

Statement of Basis

**Permit to Construct No. P-2011.0016
Project No. 60713**

**C & B Quality Trailer Works, Inc.
Caldwell, Idaho**

Facility ID No. 027-00069

Final

April 28, 2011
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Permit Writer

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

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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
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
CAM	Compliance Assurance Monitoring
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
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
lb/qtr	pound per quarter
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MSDS	Material Safety Data Sheets
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
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
PAH	polyaromatic hydrocarbons
PM	particulate matter
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
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SCL	significant contribution limits
SM	synthetic minor
SO ₂	sulfur dioxide
T/yr	tons per consecutive 12-calendar month period
TAP	toxic air pollutants
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
VOC	volatile organic compounds
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

C&B Quality Trailer Works manufactures metal stock, utility, cargo and flatbed trailers at the facility located at 1508 East Chicago Street in Caldwell. The primary source of emissions from the facility is from painting the trailers. There are two spray painting booths that are located in series and each is equipped with two roof vents. The first booth is used typically for primer application while the second booth is used typically for topcoat application. The booths are connected with pass-through doors so targets can be easily moved from the primer booth to the topcoat booth. For the permit analysis, the two booths are treated as one booth with simultaneous spraying of topcoat and primer.

The booth emissions contain the volatiles from the sprayed coatings and any overspray that is not captured by the booth filters. Each booth is equipped with two exhaust fans (four total), which draw booth air through the outlet filters installed along each wall and up, out of the booth. The fans are manufactured by Spray Systems and are rated at 24000 CFM each. The booth emissions are exhausted from two 42-inch stacks for each booth (EF1, EF2, EF3 and EF4). The stacks exhaust vertically.

Each spray booth is equipped with paint arrestor/filter pads in the exhaust plenums. These filters have been tested by the manufacturer and found to capture at least 98% of overspray. The filter area in each booth is 97 square feet (28 filters).

In order to reduce paint use and emissions, C&B Trailer uses high volume, low pressure (HVLP) paint guns (or equivalent) in the two paint booths. EPA-approved testing of an equivalent gun determined the applied transfer efficiency of the spray gun to be at least 64%. For this modification emissions analysis, however, the same transfer efficiency of 35% used in the original permit analysis is used. This conservative retention rate overestimates calculated emissions and provides a compliance buffer for the facility. Refer to Table 1 below for more information about the filters and spray guns.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

April 29, 2011	PTC No. P-2011.0016, permit modification to switch to low-VOC paints, Permit status (A)
June 7, 1999	PTC No. 027-00069 issued as the original permit for a new facility, Permit status (S)

Application Scope

This permit is for a minor modification at an existing minor facility.

The applicant has proposed to:

- Modify the current operations by switching to a low-VOC enamel topcoat and modifying the daily and annual coating limits listed in the permit.

Application Chronology

December 30, 2011	DEQ received an application and an application fee.
January 17 – February 1, 2011	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
January 28, 2011	DEQ determined that the application was complete.
April 12, 2011	DEQ made available the draft permit and statement of basis for peer and regional office review.
April 15, 2011	DEQ made available the draft permit and statement of basis for applicant review.

TECHNICAL ANALYSIS

Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

ID No.	Source Description	Control Equipment Description	Emissions Point ID No. and Description
Paint Booths	<u>Paint spray booths:</u> Manufacturer: Spray Systems Inc. or equivalent	<u>Paint spray booths and/or preparation station filter system:</u> Particulate filtration method: Dry Filters Manufacturer: American Air Filter International (AAF) or equivalent Model: AG-28 or equivalent PM/PM ₁₀ Control Efficiency: 98% or greater <u>Coating spray guns:</u> Manufacturer: Anest Iwata or equivalent Model: LPH-200 or equivalent Type: All guns are HVLP or equivalent Transfer Efficiency: 65% or greater per 40 CFR 63 Subpart HHHHHH	<u>Paint Booth 1 (2 stacks):</u> Stacks EF1 and EF2: <u>Paint Booth 2 (2 stacks):</u> Stacks EF3 and EF4: The following parameters apply to each of the four paint booth stacks: Exit height: 24 ft Exit diameter: 3.5 ft Exit flow rate: 24,000 acfm Exit temperature: 70 °F

Emissions Inventories

An emission inventory was developed for this permitting project for the facility’s switch to low-VOC paints (see Appendix A). Emissions estimates of criteria pollutant PTE were based on the method used for the initial permit, limits set for the amount of paint products that may be used, and process information specific to the facility for this proposed project. Summaries of the estimated controlled emissions of criteria pollutants, TAPs, and HAPs from the facility are provided in the following tables.

Pre-Project Potential to Emit

The following table presents the pre-project potential to emit for all criteria pollutants from the painting operations being modified as allowed in the currently effective PTC.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

Emissions Unit	PM ₁₀	VOC	HAP
	T/yr ^a	T/yr ^a	T/yr ^a
Coating Operations	13.5	47.4	16.2
Pre-Project Totals	13.5	47.4	16.2

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

Post Project Potential to Emit

The following table presents the post project potential to emit for all criteria pollutants from the painting operations being modified 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 3 POST-PROJECT POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

Emissions Unit	PM ₁₀	VOC	HAP
	T/yr ^a	T/yr ^a	T/yr ^a
Coating Operations	1.3	60.7	13.2
Post-Project Totals	1.3	60.7	13.2

a) 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 or if emissions modeling 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. Note that for this permit modification, only the type of paint used will change, not the application rate.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

Emissions Unit	PM ₁₀	VOC	HAP
	T/yr ^a	T/yr ^a	T/yr ^a
Coating Operations	-12.2	+13.3	-3.0
PTE Change Totals	-12.2	+13.3	-3.0

TAP Emissions

As described in the Ambient Air Quality Impact Analysis Section below, allowable emissions of most pollutants will decrease as a result of this project to switch to low-VOC paint and to accept lower limits for the amount of paint that may be used. Emissions of a new toxic air pollutant (TAP) not previously used in the process, parachlorobenzotrifluoride (PCBTF), will increase as shown in Table 4-2 in the detailed emissions inventory in Appendix A. The estimated controlled emissions increases of PCBTF cannot be compared to an emissions screening level (EL) because one does not exist. However, for a previous project, DEQ provided an AAC of 0.253 mg/m³, therefore, it was modeled on this basis to demonstrate compliance with the TAP rules¹. Refer to the Ambient Air Quality Impact analysis section below for more information.

Ambient Air Quality Impact Analyses

Modeling for this facility was performed for the original PTC No. 027-00069 issued on June 7, 1999. Refer to the PTC Technical Analysis Memorandum prepared for that permit for details. For the estimated emission rates of PM₁₀ and TAPs from this project, the applicant demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant also demonstrated pre-construction compliance to DEQ's satisfaction that the facility's emissions will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). For this project to switch to low VOC paints, the application shows that emissions of only crystalline silica would increase above the emission screening level published in Sections 585, and that a new pollutant would be emitted, parachlorobenzotrifluoride (PCBTF). However, upon review of the information it is apparent that only the newly introduced pollutant, PCBTF, needs further review, and that crystalline silica is not expected to increase above the EL since the existing permit already allows up to 300 gallons per day of the existing primer to be used and only a total of 120 gallons of the primer would be used under the modified operating scenario. Therefore allowable emissions of crystalline silica is actually expected to decrease instead of increase. When PCBTF is evaluated using the existing modeling information, it is apparent that emissions of this TAP is similar to the other TAPs evaluated for the original permit; i.e., emissions of PCBTF will not exceed the AAC provided by DEQ for this TAP¹.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Canyon 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.

¹ Snake River Trailer PTC project communication (via telephone), Robert Wilkosz and Dr. Carl Brown, IDEQ, and Sarah Stine, TORF Environmental Management, November 6, 2006

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 modified 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 PM₁₀ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement remains unchanged in the modified PTC.

PM - Process Weight Limitations (IDAPA 58.01.01.700)

IDAPA 58.01.01.701

PM - Process Weight Limitations

Compliance with the PM process weight limitations standard is not affected by this modification.

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

IDAPA 58.01.01.301

Requirement to Obtain Tier I Operating Permit

Title V applicability is not changed The facility classification is still “synthetic minor” for the Title V program.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

PSD applicability is not changed The facility classification is still “true minor” for the PSD program. The VOC potential to emit following this modification is 61 tons/yr.

NSPS Applicability (40 CFR 60)

Following this permit modification, the facility is still not subject to any NSPS requirements.

NESHAP Applicability (40 CFR 61)

Following this permit modification, the facility is still not subject to any Part 61 NESHAP requirements.

MACT Applicability (40 CFR 63)

Spray coating of trailers is covered under 40 CFR 63 Subpart HHHHHH. It is noted that EPA has not yet delegated implementation authority to DEQ for this subpart. Therefore, if any questions arise regarding applicability of this subpart, EPA should be contacted as needed. The following regulatory analysis for this subpart was prepared by the facility and reviewed for concurrence by DEQ as part of the permitting process.

§ 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 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, and associated equipment; spray guns and associated equipment; spray gun cleaning equipment; and equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint. Paint stripping is not proposed as a business activity.

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

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

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 mobile equipment surface coating source, including contract personnel, who spray apply surface coatings, as defined in §63.11180, must be trained by the dates specified in paragraphs (g)(1) and (2) of this section. Employees who transfer within a company to a position as a painter are subject to the same requirements as a new hire.

Compliance with these requirements is assured by permit condition 14.

§ 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 permit condition 13.

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 permit condition 15.

§ 63.11176 What reports must I submit?

In accordance with §63.11176(a), because the permittee is an owner or operator of a mobile equipment surface coating affected source, the permittee is required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.

Compliance with these requirements is assured by permit condition 16.

Because the facility has not proposed to conduct paint stripping operations, the methylene chloride 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 permit condition 14.

§ 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 permit condition 14.

§ 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 has 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 40 CFR 63, Subpart HHHHHH. Therefore, the requirements of this subpart have been placed in the permit.

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

Permit Conditions Review

This section describes the permit conditions for this initial permit.

New Permit Conditions 1-4 establish the permit to construct scope and a description of the regulated sources and the control devices used at the facility.

New Permit Conditions 5 and 6 provide a detailed description of the painting process and emission controls used for this process.

Revised Permit Condition 7 establishes hourly and annual emissions limits for PM₁₀ and VOC emissions from the trailer painting process at this facility. The PM₁₀ and VOC limits were changed to correspond to the levels for which demonstration with applicable requirements was demonstrated in the permit application.

Existing Permit Condition 8 establishes a 20% opacity limit for the paint booth stacks, vents, or functionally equivalent openings associated with the mobile equipment coating operation. This requirement was not changed.

Revised Permit Condition 9 establishes daily and annual paint use limits for the coating materials used in the coating process, as proposed by the Applicant. This limit is similar to the limits previously established, and the particular coating materials list and usage limits correspond to the levels for which demonstration with applicable requirements was demonstrated in the permit application.

Existing Permit Condition 10 is unchanged. This condition sets forth requirements to check and replace filters for the paint and drying booths as outlined by the O&M Manual specifications..

Revised Permit Condition 11 sets requirements to monitor and record the paint product usage, in gallons, on a daily, monthly and annual basis. This conditions was changed to reflect that records are now required to be maintained for five years instead of two years. To address the transition period, the General Provision requirement was changed accordingly to indicate that the five year requirement does not begin until three years and two months after issuance of the permit, and that in the interim period records shall be maintained for at least two years, as specified in the previous permit.

Revised Permit Condition 12 establishes that the permittee maintain and follow an Operations and Maintenance (O&M) Manual for the paint booth outlet filters which describes the procedures that will be followed to comply with the manufacturer's air pollution control device specifications, and with the General Provision to maintain in good working order and operate as efficiently as practicable the emission control device (i.e., the paint booth filter system). This condition was changed by removing the requirement to send DEQ a copy of the plan "within 60 days after startup". Instead the permittee shall now "follow and maintain" the plan, and make a copy available when requested by DEQ.

Permit condition 13 establishes parameters that will allow the facility to comply with the general compliance requirements of 40 CFR 63, Subpart HHHHHH – MACT Standards and Management Practices for Paint Stripping and Miscellaneous Coating Operations.

Permit condition 14 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 15 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 unless the facility is exempt from HHHHHH.

Permit condition 16 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 unless the facility is exempt from HHHHHH.

Permit condition 17 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 Conditions 18-32 is a copy of the most recent PTC General Provisions that are included in all PTCs issued by DEQ. These are typically not new requirements; in most cases they are requirements that previously applied regardless of whether or not they were included in the PTC. A description of those conditions is provided below.

Permit Condition 18 is 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.

Permit Condition 19 is 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.

Permit Condition 20 is 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.

Permit Condition 21 is the inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

Permit Condition 22 is the construction and operation notification provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.

Permit Condition 23 is 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.

Permit Condition 24 is 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.

Permit Condition 25 is 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.

Permit Condition 26 is 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.

Permit Condition 27 is the excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130.

Permit Condition 28 is the certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

Permit Condition 29 is the false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

Permit Condition 30 is the tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Permit Condition 31 is the transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

Permit Condition 32 is the severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

PUBLIC REVIEW

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were no comments on the application and there was not a request for a public comment period on DEQ’s proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

4. EMISSION INVENTORY DOCUMENTATION

4.1 Coating Operation Emissions

Criteria pollutant, HAP and TAP emissions from the painting operations are estimated using material compositions provided on Material Safety Data Sheets (MSDS) and by PPG. In some cases two coatings are combined into a single group item (i.e.: ESSS9000 (black) and ESSS903653 (white) are grouped under ESSS-# Acrylic Polyester Topcoats) since there is more than one color in the same paint line. In calculating component concentrations for those items, the highest component concentration listed in any MSDS of the group is used to calculate the component concentration for the group. All MSDS are attached in Appendix C.

The recipe for each paint mix is provided by PPG. To achieve the optimum coating performance, hardeners, reducers and catalysts are added to the primer and/or topcoat in ratios shown below in Table 4-1. Therefore, once the usage rate bases for the primer and topcoat are established, the quantities of each mix component can be calculated using the mix recipe. Based on past experience, C&B uses twice as much topcoat as primer.

Table 4-1: Coating Mix Ratios

Mix Ratios (volumetric)	Delstar Line	Essential Line
Primer		
Primer: Catalyst	2:1	None
Primer: Reducer	2:1	None
Topcoat		
Topcoat: Activator	--	6:1
Topcoat: Hardener	--	6:1

4.2 Modification Emission Change

Emission estimates for C&B's coating operations are provided in Table 4-2 (attached) using the daily and annual permit limits proposed in Tables 3-2 and 3-3.

Volatile components in the paints are assumed to be completely emitted. The total content of Volatile Organic Compounds (VOCs) in each coating is estimated by multiplying the maximum volatile content of the coatings as provided on the MSDS by the coating use rate. This amount is reduced by the amount of VOC-exempt compounds,⁴ acetone and parachlorobenzotrifluoride (PCBTF), contained in the coating, using the average concentration of those compounds as listed

⁴ United States Code of Federal Regulations, Title 40 Part 51.100(s).



on the MSDS. The result is the estimated VOC emission rate. A detailed example of the VOC calculation is provided with Table 4-2.

The emission rate of HAP and TAP pollutants is estimated by multiplying the maximum concentration of the component provided on the MSDS by the coating use rate. If the pollutant is present in more than one coating, the individual emission rates are added to get the overall facility pollutant emission rate. A detailed example of TAP/HAP calculation is provided with Table 4-2.

Emissions of one component, hexamethylene diisocyanate (HMDI), are estimated more precisely. HMDI is a 585 TAP with a relatively low acceptable ambient concentration. It is a reactive, hardening agent used in very small concentrations in the Essential topcoat mixes. The actual concentration in the hardener is less than the 1 wt% minimum reportable level allowed on MSDS. Attached in Appendix B are letters from PPG reporting the actual concentration of HMDI in the hardener (0.17-0.18 wt%) and the extent of reaction of the HMDI when mixed with the topcoat (85-95%). In order to estimate the emissions of HMDI, the actual concentration as provided by PPG is used, and 15% of the HMDI is assumed to be unconsumed in the hardening reaction and, therefore, released to the atmosphere.

For non-volatile paint components, the efficiency of the paint application method and the control efficiency of the booth filters are considered in estimating controlled emissions. Like the original permit, a transfer efficiency of 35% is used. C&B Trailer uses Anest Iwata LPH-200 HVLP manual spray guns in the paint booths with an actual applied transfer efficiency of 64%.⁵ C&B still uses American Air Filter AG-28 filters with an efficiency of 98.13% (see Appendix B). Controlled emissions for each non-volatile pollutant of concern are estimated by multiplying the pre-filter component emission rate by a filter pass-through rate of 2%.

Particulate content in the coatings is estimated by multiplying the maximum solids content of the coatings as provided on the MSDS by the coating usage rate. All particulate is conservatively assumed to be of a diameter less than 10 microns (PM₁₀). Controlled emission rates of the cumulative PM₁₀ content are calculated as described above for non-volatile components. A detailed example of the PM calculation is provided with Table 4-2.

4.3 Booth Controlled Emissions Analysis

A summary of the controlled, annual NSR regulated emissions associated with the original PTC and the proposed permit modification are provided in Tables 4-3 and 4-4, below.⁶ The proposed emissions are compared to the emissions analysis for the original PTC in Table 4.5.

⁵ Environmental Technology Verification Report- ANEST IWATA Corporation LPH400-LV HVLP Spray Gun, Brian Schweitzer, September 2003.

⁶ "Permit to Construct Technical Analysis P-9900028, C&B Quality Trailer Works, Inc. Caldwell," Memorandum from Zach Klotovich, IDEQ, to Susan J. Richards, IDEQ, June 7, 1999, Appendix A.



Table 4-3: Pre-Project Potential to Emit for NSR Regulated Pollutants

Emissions Unit	PM ₁₀	VOC
	tons/yr	tons/yr
Point Sources		
Paint Booths	13.5	47.4
Fugitive Sources		

Table 4-4: Post Project Potential to Emit for NSR Regulated Pollutants

Emissions Unit	PM ₁₀	VOC
	tons/yr	tons/yr
Point Sources		
Paint Booths	1.3	60.7
Fugitive Sources		

Table 4-5: Changes in Potential to Emit for NSR Regulated Pollutants

Emissions Unit	PM ₁₀	VOC
	tons/yr	tons/yr
Point Sources		
Paint Booths	-12.2	13.3
Fugitive Sources		

Emissions of PM₁₀ for the original permit were calculated at the maximum allowable based on the air dispersion modeling results. For the proposed modification, hourly and annual PM₁₀ emissions are 50% or less of the original permit analysis.

Annual VOC emissions for the proposed modification are estimated to be 60.7 tons per year. This is greater than the original PTC estimate of 47.4 tons per year, but still well below the Major Facility threshold of 100 tons/year. This VOC estimate includes maximum annual use of both primers. In reality, C&B will only use one of the primers, so the actual maximum VOC emission rate is 46.7 tons/year (for Delstar primer with Essential topcoat).

A summary of the controlled HAP emissions associated with the original PTC and the proposed permit modification is provided in Table 4-2, attached. Emissions of MIBK and toluene increase, while emissions of hexamethylene diisocyanate and xylene are reduced with the proposed modification. The new Essential coatings introduce two new HAPs: ethyl benzene and hexane.



Emissions of these new HAPs are less than 0.4 tons per year each, well below the 10 tons per year Major Facility threshold for individual HAPs. Overall, total HAP emissions are reduced from 16.2 tons per year to 13.2 tons per year with the proposed modification.

A summary of the controlled TAP emissions associated with the original PTC and the proposed permit modification is provided in Table 4-2, attached. Emissions of all individual and total TAPs analyzed for the original PTC are reduced with the proposed permit modification. However, the new Essential coatings introduce several new TAPs.

Except for crystalline silica and parachlorobenzotrifluoride (PCBTF), emissions of these new TAPs are less than the emission screening levels provided in IDAPA 58.01.01.585. PCBTF is not a listed 58.01.01 TAP. However, when TORF Environmental Management inquired about PCBTF for a previous project involving Essential coatings, IDEQ determined that PCBTF should be considered a non-carcinogenic TAP and established an AAC of 0.253 mg/m³.⁷ The results of air dispersion modeling of crystalline silica and PCBTF are provided in Section 6.

The total pollutant emissions associated with the proposed modification are summarized below in Table 4-6 and compared to the original PTC. There is a net decrease in controlled HAP and criteria pollutants of 1.9 tons/year.

Table 4-6: Proposed PTC Modification Overall Emissions Change

Emissions (tons/yr)	Original PTC	Proposed Modification	Emissions Change
HAPs	16.2	13.2	-3.0
PM ₁₀	13.5	1.3	-12.2
VOC	47.4	60.7	+13.3
Total	77.1	75.2	-1.9

⁷ Snake River Trailer PTC Project Communication (via telephone), Robert Wilkosz and Carl Brown, IDEQ, and Sarah Stine, TORF Environmental Management, November 6, 2006.



Table 4-2: Proposed PTC Modification Emissions (page 2 of 3)

Modeled Criteria Pollutants - Net Emissions Change	Averaging Period	Original PTC ¹ (lb/hr)	Proposed Emissions (lb/hr)	Change in Emissions (lb/hr)	Background Conc. (ug/m ³)	
					Original PTC	Current
PM ₁₀ ⁷	24-hr Annual	2.28	1.12	-1.16	86	81
	Annual	3.08	0.31	-2.77	32.7	27

Criteria Pollutants PM ₁₀ (Note 7) VOC (Note 2)	Original PTC (ton/yr)	Proposed Emissions (ton/yr)	Change in Emissions (ton/yr)
	13.5	1.3	-12.2
	47.4	60.7	13.3

Hazardous Air Pollutants (HAPs)	Original PTC (ton/yr)	Proposed Emissions (ton/yr)	Change in Emissions (ton/yr)
Ethyl Benzene	0	0.31	0.31
HMDS	0.02	0.0026	-0.0174
n-Hexane	0	0.36	0.36
MBK	0.8	1.2	0.6
Toluene	5.61	6.8	1.2
Xylenes	10.00	4.5	-5.5
Total	16.2	13.2	-3.0

NOTES:

- Note 1: DP Primer Mix: 2 parts primer, 1 part catalyst, 1 part reducer, Essential Primer, no additives; Topcoat Mix: 6 parts enamel, 1 part activator, 1 part hardener.
- Note 2: All volatile material counted as VOC except for average wt% of acetone and parachlorobenzotrifluoride.
- Note 3: 35% coating retention used in the original permit analysis for solid coating components and in this modification analysis. Actual coating retention of LPH200 HVL P₁ guns is ~65%. No retention assumed for volatile components.
- Note 4: Per PPG, the maximum concentration of hexamethylene diisocyanate in the ESH hardener is 0.18%, and 85% is chemically reduced and retained in the coating upon mixing with acrylic paint prior to spraying.

SEE PAGE 3 FOR SAMPLE CALCULATIONS

Toxic Air Pollutant Summary (All 536 TAPs - 24 hr Averaging)	Original PTC Emissions (lb/hr) ¹⁰	Proposed Total Emissions (lb/hr) ¹⁰	Change in Emissions (lb/hr)	Screening Emissions Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acetone	3157	17.92	-3159	8	No
2-Butoxy Ethanol	0	1.59	1.59	8	No
n-Butyl Acetate	1259	8.78	-1253		
Calcium Carbonate	18	0.29	-17.45		
Carbon Black	0	0.05	0.05	0.23	No
Ethyl Benzene	0	0.28	0.28	29	No
Hexane	0	0.29	0.29	109	No
Hexamethylene diisocyanate	0.053	0.021	-0.05		
n-Hexane	0	0.29	0.29	12	No
Isopropyl Alcohol	1738	1.68	-1737		
1-Methoxy-2-Ethoxy Acetate	128	7.15	-121		
Methyl n-Amyl Ketone	417	9.32	-408		
Methyl Ethyl Ketone	1947	2.31	-1944		
Methyl Isobutyl Ketone	394	0.88	-393		
Methyloctylacetate	0	0.29	0.29	107	No
Naphtha (Standard Solvent)	0	12.28	12.28	35	No
Naphtha (V.M. & P.)	0	4.59	4.59	91.3	No
Parachlorobenzotrifluoride	0	5.55	5.55	Notes 9	
Propyl Alcohol	0	1.83	1.83	33.3	No
Silica-crylatite	0	0.006	0.006	0.0067	Yes
1,2,4-Trimethylbenzene	218	2.34	-216		
Toluene	665	5.60	-660		
Xylene	772	3.74	-768		
Zinc	0	0.023	0.02	0.697	No

- Note 5: DTL10 used for equipment cleaning in booths.
- Note 6: Permit to Construct Technical Analysis P-9500028, C&B Quality Trailer Works, Inc.; Caldwell, Appendix A, Memorandum from Zach Klovich (IDEQ) to Susan J. Richards (IDEQ), June 7, 1999.
- Note 7: Based on combined coatings' solids content adjusted for coating retention and emission control equipment efficiency.
- Note 8: American Filter AG-28 rated removal efficiency = 98.13%. 98% used for calculating controlled emissions of non-volatile components for this analysis.
- Note 9: No EL available for PCBTF - AAC for PCBTF provided by IDEQ.
- Note 10: For 536 TAPs, sum of component lbs/day from all coatings divided by 24 hrs/day.

Table 4-2: Proposed PTC Modification Emissions (page 3 of 3)

HAP/TAP Sample Calculation:	
EByl benzene (EB) is present in two coatings: DP primer and DP catalyst.	
Max Daily EB emissions from DP Primer	= 40 gal/day DP Primer * 1.41 DP Primer spec. gravity * 8.34 lb/gal * 1.0 wt% EB in DP Primer * (100% - 0% volatile coating retention) * (100% - 0% volatile filter efficiency) = 4.7 lb EB/day from DP Primer
HOURLY EMISSIONS (24-hr Average)	
Max Daily EB emissions from DP401LF catalyst are calculated in a similar manner. Total EB Emissions are calculated by adding all coating EB emissions.	
EB Hourly Emissions	= (4.7 lb EB/day from DP Primer + 1.5 lb EB/day from DP401LF) * 1 day/24 hrs = 0.26 lb EB/hr
Max 12-mo EB emissions from DP Primer	= 4000 gal/yr DP Primer * 1.41 DAR spec. gravity * 8.34 lb/gal * 1.0 wt% EB in DP Primer * (100% - 0% volatile coating retention) * (100% - 0% volatile filter efficiency) = 470.4 lb EB/yr from DP Primer
ANNUAL EMISSIONS	
Max 12-mo EB emissions from DP401LF catalyst are calculated in a similar manner. Total EB Emissions are calculated by adding all coating EB emissions.	
EB Annual Emissions	= (470.4 lb EB/yr from DP Primer + 146.8 lb EB/yr from DP401LF) * 1 ton/2000 lbs = 0.31 tons EB/yr
PM₁₀ Sample Calculation:	
All solids emitted are assumed to be PM ₁₀ .	
HOURLY EMISSIONS (24-hr Average)	
Max Hourly PM ₁₀ emissions from DP Primer	= 40 gal/day DP Primer * 1.41 DP Primer SG * 8.34 lb/gal * 64.66 wt% solids in DP Primer * (100% - 35% coating retention) * (100% - 98% filter efficiency) * day/24 hrs = 0.165 lb PM ₁₀ /hr from DP Primer
Max Hourly PM ₁₀ emissions from all coatings are calculated in a similar manner. PM ₁₀ Exceedance Emissions are calculated by adding all coating PM ₁₀ emissions.	
Max 12-mo PM ₁₀ emissions from DP Primer	= 4000 gal/yr DP Primer * 1.41 DP Primer SG * 8.34 lb/gal * 64.66 wt% solids in DP Primer * (100% - 35% coating retention) * (100% - 98% filter efficiency) * 1 ton/2000 lbs = 0.198 ton PM ₁₀ /yr from DP Primer
ANNUAL EMISSIONS	
Max 12-mo PM ₁₀ emissions from all coatings are calculated in a similar manner. PM ₁₀ Exceedance Emissions are calculated by adding all coating PM ₁₀ emissions.	
VOC Sample Calculation:	
All non-solids are assumed to be emitted as VOCs except for acetone and PCBTF.	
DP Primer VOC content = 36.69 max wt% volatility (from MSDS) - 0 average wt% acetone in DP Primer - 0 average wt% PCBTF in DP Primer = 36.69 wt% VOC in DP Primer.	
Max 12-mo VOC emissions from DP Primer	= 4000 gal/yr DP Primer * 1.41 DP SG * 8.34 lb/gal * 36.69 wt% VOC in DP Primer = 17,259 lb VOC/yr from DP Primer = 8.63 tons VOC/yr from DP Primer
ANNUAL EMISSIONS	
Max 12-mo VOC emissions from all coatings are calculated in a similar manner. Total VOC Emissions are calculated by adding all coating VOC emissions.	

APPENDIX B – PROCESSING FEE

PTC Fee Calculation

Instructions:

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

Company: C&B Quality Trailers, Inc.
 Address:
 City: Caldwell
 State:
 Zip Code:
 Facility Contact:
 Mod to switch to low-VOC paint
 AIRS No.: 027-00069, PROJ 60713

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	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10	0.0	12.2	-12.2
VOC	13.3	0	13.3
TAPS/HAPS	0.0	3	-3.0
Total:	0.0	15.2	-1.9
Fee Due	\$ 1,000.00		

Comments: