Statement of Basis

Permit to Construct
P-2011.0095
Project No. 60840

Gem State Manufacturing
Caldwell, Idaho

Facility ID No. 027-00124

Final

December 16, 2011
Dan Pitman, P.E.
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.

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
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
GHG	greenhouse gasses
HAP	hazardous air pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
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
PAH	polyaromatic hydrocarbons
PC	permit condition
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_X	sulfur oxides
T/yr	tons per consecutive 12-calendar month period
TAP	toxic air pollutants
U.S.C.	United States Code
UTM	Universal Transverse Mercator
VOC	volatile organic compounds

FACILITY INFORMATION

Description

Gem State Manufacturing is a heavy equipment trailer manufacturing facility located in Caldwell. Emission units at the facility consist of one paint booth, one curing room, and a natural gas fired heater. Gem State Manufacturing was established in 1982 and manufactures heavy equipment trailers with capacities from 5,000 to 70,000 pounds; trailers are designed to transport light and heavy equipment.

Permitting History

This is the initial PTC for an existing facility that was constructed in 1982 thus there is no permitting history.

Application Scope

The applicant has proposed to obtain a permit to construct for a spray painting operation that includes a 1.43 MMBtu/hr natural gas fired heater.

Application Chronology

March 16, 2011	DEQ received an application and an application fee.
March 28 – April 12, 2011	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
April 6, 2011	DEQ determined that the application was incomplete.
August 11, 2011	DEQ received supplemental information from the applicant.
September 13, 2011	DEQ determined that the application was complete.
November 8, 2011	DEQ made available the draft permit and statement of basis for applicant review.
December 12, 2011	DEQ received the permit processing fee.

TECHNICAL ANALYSIS

Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

Source Descriptions	Emission Controls
Paint spray booth(s): Manufacturer(s): Unknown Note: The number of booths installed at the facility is not limited by this permit. **Paint booth(s) heater:** Manufacturer(s): TRANE or equivalent Model(s): DFOA or equivalent Heat input capacity: up to 1.43 MMBtu/hr Fuel: natural gas	**Paint spray booth(s) and/or preparation station filter system:** Particulate filtration method: Dry Filters Manufacturer(s): Paint Pockets or equivalent PM_{10} Removal Efficiency: 99% **Coating spray gun(s):** Type: HVLP or equivalent Transfer Efficiency: 65% or greater

Emissions Inventories

Uncontrolled Potential to Emit

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

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

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	$PM_{10}/PM_{2.5}$ T/yr	SO_2 T/yr	NO_X T/yr	CO T/yr	VOC T/yr	CO_2e T/yr
Point Sources						
Paint Booth	41	0.0	0.0	0.0	89	0.00
Heater	negligible	negligible	0.61	0.5	negligible	734
Total	**41**	negligible	**0.61**	**0.5**	**89**	**734**

Negligible - less than 0.1 tons per year

The hazardous air pollutant content in the VOC emitted from painting operations could exceed 28% of the VOC by weight; therefore the facility has potential uncontrolled emissions of HAPs that is greater than 25 tons per year.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes emissions that result from operating under the permits emission standards[1].

The following table presents the post project Potential to Emit for criteria and GHG pollutants from all emissions units at the facility as provided by Gem State and reviewed 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 REGULATED AIR POLLUTANTS

Emissions Unit	$PM_{10}/PM_{2.5}$ T/yr	SO_2 T/yr	NO_X T/yr	CO T/yr	VOC T/yr	CO_2e T/yr
Point Sources						
Paint Booth	negligible	0.0	0.0	0.0	21.02	0.00
Heater	negligible	negligible	0.61	0.5	negligible	734
Total	negligible	negligible	**0.61**	**0.5**	**21.02**	**734**

Negligible - less than 0.1 tons per year

1) "Emission Standard" is defined by IDAPA 58.01.01.006.34 as *"A permit or regulatory requirement established by the Department or EPA which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction."*

TAP Emissions

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

Table 4 TOXIC AIR POLLUTANT EMISSIONS COMPARED TO SCREENING EMISSION LEVELS

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Acetone	0	1.3	1.3	119	No
Barium	0	6.2E-06	6.2E-06	0.033	No
2-Butoxy Ethanol	0	0.32	0.32	8	No
2-Butoxy Ethyl Acetate	0	0.00	0.00	8.33	No
Butyl Acetate	0	4.09	4.09	47.3	No
n-Butyl Alcohol	0	0.83	0.83	10	No
Calcium Carbonate	0	0.0115	0	0.667	No
Carbon Black	0	3.2E-04	0	0.23	No
Chromium	0	2.0E-06	2.0E-06	0.033	No
Cobalt	0	1.2E-07	1.2E-07	0.0033	No
Copper	0	1.2E-06	1.2E-06	0.067	No
Cumene	0	0.10	0.10	16	No
Dichlorobenezene	0	1.7E-06	1.7E-06	20	No
Ethyl Acetate	0	4.1	4.1	93	No
Ethyl Benzene	0	0.29	0.29	29.000	No
Heptane	0	0.37	0.37	109.000	No
HDI	0	0.0005	0.0005	0.002	No
n-Hexane	0	0.08	0.08	12.00	No
Isobutyl Alcohol	0	0.12	0.12	10	No
Isopropyl Alcohol	0	0.4	0.42	65.3	No
Kaolin	0	0.012	0.01	0.133	No
Manganese	0	5.3E-07	5.3E-07	0.067	No
Mercury	0	3.6E-07	3.6E-07	0.003	No
Methanol	0	0.044	0.04	17.3	No
Methyl Acetate	0	0.09	0.09	40.7	No
Methyl Isoamyl Ketone	0	0.46	0.46	16	No
Methyl n-Amyl Ketone	0	5.05	5.05	15.7	No
MEK	0	1.32	1.32	39.3	No
1-Methoxy 2-Propyl Acetate	0	1.24	1.24	24	No
Methyl Isobutyl Ketone	0	0.35	0	13.7	No
Molybdenum	0	1.5E-06	1.5E-06	0.333	No
Naphthalene	0	8.5E-07	8.5E-07	3.33	No
Propylene Glycol Monomethyl Ether	0	0.67	0.67	24	No
PGME Acetate	0	0.00	0.00	12	No
Selenium	0	3.4E-08	3.4E-08	0.013	No
Silica- amorphous	0	0.010	0.010	0.667	No
Tin (organic compounds)	0	0.0034	0.0034	0.007	No
Toluene	0	1.3	1.3	25	No
Trimethyl benzene	0	0.26	0.26	8.2	No
Vanadium	0	3.215E-06	3.215E-06	0.003	No
VM&P Naphtha	0	0.37	0.37	91.3	No
Xylene	0	5.22	5	29	No
Zinc	0	9.2E-04	9.2E-04	0.667	No
Carcinogenic Toxic Air Pollutant (Annual Average)	**Controlled Hourly Emissions**		**Emission Change (lb/hr)**	**Screening Emission Level (lb/hr)**	**Exceeds Screening Emission Level?**
	Pre-Project (lb/hr)	**Post Project (lb/hr)**			
Arsenic	0	2.8E-07	2.8E-07	1.5E-06	No
Benzene	0	2.9E-06	2.9E-06	8.0E-04	No
Beryllium	0	1.7E-08	1.7E-08	2.8E-05	No
Cadmium	0	1.5E-06	1.5E-06	3.7E-06	No
Formaldehyde	0	1.0E-04	1.0E-04	5.1E-04	No
3-Methylchloranthene	0	2.5E-09	2.5E-09	2.5E-06	No
Naphthalene	0	8.5E-07	8.5E-07	2.5E-06	No
Nickel	0	2.9E-06	2.9E-06	2.7E-05	No
Polyaromatic Hydrocarbon (Max)	0	9.4E-07	9.4E-07	9.1E-05	No
Polycyclic Organics: 7-PAH Group	0	1.6E-08	1.6E-08	2.0E-06	No

None of the screening emission levels (ELs) for TAPs identified in IDAPA 58.01.01.586 were exceeded as a result of this project. Therefore, modeling is not required for any TAPs because none of the screening were exceeded.

Post Project HAP Emissions

HAP emissions are limited to less than 10 tons per year for any single HAP and less than 25 tons per year of all HAPs combined.

Ambient Air Quality Impact Analyses

As presented in the application, the estimated emission rates of PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO from this project are below modeling thresholds listed in the State of Idaho Air Quality Modeling Guideline[2] and TAP emissions are below applicable screening emission levels (EL) established in IDAPA 58.01.01.585-586. Therefore, emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard for criteria pollutants or exceed any acceptable ambient concentration for toxic air pollutants.

The following table provides a summary of the criteria air pollutant emissions and a comparison to the modeling thresholds.

Table 5 Criteria Air Pollutants and Modeling Thresholds

Pollutant	Modeling Threshold[1] (lb/hr)	Permitted Emissions (lb/hr)	Exceeds Threshold
PM_{10}	0.22	0.047	No
$PM_{2.5}$	0.054	0.044	No
SO_2	0.21	8.4 E -4	No
NOx	0.2	0.14	No
CO	15	0.12	No

Emissions of SO_2, NO_x and CO included in Table 5 are uncontrolled. Since uncontrolled emissions of SO_2, NO_x and CO are below modeling thresholds there no need for emission standards in the permit for ambient impact purposes. PM_{10} and $PM_{2.5}$ emissions in Table 5 include controlled emissions from the paint booth; therefore it is necessary to include emission standards in the permit to limit PM_{10} and $PM_{2.5}$ emissions. The permit requires painting with a high volume, low pressure (HVLP) spray guns that have 65% transfer efficiency of paint particles, and requires that over spray be controlled by filters with a PM_{10} removal efficiency of 99%. These two emission standards serve to limit the PM_{10} and $PM_{2.5}$ to the values in Table 5 without a need for paint usage limitations. A paint usage limitation is not needed because the paint usage rate that is used to calculate the emission rates in Table 5 is the facility's operational design capacity for paint usage.

Refer to the Emissions Inventories section for additional information concerning the emission inventories.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Facility Classification AIRS/AFS

"Synthetic Minor" for AIRS/AFS classification for criteria pollutants is defined as the uncontrolled Potential to Emit for criteria pollutants are above the applicable major source thresholds and the Potential to Emit for criteria pollutants fall below the applicable major source thresholds. Therefore, the following table compares the uncontrolled Potential to Emit and the Potential to Emit for criteria pollutants to the Major Source thresholds to determine if the facility will be "Synthetic Minor."

---

[2] Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

Table 6 UNCONTROLLED PTE AND PTE FOR REGULATED AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold and PTE Exceeds the Major Source Threshold?
PM/PM_{10}	87	0.87	100	No
$PM_{2.5}$	<87	<0.87	100	No
SO_2	negligible	negligible	100	No
NO_X	0.61	< 0.61	100	No
CO	0.50	< 0.50	100	No
VOC	89	21.02	100	No
CO_2e	734	< 734	100,000	No

Negligible - less than 0.1 tons per year

"Synthetic Minor" for AIRS/AFS classification for HAP pollutants is defined as the uncontrolled Potential to Emit for HAP pollutants are above the applicable major source thresholds and the Potential to Emit for HAPs pollutants fall below the applicable major source thresholds. Therefore, the following table compares the uncontrolled Potential to Emit and the Potential to Emit for HAP pollutants to the Major Source thresholds to determine if the facility will be "Synthetic Minor."

Table 7 UNCONTROLED PTE AND PTE FOR HAZARDOUS AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

HAP Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold and PTE Exceeds the Major Source Threshold?
Total	**> 25**	**< 25**	**25**	No

As demonstrated in Table 6 the facility has an uncontrolled potential to emit for PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO, and VOC emissions are less than the Major Source thresholds of 100 T/yr for each pollutant. However, as demonstrated in Table 7 the facility has an uncontrolled PTE for all HAPs combined greater than the Major Source threshold of 25 T/yr and permitted emissions less than major facility thresholds. Therefore, this facility is designated as a Synthetic Minor facility.

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 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. The facility did not qualify for the general automotive coating permit because the facility uses more than 4 gallons of paint per day.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

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

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM_{10} emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is included in the permit.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than: 100 tons per year for PM_{10}, SO_2, NO_X, CO, and VOC; 10 tons per year for any single HAP or 25 tons per year for all HAPs combined; or greenhouse gases in excess of 100,000 tons per year as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1). Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any regulated air pollutant that exceed 250 T/yr or greenhouse gases in excess of 100,000 T/yr.

NSPS Applicability (40 CFR 60)

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

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

The facility has proposed to operate as a minor source of hazardous air pollutant (HAP) emissions, and is subject to the requirements of 40 CFR 63, Subpart HHHHHH–National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources.

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?

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

Gem Sate is an area source of HAP because it's potential to emit is less than 10 tons per year for any on HAP and the potential to emit all HAPs is less than 25 tons per year.

(a) Paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl), Chemical Abstract Service number 75092, in paint removal processes;

Gem State does not strip paint using methylene chloride; in fact paint stripping of any kind is not part of their business activity.

(b) Autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations;

Gem state manufacturers heavy equipment trailers which meets the definition of what constitutes mobile equipment at 40 CFR 63.11180.

(c) Spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment.

Gem Sate has not specified whether the coatings that will be used contain one of the listed target HAPs.

(d) This subpart does not apply to any of the activities described in paragraph (d)(1) through (6) of this section.

Gem State does not qualify for any of the exceptions to applicability listed in paragraphs (d)(1) through (6).

§ 63.11170 Am I subject to this subpart?

(a) You are subject to this subpart if you operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:

Gem Sate is an area source of HAP because it's potential to emit is less than 10 tons per year for any on HAP and the potential to emit all HAPs is less than 25 tons per year. Gem state is an affected facility if it performs one or more of the activities listed below.

(1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.

Gem State does not strip paint using methylene chloride; in fact paint stripping of any kind is not part of their business activity.

(2) Perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.

Gem State:

- performs spray application of coating using hand held devices with a cup capacity greater than 3 ounces; and
- applies coatings to heavy equipment trailers which meets the definition of mobile equipment at 40 CFR 63.11180; and
- Gem State is not pursuing an exemption from this Subpart by demonstrating that they do not apply coatings that contain the target HAPs.

Therefore Gem State is applicable to this Subpart.

(3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.

GEM state has not specified whether coatings that will be used contain targeted HAPs. Gem State is an affected facility as described in the previous discussion. Therefore it is not necessary to determine applicability due to this section because the facility is applicable because of the previous section.

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

Gem Sate is an area source of HAP because it's potential to emit is less than 10 tons per year for any on HAP and the potential to emit all HAPs is less than 25 tons per year.

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

(a) This subpart applies to each new and existing affected area source engaged in the activities listed in §63.11170, with the exception of those activities listed in §63.11169(d) of this subpart.

(b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (6) of this section. Not all affected sources will have all of the items listed in paragraphs (b)(1) through (6) of this section.

(1) Mixing rooms and equipment;

(2) Spray booths, ventilated prep stations, curing ovens, and associated equipment;

(3) Spray guns and associated equipment;

(4) Spray gun cleaning equipment;

(5) Equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint; and

These sources (i.e., 1-5 above) will be listed in the permit as affected sources.

(6) Equipment used for paint stripping at paint stripping facilities using paint strippers containing MeCl.

Gem State does not use paint strippers.

(c) An affected source is a new source if it meets the criteria in paragraphs (c)(1) and (c)(2) of this section.

(1) You commenced the construction of the source after September 17, 2007 by installing new paint stripping or surface coating equipment. If you purchase and install spray booths, enclosed spray gun cleaners, paint stripping equipment to reduce MeCl emissions, or purchase new spray guns to comply with this subpart at an existing source, these actions would not make your existing source a new source.

(2) The new paint stripping or surface coating equipment is used at a source that was not actively engaged in paint stripping and/or miscellaneous surface coating prior to September 17, 2007.

Gem Sate was constructed and was engaged in surface coating operations prior to September 17, 2007; therefore it is not considered a new source.

(d) An affected source is reconstructed if it meets the definition of reconstruction in §63.2.

(e) An affected source is an existing source if it is not a new source or a reconstructed source.

Gem State is not a new or reconstructed source; therefore it is considered an existing source.

General Compliance Requirements

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

The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) and (b) of this section.

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:

(1) If the initial startup of your new or reconstructed affected source is after September 17, 2007, the compliance date is January 9, 2008.

(2) If the initial startup of your new or reconstructed affected source occurs after January 9, 2008, the compliance date is the date of initial startup of your affected source.

The compliance dates specified above do not apply to Gem State because they are not a new source.

(b) For an existing affected source, the compliance date is January 10, 2011.

Gem State is an existing affected source and the compliance date is January 10, 2011.

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

(a) Each paint stripping operation that is an affected area source must implement management practices to minimize the evaporative emissions of MeCl. The management practices must address, at a minimum, the practices in paragraphs (a)(1) through (5) of this section, as applicable, for your operations.

Gem State does not use paint strippers; therefore the requirements of § 63.11173 paragraphs (a)(1) through (5) listed above do not apply.

§ 63.11173(a)-(d) do not apply because Gem State does not strip paint.

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

All of the provisions of this section, (e)(1) through (e)(5) listed below, apply to GEM State and they have been added included in the permit.

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

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

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

(ii) Spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment must be fully enclosed with a full roof, and four complete walls or complete side curtains, and must be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains. However, if a spray booth is fully enclosed and has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure.

(iii) Spray booths and preparation stations that are used to coat miscellaneous parts and products or vehicle subassemblies must have a full roof, at least three complete walls or complete side curtains, and must be ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process.

(iv) Mobile ventilated enclosures that are used to perform spot repairs must enclose and, if necessary, seal against the surface around the area being coated such that paint overspray is retained within the enclosure and directed to a filter to capture paint overspray.

(3) All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see §63.14 of subpart A of this part). The requirements of this paragraph do not apply to painting performed by students and instructors at paint training centers. The requirements of this paragraph do not apply to the surface coating of aerospace vehicles that involves the coating of components that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; to the application of coatings on aerospace vehicles that contain fillers that adversely affect atomization with HVLP spray guns; or to the application of coatings on aerospace vehicles that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

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

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

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

As specified in § 63.11173(e)(1) all painters at the mobile equipment manufacturing facilities such as Gem State must comply with (f)(1) through (f)(3) listed below.

(1) A list of all current personnel by name and job description who are required to be trained;

(2) Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training in the topics listed in paragraphs (f)(2)(i) through (2)(iv) of this section.

(i) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.

(ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.

(iii) Routine spray booth and filter maintenance, including filter selection and installation.

(iv) Environmental compliance with the requirements of this subpart.

(3) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. Owners and operators who can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required in paragraph (f)(2) of this section are not required to provide the initial training required by that paragraph to these painters.

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

(1) If your source is a new source, all personnel must be trained and certified no later than 180 days after hiring or no later than July 7, 2008, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.

As previously discussed Gem State is not a new source.

(2) If your source is an existing source, all personnel must be trained and certified no later than 180 days after hiring or no later than January 10, 2011, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.

Gem State is an existing source and training must have been completed by no later than January 10, 2011.

(3) Training and certification will be valid for a period not to exceed five years after the date the training is completed, and all personnel must receive refresher training that meets the requirements of this section and be re-certified every five years.

This provision is applicable to GEM State and is included in the permit.

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

(a) Table 1 of this subpart shows which parts of the General Provisions in subpart A apply to you.

This table is included in the permit.

(b) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

Gem State is an area source and is not a major facility because regulated air pollutants are less than 100 tons per year and GHG emissions are less than 100,000 tons per year; therefore they do not need to obtain a tier I operating permit (i.e. a permit under 40 CFR Part 70).

Notifications, Reports, and Records

§ 63.11175 What notifications must I submit?

(a) Initial Notification. If you are the owner or operator of a paint stripping operation using paint strippers containing MeCl and/or a surface coating operation subject to this subpart, you must submit the initial notification required by §63.9(b). For a new affected source, you must submit the Initial Notification no later than 180 days after initial startup or July 7, 2008, whichever is later. For an existing affected source, you must submit the initial notification no later than January 11, 2010. The initial notification must provide the information specified in paragraphs (a)(1) through (8) of this section.

Gem State does not strip paint and is not required to submit notifications as specified in this section.

(b) Notification of Compliance Status. If you are the owner or operator of a new source, you are not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided you were able to certify compliance on the date of the initial notification, as part of the initial notification, and your compliance status has not since changed. If you are the owner or operator of any existing source and did not certify in the initial notification that your source is already in compliance as specified in paragraph (a) of this section, then you must submit a notification of compliance status. You must submit a Notification of Compliance Status on or before March 11, 2011. You are required to submit the information specified in paragraphs (b)(1) through (4) of this section with your Notification of Compliance Status:

Gem Sate is an existing source and is not required to submit the notification specified in paragraph (a), therefore compliance status notification was due March 11, 2011.

(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.

(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in §63.11173(a) through (d). For surface coating operations, the relevant requirements are specified in §63.11173(e) through (g).

(3) The date of the Notification of Compliance Status.

(4) If you are the owner or operator of an existing affected paint stripping source that annually uses more than one ton of MeCl, you must submit a statement certifying that you have developed and are implementing a written MeCl minimization plan in accordance with §63.11173(b).

§ 63.11176 What reports must I submit?

(a) Annual Notification of Changes Report. If you are the owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, you are required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. This includes notification when paint stripping affected sources that have not developed and implemented a written MeCl minimization plan in accordance with §63.11173(b) used more than one ton of MeCl in the previous calendar year. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.

By March 1 of each year Gem State must submit a Notification of Changes Report whenever there are changes to:

- the information provided in the Notification of Compliance; or
- the information included in any previous notice of changes report.

The report shall include the following information.

(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.

(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.

(b) If you are the owner or operator of a paint stripping affected source that has not developed and implemented a written MeCl minimization plan in accordance with §63.11173(b) of this subpart, you must submit a report for any calendar year in which you use more than one ton of MeCl. ...

Gem State is not engage in paint stripping activities.

§ 63.11177 What records must I keep?

If you are the owner or operator of a surface coating operation, you must keep the records specified in paragraphs (a) through (d) and (g) of this section. If you are the owner or operator of a paint stripping operation, you must keep the records specified in paragraphs (e) through (g) of this section, as applicable.

(a) Certification that each painter has completed the training specified in §63.11173(f) with the date the initial training and the most recent refresher training was completed.

(b) Documentation of the filter efficiency of any spray booth exhaust filter material, according to the procedure in §63.11173(e)(3)(i).

(c) Documentation from the spray gun manufacturer that each spray gun with a cup capacity equal to or greater than 3.0 fluid ounces (89 cc) that does not meet the definition of an HVLP spray gun, electrostatic application, airless spray gun, or air assisted airless spray gun, has been determined by the Administrator to achieve a transfer efficiency equivalent to that of an HVLP spray gun, according to the procedure in §63.11173(e)(4).

(d) Copies of any notification submitted as required by §63.11175 and copies of any report submitted as required by §63.11176.

Paragraphs (e) through (f) do not apply to GEM State because they are not engaged in paint stripping operations.

(g) Records of any deviation from the requirements in §63.11173, §63.11174, §63.11175, or §63.11176. These records must include the date and time period of the deviation, and a description of the nature of the deviation and the actions taken to correct the deviation.

Gem State must keep records of any of deviations.

(h) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report.

Gem State must keep records of any assessments that support initial notifications, notification of compliance status, and notifications of changes.

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

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

Gem State must keep records required by this Subpart for a period of five years.

Other Requirements and Information

§ 63.11179 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

The State of Idaho is not delegated this subpart, the U.S. Environmental Protection Agency implements and enforces this subpart.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

Permit Condition 1

Describes that the purpose of the permit is to issue a permit to construct for a heavy equipment trailer manufacturing facility that includes a spray paint booth. The paint booth was constructed in 1997 and the facility is now obtaining a permit to construct for that paint booth.

Permit Condition 2

Provides a table of the regulated sources at the facility along with a description of the control devices used.

Permit Condition 3 & 4

Condition 3 provides a process description and condition 4 provides an emission control description.

Permit Condition 5 & 6

Limit HAP emissions to below major source thresholds. The uncontrolled potential to emit was determined to be greater than major source thresholds for HAPs, therefore emission standards were required to be included in the permit to prevent the facility from being a major source of HAP emissions. Uncontrolled emissions of all other regulated air pollutants were determined to be below major source thresholds; therefore emission standards were not required for the purpose of preventing the facility from becoming a major facility.

Permit Condition 7

Includes the opacity standard of Section 625 (Rules for the Control of Air Pollution in Idaho).

Permit Condition 8

Includes the order standard of Section 776.

Permit Condition 9

Limits the fuel combusted in the paint booth/curing room to natural gas consistent with the emission inventory submitted in the application.

Permit Condition 10

Prevents the permittee from using methylene chloride to remove paint consistent with application that was submitted. The emission inventory provided in the application did not include methylene chloride.

Permit Condition 11

Listed are specific coatings and solvents which the applicant demonstrated show compliance with TAP standards. Daily and annual (any 12-consecutive months) usage limits are included which match what the applicant proposed.

Permit Condition 12

Allows the permittee to use coatings and solvents that are not specifically listed in the permit provided that either the use of such substance qualifies for an exemption in accordance with Section 220-223, or the use of such substance is limited to amounts that would result in emissions that are equal to or less than the screening emission levels listed in Section 585 & 586.

Permit Condition 13

Prior to using any coating or solvent that is not specifically listed in the permit the permittee shall either document that such usage qualifies and complies with the exemptions at Section 220-223 or the permittee shall calculate the amount of the coating or solvent that may be used. In order to calculate the amount of coating or solvent that may be used the permittee shall use the provided equations. The equations in the permit are derived below.
For volatile TAPs:

Calculating TAP emission rate:

TAP (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100

Determining the amount of coating or solvent that may be used:

Substitute the EL (lb/hr) listed in Section 585 or 586 for TAP (lb/hr); then the equation becomes

EL (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100; then rearrange the equation

usage rate (gal/hr) = EL(lb/hr)/(TAP%/100 x density (lb/gal); then determine daily usage

usage rate (gal/day) = [EL(lb/hr)/(TAP%/100 x density (lb/gal)] x 24 hr/day

For particulate TAPs:

Calculating TAP emission rate:

TAP (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100 x (1- Trans. Eff./100)(1-Removal Eff./100)

TAP (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100 x (1- 65/100)(1-99/100)

TAP (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100 x 0.35x 0.01

TAP (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100 x .0035

Determining the amount of coating or solvent that may be used:

Substitute the EL (lb/hr) listed in Section 585 or 586 for TAP (lb/hr); then the equation becomes

EL (lb/hr) = usage rate (gal/hr) x density (lb/gal) x TAP%/100 x .0035, the rearrange the equation

usage rate (gal/hr) = EL (lb/hr)/ (TAP%/100 x density (lb/gal) x .0035); then determine daily usage

usage rate (gal/day) =[EL (lb/hr)/ (TAP%/100 x density (lb/gal) x .0035)] x 24 hr/day

usage rate (gal/day) =[EL (lb/hr)/ (TAP%/100 x density (lb/gal)] x 6,857

HAPs that are regulated by NESHAP Subpart HHHHHH are not subject to the State's toxic air pollutant regulation (IDAPA 58.01.01.20). The HAPs that are regulated by Subpart HHHHHH are chromium, lead, manganese, nickel, and cadmium. These pollutants are listed in the permit to be excluded from the calculation of the allowable amounts or coatings and solvents that may be used.

Permit Condition 14

Includes DEQ's standard language for filter systems

Permit Condition 15

Requires painting occur in an atmosphere where particulate matter emissions will be controlled by a filter consistent with the emission inventory provided in the application.

Requires that painting be conducted using a HVLP paint gun (i.e. 65% transfer efficiency) consistent with 40 CFR 63 Subpart HHHHHH.

Requires using filters with at least 99% removal efficiency consistent the emission inventory provided in the application.

Permit Condition 16

Requires monitoring of daily and annual (any consecutive 12-months) paint/solvent usage to assure compliance with the permits usage limitations.

Permit Condition 17

Includes monitoring requires to assure compliance with the odor standard.
Permit Condition 18

Requires monitoring of HAP emissions each month to assure compliance with HAP emission limits.

Permit condition 19 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 unless the facility is exempt from HHHHHH.

Permit condition 20 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 unless the facility is exempt from HHHHHH.

Permit condition 21 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 22 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 23 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 24

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 25

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 26

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 27

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

Permit Condition 28

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 29

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 30

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 31

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 32

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 33

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 34

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

Permit Condition 35

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

Permit Condition 36

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 37

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 38

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

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were no comments on the application and there was 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

Table 4-2:
Facility-Wide Toxic Air Pollutant Emissions

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Acetone	0	1.3	1.3	119	No
Barium	0	6.2E-06	6.2E-06	0.033	No
2-Butoxy Ethanol	0	0.32	0.32	8	No
2-Butoxy Ethyl Acetate	0	0.00	0.00	8.33	No
Butyl Acetate	0	4.09	4.09	47.3	No
n-Butyl Alcohol	0	0.83	0.83	10	No
Calcium Carbonate	0	0.0115	0	0.667	No
Carbon Black	0	3.2E-04	0	0.23	No
Chromium	0	2.0E-06	2.0E-06	0.033	No
Cobalt	0	1.2E-07	1.2E-07	0.0033	No
Copper	0	1.2E-06	1.2E-06	0.067	No
Cumene	0	0.10	0.10	16	No
Dichlorobenezene	0	1.7E-06	1.7E-06	20	No
Ethyl Acetate	0	4.1	4.1	93	No
Ethyl Benzene	0	0.29	0.29	29.000	No
Heptane	0	0.37	0.37	109.000	No
HDI	0	0.0005	0.0005	0.002	No
n-Hexane	0	0.08	0.08	12.00	No
Isobutyl Alcohol	0	0.12	0.12	10	No
Isopropyl Alcohol	0	0.4	0.42	65.3	No
Kaolin	0	0.012	0.01	0.133	No
Manganese	0	5.3E-07	5.3E-07	0.067	No
Mercury	0	3.6E-07	3.6E-07	0.003	No
Methanol	0	0.044	0.04	17.3	No
Methyl Acetate	0	0.09	0.09	40.7	No
Methyl Isoamyl Ketone	0	0.46	0.46	16	No
Methyl n-Amyl Ketone	0	5.05	5.05	15.7	No
MEK	0	1.32	1.32	39.3	No
1-Methoxy 2-Propyl Acetate	0	1.24	1.24	24	No
Methyl Isobutyl Ketone	0	0.35	0	13.7	No
Molybdenum	0	1.5E-06	1.5E-06	0.333	No
Naphthalene	0	8.5E-07	8.5E-07	3.33	No
Propylene Glycol Monomethyl Ether	0	0.67	0.67	24	No
PGME Acetate	0	0.00	0.00	12	No
Selenium	0	3.4E-08	3.4E-08	0.013	No
Silica- amorphous	0	0.010	0.010	0.667	No
Tin (organic compounds)	0	0.0034	0.0034	0.007	No
Toluene	0	1.3	1.3	25	No
Trimethyl benzene	0	0.26	0.26	8.2	No
Vanadium	0	3.215E-06	3.215E-06	0.003	No
VM&P Naphtha	0	0.37	0.37	91.3	No
Xylene	0	5.22	5	29	No
Zinc	0	9.2E-04	9.2E-04	0.667	No

Carcinogenic Toxic Air Pollutant (Annual Average)	Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Emission Level?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Arsenic	0	2.8E-07	2.8E-07	1.5E-06	No
Benzene	0	2.9E-06	2.9E-06	8.0E-04	No
Beryllium	0	1.7E-08	1.7E-08	2.8E-05	No
Cadmium	0	1.5E-06	1.5E-06	3.7E-06	No
Formaldehyde	0	1.0E-04	1.0E-04	5.1E-04	No
3-Methylchloranthene	0	2.5E-09	2.5E-09	2.5E-06	No
Naphthalene	0	8.5E-07	8.5E-07	2.5E-06	No
Nickel	0	2.9E-06	2.9E-06	2.7E-05	No
Polyaromatic Hydrocarbon (Max)	0	9.4E-07	9.4E-07	9.1E-05	No
Polycyclic Organics: 7-PAH Group	0	1.6E-08	1.6E-08	2.0E-06	No

Gem State Manufacturing
Caldwell, ID

Tables 4-1a to 4-1c:
Facility-Wide NSR Regulated Pollutant Emissions

Table 4-1a: Pre-Project Potential to Emit (based on existing permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
MAU1	0	0	0	0	0	0	0
BOOTH1	0	0	0	0	0	0	0
Total =	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 4-1b: Post-Project Potential to Emit (based on requested permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
MAU1	0.047	0.047	3.7E-03	0.61	0.51	0.034	3.1E-06
BOOTH1	0.064	0.064	0	0	0	21.02	0
Total =	**0.11**	**0.11**	**0.004**	**0.61**	**0.51**	**21.0**	**3.1E-06**

Table 4-1c: Changes in Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
MAU1	0.047	0.047	3.7E-03	0.61	0.51	0.034	3.1E-06
BOOTH1	0.064	0.064	0	0	0	21.015	0
Total =	**0.11**	**0.11**	**0.004**	**0.61**	**0.51**	**21.0**	**3.1E-06**

Gem State Manufacturing
Caldwell, ID

Table 4-3:
Facility-Wide Hazardous Air Pollutant Emissions

Hazardous Air Pollutant	Potential to Emit (tons/yr)
Arsenic	1.2E-06
Benzene	1.3E-05
Beryllium	7.3E-08
Cadmium	6.7E-06
Chromium	8.6E-06
Cobalt	5.1E-07
Cumene	0.18
Dichlorobenzene	7.3E-06
Formaldehyde	4.6E-04
Glycol Ether	1.2
Hexane	0.34
HMI	8.9E-04
Lead	3.1E-06
Manganese	2.3E-06
Mercury	1.6E-06
Methyl Isobutyl Ketone	0.64
Naphthalene	3.7E-06
Nickel	1.3E-05
Polycyclic Organic Matter	7.0E-08
Selenium	1.5E-07
Toluene	4.2
Xylene	9.4
TOTAL =	**15.9**

Table 2-1: MAU1 Combustion Emissions

MakeUp Air Heater Duty =

1.426 MMBtu/hr ÷ 1,020 MMBtu/MMscf = **1.40E-03 MMscf/hr**

Fuel Use:
0.034 MMscf/day
12.247 MMscf/year

Operating Assumptions:
24 hr/day
8,760 hr/yr [3]

Criteria Air Pollutants	Emission Factor[1]	Emissions	
	lb/MMscf	lb/hr	T/yr
NO_2	100	0.14	0.61
CO	84	0.12	0.51
PM_{10}	7.6	0.011	0.05
$PM_{2.5}$	7.6	0.011	0.05
SO_2	0.6	8.4E-04	3.7E-03
VOC	5.5	7.7E-03	3.4E-02
Lead	0.0005	7.0E-07	3.1E-06
		5.0E-04	lb/month
Total Criteria Emissions (ton/yr) =			**1.21**

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor[1]	Emissions		Modeling Threshold — TAP Screening Emission Level	Modeling Required?
	lb/MMscf	lb/hr[2]	T/yr		
PAH HAPs					
2-Methylnaphthalene	2.40E-05	**3.36E-08**	1.5E-07	9.1E-05 lb/hr	No
3-Methylchloranthrene	1.80E-06	**2.52E-09**	1.1E-08	2.5E-06 lb/hr	No
Acenaphthene	1.80E-06	**2.52E-09**	1.1E-08	9.1E-05 lb/hr	No
Acenaphthylene	1.80E-06	**2.52E-09**	1.1E-08	9.1E-05 lb/hr	No
Anthracene	2.40E-06	**3.36E-09**	1.5E-08	9.1E-05 lb/hr	No
Benzo(a)anthracene	1.80E-06	**2.52E-09**	1.1E-08		See POM
Benzo(a)pyrene	1.20E-06	**1.68E-09**	7.3E-09	2.0E-06 lb/hr	See POM
Benzo(b)fluoranthene	1.80E-06	**2.52E-09**	1.1E-08		See POM
Benzo(g,h,i)perylene	1.20E-06	**1.68E-09**	7.3E-09	9.1E-05 lb/hr	No
Benzo(k)fluoranthene	1.80E-06	**2.52E-09**	1.1E-08		See POM
Chrysene	1.80E-06	**2.52E-09**	1.1E-08		See POM
Dibenzo(a,h)anthracene	1.20E-06	**1.68E-09**	7.3E-09		See POM
Fluoranthene	3.00E-06	**4.19E-09**	1.8E-08	9.1E-05 lb/hr	No
Fluorene	2.80E-06	**3.91E-09**	1.7E-08	9.1E-05 lb/hr	No
Indeno(1,2,3-cd)pyrene	1.80E-06	**2.52E-09**	1.1E-08		See POM
Naphthalene	6.10E-04	**8.53E-07**	3.7E-06	3.33 lb/hr	No
Naphthalene	6.10E-04	**8.53E-07**	3.7E-06	9.1E-05 lb/hr	No
Phenanathrene	1.70E-05	**2.38E-08**	1.0E-07	9.1E-05 lb/hr	No
Pyrene	5.00E-06	**6.99E-09**	3.1E-08	9.1E-05 lb/hr	No
Polycyclic Org. Matter (POM, 7-PAH Group)		**1.59E-08**	**7.0E-08**	2.0E-06 lb/hr	No
Non-PAH HAPs					
Benzene	2.10E-03	**2.94E-06**	1.3E-05	8.0E-04 lb/hr	No
Dichlorobenzene	1.20E-03	1.68E-06	7.3E-06	20 lb/hr	No
Formaldehyde	7.50E-02	**1.05E-04**	4.6E-04	5.1E-04 lb/hr	No
Hexane	1.80E+00	2.52E-03	1.1E-02	12 lb/hr	No
Toluene	3.40E-03	4.75E-06	2.1E-05	25 lb/hr	No
Non-HAP Organic Compounds					
Pentane	2.60E+00	3.63E-03	1.6E-02	118 lb/hr	No
Metals (HAPs)					
Arsenic	2.00E-04	**2.80E-07**	1.2E-06	1.5E-06 lb/hr	No
Barium	4.40E-03	6.15E-06	2.7E-05	0.033 lb/hr	No
Beryllium	1.20E-05	**1.68E-08**	7.3E-08	2.8E-05 lb/hr	No
Cadmium	1.10E-03	**1.54E-06**	6.7E-06	3.7E-06 lb/hr	No
Chromium	1.40E-03	1.96E-06	8.6E-06	0.033 lb/hr	No
Cobalt	8.40E-05	1.17E-07	5.1E-07	0.0033 lb/hr	No
Copper	8.50E-04	1.19E-06	5.2E-06	0.013 lb/hr	No
Manganese	3.80E-04	5.31E-07	2.3E-06	0.067 lb/hr	No
Mercury	2.60E-04	3.63E-07	1.6E-06	0.003 lb/hr	No
Molybdenum	1.10E-03	1.54E-06	6.7E-06	0.333 lb/hr	No
Nickel	2.10E-03	**2.94E-06**	1.3E-05	2.7E-05 lb/hr	No
Selenium	2.40E-05	3.36E-08	1.5E-07	0.013 lb/hr	No
Vanadium	2.30E-03	3.22E-06	1.4E-05	0.003 lb/hr	No
Zinc	2.90E-02	4.05E-05	1.8E-04	0.667 lb/hr	No
Total HAP Emissions (ton/yr) =			0.012		

Notes:
1. Emission factors taken from AP-42, Section 1.4 *Natural Gas Combustion* (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Booth Make-up Air heater is used only during cold weather, so actual on-line rating is significantly less.

Table 3-2a: Paint Analysis - DuPont Coatings

PTE Daily Use (gal/day)	PTE Annual Use (gal/year)	Maker	Coating Material (See Notes)	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	hexa-methylene diisocyanate monomer 822-06-0	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
				lb/gal	Weight Percentage Content Data																	
1.0	100	DuPont	Accelerators 189S, 389S, 8989S	8.14	5.00%	99.51%																
9.0	1350	DuPont	Centari 5000 Activator 795S	8.82	66.78%	32.88%				26.78%					26.78%			0.10%				
27.0	4050	DuPont	Centari 5000 Top Coat V00#MV	10.9	69.70%	32.11%				26.1%	1%		1.3%		26.1%	1%						
4.0	600	DuPont	Corlar Activator 937S	7.75	64.85%	42.58%					9%					5.3%						
20.0	3000	DuPont	Corlar Expoxy Primer 825P	11.94	69.32%	25.13%	5.55%				4%	57.9%		1%		1%						57.9%
4.0	1400	DuPont	Thinner 3602S	6.64	0.00%	81.33%	18.67%				17%			0.10%			33.23%			33.23%		

Component Characteristics		If volatile, enter "1" ==>			1	1	1	1	1	1			1	1	1	1	1	1	1	1	
Hourly Spray Calculations (lb/hr) (Based on 24-hr averaging period, see sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	HDI Monomer 822-06-0 NOTE 1	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
			lb/gal	Pounds per Hour																	
	DuPont	Accelerators 189S, 389S, 8989S	8.14	0.02	0.34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	DuPont	Centari 5000 Activator 795S	8.82	2.21	1.09	0.000	0.000	0.000	0.886	0.000	0.000	0.000	0.000	0.886	0.000	0.000	0.003	0.000	0.000	0.000	0.000
	DuPont	Centari 5000 Top Coat V00#MV	10.90	8.06	3.94	0.000	0.000	0.000	3.202	0.123	0.000	0.159	0.000	3.202	0.123	0.000	0.000	0.000	0.000	0.000	0.000
	DuPont	Corlar Activator 937S	7.75	0.71	0.55	0.000	0.000	0.000	0.000	0.116	0.000	0.000	0.000	0.000	0.058	0.000	0.000	0.000	0.000	0.000	0.000
	DuPont	Corlar Expoxy Primer 825P	11.94	6.90	2.50	0.553	0.000	0.000	0.000	0.398	5.763	0.000	0.100	0.000	0.100	0.000	0.000	0.000	0.000	0.000	5.763
	DuPont	Thinner 3602S	6.64	0.00	0.90	0.297	0.000	0.000	0.000	0.188	0.000	0.000	0.001	0.000	0.000	0.368	0.000	0.000	0.368	0.000	0.000
	0	0																			
		Spray Total (lb/hr)		17.888	9.313	0.759	0.000	0.000	4.087	0.825	5.763	0.159	0.101	4.087	0.291	0.368	0.003	0.000	0.368	0.000	5.763

Annual Spray Calculations (tons/yr) (See sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	HDI Monomer 822-06-0	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
			lb/gal	Tons per Year																	
	DuPont	Accelerators 189S, 389S, 8989S	8.14	0.02	0.41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	DuPont	Centari 5000 Activator 795S	8.82	3.98	1.96	0.000	0.000	0.000	1.594	0.000	0.000	0.000	0.000	1.594	0.000	0.000	0.006	0.000	0.000	0.000	0.000
	DuPont	Centari 5000 Top Coat V00#MV	10.90	14.50	7.09	0.000	0.000	0.000	5.763	0.221	0.000	0.287	0.000	5.763	0.221	0.000	0.000	0.000	0.000	0.000	0.000
	DuPont	Corlar Activator 937S	7.75	1.28	0.99	0.000	0.000	0.000	0.000	0.209	0.000	0.000	0.000	0.000	0.123	0.000	0.000	0.000	0.000	0.000	0.000
	DuPont	Corlar Expoxy Primer 825P	11.94	12.42	4.50	0.995	0.000	0.000	0.000	0.716	10.373	0.000	0.179	0.000	0.179	0.000	0.000	0.000	0.000	0.000	10.373
	DuPont	Thinner 3602S	6.64	0.00	3.78	0.868	0.000	0.000	0.000	0.790	0.000	0.000	0.005	0.000	0.000	1.544	0.000	0.000	1.544	0.000	0.000
	0	0																			
		Spray Total (tons/yr)		32.19	18.72	1.863	0.000	0.000	7.357	1.937	10.373	0.287	0.184	7.357	0.523	1.544	0.006	0.000	1.544	0.000	10.373

Notes:

1. Daily Use based on 24 gallons per day max of primer mx and 36 gallons per day of topcoat mix:
   Centari Topcoat to Activator- 3:1 Ratio + 2 oz. Accelerator per gallon
   Corlar Primer to Activator- 5:1 Ratio
   Actual Activator volumes based on mix ratios are small. Permit analysis uses minimum 1 gallon per day and 100 gallons per year.

Table 3-2a: Paint Analysis - DuPont Coatings

HAP/TAP/Solids Example Calculation:
Cumene is present in two DuPont materials: Corlar Primer and Thinner

HOURLY SPRAY RATE (24-hr Average)	Max Hourly Cumene in Corlar Primer	= 20 gal/day DP Primer * 11.94 lb/gal Corlar Primer density * 1.0 wt% Cumene in Corlar Primer * 1 day/24 hrs = 0.100 lb/hr Cumene in Corlar Primer
	Max Hourly Cumene in thinner is calculated in a similar manner. Spray Total Cumene is calculated by adding all DuPont coating's Cumene.	
	Cumene Hourly Spray Total	= 0.100 lb/hr Cumene in Corlar Primer + 0.001 lb/hr Cumene in Thinner = 0.101 lb/hr Cumene in DuPont coatings
ANNUAL SPRAY RATE	Max 12-mo Cumene in Corlar Primer	= 3000 gal/yr Corlar Primer * 11.94 lb/gal Corlar Primer density * 1.0 wt% Cumene in Corlar Primer * 1 ton/2000 lbs = 0.179 tons/yr Cumene in Corlar Primer
	Max 12-mo Cumene in Thinner are calculated in a similar manner. Spray Total Cumene is calculated by adding all DuPont coatin'sg Cumene.	
	Cumene Annual Spray Total	= 0.179 tons/yr Cumene from Corlar Primer + 0.005 tons/yr Cumene from Thinner = 0.184 tons/yr Cumene in DuPont coatings

VOC Example Calculation:
"As-Packaged VOC" or "Material VOC" content from data sheets used. Corlar Primer VOC As-Packaged (AP) = 3.0 lb/gallon

ANNUAL SPRAY RATE	Weight % VOC	= 3.0 lb VOC/gallon / 11.94 lb/gal Corlar Primer density * 100% = 25.1 wt% VOC in Corlar Primer
	Annual VOC in Corlar Primer	= 3000 gal/yr Corlar Primer * 11.94 lb/gal Corlar Primer density * 25.1 wt% VOC in Corlar Primer * ton/2000 lb = 4.5 tons VOC/yr in DP Primer
	Max 12-mo VOC in all coatings are calculated in a similar manner. Spray Total VOC is calculated by adding all DuPont coating's VOC.	

Table 3-2b: Paint Analysis - Lusid Coatings

PTE Daily Use (gal/day)	PTE Annual Use (gal/year)	Maker	Coating Material (see Notes)	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	hexa-methylene diisocyanate monomer 822-06-0	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
				lb/gal	Weight Percentage Content Data																	
16.0	2400	Lusid	LXEPGEM Primer	9.40	55.30%	44.70%	9.8%						0.11%									
8.0	1200	Lusid	EXGEM Primer Catalyst	8.11	46.35%	53.65%	5.0%															
28.8	4320	Lusid	953WN006 Topcoat	11.34	68.08%	31.92%																
7.2	1080	Lusid	H853 Topcoat Activator	8.63	62.09%	37.91%				10.29%												2.9%
4.0	1400	Dupont	Thinner 3602S	6.64	0.00%	81.33%	18.67%				17%			0.10%			33.23%	0.094%		33.23%		

Component Characteristics		If volatile, enter "1" ==>			1	1	1	1	1	1			1	1	1	1	1	1	1	1	
Hourly Spray Calculations (lb/hr) (Based on 24-hr averaging period, see sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	HDI Monomer 822-06-0 NOTE 1	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
			lb/gal	Pounds per Hour																	
	Lusid	LXEPGEM Primer	9.40	3.46	2.80	0.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Lusid	EXGEM Primer Catalyst	8.11	1.25	1.45	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Lusid	953WN006 Topcoat	11.34	9.26	4.34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Lusid	H853 Topcoat Activator	8.63	1.61	0.98	0.000	0.000	0.000	0.266	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.395
	Dupont	Thinner 3602S	6.64	0.00	0.90	0.207	0.000	0.000	0.000	0.188	0.000	0.000	0.001	0.000	0.000	0.368	0.000	0.000	0.368	0.000	0.000
	0	0																			
		Spray Total (lb/hr)		15.587	10.475	0.954	0.000	0.000	0.266	0.188	0.000	0.007	0.001	0.000	0.000	0.368	0.002	0.000	0.368	0.000	0.395

Annual Spray Calculations (tons/yr) (See sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	HDI Monomer 822-06-0	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
			lb/gal	Tons per Year																	
	Lusid	LXEPGEM Primer	9.40	6.23	5.04	1.101	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Lusid	EXGEM Primer Catalyst	8.11	2.26	2.61	0.243	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Lusid	953WN006 Topcoat	11.34	16.67	7.82	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Lusid	H853 Topcoat Activator	8.63	2.89	1.77	0.000	0.000	0.000	0.479	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.710
	Dupont	Thinner 3602S	6.64	0.00	3.78	0.868	0.000	0.000	0.000	0.790	0.000	0.000	0.005	0.000	0.000	1.544	0.000	0.000	1.544	0.000	0.000
	0	0																			
		Spray Total (tons/yr)		28.06	21.02	2.212	0.000	0.000	0.479	0.790	0.000	0.012	0.005	0.000	0.000	1.544	0.004	0.000	1.544	0.000	0.710

Notes:

1. Daily Use based on 24 gallons per day max of primer mix and 36 gallons per day of topcoat mix:
   LXEPGEM Primer to EXGEM Catalyst- 2:1 Ratio
   953WN006 Topcoat to H953 Activator- 4:1 Ratio

Table 3-2c: Paint Analysis - PPG Coatings

PTE Daily Use (gal/day)	PTE Annual Use (gal/year)	Maker	Coating Material (see Notes)	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	hexa-methylene diisocyanate monomer 822-06-0	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
				lb/gal	Weight Percentage Content Data																	
36.0	5400	PPG	ESSS Topcoat RTS	10.26	64.10%	22.20%	6.15%			1.23%												
24.0	3600	PPG	ESU461 Primer RTS	10.62	57.25%	42.75%	0.04%	3.06%		1.66%	1.26%											
4.0	1400	PPG	Thinner DTL10	6.69	0.00%	90.00%	30%									0.36%					0.78%	
																			7%		30%	

Component Characteristics		If volatile, enter "1" ==>			1	1	1	1	1	1			1	1	1	1	1	1	1	1	
Hourly Spray Calculations [lb/hr] (Based on 24-hr averaging period, see sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	HDI Monomer 822-06-0 NOTE 1	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
			lb/gal	Pounds per Hour																	
	PPG	ESSS Topcoat RTS	10.26	9.86	3.42	0.946	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	ESU461 Primer RTS	10.62	6.09	4.54	0.004	0.325	0.000	0.198	0.134	0.000	0.000	0.000	0.000	0.000	0.038	0.000	0.000	0.000	0.084	0.000
	PPG	Thinner DTL10	6.69	0.00	1.00	0.335	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.076	0.000	0.335	0.000
	0	0																				
		Spray Total (lb/hr)		15.945	8.960	1.285	0.325	0.000	0.387	0.134	0.000	0.000	0.000	0.000	0.000	0.038	0.000	0.000	0.076	0.000	0.419	0.000

Annual Spray Calculations (tons/yr) (See sample calc below)	Maker	Coating Material	Density	Solids	VOC (non-exempt)	acetone 67-64-1	2-butoxy ethanol 111-76-2	2-butoxy ethyl acetate 112-07-2	butyl acetate 123-86-4	n-butyl alcohol 71-36-3	calcium carbonate 13765-19-0	carbon black 1333-86-4	cumene 98-82-8	ethyl acetate 141-78-6	ethyl benzene 100-41-4	heptane 142-82-5	HDI Monomer 822-06-0	n-hexane 110-54-3	isobutyl alcohol 78-83-1	isopropyl alcohol 67-63-0	kaolin 1332-58-7
			lb/gal	Tons per Year																	
	PPG	ESSS Topcoat RTS	10.26	17.76	6.15	1.704	0.000	0.000	0.341	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	PPG	ESU461 Primer RTS	10.62	10.94	8.17	0.008	0.585	0.000	0.356	0.241	0.000	0.000	0.000	0.000	0.000	0.069	0.000	0.000	0.000	0.151	0.000
	PPG	Thinner DTL10	6.69	0.00	4.21	1.405	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.328	0.000	1.405	0.000
	0	0																				
		Spray Total (tons/yr)		28.70	18.54	3.118	0.585	0.000	0.696	0.241	0.000	0.000	0.000	0.000	0.069	0.000	0.000	0.328	0.000	1.556	0.000

Notes:

1. Ready-to-Spray (RTS) includes the following products in the noted ratios and amounts:

ESSS RTS:	ESSS2185/ ESH200/ ESX510 (6:1:1)	27.0	4.5	4.5	gallons
ESU460 RTS:	ESU460 and/or ESU461/ ESU469 (2:1)	16.0	8.0	gallons	

Gem State Manufacturing
Caldwell, ID

Table 3-3: Paint Operations Emissions Summary

Toxic Air Pollutants	Maximum Spray Rate[1] (lb/hr)	Spray Retention Rate[2] (%)	Potential to Emit (lb/hr)	Paint Filter Efficiency[3] (%)	Controlled Emission Rate (lb/hr)
acetone	1.285	0%	1.285	0%	1.285
2-butoxy ethanol	0.325	0%	0.325	0%	0.325
2-butoxy ethyl acetate	0.000	0%	0.000	0%	0.000
butyl acetate	4.087	0%	4.087	0%	4.087
n-butyl alcohol	0.825	0%	0.825	0%	0.825
calcium carbonate	5.763	60%	2.305	99.5%	0.012
carbon black	0.159	60%	0.064	99.5%	0.000
cumene	0.101	0%	0.101	0%	0.101
ethyl acetate	4.087	0%	4.087	0%	4.087
ethyl benzene	0.291	0%	0.291	0%	0.291
heptane	0.368	0%	0.368	0%	0.368
HDI	0.0033	85%	0.0005	0%	0.0005
n-hexane	0.078	0%	0.078	0%	0.078
isobutyl alcohol	0.368	0%	0.368	0%	0.368
isopropyl alcohol	0.418	0%	0.418	0%	0.418
kaolin	5.763	60%	2.305	99.5%	0.012
methanol	0.044	0%	0.044	0%	0.044
methyl acetate	0.094	0%	0.094	0%	0.094
methyl isoamyl ketone	0.462	0%	0.462	0%	0.462
methyl n-amyl ketone	5.045	0%	5.045	0%	5.045
MEK	1.323	0%	1.323	0%	1.323
1-methoxy 2-propyl acetate	1.242	0%	1.242	0%	1.242
MIBK	0.354	0%	0.354	0%	0.354
PGME	0.673	0%	0.673	0%	0.673
PGME acetate	0.000	0%	0.000	0%	0.000
silica -amorphous	4.991	60%	1.996	99.5%	0.010
tin- organic	0.0034	0%	0.0034	0%	0.0034
toluene	1.278	0%	1.278	0%	1.278
trimethyl benzene	0.261	0%	0.261	0%	0.261
VM&P naphtha	0.368	0%	0.368	0%	0.368
xylene	5.216	0%	5.216	0%	5.216
zinc	0.440	60%	0.176	99.5%	0.001

Criteria Air Pollutants	Maximum Spray Rate[1]		Spray Retention Rate[2]	Potential to Emit		Paint Filter Efficiency[3]	Controlled Emissions	
	lb/hr	ton/yr	%	lb/hr	ton/yr	%	lb/hr	ton/yr
PM_{10}	17.89	32.19	60%	7.16	12.88	99.5%	0.036	0.064
$PM_{2.5}$	17.89	32.19	60%	7.16	12.88	99.5%	0.036	0.064
VOC	10.48	21.02	0%	10.48	21.02	0%	10.48	21.02

Hazardous Air Pollutants (HAP)	Maximum Spray Rate[1] (ton/yr)	Spray Retention Rate (%)	Potential to Emit (ton/yr)
cumene	0.18	0%	0.18
glycol ether	1.21	0%	1.21
HMI (NOTE 4)	0.0060	85%	0.0009
n-hexane	0.33	0%	0.33
MIBK	0.64	0%	0.64
toluene	4.17	0%	4.17
xylene	9.39	0%	9.39
		Total HAPs =	15.9

Notes:

1. The maximum hourly or annual Spray Total of the DuPont, Lusid and PPG coatings.
2. Non-volatile emissions are calculated using a coating retention rate of 60% (LPH-200 HVLP spray gun).
3. Controlled non-volatile emissions are calculated using an exhaust filter removal efficiency of 99.5%.
1. Isocyanate reaction factor (HMI monomer polymerized) = **85%**

Tables 4-1a to 4-1c:
Facility-Wide NSR Regulated Pollutant Emissions

Table 4-1a: Pre-Project Potential to Emit (based on existing permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
MAU1	0	0	0	0	0	0	0
BOOTH1	0	0	0	0	0	0	0
Total =	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 4-1b: Post-Project Potential to Emit (based on requested permit conditions)

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
MAU1	0.047	0.047	3.7E-03	0.61	0.51	0.034	3.1E-06
BOOTH1	0.064	0.064	0	0	0	21.02	0
Total =	**0.11**	**0.11**	**0.004**	**0.61**	**0.51**	**21.0**	**3.1E-06**

Table 4-1c: Changes in Potential to Emit

Emissions Unit	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	VOC	Lead
	tons/yr						
MAU1	0.047	0.047	3.7E-03	0.61	0.51	0.034	3.1E-06
BOOTH1	0.064	0.064	0	0	0	21.015	0
Total =	**0.11**	**0.11**	**0.004**	**0.61**	**0.51**	**21.0**	**3.1E-06**

Table 4-3:
Facility-Wide Hazardous Air Pollutant Emissions

Hazardous Air Pollutant	Potential to Emit (tons/yr)
Arsenic	1.2E-06
Benzene	1.3E-05
Beryllium	7.3E-08
Cadmium	6.7E-06
Chromium	8.6E-06
Cobalt	5.1E-07
Cumene	0.18
Dichlorobenzene	7.3E-06
Formaldehyde	4.6E-04
Glycol Ether	1.2
Hexane	0.34
HMI	8.9E-04
Lead	3.1E-06
Manganese	2.3E-06
Mercury	1.6E-06
Methyl Isobutyl Ketone	0.64
Naphthalene	3.7E-06
Nickel	1.3E-05
Polycyclic Organic Matter	7.0E-08
Selenium	1.5E-07
Toluene	4.2
Xylene	9.4
TOTAL =	**15.9**

Criteria Pollutants

Days of operation per year = 360 (Assumes 5 days are lost to maintenance activities)

Maximum primer, paint and solvent usage.

	gal/day[1]	gal/yr[2]
Primer	24	8640
Topcoat	36	12960
Thinner	4	1440

1) Maximum potential daily coating, solvent and primer useage Provided by applicant (See page 3-4 of the application)

2) Calculated by DEQ assuming that the facility has the design capacity for 360 days of operation per year.

		PM/PM_{10}		VOC	
	Density (lb/gal)[1]	Max PM Content[2] (Weight %)	Max Potentail Emissions (T/yr)	Max Content[3] (Weight %)	Max Potentail Emissions (T/yr)
Primer	12	90	16	65	34
Topcoat	12	90	24	65	51
Thinner	6.7	0	0	100	5
		Total	41	**Total**	89

PM Trans. Eff. = 65% (considered a conservatively low assumption)

1) For worst case emission estimates the density of paint was presumed to be 12 lb/gal, . This assumption is accurate enough to determine the uncontrolled potential to emit for facility classification purposes.
Thinner density is assumed to be 6.7 pounds per gallon.

2) For worst case emission estimates solids content of paint was presumed to be 90% . This assumption is accurate to determine the uncontrolled potential to emit for facility classification purposes. Permitted emissions are less than major facility thresholds.

3) Primer and topcoat VOC content is expected to average less than 65% by weight over any 12 months. This assumption is accurate enough to determine the uncontrolled potential to emit for facility classification purposes. Permitted emissions are less than major facility thresholds.

HAP Uncontrolled PTE

It is presumed that the hazardous air pollutant content in the VOC emitted from painting operations could exceed 28% of the VOC by weight, therefore the facility has potential uncontrolled emissions of HAPs greater than 25 tons per year.

DEQ Calculated
Controlled PM PTE

Gem state has provided that the maximum operational design capacity of the painting operation is 12 "loads" per day. Each "load" uses 2 gallons of primer and 3 gallons of topcoat. Daily usage is 24 gallons of primer and 36 gallons of topcoat

	Density (lb/gal)[1]	Max PM Content[2] (Weight %)	Operational Design Daily usage (gal/day)	Paint Transfer Eff. (%)[3]	Filter Removal Eff. (%)	PM/PM_{10} (lb/day)	PM_{10} (lb/hr)
Primer	12	90	24	65%	99.5%	0.4536	0.0189
Topcoat	12	90	36	65%	99.5%	0.6804	0.02835
						Total	0.04725

$PM_{2.5}$ emission are 92.5%[1] of PM or 0.0437 lb/hr

DEQ's modeling threshold for $PM_{2.5}$ is 0.054 pounds per hour

The operational design of the facility could increase to the use of 30 gallons of primer and 44 gallons of topcoat and still be below modeling thresholds.

1) 7/28/2009 CALIFORNIA EMISSION INVENTORY AND REPORTING SYSTEM (CEIDARS)
2) For worst case emission estimates solids content of paint was presumed to be 90% . This assumption is accurate to determine the uncontrolled potential to emit for facility classification purposes. Permitted emissions are less than major facility thresholds.
3) The applicant estimated emissions using a transfer efficiency of 60%, however the permit requires HVLP paint guns that have 65% efficiency.

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: Gem State Manufacturing
Address: 1705 Industrial Way
City: Caldwell
State: Idaho
Zip Code: 83606
Facility Contact: Mike Lemrick
Title: President
AIRS No.: 027-00124

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	0.6	0	0.6
SO_2	0.0	0	0.0
CO	0.5	0	0.5
PM10	0.0	0	0.0
VOC	21.0	0	21.0
TAPS/HAPS	24.9	0	24.9
Total:	0.0	0	**47.0**
Fee Due	$ 5,000.00		