Statement of Basis
Automotive Coating Operations General Permit

Final

Excalibur Auto Body Repair Inc.
Lewiston, Idaho
Facility ID No. 069-00063
Permit to Construct P-2011.0142
Project No. 60967

January 6, 2012
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The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AQCR	Air Quality Control Region
Btu	British thermal units
CAS No.	Chemical Abstracts Service registry number
CE	Control Efficiency
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
gal/day	gallons per calendar day
gal/hr	gallons per hour
gal/yr	gallons per consecutive 12 calendar month period
gr	grain (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per year
HVLP	high volume, low pressure (applies to paint guns)
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/gal	pounds per gallon
lb/hr	pounds per hour
LPG	Liquefied Petroleum Gas
MMBtu	million British thermal units
MSDS	Material Safety Data Sheet
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
PC	permit condition
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
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
T2	Tier II operating permit
TAP	toxic air pollutants
TE	Transfer Efficiency
UTM	Universal Transverse Mercator
VOC	volatile organic compounds

FACILITY INFORMATION

Description

Excalibur Auto Body Repair Inc. is an auto body repair and refinishing facility with paint spray booth(s) which is/are equipped with a paint booth heater. The paint booth(s) is a downdraft booth(s) with glass fiber filtration media for control of particulate emissions. Drying and paint curing is done in the paint booth(s). The booth(s) is/are equipped with a natural gas-fired burner to heat the paint booth. The process includes application of coatings via a HVLP (or equivalent) paint gun.

Permitting History

This is the initial PTC for an existing facility that was constructed in November 2003; thus, there is no permitting history.

Application Scope

This is the initial PTC for an existing facility that was constructed in November 2003.

Application Chronology

December 2, 2011	DEQ received an application.
December 7, 2011	DEQ received an application fee and the processing fee.
December 14, 2011	DEQ received supplemental information from the applicant.
December 14, 2011	DEQ determined that the application was complete.
December 19, 2011 – January 3, 2012	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
January 6, 2011	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

The facility utilizes glass fiber filtration media for control of particulate matter emissions from the automotive coating operation. In addition, HVLP paint guns (or equivalent) are used to minimize PM_{10} and VOC emissions from painting. The HVLP (or equivalent) spray equipment will control PM_{10} and VOC emissions by having more paint transfer to the desired surfaces than traditional painting equipment.

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
Automotive Coating Operation	Paint spray booth(s) and/or preparation station: Manufacturer(s): Nova Verta or equivalent Model(s): Down Draft or equivalent Note: The number of booths installed at the facility is not limited by this permit. Paint booth heater(s): Manufacturer(s): Power Flame or equivalent Model(s): NA or equivalent Total Heat input capacity(s): 10.00 MMBtu/hr Fuel: natural gas only	Paint spray booth(s) and/or preparation station filter system: Booth Type(s): Down Draft Particulate filtration method: dry filters Manufacturer(s): Nova Verta or equivalent Model(s): 22 gram or equivalent PM/PM_{10} Control Efficiency: 98% or greater Coating spray gun(s): Manufacturer(s): Iwata or equivalent Model(s): LPH 400 or equivalent Type: HVLP or equivalent Transfer Efficiency: 65% or greater Manufacturer(s): Sata or equivalent Model(s): 3000 HVLP or equivalent Type: HVLP or equivalent Transfer Efficiency: 65% or greater Manufacturer(s): Sata or equivalent Model(s): 3000 RP or equivalent Type: HVLP or equivalent Transfer Efficiency: 65% or greater	Paint booth exhaust stack and/or preparation station exhaust stack

Emissions Inventories

Potential to Emit

IDAPA 58.01.01.006 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the automotive coating operation associated with this proposed project (see Appendix A for detailed potential to emit calculations). Criteria pollutant and HAPs PTE were based on the worst-case VOC, PM_{10}, and HAPs content for coatings as taken from the DEQ Automotive Coating EI spreadsheet (see the DEQ website).

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 criteria pollutants or HAPs above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for criteria 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. For this automotive coating operation uncontrolled Potential to Emit is based upon a worst-case for operation of the facility of 2,080 hrs/yr (8 hrs/day x 260 days/yr) with all coating operations occurring during this time. Since there is prep time (the time spent preparing the automobile for the application of coating) and paint drying time (the time the automobile spends in the booth with the burner operating to facilitate hardening of the coating) associated with applying coatings, this was considered to be the worst-case maximum for which emissions would occur.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

Emissions Unit	PM_{10} T/yr	SO_2 T/yr	NO_X T/yr	CO T/yr	VOC T/yr	Lead lb/quarter
Point Sources						
Paint spray booth(s) and/or preparation station(s)	**4.50**	**0.0**	**0.0**	**0.0**	**12.20**	**0.0**
Paint booth heater(s)	**0.079**	**0.006**	**0.978**	**0.416**	**0.057**	**0.0000052**
Total, Point Sources	**4.58**	**0.01**	**0.98**	**0.42**	**12.26**	**0.00**

The following table presents the uncontrolled Potential to Emit for HAP pollutants as determined by DEQ staff. For this automotive coating operation uncontrolled HAP emissions were calculated by using the DEQ Automotive Coating EI spreadsheet (see the DEQ website) and setting paint use to 4.0 gallons per day (as limited by the permit). Then, the worst-case maximum HAPs Potential to Emit was determined for all paints listed in the spreadsheet. As discussed previously, HAP emissions were assumed to occur during the worst-case for operation of the facility of 2,080 hrs/yr.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAPs

HAP Pollutants	PTE (T/yr)
Ethyl benzene	0.61
Methyl Isobutyl Ketone (MIBK)	1.25
Naphthalene	2.32
Toluene	1.90
Styrene	2.49
Xylene (o-, m-, p-isomers)	2.20
Total	**10.77**

Pre-Project Potential to Emit

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

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

Post Project Potential to Emit

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

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

Table 4 POST PROJECT POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

Emissions Unit	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr[a]	T/yr[b]	lb/hr	T/yr
Point Sources												
Paint spray booth(s) and/or preparation station(s)	**0.02**	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.79**	**12.20**	**0**	**0**
Paint booth heater(s)	**0.0760**	**0.079**	**0.0060**	**0.006**	**0.940**	**0.978**	**0.400**	**0.416**	**0.055**	**0.057**	**0.0000050**	**0.0000052**
Post-Project Totals	**0.10**	**0.17**	**0.01**	**0.01**	**0.94**	**0.98**	**0.40**	**0.42**	**2.85**	**12.26**	**0.00**	**0.00**

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

The following table presents the post project Potential to Emit for HAP pollutants from all emissions units at the facility as determined by DEQ staff. The DEQ Automotive Coating EI spreadsheet (see the DEQ website) was used to determine post project Potential to Emit for HAP pollutants.

Table 5 POST PROJECT POTENTIAL TO EMIT FOR HAPs

HAP Pollutants	PTE (T/yr)
Ethyl benzene	0.61
Methyl Isobutyl Ketone (MIBK)	1.25
Naphthalene	2.32
Toluene	1.90
Styrene	2.49
Xylene (o-, m-, p-isomers)	2.20
Total	**10.77**

Change in Potential to Emit

The project's change in 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 change in the Potential to Emit for criteria pollutants as a result of this project.

Table 6 CHANGES IN POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

	PM_{10}		SO_2		NO_X		CO		VOC		Lead	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Sources												
Pre-Project Potential to Emit	**0.0**	**0.0**	**0.0.**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Post Project Potential to Emit	**0.10**	**0.17**	**0.01**	**0.01**	**0.94**	**0.98**	**0.40**	**0.42**	**2.85**	**12.26**	**0.00**	**0.00**
Changes in Potential to Emit	**0.10**	**0.17**	**0.01**	**0.01**	**0.94**	**0.98**	**0.40**	**0.42**	**2.85**	**12.26**	**0.00**	**0.00**

Non-Carcinogenic and Carcinogenic TAPs Potential to Emit

Because of the daily coating material use limits imposed by DEQ, and agreed to by the facility in applying for this Automotive Coating "General Permit", no ELs specified in IDAPA 58.01.01.585 or 586 are expected to be exceeded by the facility (see Appendix A).

Ambient Air Quality Impact Analyses

Because of the daily coating material use limits imposed by DEQ, and agreed to by the facility in applying for this Automotive Coating "General Permit", it needs to be determined if the PTE for the automotive coating operation exceeds the DEQ modeling guideline thresholds. The following table compares the post-project facility-wide annual emissions to the DEQ modeling guideline thresholds (per the State of Idaho Air Quality Modeling Guideline, 12/31/2002).

Table 7 PTE FOR CRITERIA POLLUTANTS COMPARED TO THE DEQ MODELING GUIDELINE THRESHOLDS

Pollutant	PTE (T/yr) or lb/hr if listed	DEQ Modeling Guideline Thresholds (T/yr) or lb/hr if listed	Exceeds Modeling Guideline Threshold?
PM_{10}	0.17	1 or 0.2 lb/hr	No
SO_2	0.01	1	No
NO_X	0.98	1	No
CO	0.40 lb/hr	14 lb/hr	No
Lead	0.00	0.6 or 100 lb/month	No

Therefore, the installation of the new automotive coating operation does not require criteria pollutant modeling.

As presented previously in the DEQ Automotive Coatings EI Spreadsheet (see the DEQ website) there are no TAPs that required facility modeling for exceeding the pounds per hour screening levels provided in IDAPA 58.01.01.585 and .586. Therefore, the installation of a new automotive coating operation does not require TAPs modeling.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

Excalibur Auto Body Repair Inc. is located in Nez Perce 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."

Table 8 UNCONTROLLED PTE AND PTE FOR CRITERIA 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_{10}	4.58	0.17	100	No
SO_2	0.01	0.01	100	No
NO_X	0.98	0.98	100	No
CO	0.42	0.42	100	No
VOC	12.26	12.26	100	No

"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 9 UNCONTROLED PTE AND PTE FOR HAPs 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?
Ethyl benzene	0.61	0.61	10	No
Methyl Isobutyl Ketone (MIBK)	1.25	1.25	10	No
Naphthalene	2.32	2.32	10	No
Toluene	1.90	1.90	10	No
Styrene	2.49	2.49	10	No
Xylene (o-, m-, p-isomers)	2.20	2.20	10	No
Total	**10.77**	**10.77**	25	No

As demonstrated in Table 8 the facility has an uncontrolled potential to emit for PM_{10}, SO_2, NO_X, CO, and VOC emissions are less than the Major Source thresholds of 100 T/yr for each pollutant. In addition, as demonstrated in Table 9 the facility has an uncontrolled potential for each HAP less than the Major Source threshold of 10 T/yr and for all HAPs combined less than the Major Source threshold of 25 T/yr. Therefore, this facility is not designated as a Synthetic Minor facility.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The PTC rules under IDAPA 58.01.01.201 require that "No owner or operator may commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining a permit to construct from the Department which satisfies the requirements of Sections 200 through 228 unless the source is exempted in any of Sections 220 through 223." Therefore, DEQ staff analyzed the data from the permit

application for the installation of this automotive coating operation to determine if it is exempt from obtaining a PTC according to Sections 220 through 223.

IDAPA 58.01.01.220 General Exemption Criteria for Permit to Construct Exemptions

In accordance with IDAPA 58.01.01.220.01.a, the maximum capacity of the source to emit an air pollutant under its physical and operational design without consideration of limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored, or processed shall not equal or exceed 100 tons/yr for all regulated air pollutants. As previously presented in Table 2, the proposed project results in uncontrolled potential emissions of less than 100 tons/yr for all regulated air pollutants. Therefore, the project meets the criteria set forth in Section 220 and may be exempt from PTC requirements. In addition, the criteria set forth in Section 221, 222, or 223 must be met to be exempt from PTC requirements.

IDAPA 58.01.01.221 Category I Exemption Criteria

In accordance with IDAPA 58.01.01.221.01, the maximum capacity of a source to emit an air pollutant under its physical and operational design considering limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed shall be less than ten percent (10%) of the significant emission rates set out in the definition of significant at Section 006. The following table compares the post-project facility-wide annual PTE to 10% of the significance threshold listed in IDAPA 58.01.01.006 in order to determine if the project may qualify for a Category I exemption.

Table 10 PTE FOR CRITERIA POLLUTANTS COMPARED TO THE SIGNIFICANCE THRESHOLDS

Pollutant	PTE (T/yr)	10% of the Significance Threshold (T/yr)	Exceeds 10% of the Significance Threshold?
PM_{10}	0.17	1.5	No
SO_2	0.01	4.0	No
NO_X	0.99	4.0	No
CO	0.42	10.0	No
VOC	12.26	4.0	Yes

The potential VOC emission rate of the proposed project is indicated in Table 10 above, which is above 10% of the significant emission rate listed in IDAPA 58.01.01.006. Therefore, the permitting of an existing automotive coating operation does not qualify for a Category I exemption.

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 emissions from the automotive coating process are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 6.

Rules for the Control of Odors (IDAPA 58.01.01.775-776)

IDAPA 58.01.01.775-776 Rules for the Control of Odors

The facility is subject to the general restrictions for the control of odors from the facility. This requirement is assured by Permit Conditions 7 and 12.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

IDAPA 58.01.01.006 defines a Tier I source as "Any source located at a major facility as defined in Section 008." IDAPA 58.01.01.008 defines a Major Facility as either:

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

Or, for non-attainment areas:

- The facility is located in a "serious" particulate matter (PM_{10}) nonattainment area and the facility has the potential to emit seventy (70) T/yr or more of PM_{10}, or
- The facility is located in a "serious" carbon monoxide nonattainment area in which stationary sources are significant contributors to carbon monoxide levels and the facility has the potential to emit fifty (50) T/yr or more of carbon monoxide, or
- The facility is located in an ozone transport region established pursuant to 42 U.S.C. Section 7511c and the facility has the potential to emit fifty (50) T/yr or more of volatile organic compounds, or
- The facility is located in an ozone nonattainment area and, depending upon the classification of the nonattainment area, the facility has the potential to emit the following amounts of volatile organic compounds or oxides of nitrogen; provided that oxides of nitrogen shall not be included if the facility has been identified in accordance with 42 U.S.C. Section 7411a(f)(1) or (2) if the area is "marginal" or "moderate," one hundred (100) T/yr or more, if the area is "serious," fifty (50) T/yr or more, if the area is "severe," twenty-five (25) T/yr or more, and if the area is "extreme," ten (10) T/yr or more.
- The facility emits or has the potential to emit one hundred (100) T/yr or more of any regulated air pollutant. The fugitive emissions shall not be considered in determining whether the facility is major unless the facility is a "Designated Facility":

Uncontrolled HAP emissions were calculated by using the DEQ Automotive Coating EI spreadsheet (see the DEQ website) and setting paint use to 4.0 gallons per day (as limited by the permit). Then worst-case HAP emissions were determined for all paints listed in the spreadsheet. Then emissions were assumed to occur 2,080 hours per year as a worst-case assumption.

The following table compares the post-project facility-wide annual worst-case uncontrolled emission rate for all HAPs emitted by the source to the HAPS Major Source thresholds in order to determine if the facility is a HAPs Major Source.

Table 11 PTE FOR HAPs POLLUTANTS COMPARED TO THE HAPs MAJOR SOURCE THRESHOLDS

HAP Pollutants	PTE (T/yr)	Major Source Threshold (T/yr)	Exceeds the Major Source Threshold?
Ethyl benzene	0.61	10	No
Methyl Isobutyl Ketone (MIBK)	1.25	10	No
Naphthalene	2.32	10	No
Toluene	1.90	10	No
Styrene	2.49	10	No
Xylene (o-, m-, p-isomers)	2.20	10	No
Total	**10.77**	25	No

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

As discussed previously the Excalibur Auto Body Repair Inc. is located in Nez Perce County (AQCR 62), which is designated as unclassifiable/attainment for $PM_{2.5}$, PM_{10}, SO_2, NO_X, CO, and Ozone for federal and state criteria air pollutants. Therefore, the following table compares the post-project facility-wide annual PTE for all criteria pollutants emitted by the source to the applicable criteria pollutant Major Source thresholds in order to determine if the facility is a criteria pollutant Major Source.

Table 12 PTE FOR CRITERIA POLLUTANTS COMPARED TO THE CRITERIA POLLUTANT MAJOR SOURCE THRESHOLDS

Criteria Pollutants	PTE (T/yr)	Major Source Threshold (T/yr)	Exceeds the Major Source Threshold?
PM_{10}	0.17	100	No
SO_2	0.01	100	No
NO_X	0.98	100	No
CO	0.42	100	No
VOC	12.26	100	No

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

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source, not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore, in accordance with 40 CFR 52.21(a)(2), the PSD requirements do not apply.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

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

§ 63.11169 What is the purpose of this subpart?

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

§ 63.11170 Am I subject to this subpart?

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

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

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

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

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

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

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

Because the facility has not proposed paint-stripping activities, the requirements of §63.11173(a) through (f) are not applicable. Because the facility is an automotive 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 automotive coating operation must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings, as defined in §63.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.

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

Compliance with these requirements is assured by permit condition 17.

§ 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 16.

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 18.

§ 63.11176 What reports must I submit?

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

Compliance with these requirements is assured by permit condition 19.

Because the facility has not proposed to conduct paint stripping operations, the MeCl minimization plan requirements are not applicable (see permit condition 9).

§ 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 17.

§ 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 17.

§ 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.

§ 63.11180 What definitions do I need to know?

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.

Permit condition 1 establishes the permit to construct scope.

Permit condition 2 provides a description of the purpose of the permit and the regulated sources, the process, and the control devices used at the facility.

Permit condition 3 provides a process description of the facility.

Permit condition 4 provides a description of the control devices used at the facility.

Permit condition 5 establishes hourly and annual emissions limits for PM_{10} and VOC emissions from the automotive coating operation.

As mentioned previously, Permit Condition 6 establishes a 20% opacity limit for the paint booth stacks, vents, or functionally equivalent openings associated with the automotive coating operation.

As mentioned previously, Permit Condition 7 establishes that the permittee shall not allow, suffer, cause, or permit the emission of odorous gasses, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

Permit Condition 8 establishes that only natural gas is allowed to be used as fuel in the paint booth heater as proposed by the applicant.

Permit condition 9 establishes that the facility will not use MeCl to remove paint from vehicles at the facility. This was done because MeCl was not proposed to be used at this facility by the Applicant and the emissions were not included in the DEQ Automotive Coating EI Spreadsheet (see the DEQ website). In addition, Subpart HHHHHH has additional requirements for facilities that use MeCl to remove paint as mentioned previously in the discussion of Subpart HHHHHH in the MACT Applicability Section.

Permit condition 10 establishes a daily use limit for all coating materials used in the automotive coating process as proposed by the Applicant. This limit was established because it was the easiest way for the Applicant to demonstrate compliance with the PM_{10} and VOC emissions limit specified in permit condition 5 and the TAPs emissions limits specified in the DEQ Automotive Coating EI Spreadsheet (see the DEQ website).

Permit condition 11 establishes that the permittee conduct all automotive coating operations in the paint booth or preparation station with the filters in place, exhaust fan(s) operating, and door(s) or curtain(s) closed, that the operation shall use a HVLP spray gun, and that the permittee shall maintain and operate the paint booth and preparation station exhaust filter system in accordance with the manufacturer's specifications. This condition also defines what a booth and preparation station used for applying coating is.

Permit condition 12 establishes that the permittee shall maintain records of all odor complaints received, perform appropriate corrective actions, and maintain records of corrective actions taken at the facility for the automotive coating process. This was required because automotive operation operations are expected to have odors that might be offensive to their immediate neighbors.

Permit condition 13 establishes that the permittee shall maintain material purchase records and Material Safety Data Sheets (MSDS) for the automotive coating process. This condition was placed in the permit to ensure compliance with the Coating Materials Use Limit Permit Condition.

Permit condition 14 establishes that the permittee shall maintain daily usage records of pre-treatment wash primer, primer, topcoat, clear coat, and thinner/reducer materials used for the automotive coating process. This condition was placed in the permit to ensure compliance with the Coating Materials Use Limit permit condition.

Permit condition 15 establishes that the permittee shall maintain records as required by the General Provision recordkeeping requirements.

Permit condition 16 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 17 establishes parameters that will allow the facility to comply with the monitoring and recordkeeping requirements of 40 CFR 63, Subpart HHHHHH – MACT Standards and Management Practices for Paint Stripping and Miscellaneous Coating Operations unless the facility is exempt from HHHHHH.

Permit condition 18 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 19 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 20 establishes that the federal requirements of 40 CFR Part 63 are incorporated by reference into the requirements of this permit per current DEQ guidance.

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

Coating Operation Emissions Calculations:

A daily coatings material use limit needs to be established for Automotive Coating operations that demonstrates compliance with State Law. Specifically, compliance with IDAPA 58.01.01.585 and .586 for toxic air pollutants (TAPs) needs to be determined. Therefore, DEQ staff created the DEQ Automotive Coating EI spreadsheet (see the DEQ website). This spreadsheet contains paints from two different manufacturers of paints used in the automotive coating industry and multiple paint systems for each brand. The paint brands chosen were based upon discussions with a national paint distributor with several stores throughout the state of Idaho. The TAPs data entered in the spreadsheet was taken from the MSDSs for the paints listed. Included in the calculations was a safety factor of 19% since all paints available were not analyzed. With this safety factor it is reasonably presumed that the data represents all available automotive coatings. The spreadsheet was then used to demonstrate that with 4.0 gallons per day of coating use, the ELs listed in IDAPA 58.01.01.585 and .586 would not be exceeded for any of the coatings listed in the spreadsheet. The 4.0 gallons per day of coating was then used to determine worst-case PM_{10} and VOC emissions from Automotive Coating operations (see the calculations as follows):

Table A.1 POST PROJECT HOURLY AND ANNUAL PM_{10} POTENTIAL TO EMIT FOR THE AUTOMOTIVE COATING OPERATION

Coating Material	Daily Coating Use[1] (gal/day)	Annual Coating Use[2] (gal/yr)	Density[3] (lb/gal)	Paint Spray Gun TE[4] (%)	Booth Particulate Filters CE[5] (%)	Hourly PM_{10} Emissions (lb-PM_{10}/hr)	Annual PM_{10} Emissions (T-PM_{10}/yr)
Pre-treatment wash primer, primer, topcoat, clear, reducer, and hardener combined	4.0	1,460	16.71	65	98	0.02	0.09

[1] – Daily coating use was determined using the DEQ Automotive Coatings EI spreadsheet (see the DEQ website).
[2] – Annual coating use is assumed to be daily coating use multiplied by 365 days per year.
[3] – The density of the paint was assumed to be the highest available using the DEQ Automotive Coatings EI spreadsheet (DEQ assumption for worst-case emissions).
[4] – The permit requires a minimum paint gun transfer efficiency of 65%. Therefore, PM_{10} emissions are based up this minimum transfer efficiency.
[5] – The permit requires a minimum PM_{10} control efficiency of 98%. Therefore, PM_{10} emissions are based up this minimum control efficiency.

Table A.2 POST PROJECT HOURLY AND ANNUAL VOC POTENTIAL TO EMIT FOR THE AUTOMOTIVE COATING OPERATION

Coating Material	Daily Coating Use[1] (gal/day)	Annual Coating Use[2] (gal/yr)	VOC Content[3] (lb-VOC/gal)	Hourly VOC Emissions (lb-VOC/hr)	Annual VOC Emissions[3] (T-VOC/yr)
Pre-treatment wash primer, primer, topcoat, clear, reducer, and hardener combined	4.0	1,460	16.71	2.79	12.20

[1] – Daily coating use was determined using the DEQ Automotive Coatings EI spreadsheet (see the DEQ website).
[2] – Annual coating use is assumed to be daily coating use multiplied by 365 days per year.
[3] – The VOC content of the paint is assumed to be 100% VOC (DEQ assumption for worst-case emissions).

Uncontrolled emissions are based upon normal operation of the facility of 2,080 hrs/yr (8 hrs/day x 260 days/yr, normal business hours) with all coating operation occurring during this time. Since there is inherent prep time (the time spent preparing the automobile for the application of coating) and paint drying time (the time the automobile spends in the booth with the burner operating to facilitate hardening of the coating) this was considered to be the worst-case maximum for which emissions could occur.

Therefore, uncontrolled annual PM emissions are calculated using the annual PTE as calculated and backing out the 98% control efficiency of the filter system.

Uncontrolled annual PM_{10} emissions from the coating operation are calculated as:

Uncontrolled Annual PM_{10} emissions = PM_{10} PTE (T-PM_{10}/yr) ÷ (1 – Filter CE)

Uncontrolled Annual PM_{10} emissions = 0.09 T-PM_{10}/yr ÷ (1 – 0.98) = 4.50 T-PM_{10}/yr

Therefore, uncontrolled annual VOC emissions are calculated using the annual PTE as calculated.

Uncontrolled annual VOC emissions are equal to annual PTE as calculated.

Uncontrolled Annual VOC emissions = VOC PTE (T-VOC/yr)

Uncontrolled Annual VOC emissions = 12.20 T-VOC/yr

Paint Booth Heater Emissions Calculations:

To determine worst-case emissions from the paint booth(s) heater(s) the maximum heat input rating of the burner was assumed to 10.0 MMBtu/hr with operation of 2,080 hrs/yr.

Table A.3 PAINT BOOTH HEATER POST PROJECT HOURLY AND ANNUAL POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS WHEN COMBUSTING NATURAL GAS

Emissions Unit	Rated Heat Input (MMBtu/hr)[1]	Annual Hours of Operation (hrs/yr)	Criteria Pollutant	Emissions Factors (lb/MMBtu)[2]	Hourly Emissions (lb/hr)	Annual Emissions (T/yr)
Paint Booth Heater	10.0	2,080	PM_{10}	0.0076	0.0760	0.079
			SO_2	0.0006	0.0060	0.006
			NO_X	0.094	0.940	0.978
			CO	0.040	0.400	0.416
			VOC	0.0055	0.055	0.057
			Pb	0.0000005	0.0000050	0.0000052

[1] – For worst-case emissions a maximum heat input of 10.0 MMBtu/hr was assumed.
[2] – Based on AP-42 Table 1.4-2 (7/98) for PM_{10}, SO_2, VOC, and Pb and AP-42 Table 1.4-1 (7/98) for NO_X and CO with a heat content of natural gas/LP of 1,000 Btu/scf.

As discussed previously uncontrolled emissions were based upon normal operation of the facility of 2,080 hrs/yr. Therefore, uncontrolled annual criteria pollutant emissions are calculated using the annual criteria pollutant PTE as calculated.

As discussed previously uncontrolled emissions were based upon normal operation of the facility of 2,080 hrs/yr. Therefore, uncontrolled annual criteria pollutant emissions are calculated using the annual criteria pollutant PTE as calculated.