



State of Idaho  
Department of Environmental Quality  
Air Quality Division

**AIR QUALITY PERMIT  
STATEMENT OF BASIS**

**Permit to Construct Operating**

**Permit No. P-2009.0067**

**Final**

**Trails West Manufacturing of Idaho, Inc.**

**Trails West Manufacturing Facility**

**Preston, Idaho**

**Facility ID No. 041-00013**

**January 11, 2010**

**Darrin Pampaian, P.E.**

**Permit Writer**

A handwritten signature in black ink, appearing to be "D.P.", located to the right of the name Darrin Pampaian, P.E.

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 for non-carcinogens
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
AQCR	Air Quality Control Region
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
HAP	hazardous air pollutants
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PC	permit condition
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
T/yr	tons per year
T2	Tier II operating permit
T2/PTC	Tier II operating permit and permit to construct
TAP	toxic air pollutant
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
UTM	Universal Transverse Mercator
VOC	volatile organic compounds
µg/m <sup>3</sup>	micrograms per cubic meter

# 1. FACILITY INFORMATION

## 1.1 Facility Description

Trails West Manufacturing of Idaho, Inc. (Trails West) is a manufacturer of horse trailers. As part of the trailer manufacturing process, two paint booths are used to apply primer and paint to the trailers. In addition, caulking is performed on the trailers to seal up the panels as part of the manufacturing process.

Trailers are assembled in the “Fab” shop, sub-assembly, and weld portions of the plant. After assembly the trailers are washed in a zero emissions wash booth using various liquid cleaners. The trailers are then primed using an epoxy primer in the prime/cure booth. Air is ventilated through the booth from an intake stack on the north end of the prime/cure booth through two particulate filters on the south corners of the booth and out an exhaust stack on the roof.

After the trailers have been primed they are then prepared for painting in the caulking area of the plant. Painting of the trailers is done in a down-draft paint booth. Air is ventilated into the booth through three intake zones. Each intake is equipped with a filter on the roof of the plant and a filter on the ceiling of the paint booth. Air then moves through particulate exhaust filters near the floor of the booth and out exhaust fans on the roof of the facility. Each intake zone has two exhaust fans associated with it.

After the trailers have been painted they are then cured in the curing booth. The trailers are cured using infrared heaters and a furnace. Excess heat and excess volatiles from the cure booth are vented through an exhaust fan on the roof of the facility. Trailers are then completed in the trim portion of the plant. Both the prime and the paint booths were constructed in 1994.

## 1.2 Permitting Action and Facility Permitting History

This permit is the initial PTC for this facility. This facility has applied to obtain a PTC for an existing operation. Permit status is noted as active and in effect (A) or superseded (S).

January 11, 2010      P-2009.0067 Initial PTC, Permit status (A)

# 2. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

## 2.1 Application Scope

The purpose of this Permit to Construct is to establish enforceable requirements for the facility's operations involving trailer manufacturing which includes coating and caulking in accordance with the Rules for the Control of Air Pollution in Idaho. This PTC is the initial permit for this existing facility.

## 2.2 Application Chronology

May 11, 2009	PTC project application P-2009.0067 along with the \$1,000 application fee was received by DEQ.
June 8, 2009	Project P-2009.0067 was deemed incomplete.
May 27-June 11, 2009	A notice was published and an opportunity for comment period was provided
August 31, 2009	Project P-2009.0067 was deemed complete.
October 8, 2009	DEQ sent a draft PTC to the facility for review.
November 25, 2009	The 30-day public comment period commenced.
October 27, 2009	The \$5,000 PTC processing fee was received.
December 28, 2009	The 30-day public comment period ended.

January 11, 2010      The final permit and statement of basis were issued.

### 3. TECHNICAL ANALYSIS

#### 3.1 Emission Unit and Control Device

Table 3.1 EMISSION UNIT AND CONTROL DEVICE INFORMATION

Emission Unit/ID No.	Emissions Unit Description	Control Device Description	Emissions Discharge Point ID No. and/or Description
Painting Operation/Building 1	<p><u>Prime/Cure Booth:</u> Manufactured: 1994</p> <p><u>Paint Booth:</u> Manufactured: 1994</p> <p><u>Paint Spray Gun:</u> Manufacturer: Iwata Paint Gun Model: LPH 200-LVP Maximum Spray Rate: 6.56 gal/hr Maximum coating materials use: 18,652.5 gal/yr Transfer Efficiency: 65%</p> <p><u>Paint Booth Heater</u> Quantity: 1 Rating: 1.075 MMBtu/hr Fuel: natural gas only</p>	<p><u>Prime/Cure Booth Exhaust/Filter System:</u> Open face filter inlet: 100.2 ft<sup>2</sup> Filter Manufacturer: Filtration Group, Inc. Model: Blue/White Poly Pad w/o Tackifier Particulate C.E: 98%</p> <p><u>Paint Booth Exhaust/Filter System:</u> Open face filter inlet: 240 ft<sup>2</sup> Filter Manufacturer: Filtration Group, Inc. Model: Blue/White Poly Pad w/o Tackifier Particulate C.E: 98%</p>	<p><u>Prim/Cure Booth Stack EP1:</u> Stack Orientation: Vertical, w/ cap Stack Release Height: 21 ft (6.4 m) Stack Diameter: 2.8 ft (0.86 m) Exhaust Flow Rate: 19,000 acfm Exit Velocity: 50.2 ft/sec (15.31 m/s) Exhaust Temperature: 75 °F (297.04 K)</p> <p><u>Paint Booth Stacks EP2 through EP7:</u> Stack Orientation: Vertical, w/ cap Stack Release Height: 21 ft (6.4 m) Stack Diameter: 2.1 ft (0.64 m) Exhaust Flow Rate: 10,000 acfm Exit Velocity: 48.9 ft/sec (14.90 m/s) Exhaust Temperature: 75 °F (297.04 K)</p>
Caulking Operation/Building 1	<p><u>Caulking Operation:</u> Maximum caulking materials use: 6,423.8 gal/yr</p>	N/A	N/A: Fugitive emissions from a building

### 3.2 Emissions Inventory

Trails West estimated uncontrolled emissions, pre- and post project potential to emit, and the changes in potential to emit (PTE) which are summarized in Tables 3.2, 3.3, and 3.4, respectively as follows (see Appendix A for detailed calculations). Because this is an existing unpermitted facility, pre-project emissions were set to zero for all criteria pollutants. These emissions estimates were based on the following assumptions for the emissions associated with this PTC:

- **Coating Operation:** Controlled PM<sub>10</sub> emissions were estimated using the transfer efficiency of the HVLP spray gun which was assumed to be 65% (HVLP guns typically have a transfer efficiency of 65% and are required by Subpart HHHHHH) and the control efficiency of the spray booth filters which was estimated to be 98% (Subpart HHHHHH requires a control efficiency of 98%). Controlled VOC emissions were based on specific maximum annual usage of paints as provided by the applicant. Uncontrolled PM<sub>10</sub> and VOC emissions were estimated by multiplying the PTE by a factor of 4.29, which was based on scaling the emissions from operating for 2,040 hours per year (as proposed by the Applicant) to operation of 8,760 hours per year.
- **Caulking Operation:** Controlled VOC emissions were based on specific maximum annual usage of caulk and adhesive as provided by the applicant. Uncontrolled VOC emissions were estimated by multiplying the PTE by a factor of 4.29, which was based on scaling the emissions from operating for 2,040 hours per year (as proposed by the Applicant) to operation of 8,760 hours per year.

**Table 3.2 POST PROJECT UNCONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT**

Emissions Unit	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	lb/quarter
<b>Point Sources Affected by this Permitting Action</b>						
Prime/Cure Booth	0.86	0.00	0.00	0.00	70.72	0
Paint Booth	0.86	0.00	0.00	0.00	70.72	0
Paint Booth Heater	0.036	0.003	0.443	0.188	0.026	0.0000006
Caulking Operation	0.00	0.00	0.00	0.00	59.89	0
<b>Total, Point Sources</b>	<b>1.72</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>201.33</b>	<b>0.00</b>

As demonstrated in Table 3.2, this facility has an uncontrolled potential to emit for VOC emissions greater than the Major Source threshold of 100 T/yr. Therefore, this facility is designated as a Synthetic Minor facility. As demonstrated in Table 3.3 as follows the facility's PTE for all criteria pollutants is less than 80% of the Major Source thresholds of 100 T/yr. Therefore, this facility will not be designated as a SM-80 facility.

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.

**Table 3.3 POST PROJECT CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT**

Emissions Unit	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC		Lead	
	lb/hr <sup>1</sup>	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
<b>Point Sources Affected by the Permitting Action</b>												
Prime/Cure Booth	0.20	0.195	0.00	0.00	0.00	0.00	0.00	0.00	16.18	16.49	0	0
Paint Booth	0.20	0.195	0.00	0.00	0.00	0.00	0.00	0.00	16.18	16.49	0	0
Paint Booth Heater	0.0082	0.036	0.0006	0.003	0.101	0.443	0.043	0.188	0.006	0.026	0.0000005	0.0000024
Caulking Operation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.69	13.96	0	0
<b>Post Project Totals</b>	<b>0.41</b>	<b>0.43</b>	<b>0.00</b>	<b>0.00</b>	<b>0.10</b>	<b>0.44</b>	<b>0.04</b>	<b>0.19</b>	<b>46.06</b>	<b>46.97</b>	<b>0.00</b>	<b>0.00</b>

**Table 3.4 CHANGES IN CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS  
POTENTIAL TO EMIT**

	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC		Lead	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
<b>Point Sources Affected by the Permitting Action</b>												
<b>Pre-Project Totals</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Post Project Totals</b>	0.41	0.43	0.00	0.00	0.10	0.44	0.04	0.19	46.06	46.97	0.00	0.00
<b>Facility Total Change in Emissions</b>	0.41	0.43	0.00	0.00	0.10	0.44	0.04	0.19	46.06	46.97	0.00	0.00

**Table 3.5 CONTROLLED TAP EMISSIONS SUMMARY  
POTENTIAL TO EMIT**

Non-Carcinogenic Toxic Air Pollutants	24-hour Average Emissions Rates for Units at the Facility <sup>1</sup> (lb/hr)	Non-Carcinogenic Screening Emission Level <sup>3</sup> (lb/hr)	Exceeds Screening Level? (Y/N)
Aluminum, including metal & oxide	6.39E-04	0.667	N
2-Butoxyethyl acetate	0.117	8.33	N
n-Butyl alcohol	0.364	10	N
Cumene*	1.37E-04	16.3	N
Ethyl benzene*	0.112	29	N
Hexamethylene diisocyanate*	2.88E-4	0.002	N
Methanol*	0.477	17.3	N
Methyl isobutyl ketone*	0.0187	13.7	N
Naphthalene*	5.68E-3	3.33	N
Toluene*	0.727	25	N
Trimethyl benzene (mixed and individual isomers)	0.304	8.2	N
Xylene (o-, m-, p-isomers)*	0.470	29	N
Zinc oxide fume	4.34E-4	0.333	N

\*These materials are also identified as HAPs per Section 112(b) of the CAA.

### 3.3 Ambient Air Quality Impact Analysis

**Table 3.7 FULL IMPACT ANALYSIS RESULTS FOR CRITERIA POLLUTANT(S)**

Pollutant	Averaging Period	Facility Ambient Impact (µg/m <sup>3</sup> )	Background Concentration (µg/m <sup>3</sup> )	Total Ambient Concentration (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	Percent of NAAQS
PM <sub>10</sub>	24-hour	22.58	88	110.58	150	73.7%
	Annual	3.09	28	31.09	50	62.2%
NO <sub>2</sub>	Annual	N/A	N/A	N/A	100	N/A
SO <sub>2</sub>	3-hr	N/A	N/A	N/A	1,300	N/A
	24-hr	N/A	N/A	N/A	365	N/A
	Annual	N/A	N/A	N/A	80	N/A
CO	1-hour	N/A	N/A	N/A	40,000	N/A
	8-hour	N/A	N/A	N/A	10,000	N/A
Pb	Quarterly	N/A	N/A	N/A	1.5	N/A

N/A: The emissions rate is below the modeling threshold; modeling is not required in accordance with State of Idaho Air Quality Modeling Guidance DEQ Publication, December 2002, or alternative threshold approved by DEQ Modeling Coordinator.

## 4. REGULATORY REVIEW

### 4.1 Attainment Designation (40 CFR 81.313)

The Trails West facility is located in Franklin County (AQCR 61), which is designated as unclassifiable/attainment for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, and Ozone for federal and state criteria air pollutants. Reference 40 CFR 81.313.

### 4.2 Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The PTC rules under IDAPA 58.01.01.201 require that “No owner or operator may commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining a permit to construct from the Department which satisfies the requirements of Sections 200 through 228 unless the source is exempted in any of Sections 220 through 223.” Therefore, it will be determined if the installation of this trailer coating operation is exempt from obtaining a PTC per Sections 220 through 223.

IDAPA 58.01.01.220 General Exemption Criteria for Permit to Construct Exemptions

In accordance with IDAPA 58.01.01.220.01.a, the maximum capacity of the source to emit an air pollutant under its physical and operational design without consideration of limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored, or processed shall not equal or exceed 100 tons/yr for all regulated air pollutants. As presented previously in Table 3.2, the proposed project results in uncontrolled potential emissions of greater than 100 tons/yr for VOC criteria pollutants. Therefore, the project does not meet the criteria set forth in Section 220 and is not exempt from PTC requirements.

### 4.3 Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The facility is not subject to IDAPA 58.01.01.300 through 399 and is not requesting an optional Tier II operating permit. Therefore, the requirements of IDAPA 58.01.01.401 do not apply.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

IDAPA 58.01.01.006.118 defines a Tier I source as “Any source located at a major facility as defined in Section 008.” IDAPA 58.01.01.008.10 defines a Major Facility as either:

- For HAPS a facility with the potential to emit ten (10) tons per year (tpy) or more of any hazardous air pollutant, other than radionuclides, or
- The facility emits or has the potential to emit twenty-five (25) tpy or more of any combination of any hazardous air pollutants, other than radionuclides.

or, for non-attainment areas:

- The facility is located in a “serious” particulate matter (PM<sub>10</sub>) nonattainment area and the facility has the potential to emit seventy (70) tpy or more of PM<sub>10</sub>, or

- The facility is located in a “serious” carbon monoxide nonattainment area in which stationary sources are significant contributors to carbon monoxide levels and the facility has the potential to emit fifty (50) tpy or more of carbon monoxide, or
- The facility is located in an ozone transport region established pursuant to 42 U.S.C. Section 7511c and the facility has the potential to emit fifty (50) tpy or more of volatile organic compounds, or
- The facility is located in an ozone nonattainment area and, depending upon the classification of the nonattainment area, the facility has the potential to emit the following amounts of volatile organic compounds or oxides of nitrogen; provided that oxides of nitrogen shall not be included if the facility has been identified in accordance with 42 U.S.C. Section 7411a(f)(1) or (2) if the area is “marginal” or “moderate,” one hundred (100) tpy or more, if the area is “serious,” fifty (50) tpy or more, if the area is “severe,” twenty-five (25) tpy or more, and if the area is “extreme,” ten (10) tpy or more.
- The facility emits or has the potential to emit one hundred (100) tons per year or more of any regulated air pollutant. The fugitive emissions shall not be considered in determining whether the facility is major unless the facility is a “Designated Facility”:

The following table compares the post-project facility-wide annual uncontrolled emission rate for all HAPs emitted by the source (see Appendix A for detailed calculations) to the HAPS Major Source thresholds in order to determine if the facility is a HAPS Major Source.

**Table 4.1 PTE FOR HAPS POLLUTANTS COMPARED TO THE HAPS MAJOR SOURCE THRESHOLDS**

HAPS Pollutants	PTE (T/yr)	Major Source Threshold (T/yr)	Exceeds the Major Source Threshold?
Cumene	0.001	10	No
Ethyl benzene	0.492	10	No
Hexamethylene diisocyanate	0.017	10	No
Methanol	2.089	10	No
Xylene (o-, m-, p-isomers)	2.059	10	No
Hexane	0.779	10	No
Tolulene	5.978	10	No
<b>Total</b>	<b>11.42</b>	25	No

As presented in the preceding table the PTE for each HAP is less than 10 T/yr and the PTE for all HAPS combined is less than 25 T/yr. Therefore, this facility is not a HAPS Major Source subject to Tier I requirements.

As discussed previously the Trails West facility is located in Franklin County (AQCR 61), which is designated as unclassifiable/attainment for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, and Ozone for federal and state criteria air pollutants. Therefore, the following table compares the post-project facility-wide annual PTE for all criteria pollutants emitted by the source to the applicable criteria pollutant Major Source thresholds in order to determine if the facility is a criteria pollutant Major Source.

**Table 4.2 PTE FOR CRITERIA POLLUTANTS COMPARED TO THE CRITERIA POLLUTANT MAJOR SOURCE THRESHOLDS**

Criteria Pollutants	PTE (T/yr)	Major Source Threshold (T/yr)	Exceeds the Major Source Threshold?
PM <sub>10</sub>	0.43	100	No
SO <sub>2</sub>	0.00	100	No
NO <sub>x</sub>	0.44	100	No
CO	0.19	100	No
VOC	46.97	100	No

As presented in the preceding table the PTE for each criteria pollutant is less than 100 T/yr. Therefore, this facility is not a criteria pollutant Major Source subject to Tier I requirements.

**4.5 Visible Emissions (IDAPA 58.01.01.625)**

IDAPA 58.01.01.625 Visible Emissions

The sources of PM<sub>10</sub> emissions at this facility are subject to the state of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 2.4.

**4.6 General Rules (IDAPA 58.01.01.776)**

IDAPA 58.01.01.776 General Rules

The sources of odor at this facility are subject to the state of Idaho odor emissions standard that “No person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution.” This requirement is assured by Permit Condition 2.5.

**4.7 PSD Classification (40 CFR 52.21)**

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

As discussed previously 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), the PSD requirements do not apply.

#### 4.8 NSPS Applicability (40 CFR 60)

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

#### 4.9 NESHAP Applicability (40 CFR 61)

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

#### 4.10 MACT Applicability (40 CFR 63)

40 CFR 63, Subpart HHHHHH National Emission Standards for Hazardous Air Pollutants:  
Paint Stripping and Miscellaneous Surface Coating  
Operations at Area Sources

§ 63.11169 What is the purpose of this subpart?

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

§ 63.11170 Am I subject to this subpart?

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

§ 63.11171 How do I know if my source is considered a new source or an existing source?

In accordance with §63.11171(b), the mobile equipment coating operation is the collection of mixing rooms and equipment; spray booths, curing ovens, and associated equipment; spray guns and associated equipment; spray gun cleaning equipment; and equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint. Paint stripping was not proposed as a business activity.

In accordance with §63.11171(c), this mobile equipment coating operation is an existing source because it commenced construction prior to September 17, 2007, by installing new paint stripping or surface coating equipment, and the new surface coating equipment will be used at a source that was actively engaged in paint stripping and/or miscellaneous surface coating prior to September 17, 2007.

§ 63.11172 When do I have to comply with this subpart?

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

§ 63.11173 What are my general requirements for complying with this subpart?

Because the facility has not proposed paint-stripping activities, the requirements of §63.11173(a) through (f) are not applicable. Because the facility is a mobile equipment coating operation, in accordance with §63.11173(e), the permittee must meet the requirements of in paragraphs (e)(1) through (e)(5) of this section.

In accordance with §63.11173(f), each owner or operator of an affected mobile equipment coating operation must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings, as defined in §63.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.

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

Compliance with these requirements is assured by PTC condition 2.11.

§ 63.11174 What parts of the General Provisions apply to me?

In accordance with §63.11174(a), Table 1 of this subpart shows which parts of the General Provisions in subpart A apply. Compliance with these requirements is assured by PTC condition 2.11.

In accordance with §63.11174(b), an owner or operator of an area source subject to this subpart is exempt from the obligation to obtain a permit under 40 CFR part 70 or 71 provided that a permit under 40 CFR 70.3(a) or 71.3(a) is not required for a reason other than becoming area source subject to this subpart. This permit application and permitting action involve a Permit to Construct, and will not utilize the requirements and procedures in IDAPA 58.01.01.300-399 for the issuance of Tier I operating permits.

§ 63.11175 What notifications must I submit?

In accordance with §63.11175(a), because the facility is a surface coating operation subject to this subpart, the initial notification required by §63.9(b) must be submitted. For this existing operation, the Initial Notification must be submitted no later than on or before March 11, 2011.

In accordance with §63.11175(b), because the facility is an existing source, the permittee is not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided the permittee was able to certify compliance on the date of the initial notification, as part of the initial notification, and the permittee's compliance status has not since changed. The permittee must submit a Notification of Compliance Status on or before March 11, 2011. The permittee is required to submit the information specified in paragraphs (b)(1) through (4) of this section with the Notification of Compliance Status.

Compliance with these requirements is assured by PTC condition 2.19.

§ 63.11176 What reports must I submit?

In accordance with §63.11176(a), because the permittee is an owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, the permittee is required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. The annual notification of changes report must be submitted prior to March 1 of

each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.

Compliance with these requirements is assured by PTC condition 2.20.

Because the facility has not proposed to conduct paint stripping operations, the MeCl minimization plan requirements are not applicable.

§ 63.11177 What records must I keep?

In accordance with §63.11177, because the permittee is the owner or operator of a surface coating operation, the permittee must keep the records specified in paragraphs (a) through (d) and (g) of this section. Because the permittee has not proposed to conduct paint stripping operations, the requirements of paragraphs (e) and (f) of this section are not applicable. Compliance with these requirements is assured by PTC condition 2.16.

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

In accordance with 40 CFR 63.11178(a) because the permittee is the owner or operator of an affected source, the permittee must maintain copies of the records specified in §63.11177 for a period of at least five years after the date of each record. Copies of records must be kept on site and in a printed or electronic form that is readily accessible for inspection for at least the first two years after their date, and may be kept off-site after that two year period. Compliance with these requirements is assured by PTC condition 2.16.

§ 63.11179 Who implements and enforces this subpart?

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

§ 63.11180 What definitions do I need to know?

Terms used in this subpart are defined in accordance with §63.11180.

**40 CFR 63 Subpart XXXXXX NESHAP for Area Source Standards for Nine Metal Fabrication and Finishing Source Categories**

**§ 63.11514 Am I subject to this subpart?**

Section (a) states that you are subject to this subpart if you own or operate an area source that is primarily engaged in the operations in one of the nine source categories listed in paragraphs (a)(1) through (9) of this section.

Paragraphs (a)(1) through (9) list the following operations: (1) Electrical and Electronic Equipment Finishing Operations (NAICS codes 335312 and 335999); (2) Fabricated Metal Products (NAICS codes 332117 and 332312); (3) Fabricated Plate Work (Boiler Shops) (NAICS codes 332313, 324410, and 332420); (4) Fabricated Structural Metal Manufacturing (NAICS code 332999); (5) Heating Equipment, except Electric (NAICS code 333414); (6) Industrial Machinery and Equipment Finishing Operations (NAICS codes 333120, 333132, and 333911); (7) Iron and Steel Forging (NAICS code 332111); (8) Primary Metal Products Manufacturing (NAICS code 332618); and (9) Valves and Pipe Fittings

(NAICS code 332919).

Trails West fabricates horse trailers. The manufacturing of trailers has a NAICS code of 336214 which is not subject to the requirements of Subpart XXXXXX and no further discussion is required.

#### **4.11 CAM Applicability (40 CFR 64)**

40 CFR 64 does not apply to this facility because it is not required to obtain a part 70 or 71 permit.

#### **4.12 Permit Conditions Review**

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit Condition 1.1 establishes the permit to construct scope.

Permit Conditions 2.1 and 2.2 provide a description of the purpose of the permit and the regulated sources, the process, and the control devices used at the facility.

Permit Condition 2.3 establishes hourly and annual emissions limits for PM<sub>10</sub> and VOC emissions from the mobile equipment coating operation.

As mentioned previously Permit Condition 2.4 establishes a 20% opacity limit for the paint booth stacks, vents, or functionally equivalent openings associated with the mobile equipment coating operation.

As mentioned previously Permit Condition 2.5 establishes that the permittee shall not allow, suffer, cause, or permit the emission of odorous gasses, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

Permit Condition 2.6 establishes that only natural gas is allowed to be used as fuel in the paint booth heater as proposed by the applicant.

Permit Condition 2.7 establishes that the facility will not use MeCl to remove paint from vehicles at the facility. This was done because MeCl emissions were not included in the application for this project. In addition, Subpart HHHHHH has additional requirements for facilities that use MeCl to remove paint as mentioned previously in the discussion of Subpart HHHHHH in Section 4.6.

Permit Condition 2.8 establishes a daily operational limit and annual usage limits for *A* paint, *F* paint, *HD* paint, *FGP30010* paint, *CF-22860S* primer, *N0006HN* paint, *131S* primer, *193S* activator, *22805S* primer, *22860S* primer, *32030S* solvent, *32,188* retarder, *3401S* paint, *3480S* paint, *359S* additive, *3661S* thinner, *389S* accelerator, *3900S* solvent, *481-16* thinner, *577H* additive, *7185S* primer, *825P30018* primer, *848-DUI93* paint, *848-DUI98* paint, *848P7241H* paint, *8685S* reducer, *8695S* reducer, *8885S* reducer, *8895S* reducer, *8989S* accelerator, and *99A* paint for the entire trailer coating process as proposed by the Applicant.

Permit Condition 2.9 establishes annual usage limits for *Acryl-R* joint sealer, *Con-Bond* adhesive, and *Sta-Put* adhesive for the entire trailer caulking process as proposed by the Applicant.

Permit Condition 2.10 establishes that the permittee conduct all trailer coating operations in the paint booth with the filters in place, fan(s) operating, and door(s) closed, that the operation shall use a HVLP spray gun, and that the permittee shall maintain and operate the paint booth exhaust filter system in accordance with the manufacturer's specifications that were supplied with the application.

Permit Condition 2.11 establishes parameters that will allow the facility to comply with the general operating requirements of 40 CFR 63, Subpart HHHHHH – MACT Standards and Management Practices for Paint Stripping and Miscellaneous Coating Operations.

Permit Condition 2.12 establishes that the permittee shall maintain records of all odor complaints received, perform appropriate corrective actions, and maintain records of corrective actions taken at the facility for the trailer coating process. This was required because automotive operation operations are expected to have odors that might be offensive to their immediate neighbors.

Permit Condition 2.13 establishes that the permittee shall maintain material purchase records and Material Safety Data Sheets (MSDS) for the trailer coating and caulking processes.

Permit Condition 2.14 establishes that the permittee shall maintain records of operation for the trailer coating process.

Permit Condition 2.15 establishes that the permittee shall maintain monthly usage records of paint, primer, activator, solvent, retarder, additive, reducer, and accelerator materials used for the trailer coating process.

Permit Condition 2.16 establishes that the permittee shall maintain monthly usage records of joint sealer and adhesive materials used for the trailer caulking process.

Permit Condition 2.17 establishes parameters that will allow the facility to comply with the monitoring and recordkeeping requirements of 40 CFR 63, Subpart HHHHHH – MACT Standards and Management Practices for Paint Stripping and Miscellaneous Coating Operations.

Permit Condition 2.18 establishes that the federal requirements of 40 CFR Part 63 are incorporated by reference into the requirements of this permit per current DEQ guidance.

Permit Condition 2.19 establishes that the permittee shall maintain records as required by General Provision 7.

Permit Condition 2.20 establishes parameters that will allow the facility to comply with the initial notification and reporting requirements of 40 CFR 63, Subpart HHHHHH – MACT Standards and Management Practices for Paint Stripping and Miscellaneous Coating Operations.

Permit Condition 2.21 establishes parameters that will allow the facility to comply with the annual notification and reporting requirements of 40 CFR 63, Subpart HHHHHH – MACT Standards and Management Practices for Paint Stripping and Miscellaneous Coating Operations.

## 5. PERMIT FEES

Table 5.1 lists the processing fee associated with this permitting action. Per IDAPA 58.01.01.225, the facility is subject to a processing fee of \$5,000.00 because its permitted annual change in emissions is 48.03 T/yr. Refer to the chronology for fee receipt dates.

**Table 5.1 PTC PROCESSING FEE TABLE**

<b>Emissions Inventory</b>			
<b>Pollutant</b>	<b>Annual Emissions Increase (T/yr)</b>	<b>Annual Emissions Reduction (T/yr)</b>	<b>Annual Emissions Change (T/yr)</b>
PM <sub>10</sub>	0.43	0	0.43
SO <sub>2</sub>	0.00	0	0.00
NO <sub>x</sub>	0.44	0	0.44
CO	0.19	0	0.19
VOC	46.97	0	46.97
HAPS <sup>1</sup>	0.00	0	0.0
<b>Totals:</b>	<b>48.03</b>	<b>0.00</b>	<b>48.03</b>
<b>Fee Due</b>	<b>\$5,000.00</b> Based upon an annual increase in emissions of > 10 T/yr to < 100 T/yr for a newly permitted existing source		

<sup>1</sup> Metal HAPS emissions were accounted for in the facility's PM<sub>10</sub> emissions and VOC HAPS were accounted for in the facility's VOC emissions.

## 6. PUBLIC COMMENT

An opportunity for public comment period on the PTC application was provided from May 27, 2009 to June 11, 2009 in accordance with IDAPA 58.01.01.209.01.c. During this time, there were comments on the application and there was a request for a public comment period on DEQ's proposed action.

A public comment period was made available to the public from November 25, 2009 to December 28, 2009. During this time, comments were not submitted in response to DEQ's proposed action.

## **Appendix A – Emissions Inventory**

Coating Operation Emissions Calculations:

**Table A.1 POST PROJECT HOURLY AND ANNUAL PM<sub>10</sub> POTENTIAL TO EMIT FOR THE PAINT BOOTH AND PAINT/CURE BOOTH OPERATION FROM COATING USE**

Paint Material	Annual Coating Use (gal/yr)	Solids Content (lb/gal)	Hours of Operation (hr/yr)	Paint Spray Gun T.E. (%)	Booth Particulate Filters C.E. (%)	Annual PM <sub>10</sub> Emissions <sup>1</sup> (T-PM <sub>10</sub> /yr)	Hourly PM <sub>10</sub> Emissions <sup>2</sup> (lb-PM <sub>10</sub> /hr)
A, Paint	9.0	3.57	2,040	65	98	0.0001	0.0001
F, Paint	54.0	2.35	2,040	65	98	0.0004	0.0004
HD, Paint	5.0	6.45	2,040	65	98	0.0001	0.0001
FGP30010, Paint	1,045.0	4.31	2,040	65	98	0.0158	0.0155
CF-22860S, Primer	10.0	1.81	2,040	65	98	0.0001	0.0001
N0006HN, Paint	5.0	8.07	2,040	65	98	0.0001	0.0001
131S, Primer	12.0	6.53	2,040	65	98	0.0003	0.0003
193S, Activator	1,840.0	6.76	2,040	65	98	0.0435	0.0426
22805S, Primer	36.0	0.26	2,040	65	98	0.0000	0.0000
22860S, Primer	28.0	1.39	2,040	65	98	0.0001	0.0020
32030S, Solvent	20.0	0.00	2,040	65	98	0.0000	0.0000
32,188, Retarder	6.0	0.00	2,040	65	98	0.0000	0.0000
3401S, Paint	8.0	0.26	2,040	65	98	0.0000	0.0000
3480S, Paint	46.0	4.18	2,040	65	98	0.0007	0.0007
359S, Additive	15.0	1.92	2,040	65	98	0.0001	0.0001
3661S, Thinner	12.0	0.00	2,040	65	98	0.0000	0.0000
389S, Accelerator	52.0	0.08	2,040	65	98	0.0000	0.0000
3900S, Solvent	605.0	0.00	2,040	65	98	0.0000	0.0000
481-16, Thinner	3,074	0.00	2,040	65	98	0.0000	0.0000
577H, Additive	20.0	2.78	2,040	65	98	0.0002	0.0002
7185S, Primer	22.0	0.01	2,040	65	98	0.0000	0.0000
825P30018, Primer	5,750.0	8.50	2,040	65	98	0.1711	0.1677
848-DU193, Paint	1,600.0	7.37	2,040	65	98	0.0413	0.0405
848-DU198, Paint	750.0	6.59	2,040	65	98	0.0173	0.0170
848P7241H, Paint	3,350.0	8.86	2,040	65	98	0.1039	0.1019
8685S, Reducer	64.0	0.00	2,040	65	98	0.0000	0.0000
8695S, Reducer	16.0	0.00	2,040	65	98	0.0000	0.0000
8885S, Reducer	142.0	0.00	2,040	65	98	0.0000	0.0000
8895S, Reducer	44.0	0.00	2,040	65	98	0.0000	0.0000
8989S, Accelerator	4.5	0.41	2,040	65	98	0.0000	0.0000
99A, Paint	8.0	3.27	2,040	65	98	0.0001	0.0001
<b>TOTALS</b>	<b>18,652.5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.40</b>	<b>0.39</b>

1 – Annual emissions are calculated based upon coating occurring a maximum of 5 days/wk, 51 wk/yr (255 day/yr).

2 – Hourly emissions are calculated based upon coating occurring a maximum of 8 hrs/day, 5 days/wk, 51 wk/yr (2,040 hrs/yr).

Coating Operation Emissions Calculations (continued):

Table A.2 POST PROJECT HOURLY AND ANNUAL VOC POTENTIAL TO EMIT FOR THE PAINT BOOTH AND PAINT/CURE BOOTH OPERATION FROM COATING USE

Paint Material	Annual Coating Use (gal/yr)	VOC Content (lb-VOC/gal)	Hours of Operation (hr/yr)	Annual VOC Emissions <sup>1</sup> (T-VOC/yr)	Hourly VOC Emissions <sup>2</sup> (lb-VOC/hr)
A, Paint	9.0	4.6	2,040	0.02	0.02
F, Paint	54.0	5.1	2,040	0.14	0.14
HD, Paint	5.0	3.2	2,040	0.01	0.01
FGP30010, Paint	1,045.0	3.5	2,040	1.83	1.79
CF-22860S, Primer	10.0	6.0	2,040	0.03	0.03
N0006HN, Paint	5.0	3.5	2,040	0.01	0.01
131S, Primer	12.0	4.6	2,040	0.03	0.03
193S, Activator	1,840.0	2.3	2,040	2.12	2.08
22805S, Primer	36.0	5.6	2,040	0.10	0.10
22860S, Primer	28.0	4.9	2,040	0.07	0.07
32030S, Solvent	20.0	0.0	2,040	0.00	0.00
32188, Retarder	6.0	9.1	2,040	0.03	0.03
3401S, Paint	8.0	7.0	2,040	0.03	0.03
3480S, Paint	46.0	3.6	2,040	0.08	0.08
359S, Additive	15.0	5.8	2,040	0.04	0.04
3661S, Thinner	12.0	5.1	2,040	0.03	0.03
389S, Accelerator	52.0	8.1	2,040	0.21	0.21
3900S, Solvent	605.0	6.5	2,040	1.97	1.93
481-16, Thinner	3,074	4.4	2,040	6.76	6.63
577H, Additive	20.0	5.3	2,040	0.05	0.05
7185S, Primer	22.0	6.6	2,040	0.07	0.07
825P30018, Primer	5,750.0	3.0	2,040	8.63	8.46
848-DU193, Paint	1,600.0	3.3	2,040	2.64	2.59
848-DU198, Paint	750.0	3.3	2,040	1.24	1.22
848P7241H, Paint	3,350.0	3.5	2,040	5.86	5.75
8685S, Reducer	64.0	7.5	2,040	0.24	0.24
8695S, Reducer	16.0	7.5	2,040	0.06	0.06
8885S, Reducer	142.0	6.6	2,040	0.47	0.46
8895S, Reducer	44.0	7.1	2,040	0.16	0.16
8989S, Accelerator	4.5	7.8	2,040	0.02	0.02
99A, Paint	8.0	4.7	2,040	0.02	0.02
<b>TOTALS</b>	<b>18,652.5</b>	<b>-</b>	<b>-</b>	<b>32.97</b>	<b>32.36</b>

1 – Annual emissions are calculated based upon coating occurring a maximum of 5 days/wk, 51 wk/yr (255 day/yr).

2 – Hourly emissions are calculated based upon coating occurring a maximum of 8 hrs/day, 5 days/wk, 51 wk/yr (2,040 hrs/yr).

Table A.3 POST PROJECT ANNUAL HAPs POTENTIAL TO EMIT FOR THE PAINT BOOTH AND PAINT/CURE BOOTH OPERATION FROM COATING USE

Paint Material	Annual Use (lb/yr)	Annual PTE (lb/yr)
Cumene	1.2	0.001
Ethyl benzene	983.5	0.492
Hexamethylene diisocyanate	33.2	0.017
Methanol	4,178.6	2.089
Xylene (o-, m-, p-isomers)	4,118.8	2.059

Uncontrolled annual emissions can be calculated by scaling up the painting operations from the 2,040 hrs/yr as proposed by the Applicant to 8,760 hrs/yr (24 hrs/day x 365 days/yr).

Thus:

$$\text{Scaling factor} = 8,760 \text{ hrs/yr} \div 2,040 \text{ hrs/yr} = 4.29$$

Therefore uncontrolled annual emissions are calculated as:

$$\text{Uncontrolled Annual PM}_{10} \text{ emissions} = 4.29 \times 0.40 \text{ T-PM}_{10}/\text{yr} = 1.72 \text{ T-PM}_{10}/\text{yr}$$

$$\text{Uncontrolled Annual VOC emissions} = 4.29 \times 32.97 \text{ T-VOC/yr} = 141.44 \text{ T-VOC/yr}$$

Caulking Operation Emissions Calculations:

**Table A.4 POST PROJECT HOURLY AND ANNUAL VOC POTENTIAL TO EMIT FOR THE CAULKING OPERATION FROM CAULKING USE**

Caulking Material	Annual Caulk Use (gal/yr)	VOC Content (lb-VOC/gal)	Hours of Operation (hr/yr)	Annual VOC Emissions (T-VOC/yr)	Hourly VOC Emissions (lb-VOC/hr)
Acryl-R Joint Sealer	2,100.0	3.50	2,040	3.68	3.61
Con-Bond Adhesive	2,326.5	5.03	2,040	5.85	5.74
Sta-Put Adhesive	1,997.3	4.44	2,040	4.43	4.34
<b>TOTALS</b>	<b>6,423.8</b>	<b>N/A</b>	<b>N/A</b>	<b>13.96</b>	<b>13.69</b>

1 – Hourly emissions are calculated based upon coating occurring a maximum of 8 hrs/day, 5 days/wk, 51 wk/yr (2,040 hrs/yr).

**Table A.5 POST PROJECT ANNUAL HAPs POTENTIAL TO EMIT FOR THE CAULKING OPERATION FROM CAULKING USE**

Caulking Material	Annual Use (lb/yr)	Annual PTE (T/yr)
Hexane	1,558.1	0.779
Tolulene	11,956.5	5.978

Uncontrolled annual emissions can be calculated by scaling up the painting operations from the 2,040 hrs/yr as proposed by the Applicant to 8,760 hrs/yr (24 hrs/day x 365 days/yr).

Thus:

$$\text{Scaling factor} = 8,760 \text{ hrs/yr} \div 2,040 \text{ hrs/yr} = 4.29$$

Therefore uncontrolled annual emissions are calculated as:

$$\text{Uncontrolled Annual VOC emissions} = 4.29 \times 13.96 \text{ T-VOC/yr} = 59.89 \text{ T-VOC/yr}$$

Paint Booth Heater Emissions Calculations:

**Table A.6 PAINT BOOTH HEATER POST PROJECT HOURLY AND ANNUAL POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS WHEN COMBUSTING NATURAL GAS**

Emissions Unit	Rated Heat Input (MMBtu/hr)	Annual Hours of Operation (hrs/yr)	Criteria Pollutant	Emissions Factors (lb/MMBtu) <sup>2</sup>	Hourly Emissions (lb/hr)	Annual Emissions (T/yr)
Paint Booth Heater	1.075	8,760	PM <sub>10</sub>	0.0076	0.0082	0.036
			SO <sub>2</sub>	0.0006	0.0006	0.003
			NO <sub>x</sub>	0.094	0.101	0.443
			CO	0.040	0.043	0.188
			VOC	0.0055	0.006	0.026
			Pb	0.0000005	0.0000005	0.0000024

<sup>1</sup> – Based on AP-42 Table 1.4-2 (7/98) for PM<sub>10</sub>, SO<sub>2</sub>, VOC, and Pb and AP-42 Table 1.4-1 (7/98) for NO<sub>x</sub> and CO.

Uncontrolled emissions are equal to controlled emissions since they were calculated at 8,760 hrs/yr.

## **Appendix B – Ambient Air Quality Impact Analysis**

# MEMORANDUM

**DATE:** October 23, 2009

**TO:** Darrin Pampaian, Air Quality Analyst, Air Program

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

**PROJECT NUMBER:** P-2009.0067

**SUBJECT:** Modeling Review for the Trails West Manufacturing of Idaho, Inc. Application for a Permit to Construct for their Manufacturing Facility in Preston, Idaho

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## 1.0 SUMMARY

Trails West Manufacturing of Idaho, Inc. (Trails West) submitted an application for a permit to construct (PTC) for their trailer manufacturing facility located in Preston, Idaho. The PTC is an initial permit for an existing facility. Air quality analyses involving atmospheric dispersion modeling of increased emissions were performed to demonstrate the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 [Idaho Air Rules Section 203.02]) and would comply with new source review requirements for Toxic Air Pollutants (Idaho Air Rules Section 203.03). BIO-WEST, Inc. (Biowest), Trails West's consultant, performed the site-specific ambient air quality impact analyses.

A technical review of the submitted analyses was conducted by DEQ. The submitted analyses and information: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the proposed facility were below significant contribution levels (SCLs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the facility and any potentially co-contributing sources, when appropriately combined with background concentrations, were below applicable air quality standards at all locations outside of the facility's property boundary. Table 1 presents key assumptions and results that should be considered in the development of the permit.

**Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES**

<b>Criteria/Assumption/Result</b>	<b>Explanation/Consideration</b>
Facility-wide emissions of PM <sub>10</sub> are only slightly above thresholds that require modeling.	A detailed review was not performed on the modeling submitted because of the low potential for this facility to cause high air pollutant concentrations in ambient air.
Modeling analyses easily demonstrated compliance with all applicable ambient air quality standards.	No special operational provisions or restrictions, beyond those described in the application, are needed in the permit to assure compliance with standards. This assumes all sources were accurately accounted for and modeled in the submitted application.

## 2.0 BACKGROUND INFORMATION

### 2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance.

### **2.1.1 Area Classification**

The Trails West facility is located in Preston, Idaho. The area is designated as an attainment or unclassifiable area for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), and sulfur oxides (SO<sub>x</sub>).

The area is a PM<sub>2.5</sub> non-attainment area. The facility has not modified since the area has been designated as non-attainment and the facility has not been identified as a measurable contributor to the non-attainment status of the area; therefore, a demonstration of compliance with the PM<sub>10</sub> standard will be taken as a demonstration of compliance with the PM<sub>2.5</sub> standard, as described in Section 2.1.2 of this memorandum.

There are no Class I areas within 10 kilometers of this location.

### **2.1.2 Significant and Cumulative NAAQS Impact Analyses**

If estimated maximum pollutant impacts to ambient air from the emissions sources associated with the facility exceed the significant contribution levels (SCLs) of Idaho Air Rules Section 006.102, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) and Idaho Air Rules Section 203.02. A cumulative NAAQS impact analysis for attainment area pollutants involves adding ambient impacts from facility-wide emissions, and emissions from any nearby co-contributing sources, to DEQ-approved background concentration values that are appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting maximum pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SCLs and specifies the modeled value that must be used for comparison to the NAAQS.

New source review requirements for assuring compliance with PM<sub>2.5</sub> standards have not yet been completed and promulgated into regulation. EPA has asserted through a policy memorandum that compliance with PM<sub>2.5</sub> standards will be assured through an air quality analysis for the corresponding PM<sub>10</sub> standard. Although the PM<sub>10</sub> annual standard was revoked in 2006, compliance with the revoked PM<sub>10</sub> annual standard must be demonstrated as a surrogate to the annual PM<sub>2.5</sub> standard.

### **2.1.3 Toxic Air Pollutant Analyses**

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

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

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

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

**Table 2. APPLICABLE REGULATORY LIMITS**

Pollutant	Averaging Period	Significant Contribution Levels <sup>a</sup> ( $\mu\text{g}/\text{m}^3$ ) <sup>b</sup>	Regulatory Limit <sup>c</sup> ( $\mu\text{g}/\text{m}^3$ )	Modeled Value Used <sup>d</sup>
PM <sub>10</sub> <sup>e</sup>	Annual <sup>f</sup>	1.0	50 <sup>g</sup>	Maximum 1 <sup>st</sup> highest <sup>h</sup>
	24-hour	5.0	150 <sup>i</sup>	Maximum 6 <sup>th</sup> highest <sup>j</sup>
PM <sub>2.5</sub> <sup>k</sup>	Annual	Not established	15	Use PM <sub>10</sub> as surrogate
	24-hour	Not established	35	Use PM <sub>10</sub> as surrogate
Carbon monoxide (CO)	8-hour	500	10,000 <sup>l</sup>	Maximum 2 <sup>nd</sup> highest <sup>h</sup>
	1-hour	2,000	40,000 <sup>l</sup>	Maximum 2 <sup>nd</sup> highest <sup>h</sup>
Sulfur Dioxides (SO <sub>x</sub> )	Annual	1.0	80 <sup>g</sup>	Maximum 1 <sup>st</sup> highest <sup>h</sup>
	24-hour	5	365 <sup>i</sup>	Maximum 2 <sup>nd</sup> highest <sup>h</sup>
	3-hour	25	1,300 <sup>i</sup>	Maximum 2 <sup>nd</sup> highest <sup>h</sup>
Nitrogen Dioxide (NO <sub>2</sub> )	Annual	1.0	100 <sup>g</sup>	Maximum 1 <sup>st</sup> highest <sup>h</sup>
Lead (Pb)	Quarterly	NA	1.5 <sup>g</sup>	Maximum 1 <sup>st</sup> highest <sup>h</sup>
	3-month <sup>m</sup>	NA	0.15 <sup>g</sup>	Maximum 1 <sup>st</sup> highest <sup>h</sup>

a) Idaho Air Rules Section 006.102.

b) Micrograms per cubic meter.

c) Idaho Air Rules Section 577 for criteria pollutants.

d) The maximum 1<sup>st</sup> highest modeled value is always used for significant impact analysis.

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

f) The annual PM<sub>10</sub> standard was revoked in 2006. The standard is still listed because compliance with the annual PM<sub>2.5</sub> standard is demonstrated by a PM<sub>10</sub> analysis that demonstrates compliance with the revoked PM<sub>10</sub> standard.

g) Not to be exceeded in any calendar year.

h) Concentration at any modeled receptor.

i) Never expected to be exceeded more than once in any calendar year.

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

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

l) Not to be exceeded more than once per year.

m) 3-month rolling average.

Per Section 210, if the emissions increase associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated. If DEQ determines T-RACT is used to control emissions of carcinogenic TAPs, then modeled concentrations of 10 times the AACC are considered acceptable, as per Idaho Air Rules Section 210.12.

## 2.2 Background Concentrations

Background concentrations are used in the cumulative NAAQS impact analyses to account for impacts from sources in the general area that were not explicitly modeled. Table 3 lists appropriate background concentrations for the Preston, Idaho area.

Background concentrations were revised for all areas of Idaho by DEQ in March 2003<sup>1</sup>. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. Background concentrations in these analyses were based on DEQ default values for small town / suburban areas except for PM<sub>10</sub>. PM<sub>10</sub> background values were based on ambient monitoring performed from 2003 through 2007 at Logan, Utah.

<sup>1</sup> Hardy, Rick and Schilling, Kevin. *Background Concentrations for Use in New Source Review Dispersion Modeling*. Memorandum to Mary Anderson, March 14, 2003.

**Table 3. BACKGROUND CONCENTRATIONS**

Pollutant	Averaging Period	Background Concentration (µg/m <sup>3</sup> ) <sup>a</sup>
PM <sub>10</sub> <sup>b</sup>	24-hour	88 <sup>c</sup>
	Annual	28
Carbon monoxide (CO)	1-hour	10,200
	8-hour	3,400
Sulfur dioxide (SO <sub>2</sub> )	3-hour	42
	24-hour	26
	Annual	8
Nitrogen dioxide (NO <sub>2</sub> )	Annual	32
Lead (Pb)	Quarterly	0.03
	3-month	0.03

a) Micrograms per cubic meter.

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

c) 6<sup>th</sup> highest monitored value for 2003 - 2007

### 3.0 MODELING IMPACT ASSESSMENT

#### 3.1 Modeling Methodology

This section describes the modeling methods used by the applicant to demonstrate compliance with applicable air quality standards.

##### 3.1.1 Overview of Analyses

Table 4 provides a brief description of parameters used in the submitted modeling analyses.

**Table 4. MODELING PARAMETERS**

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Preston, Idaho	
Model	SCREEN3	Each source modeled separately with maximum impacts added together.
Meteorological Data	Full Meteorology	The model uses the worst-case meteorological conditions for each source modeled.
Terrain	Not Considered	The area is effectively flat for dispersion modeling purposes.
Building Downwash	Considered	Downwash was assessed for the following building: 5.8 m tall x 197 m long x 21.3 m wide
Receptor Grid	Plume Centerline	Maximum near-ground level concentration downwind of the source.

##### 3.1.2 Modeling Protocol and Methodology

Screening-level air impact analyses were performed by Biowest. A modeling protocol was not submitted to DEQ prior to the application. Modeling was generally conducted using data and methods described in the State of Idaho Air Quality Modeling Guideline.

##### 3.1.3 Model Selection

SCREEN3 was used for the air impact analyses. SCREEN3 is an acceptable model until EPA promulgates AERSCREEN as a replacement for SCREEN3.

SCREEN3 generates maximum one-hour concentrations for a single source.

Persistence factors are used to convert one-hour concentrations from SCREEN3 output to concentrations associated with other averaging periods. The following are readily accepted default persistence factors that were used (as specified in the State of Idaho Air Quality Modeling Guideline):

1-hour to 3-hour	0.9
1-hour to 8-hour	0.7
1-hour to 24-hour	0.4
1-hour to quarterly	0.13
1-hour to annual (criteria pollutants)	0.08
1-hour to annual (carcinogenic TAPs)	0.125 (specified by Idaho Air Rules)

Table 4 provides a brief description of parameters used in the submitted modeling analyses.

### ***3.1.4 Meteorological Data***

SCREEN3 was run using the “Full Meteorology” option. The model uses an algorithm that generates worst-case meteorology for the specific source/receptor characteristics that result in highest concentrations.

### ***3.1.5 Terrain Effects***

Terrain effects on dispersion were not considered in the analyses. Flat terrain was an appropriate assumption because the surrounding area is effectively flat for dispersion modeling purposes.

### ***3.1.6 Facility Layout***

The facility is located on relatively flat terrain. Since SCREEN3 only assesses plume centerline concentrations in the horizontal dimension and only assesses single source impacts, the only critical facility layout criteria is the distance to the nearest ambient air boundary. Since the maximum downwind concentrations were used in the model, the distance to the ambient air boundary was not critical to the analyses either.

### ***3.1.7 Building Downwash***

Building downwash was considered in the analyses. Dimensions of the controlling building were entered into SCREEN3 to allow the model to calculate how the structure will affect plume dispersion.

### ***3.1.8 Ambient Air Boundary***

The ambient air boundary was not an important parameter in the submitted air impact analyses because the maximum downwind concentration was used, regardless of the downwind distance. Restriction of the general public to the property is not necessary to assure compliance with air quality standards.

### ***3.1.9 Receptor Network***

The SCREEN3 automated distance array was used to assess maximum concentrations beyond a downwind distance of 1.0 meters.

The submitted analyses used a receptor height of 2.0 meters. DEQ modeling guidance recommends using ground-level receptors for all modeling. Since all of the emissions sources are elevated stacks, using a 2.0-meter receptor height will result in greater impacts than using ground-level receptors; therefore, use of 2.0-meter receptor heights is conservative and adequately demonstrates compliance.

### 3.2 Emission Rates

Emissions rates used in the modeling analyses for the proposed project were equal to those presented in other sections of the permit application or the DEQ Statement of Basis.

#### 3.2.1 Criteria Pollutant Emissions Rates

Table 5 provides facility-wide emissions used in the modeling analyses. Emissions of NO<sub>x</sub>, CO, and SO<sub>2</sub> were not provided in the application. Estimated emissions of these other pollutants were well below DEQ-established thresholds that trigger a modeling analysis.

**Table 5. CRITERIA POLLUTANT EMISSIONS RATES USED FOR MODELING ANALYSES**

Emissions Point	Stack ID	Emissions Rates (lb/hr)			
		NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>
Prime/Cure Booth	EP1				0.20
Paint Booth	EP2				0.03
Paint Booth	EP3				0.03
Paint Booth	EP4				0.03
Paint Booth	EP5				0.03
Paint Booth	EP6				0.03
Paint Booth	EP7				0.03

#### 3.2.2 TAP Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 220 are only applicable for new or modified sources constructed before July 1, 1995. All TAP emissions increases listed in the application were below screening emissions limits (ELs) listed in Idaho Air Rules Section 585 and 586.

### 3.3 Emission Release Parameters

Table 6 provides emissions release parameters used in the modeling analyses, including stack height, stack diameter, exhaust temperature, and exhaust velocity. All parameters were within reasonably expected ranges and DEQ did not verify the accuracy of release parameters.

**Table 6. EMISSIONS RELEASE PARAMETERS**

Release Point/Location	Stack Height (m) <sup>a</sup>	Modeled Diameter (m)	Stack Gas Temp. (K) <sup>b</sup>	Stack Gas Flow Velocity (m/sec) <sup>c</sup>
<b>Point Sources</b>				
EP1	6.4	0.864	297	15.3
EP2	6.4	0.635	297	14.9
EP3	6.4	0.635	297	14.9
EP4	6.4	0.635	297	14.9
EP5	6.4	0.635	297	14.9
EP6	6.4	0.635	297	14.9
EP7	6.4	0.635	297	14.9

<sup>a)</sup> Meters

<sup>b)</sup> Kelvin

<sup>c)</sup> Meters per second

### 3.4 Results for Significant and Cumulative NAAQS Impact Analyses

Table 7 provides the results for the cumulative NAAQS impact analyses. Impacts of PM<sub>10</sub> are well below the applicable standards.

**Table 7. PM<sub>10</sub> RESULTS FOR CUMULATIVE IMPACT ANALYSES**

Averaging Period	Source	Maximum Modeled Concentration <sup>a</sup> ( $\mu\text{g}/\text{m}^3$ ) <sup>b</sup>	Background Concentration ( $\mu\text{g}/\text{m}^3$ )	Total Ambient Impact ( $\mu\text{g}/\text{m}^3$ )	NAAQS <sup>c</sup> ( $\mu\text{g}/\text{m}^3$ )	Percent of NAAQS
24-hour	EP1	10.68				
	EP2	1.98				
	EP3	1.98				
	EP4	1.98				
	EP5	1.98				
	EP6	1.98				
	EP7	1.98				
	Total	22.58 <sup>d</sup>	88	110.58	150	74
Annual	EP1	2.135				
	EP2	0.159				
	EP3	0.159				
	EP4	0.159				
	EP5	0.159				
	EP6	0.159				
	EP7	0.159				
	Total	3.088 <sup>d</sup>	28.0	31.09	50	62

a) Maximum SCREEN3 output after applying a 0.4 persistence factor for 24-hour periods and 0.08 for annual periods.

b) Micrograms per cubic meter.

c) National ambient air quality standards.

d) Total impact determined by adding the maximum impact of each source together.

### 3.5 Results for TAPs Analyses

Emissions of all TAPs were below applicable ELs and modeling analyses were not required.

## 4.0 CONCLUSIONS

The ambient air impact analyses demonstrated to DEQ's satisfaction that emissions from the facility will not cause or significantly contribute to a violation of any air quality standard.

## **Appendix C – Facility Comments**

**The following comments were received from the facility on October 8, 2009 and November 16, 2009:**

**Facility Comment:** We are using natural gas, and the furnace literature is saying Max 1.075 MMBtu/hr.

**DEQ Response:** DEQ will include the heat input rating of the booth heater.

**Facility Comment:** I spoke with Jon Reeder this morning and we do not have any other comments. We are OK with permitting the paint booth heaters for around the clock operation.

**DEQ Response:** The final permit will be issued at this time.