Trailer estimated max topcoat use 14 gallons/day; 1 gallon topcoat 1 pint cure; 8 ozs Accelerant; for permit analysis assume 25 gallons/day
- Composite primer and composite tint based on max physical and chemical characteristics of primer and tint, respectively.

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 (%)	Controlled Emission Rate (lb/hr)
acetone	67-64-1	0.735	0%	0.735	0%	0.735
butyl acetate	123-86-4	4.103	0%	4.103	0%	4.103
carbon black	1333-86-4	1.000	60%	0.400	99.0%	0.004
ethyl benzene ⁴	100-41-4					
HDI hexa-methylene diisocyanate monomer ⁵	822-06-0					
methanol	67-56-1	1.413	0%	1.413	0%	1.413
methyl n-amyl ketone	110-43-0	1.197	0%	1.197	0%	1.197
Naphthalene	91-20-3					
Phenol	108-95-2	0.022	0%	0.022	0%	0.022
Propyl alcohol	71-23-8	0.343	0%	0.343	0%	0.343
silica - quartz	14808-60-7	0.000	60%	0.000	99.0%	0.000E+00
toluene ⁶	108-88-3					
trimethyl benzene	25551-13-7 95-63-6	0.061	0%	0.061	0%	0.061
VM&P and other light naphtha	64742-95-6 8032-32-4 64742-89-8 64742-88-7	0.215	0%	0.215	0%	0.215
xylene ⁷	1330-20-7					

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	42.25	131.81	60%	16.90	52.73	99.0%	0.169	0.527
PM _{2.5}	42.25	131.81	60%	16.90	52.73	99.0%	0.169	0.527
VOC	16.16	50.42	0%	16.16	50.42	0%	16.16	50.42

Hazardous Air Pollutants (HAP)		Maximum Spray Rate ¹	Spray Retention Rate (%)	Potential to Emit (ton/yr)
		(ton/yr)		
ethylbenzene	100-41-4	0.18	0%	0.18
HMI ⁸	822-06-0	0.0638	85%	0.0096
naphthalne	91-20-3	1.0298	0%	1.0298
toluene	108-88-3	1.67	0%	1.67
xylene	1330-20-7	0.71	0%	0.71

Total HAPs = 3.6

Notes:

- The maximum hourly or annual Spray Total of the coatings.
- Non-volatile emissions are calculated using a coating retention rate of 58%, Trinity Trailer retention testing.
- Controlled non-volatile emissions based on Paint Pocket Green test result 99.43% are calculated using an exhaust filter removal efficiency of 99%.
- HDI hexa-methylene diisocyanate monomer not estimated due to NESHAPS applicability.
- Ethylbenzene not estimated due to NESHAPS applicability.
- Toluene not estimated due to NESHAPS applicability.
- Xylene not estimated due to NESHAPS applicability.
- Isocyanate reaction factor (HMI monomer polymerized) = **85%**

Trinity Trailer

Laser Gauge-thickness

Cut amount per day/per week (type of material and thickness % cut

Assume 2 minutes/cut

thickness inche Length c. inch

	inch thick	mm thick	Comparison to 8 mm S	Comparison to 35 mm SS	Comparison to 8 mm Ste	Minutes Cutting	thickness inche	Length c. inch
Trumpf								
SS 16 gauge 10 times per day	0.0625	1.5875	20%			20	16 guage	0.0625 83334
SS 14 gauge 1 time per week	0.078125	1.984375	25%			2	14 guage	0.078125 10,790
SS 12 Gauge 1 time per day	0.109375	2.778125	35%			2	12 guage	0.109375 40,909
SS 11 Gauge 2 times per day	0.125	3.175	40%			4	11 guage	0.125 36857
SS 3/16 1 time per day	0.1875	4.7625	60%			2	10 guage	0.140625 304316
SS 1/4 1 time per day	0.25	6.35	79%			2	7 guage	0.1875 1421
						<u>32</u>	3/16	0.1875 7545
							1/4	0.25 77,035
Alum .063 2 times per day		1.6			20%	4	3/8	0.375 426
Alum .080 2 times per day		2.032			25%	4	1/2	0.5 1207
Alum .0125 1 time per day		0.3175			4%	2		
Alum .0190 1 time per day		0.4826			6%	2		
Alum ¼ 1 time per day		6.35			79%	2		
						<u>14</u>		
Steel 16 Gauge 1 time per day	0.0625	1.5875			20%	2		
Steel 14 gauge 1 time per week	0.078125	1.984375			25%	2		
Steel 12 gauge 1 time per day	0.109375	2.778125			35%	2		
Steel 11 gauge 1 time per day	0.125	3.175			40%	2		
Steel 3/16 2 times per day	0.1875	4.7625			60%	4		
Steel ¼ 2 times per day		6.35			79%	4		
						<u>16</u>		
Vanmark weekly additional								
SS 18 gauge 1 time per week	0.05	1.27	16%			2		
SS 14 gauge 1 time per week	0.078125	1.984375	25%			2		
SS 12 gauge 1 time per week	0.109375	2.778125	35%			2		
SS 10 gauge 5 times per week	0.140625	3.571875	45%			10		
SS 7 gauge 1 time per week	0.1875	4.7625	60%			2		
SS 3/8 1 time per week	0.375	9.525	119%			2		
SS ½" 1 time per week	0.5	12.7	159%			2		
						<u>22</u>		

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

Table 5-1a: Pre-Project Potential to Emit (Unrestricted)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	tons/yr						
Heaters	0	0	0	0	0	0	0
Solvent Recycling	0	0	0	0	0	0	0
Paint Booth	0	0	0	0	0	0	0
Plasma Cutting	0	0	0	0	0	0	0
Laser Cutting	0	0	0	0	0	0	0
Media Blasting	0	0	0	0	0	0	0
Welding	0	0	0	0	0	0	0
Total =	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 5-1b: Post-Project Potential to Emit (Unrestricted)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	tons/yr						
Heaters	0.3	0.3	0.02	3.6	3.1	0.2	0.0
Solvent Recycling	0.00	0.00	0	0	0	42	0
Paint Booth	158	158	0	0	0	151	0
Plasma Cutting	61	61	0	5.5	0	0	0
Laser Cutting	2.1928	2.1928	0	0	0	0	0
Media Blasting	0.45	3.26	0	0	0	0	0
Welding	0.4	0.4	0	0	0	0	0
Total =	223	226	0.02	9	3	194	0

Table 5-1c: Changes in Potential to Emit (Unrestricted)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	Lead
	tons/yr						
Heaters	0.3	0.3	0.02	3.6	3.1	0.2	0.00
Solvent Recycling	0.00	0.00	0.00	0	0	42	0
Paint Booth	158	158	0.00	0	0	151	0
Plasma Cutting	61	61	0.00	6	0	0	0
Laser Cutting	2.1928	2.1928	0.00	0	0	0	0
Media Blasting	0.45	3.26	0.00	0	0	0	0
Welding	0.4	0.4	0.00	0	0	0	0
Total =	223	226	0	9	3	194	0

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 ₂ e
tons/yr								
Heaters	0	0	0	0	0	0	0	0
Solvent Recycling	0	0	0	0	0	0	0	0
Paint Booth	0	0	0	0	0	0	0	0
Plasma Cutting	0	0	0	0	0	0	0	0
Laser Cutting	0	0	0	0	0	0	0	0
Media Blasting	0	0	0	0	0	0	0	0
Welding	0	0	0	0	0	0	0	0
Total =	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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 ₂ e	5 day/wk 52 wk/yr		% of total emissions from each process				
									PM _{2.5}	PM ₁₀	VOC	PM _{2.5}	PM ₁₀	VOC	
tons/yr									lb/day			worksheet			
Heaters	0.11	0.11	0.01	1.45	1.22	0.08	0.00001	1,737				12.8%	8.5%	0.1%	3-1 Heaters
Solvent Recycling	0.00	0.00	0	0	0	14.1	0	0			108.48	0.0%	0.0%	21.8%	3-2 Solvent Recycling
Paint Booth	0.53	0.53	0	0	0	50	0	0	4.06	4.06	387.86	61.0%	40.8%	78.0%	4-2 BOOTH1
Plasma Cutting	0.0010	0.0010	0	1.2	0	0	0	0				0.1%	0.1%	0.0%	
Laser Cutting	0.0016	0.0016	0	0	0	0	0	0				0.2%	0.1%	0.0%	
Media Blasting	0.22	0.65	0	0	0	0	0	0	1.73	5.02		26.0%	50.5%	0.0%	3-3 Fusion Red Glass
Welding	0.00003	0.00003	0	0	0	0	0	0				0.0%	0.0%	0.0%	
Total =	0.865	1.293	0.01	2.63	1.22	64.60	0.00	1737							
Cutting and Welding	0.0026	0.0026													

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 ₂ e
tons/yr								
Heaters	0.11	0.11	0.01	1.45	1.22	0.08	0.00	1737
Solvent Recycling	0.00	0.00	0.00	0	0	14	0	0
Paint Booth	0.53	0.53	0.00	0	0	50	0	0
Plasma Cutting	0.0010	0.0010	0.00	1	0	0	0	0
Laser Cutting	0.0016	0.0016	0.00	0	0	0	0	0
Media Blasting	0.22	0.65	0.00	0	0	0	0	0
Welding	0.0000	0.0000	0.00	0	0	0	0	0
Total =	0.87	1.29	0.01	2.63	1.22	64.60	0.00	1737

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Table 5-3: Criteria Pollutant Emissions

Criteria Air Pollutants	Estimated Emission Rate	10% Significant Emission Rate	BRC Exemption
	(T/yr)	(T/yr)	Below 10% Sig. Rate? (Y/N)
NO ₂	2.63E+00	4	Yes
CO	1.22E+00	10	Yes
PM _{total}	2.487E+00	2.5	Yes
PM ₁₀	1.29E+00	1.5	Yes
PM _{2.5}	8.650E-01	1	Yes
SO _x	8.72E-03	4	Yes
VOC	6.46E+01	4	No
Lead	7.27E-06	0.06	Yes

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

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Acetone	0	7.36E-01	7.36E-01	1.19E+02	No
Aluminum	0	2.99E-04	2.99E-04	6.67E-01	No
Barium	0	3.65E-05	3.65E-05	3.30E-02	No
Butyl Acetate	0	4.10E+00	4.10E+00	4.73E+01	No
Calcium Oxide	0	5.08E-02	5.08E-02	1.33E-01	No
Carbon Black	0	4.00E-03	4.00E-03	2.30E-01	No
Chromium	0	7.26E-05	7.26E-05	3.30E-02	No
Cobalt	0	6.98E-07	6.98E-07	3.30E-03	No
Copper *	0	1.26E-05	1.26E-05	6.70E-02	No
Dichlorobenzene	0	9.95E-06	9.95E-06	2.00E+01	No
Ethyl Benzene	0	0.00E+00	0.00E+00	2.90E+01	No
Heptane	0	0.00E+00	0.00E+00	1.09E+02	No
HMDI	0	0.00E+00	0.00E+00	2.00E-03	No
iron (oxide fume)	0	4.83E-04	4.83E-04	0.3330	No
Magnesium (oxide fume)	0	1.27E-06	1.27E-06	0.0012	No
Manganese	0	1.84E-05	1.84E-05	6.70E-02	No
Mercury	0	2.16E-06	2.16E-06	3.00E-03	No
Methanol	0	1.42E+00	1.42E+00	1.73E+01	No
Methyl n-Amyl Ketone	0	1.20E+00	1.20E+00	1.57E+01	No
Molybdenum	0	2.21E-05	2.21E-05	3.33E-01	No
Naphthalene	0	5.06E-06	5.06E-06	3.33E+00	No
Pentane	0	2.16E-02	2.16E-02	1.18E+02	No
Phenol	0	2.23E-02	2.23E-02	2.40E+01	No
Propyl alcohol	0	3.43E-01	3.43E-01	2.40E+01	No
Selenium	0	1.99E-07	1.99E-07	1.30E-02	No
Silica- quartz	0	6.66E-03	6.66E-03	6.67E-03	No
Silicon	0	2.94E-05	2.94E-05	6.67E-01	No
Silicon Dioxide	0	3.28E-01	3.28E-01	6.67E-01	No
Toluene	0	2.82E-05	2.82E-05	2.50E+01	No
Trimethyl benzene	0	6.10E-02	6.10E-02	8.20E+00	No
Vanadium	0	1.91E-05	1.91E-05	3.00E-03	No
VM&P Naphtha	0	2.16E-01	2.16E-01	9.13E+01	No
Xylene	0	0.00E+00	0.00E+00	2.90E+01	No
Zinc	0	2.41E-04	2.41E-04	6.67E-01	No
Carcinogenic Toxic Air Pollutant (Annual Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Arsenic	0	6.6E-07	6.6E-07	1.5E-06	No
Benzene	0	7.0E-06	7.0E-06	8.0E-04	No
Beryllium	0	4.0E-08	4.0E-08	2.8E-05	No
Cadmium	0	3.6E-06	3.6E-06	3.7E-06	No
Chromium+6	0	4.4E-08	4.4E-08	5.6E-07	No
Formaldehyde	0	2.5E-04	2.5E-04	5.1E-04	No
3-Methylchloranthene	0	6.0E-09	6.0E-09	2.5E-06	No
Nickel	0	2.67E-05	2.67E-05	2.7E-05	No
Polyaromatic Hydrocarbon (Max)	0	6.9E-07	6.9E-07	9.1E-05	No
Polycyclic Organics: 7-PAH Group	0	3.8E-08	3.8E-08	2.0E-06	No

TAP emissions (lb/hr) from each process based on the materials listed in the application						
Combustion	Solvent Recycling	Abrasive Blasting	Plasma Cutting	Laser Cutting	Welding	Coating
0.6%						
0.04%						
0.1%						
9%						4.1E+00
38%		5.1E-02				
2%						4.0E-03
0.2%						
0.02%						
0.02%						
0.0000%						
0.0%						
0.000%						
0%						
0.1%						
0.1%						
0.03%						
0.07%						
8%	3.7E-03					1.4E+00
8%						1.2E+00
0.007%						
0%						
0.02%						
0.1%						
1%						3.4E-01
0.002%						
99.8%		6.7E-03				0.0E+00
0%						
49%		3.3E-01				
0%						
0.7%						
1%	1.9E-05					
0.2%						
0.0%						
0.04%						
Carcinogenic Toxic Air Pollutant(Annual Average)						
Combustion	Solvent Recycling	Abrasive Blasting	Plasma Cutting	Laser Cutting	Welding	Coating
44%						
1%						
0.1%						
98.6%	3.6E-06					
8%			1.2E-09	4.3E-08	0.0E+00	
49%	2.5E-04					
0.2%						
98.8%	7.0E-06		1.2E-05	7.3E-06	9.8E-08	
0.8%						
2%	3.8E-08					

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

Hazardous Air Pollutant	Unrestricted Uncontrolled Potential to Emit (tons/yr)	Restricted Controlled Potential to Emit (tons/yr)	Restricted Controlled HAP emissions (tons/yr) from each process							
			Combustion	Solvent Recycling	Abrasive Blasting	Plasma Cutting	Laser Cutting	Welding	Coating	
Arsenic	4.4E-05	1.7E-05	1.7E-05							
Benzene	6.5E-08	2.6E-08	2.6E-08							
Beryllium	6.5E-02	2.6E-02	2.6E-02							
Cadmium	1.2E-04	4.9E-05	4.9E-05							
Chromium	4.5E+00	2.1E-04	2.0E-05				0.000124072	5.99E-05	1.23E-06	
Cobalt	4.0E-06	1.2E-06	1.2E-06						2.34E-09	
Dichlorobenzene	4.4E-05	1.7E-05	1.7E-05							
Ethylbenzene	1.9E+00	4.6E-01		0.282048						0.18
Formaldehyde	2.7E-03	1.1E-03	1.1E-03							
HMI	4.0E-02	9.6E-03								9.6E-03
Lead	1.8E-05	7.3E-06	7.3E-06							
Manganese	1.0E+00	4.9E-05	5.5E-06				1.34816E-05	2.794E-05	1.98E-06	
Methanol	3.0E+01	7.1E+00		7.1E+00						
Mercury	9.4E-06	3.8E-06	3.8E-06							
Naphthalene	2.2E-05	8.9E-06	8.9E-06							
Nickel	2.0E+00	1.2E-04	3.1E-05				5.38944E-05	3.203E-05	4.31E-07	
Polycyclic Organic Matter	4.1E-07	1.7E-07	1.7E-07							
Selenium	8.7E-07	3.5E-07	3.5E-07							
Toluene	1.8E+01	4.4E+00	4.9E-05	2.679456						1.67
Xylene	7.7E+00	1.8E+00		1.128192						0.71
TOTAL =	65.3	13.7	0.027461	11.1	0.0E+00	1.9E-04	1.2E-04	3.6E-06	2.6	

Total daily HAP emissions for Coating and Solvent Recycling are calculated as (T/yr) / [(5 days)(52 weeks)] * (2000 lb/T)			lb/day					lb/day
5	days/week		85.7					19.7
52	weeks/yr							

APPENDIX B – 40 CFR 63 SUBPART HHHHHH EXEMPTION LETTER

(2018AAG1181)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
AIR AND WASTE

JUL 21 2017

Mr. Dean Hearst
Operator
Trinity Trailer
7533 S. Federal Way
Boise, Idaho 83707

Dear Mr. Hearst:

This letter is in response to your petition dated May 9, 2017, requesting exemption for two facilities from the motor vehicle and mobile equipment surface coating requirements of the National Emission Standards for Hazardous Air Pollutants for Paint Stripping and Miscellaneous Surface Coating Operations at 40 C.F.R. Part 63, Subpart HHHHHH. Your petition request pertains to the facilities located at 7533 S. Federal Way, (Trinity Trailer - Federal Way facility) and at 8200 Eisenman Road (Trinity Trailer - Eisenman facility) in Boise, Idaho.

To obtain an exemption, 40 C.F.R. § 63.11170(a)(2) requires that as the owner or operator of a motor vehicle and mobile equipment surface coating operation you demonstrate, to the U.S. Environmental Protection Agency's satisfaction, that you spray apply no coatings that contain the target hazardous air pollutants (HAP), as defined in 40 C.F.R. § 63.11180. The petition 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.

Based upon the information you submitted and your signed certification indicating that none of the coatings sprayed at the Federal Way and Eisenman facilities contain the target HAP, the EPA is accepting your petition for exemption from 40 C.F.R. Part 63, Subpart HHHHHH. Please remember that the products described in your petition may contain target HAP. It is important that you carefully follow the manufacturer's directives to avoid the use of target HAP. All target HAP containing coatings must be eliminated from your paint line in order to maintain your exemption.

Please note that other provisions of 40 C.F.R. Part 63 Subpart HHHHHH may still apply to the Federal Way and Eisenman facilities, such as the provisions applicable to paint stripping operations involving the use of chemical strippers containing methylene chloride.

Keep a record of this exemption on site at each facility for as long as you perform motor vehicle and mobile equipment surface coating operations. If circumstances change such that the facility intends to spray apply coatings containing any target HAP, the owner or operator must submit the initial notification required by 40 C.F.R. § 63.11175 and comply with the requirements of this subpart.

This exemption is based on information that you have provided to us. Nothing in this exemption shall be construed as limiting the ability of the EPA or delegated agencies to pursue enforcement action, if it is

determined that any of your facilities were not eligible for this exemption or for any other violations under the Clean Air Act. Providing false information to a federal official is a criminal violation pursuant to federal law, 18 U.S.C. § 1001.

If you have any questions regarding this response, please contact Madonna Narvaez, of my staff, at (206) 553-2117, or electronically at narvaez.madonna@epa.gov.

Sincerely,



Donald Dossett, Manager
Stationary Source Unit

cc: Mr. Bobby Dye
Air Quality Science Officer
IDEQ

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on June 22, 2018:

Permit Condition	Facility Comments	Facility's Reasoning	DEQ's Response
3.6	Removing steel and aluminum laser cutting throughput limits.	<p>We propose removing steel and aluminum from this table. Smaller amounts of aluminum and carbon steel are laser cut compared to stainless. Due to the lower amounts of materials cut, lower amounts of Cr and Ni, and high level of control, emissions of TAPs and PM are unaffected from cutting aluminum and carbon steel. Even assuming 5X higher aluminum and carbon steel material removed than stainless, TAPs and PM are unaffected. (see attached emission Table 3-5 Laser.)</p> <p>If aluminum and steel limits must be included, Trinity Trailer proposes the following conservative limits, based on 5X the stainless steel use:</p> <p>Aluminum – 17,000 lbs./yr. Mild Steel – 17,000 lbs./yr.</p>	<p>Removed.</p> <p>The revised PC 3.6 reads: “The amount of stainless steel removed by laser cutting shall not exceed 3,393 lb/yr, based on consecutive 12-month period.”</p>
3.7	Demonstrating that an alternate welding rod “emissions are lower than the listed welding rod” could be interpreted to mean not a single TAP emission higher even if other TAPs were lower. Comparing an Alternate’s emissions to the 585/586 standards would be more specific.	This proposed revised definition of “Alternate Equivalent Welding Electrode” would assure compliance and has already been DEQ approved -Western Trailer PTC April 2017, Section 4.4, page 9.	<p>Not changed</p> <p>What proposed in the comments does not comply with the Rules. (i.e., IDAPA 58.01.01.200). When there is a change to the current operations at the facility, facility-wide emissions of the project will be used to compare with the standards, such as ELs, not the emissions from an individual process, such as the welding operation only.</p> <p>For any new welding rod that is not permitted in Permit Condition 3.7, the applicant can always follow IDAPA 58.01.01.200 for a project exemption, or a permit.</p>

Permit Condition	Facility Comments	Facility's Reasoning	DEQ's Response																																								
3.8	Remove "Fumes shall be 100% captured"	We propose deleting this requirement. Including a numerical 100% capture efficiency as a limit could also require testing or other difficult measurements to demonstrate compliance. Since Section 3.14 requires operating in accordance with the O&M Manual, and the O&M Manual would be linked to the manufacturer's manual of recommended practices for efficient operations, the proposed revision would assure compliance. In addition, Trinity Trailer could specifically list actions for best capture efficiency in the O&M Manual.	<p>Removed.</p> <p>Revised to "The overall control efficiency shall be no less than 99.98%" for each plasma cutting operation and each welding operation and revised to "The overall control efficiency shall be no less than 99.75%" for each laser cutting operation.</p> <p>Refer to Permit Conditions Review section, Initial Permit Condition 3.8 for more details.</p> <p>The following information shows how the capture efficiency affects the facility-wide particulate emissions for the plasma cutting and welding operation and laser cutting, respectively:</p> <table border="1"> <thead> <tr> <th>Fume capture efficiency for welding and plasma cutting</th> <th>PM</th> <th>PM_{2.5}</th> <th>PM₁₀</th> </tr> </thead> <tbody> <tr> <td>100.0%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>99%</td> <td>>BRC</td> <td></td> <td></td> </tr> <tr> <td>90%</td> <td>>BRC</td> <td>>BRC</td> <td></td> </tr> <tr> <td>83%</td> <td>>BRC</td> <td>>BRC</td> <td>>BRC</td> </tr> <tr> <th>Particulate capture efficiency for laser cutting</th> <th>PM</th> <th>PM_{2.5}</th> <th>PM₁₀</th> </tr> <tr> <td>100.0%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>97.8%</td> <td>>BRC</td> <td></td> <td></td> </tr> <tr> <td>55%</td> <td>>BRC</td> <td>>BRC</td> <td></td> </tr> <tr> <td>15%</td> <td>>BRC</td> <td>>BRC</td> <td>>BRC</td> </tr> </tbody> </table>	Fume capture efficiency for welding and plasma cutting	PM	PM _{2.5}	PM ₁₀	100.0%				99%	>BRC			90%	>BRC	>BRC		83%	>BRC	>BRC	>BRC	Particulate capture efficiency for laser cutting	PM	PM _{2.5}	PM ₁₀	100.0%				97.8%	>BRC			55%	>BRC	>BRC		15%	>BRC	>BRC	>BRC
Fume capture efficiency for welding and plasma cutting	PM	PM _{2.5}	PM ₁₀																																								
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97.8%	>BRC																																										
55%	>BRC	>BRC																																									
15%	>BRC	>BRC	>BRC																																								
3.12	Replace "comply" with "compliance"		Corrected																																								
4.5	Remove "The permittee shall not reuse abrasive blasting media."	What is the reason for not allowing reuse of media? It seems that tracking daily media use would account for media reuse if it occurs. We suggest that this provision be removed.	<p>Removed.</p> <p>Agree. The throughput was based on spray rate of the blast machine not the purchase records. Tracking daily media use would be able to assure compliance.</p>																																								

Permit Condition	Facility Comments	Facility's Reasoning	DEQ's Response
4.5	Add "Alternate abrasive blasting media may be used if the amounts and types of media result in emissions equal or lower than the emission screening levels for toxic air pollutants (TAP) provided in IDAPA 58.01.01.585-586"	The applicant should be able to substitute media as long as can demonstrate that emissions comply with criteria, TAPs, and HAPs thresholds.	Revised What proposed in the comments does not comply with the Rules. (i.e., IDAPA 58.01.01.200). When there is a change to the current operations at the facility, facility-wide emissions of the project will be used to compare with the standards, such as ELs, not the emissions from an individual process, such as the blasting operation only. To provide flexibility to the facility, the following verbiage is added to PC 4.5. "An alternate equivalent abrasive blasting media may be used if it is demonstrated that the alternate equivalent abrasive blasting media results in emissions equal or lower than the abrasive blasting media used in this permit analysis. Refer to Appendix A of SOB for the components of the abrasive blasting media used for this permit analysis." For any new abrasive blasting media that is not permitted in Permit Condition 4.5, the applicant can always follow IDAPA 58.01.01.200 for a project exemption, or a permit.
5.7	Add "...amounts and types of coating materials that result in emissions equal or lower than the emission screening levels for toxic air pollutants (TAP) provided in IDAPA 58.01.01.585-586."	In order to assure compliance, it is not necessary to demonstrate "equivalent emissions" but rather demonstrate compliant emissions. TAP EL lbs./hr. thresholds are more restrictive and limiting compared to PM and VOC tons/yr. thresholds, so only this TAP standard is relevant in defining alternate coatings.	Not changed What proposed in the comments does not comply with the Rules. (i.e., IDAPA 58.01.01.200). When there is a change to the current operations at the facility, facility-wide emissions of the project will be used to compare with the standards, such as ELs not the emissions from an individual process, such as the coating operation only. The reasoning for change does not reflect the analysis for this project. As discussed under Permit Condition Review section for Initial Permit Condition 5.3 and Initial Permit Condition 5.7, Permit Condition 5.7 is for keeping the facility-wide PM ₁₀ and PM _{2.5} emissions below BRC levels so that modeling analyses would not be required and for keeping VOC and single HAP emissions below their respective major source thresholds. Non-carcinogenic TAP emissions from the current painting operation are well below the respective ELs. For any new coating material that is not permitted in Permit Condition 5.7, the applicant can always follow IDAPA 58.01.01.200 for a project exemption, or a permit.
Table 2 of SOB	To correct laser cutting emissions rates		Corrected 2.19 T/yr for PM ₁₀ and PM _{2.5} using the rates in the 6-22-2018 revised EI.
Table 6 of SOB	To revise a few emissions rates based on the revised 6-22-2018 EI spreadsheet		Changes are made.
Table 7 of SOB	To revise a few emissions rates based on the revised 6-22-2018 EI spreadsheet		Changes are made.
SOB	To correct a few typos		Corrected

Permit Condition	Facility Comments	Facility's Reasoning	DEQ's Response
Permit Conditions Review section, Initial Permit Condition 3.6 in SOB	To revise the discussions as a result of changes made to PC 3.6		Revised Refer to Permit Conditions Review section, Initial Permit Condition 3.6 for details.
Permit Conditions Review section, Initial Permit Condition 3.7 in SOB	To revise it		The following is added to Permit Conditions Review section, Initial Permit Condition 3.7: "For any new welding rod that is not permitted in Permit Condition 3.7, the applicant can always follow IDAPA 58.01.01.200 for a project exemption, or a permit revision" Refer to DEQ's response to Permit Condition 3.7 for details.
Permit Conditions Review section, Initial Permit Condition 3.10 in SOB	Replace "throughput" with "amounts of material removed during"		Changed
Permit Conditions Review section, Initial Permit Condition 3.14 in SOB	Change "Blasting media is not reused" to "Blasting media is not currently reused."		changed
Permit Conditions Review section, Initial Permit Condition 5.7 in SOB			Not changed Refer to DEQ's response to Permit Condition 5.7.

APPENDIX D – PROCESSING FEE

(2018AAG1180)

PTC Processing Fee Calculation Worksheet

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:
Address:
City:
State:
Zip Code:
Facility Contact:
Title:
AIRS No.:

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	2.6	0	2.6
SO ₂	1.0E-02	0	0.0
CO	1.2	0	1.2
PM10	1.3	0	1.3
VOC	64.6	0	64.6
TAPS/HAPS	13.7	0	13.7
Total:			83.5
Fee Due	\$ 5,000.00		

Comments: