Statement of Basis

Final

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Recycling Equipment Manufacturing, Inc.
Priest River, Idaho
Facility ID No. 017-00055
Permit to Construct P-2010.0067

June 21, 2010
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Permit Writer

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

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AMU	Air Management Unit
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BMP	best management practices
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gph	gallons per hour
gr	grain (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per year
HVLP	High Volume, Low Pressure
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
MMBtu/hr	million British thermal units per hour
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
PAH	polyaromatic hydrocarbons
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
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit

PTE	potential to emit
RAP	recycled asphalt pavement
REM	Recycling Equipment Manufacturing
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SCL	significant contribution limits
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
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
U.S.C.	United States Code
UTM	Universal Transverse Mercator
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

The new proposed Recycling Equipment Manufacturing, Inc. (R.E.M.) facility will be located in Priest River, Idaho. R.E.M. will manufacture machinery for recycling. Steel and aluminum will be cut into pieces, welded together, and then coated with paint. The paint will be applied in a booth which is heated with a propane-fired heater. The welding operation will use air handlers with filters as needed to provide some control of PM_{10} emissions.

A paint booth is used to coating both steel and aluminum. Three spray guns are used to coat the metal with a series of Sherwin Williams paint formulations. The spray guns models are a Binks 1SL HVLP, Superior P200H and a Graco Airpro. Only one gun is used at a time. Welding is also performed at the Priest River facility. Three types of electric arc welding electrodes are utilized at R.E.M. An ER5154 is applied on a limited basis when aluminum welding is necessary. The other two, E70S and E71T are used for steel and the usage is based on a ratio of 2:1. The E71T is used twice as often as the E70S. A propane Air Management Unit (AMU) is a heating source for the paint booth. Another propane heating system provides comfort heating for the remainder of the facility.

Permitting History

This is the initial PTC for the new proposed Recycling Equipment Manufacturing, Inc. facility.

Application Scope

This permit is the initial PTC for this facility.

The applicant has proposed to:

- Install and operate a recycling equipment manufacturing facility.

  This includes cutting, welding and painting of steel ad welding. Heating propane units and an air management unit are also included at the facility.

Application Chronology

May 17, 2010	DEQ received an application and an application fee.
June 10 – June 25, 2010	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 28, 2010	DEQ approved pre-permit construction.
June 7, 2010	DEQ determined that the application was complete.
June 21, 2010	DEQ made available the draft permit and statement of basis for peer and regional office review.
June 28, 2010	DEQ made available the draft permit and statement of basis for applicant review.
July 1, 2010	DEQ received the permit processing fee.
July 8, 2010	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

ID No.	Source Description	Control Equipment Description	Emissions Point ID No. and Description[a]
AMU-1	<u>Propane Air Management Unit:</u> Manufacturer: Bananza Model: B-3000 Heat input rating: 3.0 MMBtu/hr Fuel: Propane Operating hours: 8 hr/day	None	Exit height: 31.5 ft Exit diameter: 3.0 ft Exit flow rate: 40,000 acfm Exit temperature: 159.8 °F
AMB-1	<u>Propane Heating System</u> Manufacturer: Schwank Model: STS-JZ Heat input rating: 2.64 MMBtu/hr Fuel: Propane Operating hours: 24 hr/day	None	
Paint Booth	<u>Paint Spray Guns:</u> Manufacturer: Binks, Superior & Graco Model: 1SL HVLP, P200H & Airpro Type: all are HVLP Capacity Rating: 4 gal/hr Transfer Efficiency: 65% Maximum Operating Hours: 4 hr/day Maximum Usage: 1,600 gal/yr	<u>Filter System:</u> Manufacturer Filter: Superior Model Filter: 22 Gram Paint Arrestor Construction Date: 2010 Control Efficiency: 98% Dimensions: 27 ft^2, 1 inch thick, 10 filters	
WELD-1	<u>Welding Operations:</u> Method: Electric arc welding Process: GMAW (gas metal arc welding) Electrode Type: E70S, E71T Process: FCAW (flux cored arc welding) Electrode Type: ER5154	None	

a. The emissions points are representative of a merged point source, hence the two propane units, welding operations and the paint booth having identical parameters. The merged source was used for modeling purposes and was approved by DEQ modeling staff. For further details see the Ambient Air Quality Analysis section of this Statement of Basis.

Emissions Inventories

An emission inventory was developed for the paint booth, welding operations, a propane AMU and a propane heating system at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant PTE were based on emission factors from AP-42 and MSDS information with operation of 8,760 hours per year, and process information specific to the facility for this proposed project. Summaries of the estimated uncontrolled and controlled emissions of criteria pollutants, TAPs, and HAPs from the facility are provided in the following tables.

Four (4) separate systems for particulate control from the welding operations are available at R.E.M. Each system is designed with an air handler unit designed to draw ambient air from the indoor welding facilities and force it through a fabric or media filter in order to remove particulate materials. The PM control efficiency of these controls is expected to be highly variable. The equipment manufactured by R.E.M. is sometimes large and irregularly shaped, and actual welding operations may not take place in close proximity to the control device intake. Additionally, R.E.M. plans to use the devices on an “as needed” basis depending on the quantity of welding taking place. For these reasons, no reductions in particulate emissions were applied to the emissions estimates below. The welding emissions controls will be operated primarily to ensure the health and safety of R.E.M.’s employees, and to prevent occurrences of visible welding fume emissions from the building.

Uncontrolled Emissions:

The following table presents the uncontrolled emissions for criteria pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit. Note that no emission limits are required for the following reasons: the facility as a whole is below 100 T/yr for all criteria pollutants when operating continuously, other conditions inherently limit the facility (i.e., hours of operation for AMU, paint limitations for the Sherwin Williams series', requiring 98% control on the fabric filters and annual limits on electrode usage).

Table 2 POST PROJECT UNCONTROLLED EMISSIONS FOR CRITERIA POLLUTANTS

Emissions Unit	PM_{10}	SO_2	NO_X	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources					
Paint Booth	33.1	--	--	--	92.51
Welding Operations	0.356	--	--	--	--
Propane Air Management Unit	0.101	0.212	1.867	1.077	0.144
Propane Heating System	0.088	0.187	1.642	0.948	0.126
Total, Point Sources	**33.65**	**0.40**	**3.51**	**2.03**	**92.78**

Post Project Potential to Emit

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

Table 3 POST PROJECT POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

Emissions Unit	PM_{10}		SO_2		NO_X		CO		VOC	
	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]
Point Sources										
Paint Booth	0.15	0.03	--	--	--	--	--	--	21.12	4.22
Welding Operations[c]	0.081	0.356	--	--	--	--	--	--	--	--
Propane Air Management Unit	0.008	0.034	0.016	0.071	0.142	0.622	0.082	0.359	0.011	0.048
Propane Heating System	0.02	0.088	0.043	0.187	0.375	1.643	0.216	0.948	0.029	0.126
Post Project Totals	**0.26**	**0.51**	**0.06**	**0.26**	**0.52**	**2.27**	**0.30**	**1.31**	**21.16**	**4.39**

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.
c) All Welding operations are based on emissions factors from AP-42, section 12-19 (01/95). For further details see Appendix A.

As demonstrated in Tables 2 and 3, this facility has uncontrolled potential to emit for all criteria pollutant emissions less than the Major Source threshold of 100 T/yr and a controlled potential to emit for all pollutant emissions less than the Major Source threshold of 100 T/yr. Therefore, this facility will be designated as a B facility.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required or if emissions modeling may be required, and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants. Note that the Pre-Project PTE is set to zero because the facility is not currently constructed.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS

	PM_{10}		SO_2		NO_X		CO		VOC	
	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
Post Project Potential to Emit	0.26	0.51	0.06	0.26	0.52	2.27	0.30	1.31	21.16	4.39
Changes in Potential to Emit	**0.26**	**0.51**	**0.06**	**0.26**	**0.52**	**2.27**	**0.30**	**1.31**	**21.16**	**4.39**

Non-Carcinogenic TAP Emissions

A summary of the estimated controlled non-carcinogenic emissions increase of toxic air pollutants (TAP) is provided in the following table. The majority of the estimated controlled emissions increases of TAP were below applicable emissions screening levels (EL). Estimated controlled TAP emissions were below the annual major source threshold.

Post-project, non-carcinogenic TAP emissions are presented in the following table:

Table 5 PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY

POTENTIAL TO EMIT

Non-Carcinogenic Toxic Air Pollutants	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)[a]	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
1,2,4-Trimethyl Benzene	1.1	24.6	No
Carbon Black	0.02	0.69	No
Ethyl Benzene	2	29	No
Methyl Isobutyl Ketone	1.6	13.7	No
Quartz	1.4E-03	1.3E-2	No
VM&P Naphtha	13.3	182.6	No
Xylene	13	58	No
1-Methoxy-2-Propanol Acetate	1	48	No
Calcium Carbonate	2.1E-02	0.667	No
Naphthalene	0.04	3.33	No
Toluene	9	25	No
Hexamethylene Diisocyanate	1.5E-02	2.0E-03	**Yes**
Isopropyl Acetate	2.6	69.3	No
Methyl n-Amyl Ketone	5.2	15.7	No
n-Butyl Acetate	6.1	47.3	No
Chromium	7.19E-06	3.3E-02	No
Cobalt	4.14E-06	3.3E-03	No
Manganese	2.27E-03	6.7E-02	No

a. All emission rates are based on a worst-case maximum from the three worst-case theoretical paint series. Each of three metals is based on maximum daily usage of the welding operations.

Therefore, modeling is required for Hexamethylene Diisocyanate because the 24-hour average non-carcinogenic screening EL identified in IDAPA 58.01.01.585 was exceeded.

Carcinogenic TAP Emissions

A summary of the estimated controlled carcinogenic emissions increase of toxic air pollutants (TAP) is provided in the following table. The estimated controlled emissions increases of TAP were below applicable emissions screening levels (EL). Estimated controlled TAP emissions were below the annual major source threshold.

Post project, carcinogenic TAP emissions are presented in the following table:

Table 6 PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Nickel	2.43E-05	2.70E-05	No

Therefore, modeling is not required for nickel because the annual average carcinogenic screening EL identified in IDAPA 58.01.01.586 was not exceeded.

Post Project HAP Emissions

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

Table 7 HAP EMISSIONS SUMMARY POTENTIAL TO EMIT

HAP Pollutants	PTE (T/yr)
Chromium	6.17E-05
Cobalt (metal)	3.55E-05
Manganese	1.94E-02
Nickel	1.07E-04
Ethyl Benzene	0.1
Xylene	2.0
Cobalt 2-Ethyl-hexanoate	0.01
Naphthalene	2.0E-03
Toluene	1
Hexamethylene Diisocyanate	3.0E-04
Total	**3.13**

Ambient Air Quality Impact Analyses

The estimated emission rates of PM_{10}, SO_2, NO_X, CO, VOC, HAP, and TAPs from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline[1]. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAPs is provided in Appendix B.

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

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Bonner 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.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed new emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

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

Toxic Air Pollutants Non-Carcinogenic/Carcinogenic Increments (IDAPA 58.01.01.585-586)

IDAPA 58.01.01.585-586 Toxic Air Pollutants Increments

Are TAPs emissions were analyzed and were either below the emission levels as provided in IDAPA 58.01.01.585-586 or were modeled using a SCREEN3 demonstration. The resulting showed that all TAPs were below AAC or AACC levels. See Appendix B for further details.

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 assured by Permit Condition 5.

Rules For Control of Odors (IDAPA 58.01.01.775-776)

No person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution. This requirement is assured by Permit Conditions 6 and 18.

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, or VOC nor 10 tons per year for any one HAP or 25 tons per year for all HAPs combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006.113 and the requirements of IDAPA 58.01.01.301 do not apply.

As presented in Table 7, the PTE for each HAP is less than 10 T/yr and the PTE for all HAPs combined is less than 25 T/yr. Therefore, this facility is not a HAPs Major Source subject to Tier I requirements.

Therefore, it needs to be determined if this facility is a criteria pollutant Major Source. As discussed previously the R.E.M. facility is located in Bonner County (AQCR 63), 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 8 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}	0.5	100	No
SO_2	0.258	100	No
NO_X	2.3	100	No
CO	1.3	100	No
VOC	4.4	100	No

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

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements.

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 is not subject to any MACT standards in 40 CFR Part 63.

The following discussion outlines why R.E.M. is not subject to either 40 CFR 63, Subpart HHHHHH or XXXXXX.

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

§ 60.11169 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 or any coating operations that spray any material that contains any of the target HAPs onto plastic or metal that is not an automobile or mobile equipment.

§ 63.11170 Am I subject to this subpart?

In accordance with §63.11170(a), R.E.M. is not an automotive coating operation nor do they spray mobile equipment. Also, none of the permitted coatings contain any of the target HAPs, which include lead, chromium, manganese, nickel and cadmium. Therefore the facility is not subject to this subpart.

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

§ 63.11514 Am I subject to this subpart?

In accordance with § 63.11514, R.E.M. is primarily engaged in one of the source categories, #6 Industrial Machinery and Equipment Finishing Operations as more than 50% of production is accounted for in the welding operations. However, according to the EPA there are three specific manufacturing types that are explicitly included in the subpart. While there are several industrial machinery operations, only those listed in an EPA-developed spreadsheet and those described in Table 1 of the subpart identify an affected source.

Establishments primarily engaged in construction machinery manufacturing; oil and gas field machinery manufacturing; and pumps and pumping equipment manufacturing. The construction machinery manufacturing industry sector of this source category includes establishments primarily engaged in manufacturing heavy machinery and equipment of types used primarily by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant overhead and truck-type cranes; dredging machinery; pavers; and power shovels. Also establishments primarily engaged in manufacturing forestry equipment and certain specialized equipment, not elsewhere classified, similar to that used by the construction industries, such as elevating platforms, ship cranes, and capstans, aerial work platforms, and automobile wrecker hoists. The oil and gas field machinery manufacturing industry sector of this source category includes establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells, including portable drilling rigs. The pumps and pumping equipment manufacturing sector of this source category includes establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial, commercial, or household use, except fluid power pumps and motors. This category includes establishments primarily engaged in manufacturing domestic water and sump pumps.

R.E.M. does not engaged in construction machinery manufacturing, oil and gas field machinery or pumps and pumping equipment manufacturing. Each of these industries have specific SIC or NAICS codes, which are identified in the EPA-developed spreadsheet (see an equivalent table below). R.E.M. manufactures recycling conveyance systems with a NAICS code of 333922 and a SIC code of 3535. Therefore, the activities performed at R.E.M. not only do not have the proper codes but also are not engaged in any of the three activities as defined in Table 1 of the subpart.

Table 9 MACT XXXXXX APPLICABILITY CODES

NAICS Code	NAICS Description	SIC Code	EPA Source Category
332111	Iron and Steel Forging	3462	Iron and Steel Forging
332117	Powder Metallurgy Part Manufacturing	3499	Fabricated Metal Products, NEC
332312	Fabricated Structural Metal Manufacturing	3441	Fabricated Structural Metal Manufacturing
332313	Plate Work Manufacturing	3443	Fabricated Plate Work (Boiler Shops)
332410	Power Boiler and Heat Exchanger Manufacturing	3443	Fabricated Plate Work (Boiler Shops)
332420	Metal Tank (Heavy Gauge) Manufacturing	3443	Fabricated Plate Work (Boiler Shops)
332618	Other Fabricated Wire Product Manufacturing	3399	Primary Metals Products Manufacturing
332919	Other Metal Valve and Pipe Fitting Manufacturing	3494	Valves and Pipe Fittings, NEC
332999	All Other Miscellaneous Fabricated Metal Product Mftg	3499	Fabricated Metal Products, NEC
333120	Construction Machinery Manufacturing	3531	Industrial Machinery & Equipment: Finishing Ops
333132	Oil and Gas Field Machinery and Equipment Mftg	3533	Industrial Machinery & Equipment: Finishing Ops
333414	Heating Equipment (except Warm Air Furnaces) Mftg	3433	Heating Equipment, except electric
333911	Pump and Pumping Equipment Manufacturing	3561	Industrial Machinery & Equipment: Finishing Ops
335312	Motor and Generator Manufacturing	3621	Electrical & Electronic Equipment Finishing Ops
335999	All Other Misc. Electrical Equipment & Component Mftg	3699	Electrical & Electronic Equipment Finishing Ops

Permit Conditions Review

This section describes the permit conditions for this initial permit.

<u>Initial Permit Conditions 1-2</u>

These two conditions provide the purpose of the associated permit (initial requested PTC) and a list of regulated emissions units.

<u>Initial Permit Condition 3</u>

A description of the paint booth and air management unit is provided.

<u>Initial Permit Condition 4</u>

This condition is a table that identifies the emissions units and associated control devices.

<u>Initial Permit Condition 5</u>

A table is provided outlining the PM_{10} and VOC limits associated with the paint booth operations. These numbers are controlled values and as stated in footnote a of the table, compliance with all other permit conditions associated with the paint booth assure compliance with the aforementioned limits.

<u>Initial Permit Condition 6</u>

This condition was added into the permit to comply with the state opacity standard and is in accordance with IDAPA 58.01.01.625.

<u>Initial Permit Condition 7</u>

This condition was added into the permit to comply with the state odor requirements and is in accordance with IDAPA 58.01.01.776.01.

<u>Initial Permit Condition 8</u>

This condition limits the coating operations to 16 gallons per day. Each of the Sherwin Williams series of paint is also limited to a summation of 1,600 gallons per year. The usage ratio is 60%, 30% and 10% between the three series. Therefore, the limits are 960 gallons, 480 gallons and 160 gallons respectively. These limits were requested by R.E.M. Also, this condition allows for coatings other than the Sherwin Williams Series to be used should they contain an equal or lower VOC, HAP and TAP content than the Sherwin Williams Series.

<u>Initial Permit Condition 9</u>

All spray guns used at the facility must have a minimum transfer efficiency of 65% and only one (1) gun may be operated at a time. This condition was added because the two requirements were both assumed when calculating emissions.

<u>Initial Permit Condition 10</u>

The facility must install a filter system with a minimum of 98% efficiency.

<u>Initial Permit Condition 11</u>

This condition requires that only propane may be burning in the AMU. This is included as the application analyzed only the impact of propane and no other fuels.

<u>Initial Permit Condition 12</u>

This condition limits the hours of operation of the propane air management unit to eight as was requested by the applicant.

Initial Permit Condition 13

This is the recordkeeping requirement for the coating usage allotment. Annual gallons are to be recorded to demonstrate the 1,600 gallon limit is met.

Initial Permit Condition 14

This condition requires the permittee to maintain purchase records and MSDS for all coatings used onsite. This to demonstrate compliance with the use of the Sherwin Williams series or any other coating that a equivalent or lower VOC, HAP or TAP content.

Initial Permit Condition 15

This condition is the monitoring and recordkeeping standard for the hours of operation requirement of the AMU.

Initial Permit Condition 16

Visible emissions need to be monitored each day the booth is operating. The booth also may not operate with the filter system properly installed and functioning. This is required because the calculated emission estimates are based on 98% control efficiency.

Initial Permit Condition 17

Should any odor complaints be received, records of the validity of complaint, any corrective action taken and the complaint itself need to be maintained.

Initial Permit Condition 18

This condition requires that all recordkeeping that is performed needs to be done in accordance with the recordkeeping general provision.

Initial Permit Condition 19

This condition is a description of the welding operations that take place at R.E.M. Specifics as to the type of electrode used and amount of each that is permitted is discussed.

Initial Permit Condition 20

This condition is a table that identifies the emissions units associated with welding.

Initial Permit Condition 21

R.E.M. employs the use of three different electrodes. This condition outlines the annual usage limits in pounds for each electrode type. This numbers are based on information provided by the permittee and they are requested limits made by R.E.M.

Initial Permit Condition 22

This condition requires recordkeeping to demonstrate compliance with the annual electrode limits.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there 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

Paint Booth Calculations

The following calculations describe the approached used by R.E.M. to calculate their controlled and uncontrolled emissions for the three Sherwin Williams Paint Series'. All content provided below was derived by Sherwin Williams' MSDS provided to DEQ by R.E.M.

Maximum solids content, VOC content and density were determined for each series. The Polane series are mixed in a 60%, 20%, 20% or 3:1:1 ratio. Therefore the enamel, catalyst and reducer were broken into separate items.

Polane G Plus Polyurethane Series

Polane Enamel - Worst case scenario: 52% solids, density 11.9 lb/gal, 60% volumetric ratio
Polane Catalyst – Worst case scenario: 90% solids, density 9.4 lb/gal, 20% volumetric ratio
Polane Reducer – Worst case scenario: 0% solids, density 7.26 lb/gal, 20% volumetric ratio

VOC content of Polane series is a weighted average of the three components (reducer: 7.26 lb/gal, catalyst: 0.94lb/gal, enamels 3.29 lb/gal). The worst case scenario VOC content is calculated in the following manner.

Eq. 1 $$\frac{7.26 + 0.94 + 3.29 * 3}{5} = 3.614 lb/gal$$

KEM 400 Enamel Series

Worst case scenario – 38% solids content, 4.99 lb/gal VOC content, density 10.08 lb/gal, 100% volumetric ratio

Quick Dry Enamel Series

Worst case scenario – 32% solids content, 5.28 lb/gal VOC content, density 9.05 lb/gal, 100% volumetric ratio

Spray Gun/Booth Information

The maximum gun throughput for all equipment on site is 4 gal/hr.
Worst case transfer efficiency is assumed to be 65%.
Worst case filter efficiency is assumed to be 98%.

Emissions Calculations

Solids content:

$$PolaneEnamel = 0.52 * \frac{11.9lb}{gal} = 6.19lb / gal$$

$$PolaneCatalyst = 0.90 * \frac{9.4lb}{gal} = 8.46lb / gal$$

$$Polane\,\mathrm{Re}\,ducer = 0.00 * \frac{7.26lb}{gal} = 0.00lb / gal$$

$$KEM\,400 = 0.38 * \frac{10.08lb}{gal} = 3.83lb / gal$$

$$QuickDry = 0.32 * \frac{9.05lb}{gal} = 2.90lb / gal$$

Uncontrolled Potential PM_{10} Emissions

Polane:

$$[volumetricRatio1 * sprayrate * (1 - TE) * SC] + [volumetricratio2 * strayrate * (1 - TE) * SC]$$

where: TE is transfer efficiency,
SC is the calculated solids content

Note that the reducer is not included as there are no solids in the material.

60% * 4 gal/hr * (1-65%) * 6.19 lb/gal + 20% * 4 gal/hr * (1-65%) * 8.46 gal/hr = **7.6 lb PM_{10}/hr**

7.6 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **33.1 T PM_{10}/yr**

400 KEM

$$[volumetricRatio * sprayrate * (1 - TE) * SC]$$

100% * 4 gal/hr * (1-65%) * 3.83 lb/gal = **5.4 lb PM_{10}/hr**

5.4 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **23.5 T PM_{10}/yr**

Quick Dry

$$[volumetricRatio * sprayrate * (1 - TE) * SC]$$

100% * 4 gal/hr * (1-65%) * 3.83 lb/gal = **4.1 lb PM_{10}/hr**

4.1 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **17.8 T PM_{10}/yr**

Controlled PM_{10} Emissions

Polane:

$$uncontrolled * Controleffeciency$$

7.6 lb/hr * (1-98%) = **0.15 lb PM_{10}/hr**

The total annual allowable gallons of material is 1600.

$$\left(\left[\frac{1600gal}{yr} * volumetricRatio1 * (1 - TE) * SC\right] + \left[\frac{1600gal}{yr} volumetricratio2 * (1 - TE) * SC\right]\right) * (1 - CF) / 2000$$

Where: CF is control efficiency

[1600 gal/yr * 60% * (1-65%) * 6.19 lb/gal + 1600 gal/yr * 20% * (1-65%) * 8.46 lb/gal] * (1-98%) ÷ 2000 lb/ton = **0.03 T PM_{10}/yr**

400 KEM

$$uncontrolled * Controleffeciency$$

5.4 lb/hr * (1-98%) = **0.11 lb PM_{10}/hr**

$$\left(\frac{1600gal}{yr} * volumetricratio * (1 - TE) * SC\right) * (1 - CF) / 2000$$

[1600 gal/yr * 60% * (1-65%) * 3.83 lb/gal * (1-98%) ÷ 2000 lb/ton = **0.02 T PM_{10}/yr**

Quick Dry

$$uncontrolled * Controleffeciency$$

4.1 lb/hr * (1-98%) = **0.08 lb PM_{10}/hr**

$$\left(\frac{1600gal}{yr} * volumetricratio * (1 - TE) * SC\right) * (1 - CF) / 2000$$

[1600 gal/yr * 60% * (1-65%) * 2.90 lb/gal * (1-98%) ÷ 2000 lb/ton = **0.02 T PM_{10}/yr**

Uncontrolled/Controlled Potential VOC Emissions

The worst case VOC content amongst the three coating series was used to determine emissions. That value was 5.28 lb/gal

5.28 lb/gal * 4 gal/hr = **21.12 lb VOC/hr** (hourly is identical for controlled and uncontrolled).

Uncontrolled

21.12 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **92.51 T VOC/yr**

Controlled

5.28 lb/gal * 1600 gal/yr ÷ 2000 lb/ton = **4.22 T VOC/yr**

Propane Units Calculations

The following calculations describe the approached used by R.E.M. to calculate their controlled and uncontrolled emissions for the propane-fired AMU and heating system. All content provided below was derived by AP-42 section 1.5.

AP-42 Emission Factors

All factors are in units of lb/1000 gal with the exception of SO_2. Also, the AMU has a heat input of 3.0 MMBtu/hr and 4.64 MMBtu/hr for the heating system. Also a conversion factor used by AP-42 is 91.5 MMBtu/1000 gal

PM_{10} – 0.7 lb/1000 gal

SO_2 – 0.1 gr/100 ft^3

NO_x – 13 lb/1000 gal

CO – 7.5 lb/1000 gal

VOC – 1.0 lb/1000 gal (Total Organic carbon, TOC)

AMU Emissions

Uncontrolled

3.0 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 0.7 lb/1000 gal = **0.023 lb PM_{10}/hr**

0.023 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.101 T PM_{10} /yr**

3.0 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 0.1 gr/100 ft^3 * 14.8 gr/100 ft^3 = **0.049 lb SO_2/hr** (14.8 gr/100 ft^3 is derived from the CRC handbook of Chemistry and Physics and the Santa Barbara County Air Pollution Control District)

0.049 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.212 T SO_2/yr**

3.0 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 13 lb/1000 gal = **0.426 lb NO_x/hr**

0.426 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **1.87 T NO_x/yr**

3.0 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 7.5 lb/1000 gal = **0.246 lb CO/hr**

0.023 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **1.08 T CO /yr**

3.0 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 1.0 lb/1000 gal = **0.033 lb CO/hr**

0.023 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.144 T CO /yr**

Controlled

The AMU is limited to 8 hours of operation each day.

0.023 lb/hr * 8 hr/day ÷ 24 hr/day = **7.65E-03 lb PM_{10}/hr**

0.101 T/yr * 8 hr/day ÷ 24 hr/day = **0.034 T PM_{10}/yr**

0.049 lb/hr * 8 hr/day ÷ 24 hr/day = **0.016 lb SO_2/hr**

0.212 T/yr * 8 hr/day ÷ 24 hr/day = **0.071 T SO_2/yr**

0.426 lb/hr * 8 hr/day ÷ 24 hr/day = **0.142 lb NO_x/hr**

1.87 T/yr * 8 hr/day ÷ 24 hr/day = **0.622 T NO_x/yr**

0.246 lb/hr * 8 hr/day ÷ 24 hr/day = **0.082 lb CO/hr**

1.08 T/yr * 8 hr/day ÷ 24 hr/day = **0.359 T CO/yr**

0.033 lb/hr * 8 hr/day ÷ 24 hr/day = **0.011 lb VOC/hr**

0.144 T/yr * 8 hr/day ÷ 24 hr/day = **0.048 T VOC/yr**

Heating System Emissions

Uncontrolled/Controlled

Uncontrolled and controlled are identical as it is assumed that the heating system is operating continuously.

2.64 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 0.7 lb/1000 gal = **0.020 lb PM_{10}/hr**

0.020 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.088 T PM_{10} /yr**

2.64 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 0.1 gr/100 ft^3 * 14.8 gr/100 ft^3 = **0.043 lb SO_2/hr** (14.8 gr/100 ft^3 is derived from the CRC handbook of Chemistry and Physics and the Santa Barbara County Air Pollution Control District)

0.043 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.187 T SO_2/yr**

2.64 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 13 lb/1000 gal = **0.375 lb NO_x/hr**

0.375 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **1.64 T NO_x/yr**

2.64 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 7.5 lb/1000 gal = **0.216 lb CO/hr**

0.216 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.948 T CO /yr**

2.64 MMBtu/hr ÷ 91.5 MMBtu/1000 gal * 1.0 lb/1000 gal = **0.029 lb CO/hr**

0.023 lb/hr * 8760 hr/yr ÷ 2000 lb/ton = **0.126 T CO /yr**

Welding Calculations

The following calculations describe the approached used by R.E.M. to calculate their controlled emissions for welding operations. All content provided below was derived by AP-42 section 12.19.

AP-42 Emission Factors

All factors are in units of lb/1000 lb of electrode. The three electrode types are limited to specific amount per year as selected by R.E.M.

Aluminum Electrode = 24.1 lb PM_{10} / 1000 lb electrode

Solid Wire Electrode = 5.2 lb PM_{10} / 1000 lb electrode

Flux-cored Electrode = 12.2 lb PM_{10} / 1000 lb electrode

Welding Emissions

(500 lb aluminum electrode/yr * 24.1 lb PM_{10} / 1000 lb electrode) ÷ 2000 lb/2000 Ton = **0.00603 T/yr**

(23,667 lb Solid wire electrode/yr * 5.2 lb PM_{10} / 1000 lb electrode) ÷ 2000 lb/2000 Ton = **0.0615 T/yr**

(47,333 lb flu-cored electrode/yr * 12.2 lb PM_{10} / 1000 lb electrode) ÷ 2000 lb/2000 Ton = **0.2887 T/yr**

Total = 0.00603 + 0.0615 + 02887 = **0.3563 T PM_{10}/yr**

0.3563 T/yr * 2000 lb/ Ton ÷ 8760 hr/yr = **0.081 lb PM_{10}/hr**

All DEQ Corrections are made in Red

All Approved Corrections are in Green

Table 1: Criteria Pollutant Emissions Summary (Coating Material Formulation)

Component	Manufacturer Product Number	Volumetric Ratio Parts	Volumetric Ratio %	Max Solids (Volumetric)	Max Solids (Weight%)	Density lb/gal	VOC lb/gal
Polane® G Plus Polyurethane Enamel (Part A), White	F63B200	3 Parts	60%	0.52		11.9	3.614
Polane® Catalyst	V66V55	1 Part	20%	0.874	90%	9.4	
Polane® HAPS Free Reducer	R7K95	1 Part	20%	0	0	7.26	
KEM 400 Enamel (maximum values for entire series)		1 part	100%	0.38		10.08	4.99
Quick Dry Enamel (maximum values for entire series)		1 part	100%	0.32		9.05	5.28

Component	Maximum Gun Throughput gal/hr	Transfer Efficiency %	Filter Efficiency %	Solids Content lb/gal	Uncontrolled Potential PM10 Emissions[a] lb/hr	Uncontrolled Potential PM10 Emissions[a] tpy	Controlled Potential PM10 Emissions[b] lb/hr	Controlled Potential PM10 Emissions[b] tpy
Polane® G Plus Polyurethane Enamel (Part A), White	4	65%	98%	6.19	7.6	33.1	0.15	0.03
Polane® Catalyst				8.46				
Polane® HAPS Free Reducer				0.00				
KEM 400 Enamel (maximum values for entire series)	4	65%	98%	3.83	5.4	23.5	0.11	0.02
Quick Dry Enamel (maximum values for entire series)	4	65%	98%	2.90	4.1	17.8	0.08	0.02

a) Based on unlimited hours of operation (8760 hours/yr) and the maximum spray gun capacity of 4 gal/hr.

b) Based on the maximum spray gun capacity of 4 gal/hr and a maximum anticipated usage of 16 gal/day and 1600 gal/yr

VOC update is based on weighted average of the VOC content of the reducer (7.26 lb/gal), the catalyst (0.94 lb/gal) and the maximum of the four enamels (3.29 lb/gal)

Note however that the maximum density of 5.28 lb/gal from the Quick Dry enamels was used for emission calculations. Therefore all values are correct.

Table 2: Criteria Pollutant Emissions Summary
(AP 42 Propane Emissions Factors for External Combustion)

Pollutant	Propane Emission Factor for Commercial Boilers (lb/10^3 gal)
PM, Filterable	0.2
PM, Condensable	0.5
PM, Total	0.7
SO2 (gr/100 ft^3 gas vapor)	0.1
NOx	13
N2O	0.9
CO2	12,500
CO	7.5
TOC	1
CH4	0.2

Conversion Factor:	91.5	MMBtu/10^3gal

Commercial Propane Sulfur Content:	185	ppmw
Commercial Propane Vapor Density:	1.83	kg/m^3
Commercial Propane Sulfur Content:	0.000339	kg/m^3
Commercial Propane Sulfur Content:	0.147945	gr/ft^3
Commercial Propane Sulfur Content:	14.79452	gr/100 ft^3

The units were updated from grams to grains

Table 3: Emissions Estimates of Criteria Pollutants - Uncontrolled Emissions

Process	PM10[e]		SO2[f]		NOx		CO		VOC	
Units	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Paint Spray Booth[a]	7.6	33.1	N/A	N/A	N/A	N/A	N/A	N/A	21.12	92.51
Air Management Unit[b]	0.02295	0.10052	0.049	0.212	0.42623	1.86689	0.2459	1.07705	0.03279	0.14361
Propane Heat[c]	0.0202	0.08846	0.043	0.187	0.37508	1.64286	0.21639	0.9478	0.02885	0.12637
Welding[d]	0.08135	0.35629	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total, All Sources	7.7	33.7	0.091	0.399	0.8	3.5	0.5	2.0	21.2	92.8

a) Based on unlimited hours of operation (8760 hours/yr) and the maximum spray gun capacity of 4 gal/hr.

b) Based on unlimited hours of operation (8760 hours/yr), the maximum capacity of the equipment (3 MMBTU/hr propane gas usage), and using emissions factors from AP 42 Section 1.5.

c) Based on unlimited hours of operation (8760 hours/yr), the total capacity of the equipment (2.64 MMBTU/hr propane gas usage), and using emissions factors from AP 42 Section 1.5.

d) Based on maximum anticipated welding wire usage and using emissions factors from AP 42 Section 12.19.

e) Based on a 65% transfer efficiency (35% overspray).

f) Based on a propane fuel sulfur content of 185 ppm_w.

Table 4: Emissions Estimates of Criteria Pollutants - Controlled Emissions

Pollutant	PM10[e]		SO2[f]		NOx		CO		VOC	
Units	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Paint Spray Booth[a]	0.15	0.03	N/A	N/A	N/A	N/A	N/A	N/A	21.12	4.22
Air Management Unit[b]	0.00765	0.03351	0.01617	0.07082	0.14208	0.6223	0.08197	0.35902	0.01093	0.04787
Propane Heat[c]	0.0202	0.08846	0.043	0.187	0.37508	1.64286	0.21639	0.9478	0.02885	0.12637
Welding[d]	0.08135	0.35629	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total, All Sources	0.3	0.5	0.059	0.258	0.5	2.3	0.3	1.3	21.2	4.4

a) Based on the maximum spray gun capacity of 4 gal/hr and a maximum anticipated usage of 16 gal/day and 1600 gal/yr

b) Based on 8 hours per day of operation (2920 hours/yr), the maximum capacity of the equipment (3 MMBTU/hr propane gas usage), and using emissions factors from AP 42 Section 1.5.

c) Based on unlimited hours of operation (8760 hours/yr), the total capacity of the equipment (2.64 MMBTU/hr propane gas usage), and using emissions factors from AP 42 Section 1.5.

d) Based on maximum anticipated welding wire usage and using emissions factors from AP 42 Section 12.19.

e) Based on a filter PM10 control efficiency of 98% and a 65% transfer effiency (35% overspray).

f) Based on a propane fuel sulfur content of 185 ppm_w.

Table 5: Paint Formulation Data

Component		V., M., & P. Naphtha	Toluene	Ethyl-benzene	Xylene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Naphth-alene	Cobalt 2-Ethyl-hexanoate	Quartz	Carbon Black	Methyl Isobutyl Ketone	n-Butyl Acetate	1-Methoxy-2-Propanol Acetate	Isophorone Diisocyanate	Hexamethylene Diisocyanate	Isopropyl Acetate	Calcium Carbonate	Methyl n-Amyl Ketone
HAP			X	X	X			X	X			X				X			
TAP		X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
OEL		1370	375	435	435	123	123	50		0.1	3.5	205	710	n/a	0.09	0.03	1040	10	235
EL		91.3	25	29	29	8.2	8.2	3.33		0.0067	0.23	13.7	47.3	24	0.006	0.002	69.3	0.667	15.7
AAC		68.5	18.75	21.75	21.75	6.15	6.15	2.5		0.005	0.175	10.25	35.5	3.6	0.0045	0.0015	52	0.5	11.75
Product ID	**Product**	**Wt. %**																	
F75B401	KEM® 400 Enamel, Gloss Black	18		6	35	2			0.2		3								
F75B412	KEM® 400 Enamel, Flat Black	9		6	35	1			0.2	0.2	2								
F75S491	KEM® 400 Enamel, Silver Metallic	8		7	42	2			0.1										
F75V405	KEM® 400 Enamel, Clear	7		7	40				0.2										
F75V412	KEM® 400 Enamel, Metallic Clear Base	8		7	39	2			0.1			5							
F75W404	KEM® 400 Enamel, White Base	5		6	33	1													
V66V1020	KEM® 400 Catalyst			0.1		4	2						27	19	0.2				
V70V411	KEM® 400 Enamel, Acrylic Modifier			5	30														
F77A3	Quick Dry Enamel, Machine Tool Gray	12	21	4	20	2		0.1			0.2			1					
F77B1	Quick Dry Enamel, Gloss Black	18	22	3	15	2		0.1			2			2					
F77B2	Quick Dry Enamel, Flat Black		11	6	33	3		0.1		0.2	1			1				3	
F77E11	Quick Dry Enamel, LF International Orange	45		1	8			0.1											
F77G13	Quick Dry Enamel, LF Equipment Green	16	22	3	17	2		0.1											
F77G38	Quick Dry Enamel, L.F. Packer Green	12	20	4	21	2		0.1			0.2			2					
F77L6	Quick Dry Enamel, Motor Blue	15	21	4	21	2		0.1											
F77L19	Quick Dry Enamel, Blue	41		1	6	2		0.1											
F77N20	Quick Dry Enamel, Container Brown	11	21	4	21	2		0.1			0.5			2					
F77R14	Quick Dry Enamel, LF Machinery Red	4	29	4	22	3													
F77S12	Quick Dry Enamel, Aluminum	22	19	3	14														
F77V100	Quick Dry Enamel, Blending Clear	14	23	3	20	2		0.1											
F77W8	Quick Dry Enamel, Gloss White	10	17	4	22	2													
F77W100	Quick Dry Enamel, Blending White	8	16	4	20	2		0.1											
F77Y15	Quick Dry Enamel, LF Safety Yellow	34		2	11	2		0.1											
F77Y16	Quick Dry Enamel, LF Regal Yellow	8	20	4	23	2		0.1											
F77Y17	Quick Dry Enamel, Equipment Yellow	13	21	3	16	2		0.1											
F63B200	Polane® G Plus Polyurethane Enamel (Part A), White												5						16
F63B201	Polane® G Plus Polyurethane Enamel (Part A), Black										3		10	1					26
F63V202	Polane® G Plus Polyurethane Enamel (Part A), Blending Clear												11	1					26
F63V203	Polane® G Plus Polyurethane Enamel (Part A), Metallic Mixing Clear												13						26
V66V55	Polane® Catalyst					2							5			0.2			
R7K95	Polane® HAPS Free Reducer												55				44		

All corections were made to the annual emissions estimates for two reasons. First all components were being overestimated by 100 times and the density of the Gloss paint was being used for the entire series of 400 KEM paints.

Table 6: TAP & HAP Emissions Summary for Sherwin Williams KEM400 Enamel: Gloss Black (F75B401)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.75							
V., M., & P. Naphtha	X	X				18	5.58	5.58	0.67	91.30	NO	NO
Ethyl-benzene	X	X				6	1.86	1.86	0.22	29.00	NO	NO
Xylene	X	X				35	10.85	10.85	1.30	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.62	0.62	0.07	8.20	NO	NO
Cobalt 2-Ethyl-hexanoate		X				0.2	0.062	0.062	0.01	N/A	NO	NO
Carbon Black	X					3	0.93	0.0186	0.002	0.23	YES	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 960 gallons per year.

Table 7: TAP & HAP Emissions Summary for Sherwin Williams KEM400 Enamel: Silver Metallic (F75S491)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.92							
V., M., & P. Naphtha	X					8	2.5344	2.5344	0.30	91.30	NO	NO
Ethyl-benzene	X	X				7	2.2176	2.2176	0.27	29.00	NO	NO
Xylene	X	X				42	13.3056	13.3056	1.60	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.6336	0.6336	0.08	8.20	NO	NO
Cobalt 2-Ethyl-hexanoate		X				0.1	0.03168	0.03168	0.004	N/A	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 960 gallons per year.

Table 8: TAP & HAP Emissions Summary for Sherwin Williams KEM400 Enamel: Metallic Clear Base (F75V412)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.81							
V., M., & P. Naphtha	X					8	2.4992	2.4992	0.30	91.30	NO	NO
Ethyl-benzene	X	X				7	2.1868	2.1868	0.26	29.00	NO	NO
Xylene	X	X				39	12.1836	12.1836	1.46	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.6248	0.6248	0.07	8.20	NO	NO
Cobalt 2-Ethyl-hexanoate		X				0.1	0.03124	0.03124	0.004	N/A	NO	NO
Methyl Isobutyl Ketone	X	X				5	1.562	1.562	0.19	13.70	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 960 gallons per year.

Table 9: TAP & HAP Emissions Summary for Sherwin Williams KEM400 Enamel: Flat Black (F75B412)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	8.9							
V., M., & P. Naphtha	X					9	3.204	3.204	0.38	91.30	NO	NO
Ethyl-benzene	X	X				6	2.136	2.136	0.26	29.00	NO	NO
Xylene	X	X				35	12.46	12.46	1.50	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					1	0.356	0.356	0.04	8.20	NO	NO
Cobalt 2-Ethyl-hexanoate		X				0.2	0.0712	0.0712	0.01	N/A	NO	NO
Quartz[d]	X					0.2	0.0712	0.001	0.0002	0.01	YES	NO
Carbon Black[d]	X					2	0.712	0.014	0.002	0.23	YES	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 960 gallons per year.

All corections were made to the annual emissions estimates for two reasons. First all components were being overestimated by 100 times and the density of the Motor Blue paint was being used for the entire series of Quick Dry paints.

Table 10: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: Motor Blue (F77L6)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.61							
V., M., & P. Naphtha	X					15	4.57	4.57	0.27	91.30	NO	NO
Toluene	X	X				21	6.39	6.39	0.38	25.00	NO	NO
Ethyl-benzene	X	X				4	1.22	1.22	0.07	29.00	NO	NO
Xylene	X	X				21	6.39	6.39	0.38	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.61	0.61	0.04	8.20	NO	NO
Naphth-alene	X	X				0.1	0.03	0.03	0.002	3.33	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

Table 11: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: Container Blue (F77L19)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.28							
V., M., & P. Naphtha	X					41	11.94	11.94	0.72	91.30	NO	NO
Ethyl-benzene	X	X				1	0.29	0.29	0.02	29.00	NO	NO
Xylene	X	X				6	1.75	1.75	0.10	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.58	0.58	0.03	8.20	NO	NO
Naphth-alene	X	X				0.1	0.03	0.03	0.002	3.33	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

Table 12: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: Safety Yellow (F77Y15)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.66							
V., M., & P. Naphtha	X					34	10.42	10.42	0.63	91.30	NO	NO
Ethyl-benzene	X	X				2	0.61	0.61	0.04	29.00	NO	NO
Xylene	X	X				11	3.37	3.37	0.20	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.61	0.61	0.04	8.20	NO	NO
Naphth-alene	X	X				0.1	0.03	0.03	0.002	3.33	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

Table 13: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: International Orange (F77E11)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.38							
V., M., & P. Naphtha	X					45	13.28	13.28	0.80	91.30	NO	NO
Ethyl-benzene	X	X				1	0.31	0.31	0.02	29.00	NO	NO
Xylene	X	X				8	2.45	2.45	0.14	29.00	NO	NO
Naphth-alene	X	X				0.1	0.03	0.03	0.002	3.33	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

Table 14: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: LF Machinery Red (F77R14)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.77							
V., M., & P. Naphtha	X					4	1.24	1.24	0.07	91.30	NO	NO
Toluene	X	X				29	9.01	9.01	0.54	25.00	NO	NO
Ethyl-benzene	X	X				4	1.24	1.24	0.07	29.00	NO	NO
Xylene	X	X				22	6.84	6.84	0.41	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					3	0.93	0.93	0.06	8.20	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

Table 15: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: Flat Black (F77B2)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	8.89							
Toluene	X	X				11	3.91	3.91	0.23	25.00	NO	NO
Ethyl-benzene	X	X				6	2.13	2.13	0.13	29.00	NO	NO
Xylene	X	X				33	11.73	11.73	0.70	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					3	1.07	1.07	0.06	8.20	NO	NO
Naphth-alene	X	X				0.1	0.04	0.04	0.002	3.33	NO	NO
Quartz	X					0.2	0.07	0.0014	0.0001	0.0067	YES	NO
Carbon Black	X					1	0.36	0.0071	0.0004	0.2300	YES	NO
1-Methoxy-2-Propanol Acetate	X					1	0.36	0.36	0.02	24.00	NO	NO
Calcium Carbonate	X					3	1.07	0.02	0.001	0.67	YES	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

Table 16: TAP & HAP Emissions Summary for Sherwin Williams Quick Dry Enamel: Gloss Black (F77B1)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	100	7.53							
V., M., & P. Naphtha	X					18	5.42	5.42	0.33	91.30	NO	NO
Toluene	X	X				22	7.82	7.82	0.40	25.00	NO	NO
Ethyl-benzene	X	X				3	1.07	1.07	0.05	29.00	NO	NO
Xylene	X	X				15	5.33	5.33	0.27	29.00	NO	NO
1,2,4- Trimethyl-benzene	X					2	0.71	0.71	0.04	8.20	NO	NO
Naphth-alene	X	X				0.1	0.04	0.04	0.002	3.33	NO	NO
Carbon Black	X					2	0.71	0.01	0.0007	0.2300	YES	NO
1-Methoxy-2-Propanol Acetate	X					2	0.71	0.71	0.04	24.00	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr and 24 hours per day operation.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, and 24 hours per day operation.

c) Based on the anticipated material usage of 480 gallons per year.

All corections were made to the annual emissions estimates for two reasons. First all components were being overestimated by 100 times and the density of the Polane White Enamel paint was being used for the entire series of enamel paints.

Table 17: TAP & HAP Emissions Summary for Sherwin Williams POLANE® G Plus Polyurethane Enamel: White (F63W200)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	60	11.9							
Carbon Black	X					0	0		0.00			
n-Butyl Acetate	X					5	1		0.03			
1-Methoxy-2-Propanol Acetate	X					0	0		0.00			
Methyl n-Amyl Ketone	X					16	5		0.09			
Catalyst			4	20	9.4							
1,2,4-Trimethylbenzene	X					2	0		0.003			
n-Butyl Acetate	X					5	0		0.01			
Hexamethylene Diisocyanate	X	X				0.2	0		0.0003			
Reducer			4	20	7.26							
n-Butyl Acetate	X					55	3		0.06			
Isopropyl Acetate	X					44	3		0.05			
Total			4	100	10.47							
Carbon Black[d]	X					0	0.00	0.00	0.00	0.23	NO	NO
n-Butyl Acetate	X					12	5.0	5.0	0.10	47.3	NO	NO
1-Methoxy-2-Propanol Acetate	X					0	0.0	0.0	0.0	24	NO	NO
Methyl n-Amyl Ketone	X					11	4.6	4.6	0.09	15.7	NO	NO
1,2,4-Trimethylbenzene	X					0	0.2	0.2	0.003	8.2	NO	NO
Hexamethylene Diisocyanate	X	X				0.04	0.0150	0.02	0.0003	0.002	YES	YES
Isopropyl Acetate	X					6	2.6	2.6	0.05	69.3	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

c) Based on the anticipated material usage of 160 gallons per year and manufacturer's recommended product mixing ratio.

d) Controlled emissions potential for solid HAPs/TAPs is reduced by the PM10 filtration efficiency of 98%.

Table 18: TAP & HAP Emissions Summary for Sherwin Williams POLANE® G Plus Polyurethane Enamel: Black (F63B201)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	60	8.32							
Carbon Black	X					3	1		0.0002			
n-Butyl Acetate	X					10	2		0.04			
1-Methoxy-2-Propanol Acetate	X					1	0		0.004			
Methyl n-Amyl Ketone	X					26	5		0.10			
Catalyst			4	20	9.4							
1,2,4-Trimethylbenzene	X					2	0		0.003			
n-Butyl Acetate	X					5	0		0.01			
Hexamethylene Diisocyanate	X	X				0.2	0		0.0003			
Reducer			4	20	7.26							
n-Butyl Acetate	X					55	3		0.06			
Isopropyl Acetate	X					44	3		0.05			
Total			4	100	8.32							
Carbon Black[d]	X					2	0.60	0.01	0.0002	0.23	YES	NO
n-Butyl Acetate	X					17	5.6	5.6	0.1	47.3	NO	NO
1-Methoxy-2-Propanol Acetate	X					1	0.2	0.2	0.004	24	NO	NO
Methyl n-Amyl Ketone	X					16	5.2	5.2	0.1	15.7	NO	NO
1,2,4-Trimethylbenzene	X					0	0.2	0.2	0.003	8.2	NO	NO
Hexamethylene Diisocyanate	X	X				0.05	0.0150	0.02	0.0003	0.002	YES	YES
Isopropyl Acetate	X					8	2.6	2.6	0.05	69.3	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

c) Based on the anticipated material usage of 160 gallons per year and manufacturer's recommended product mixing ratio.

d) Controlled emissions potential for solid HAPs/TAPs is reduced by the PM10 filtration efficiency of 98%.

Table 19: TAP & HAP Emissions Summary for Sherwin Williams POLANE® G Plus Polyurethane Enamel: Metallic Mixing Clear (F63V203)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	60	8.25							
Carbon Black	X					0	0		0.00			
n-Butyl Acetate	X					13	3		0.05			
1-Methoxy-2-Propanol Acetate	X					0	0		0.00			
Methyl n-Amyl Ketone	X					26	5		0.10			
Catalyst			4	20	9.4							
1,2,4-Trimethylbenzene	X					2	0		0.003			
n-Butyl Acetate	X					5	0		0.01			
Hexamethylene Diisocyanate	X	X				0.2	0		0.0003			
Reducer			4	20	7.26							
n-Butyl Acetate	X					55	3		0.06			
Isopropyl Acetate	X					44	3		0.05			
Total			4	100	8.28							
Carbon Black[d]	X					0	0.00	0.00	0.00	0.23	NO	NO
n-Butyl Acetate	X					19	6.1	6.1	0.1	47.3	NO	NO
1-Methoxy-2-Propanol Acetate	X					0	0.0	0.0	0.0	24	NO	NO
Methyl n-Amyl Ketone	X					16	5.1	5.1	0.1	15.7	NO	NO
1,2,4-Trimethylbenzene	X					0	0.2	0.2	0.003	8.2	NO	NO
Hexamethylene Diisocyanate	X	X				0.05	0.0150	0.02	0.0003	0.002	YES	YES
Isopropyl Acetate	X					8	2.6	2.6	0.05	69.3	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

c) Based on the anticipated material usage of 160 gallons per year and manufacturer's recommended product mixing ratio.

d) Controlled emissions potential for solid HAPs/TAPs is reduced by the PM10 filtration efficiency of 98%.

Table 20: TAP & HAP Emissions Summary for Sherwin Williams POLANE® G Plus Polyurethane Enamel: Blending Clear (F63V202)

Component	TAP	HAP	Maximum Spray Gun Capacity	Product Mixing Ratio	Density	Product HAP/TAP Content	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[b]	Controlled Potential Emissions[c]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
			gal/hr	% by Volume	lb/gal	% by Weight	lb/hr	lb/hr	tons/yr	lb/hr		
Enamel			4	60	8.22							
Carbon Black	X					0	0.0		0.00			
n-Butyl Acetate	X					11	2.2		0.04			
1-Methoxy-2-Propanol Acetate	X					1	0.2		0.004			
Methyl n-Amyl Ketone	X					26	5.1		0.10			
Catalyst			4	20	9.4							
1,2,4-Trimethylbenzene	X					2	0.2		0.003			
n-Butyl Acetate	X					5	0.4		0.01			
Hexamethylene Diisocyanate	X	X				0.2	0.015		0.0003			
Reducer			4	20	7.26							
n-Butyl Acetate	X					55	3.2		0.06			
Isopropyl Acetate	X					44	2.6		0.05			
Total			4	100	8.26							
Carbon Black[d]	X					0	0.00	0.00	0.00	0.23	NO	NO
n-Butyl Acetate	X					17	5.7	5.7	0.1	47.3	NO	NO
1-Methoxy-2-Propanol Acetate	X					1	0.2	0.2	0.004	24	NO	NO
Methyl n-Amyl Ketone	X					16	5.1	5.1	0.1	15.7	NO	NO
1,2,4-Trimethylbenzene	X					0	0.2	0.2	0.003	8.2	NO	NO
Hexamethylene Diisocyanate	X	X				0.05	0.015	0.02	0.0003	0.002	YES	YES
Isopropyl Acetate	X					8	2.6	2.6	0.05	69.3	NO	NO

a) Based on the maximum spray gun capacity of 4 gal/hr, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

b) Based on the maximum spray gun capacity of 4 gal/hr, a filter PM10 control efficiency of 98%, 24 hours per day operation, and manufacturer's recommended product mixing ratio.

c) Based on the anticipated material usage of 160 gallons per year and manufacturer's recommended product mixing ratio.

d) Controlled emissions potential for solid HAPs/TAPs is reduced by the PM10 filtration efficiency of 98%.

Table 21: Worst Case KEM 400 TAPs Emissions

Component	Uncontrolled Potential Emissions	Controlled Potential Emissions	Controlled Potential Emissions	Screening Emission Levels (EL)
	lb/hr	lb/hr	tons/yr	lb/hr
1,2,4- Trimethyl-benzene	0.63	0.63	0.08	8.20
Carbon Black	0.93	0.02	0.002	0.23
Cobalt 2-Ethyl-hexanoate	0.07	0.07	0.01	N/A
Ethylbenzene	2.22	2.22	0.27	29.00
Methyl Isobutyl Ketone	1.56	1.56	0.19	13.70
Quartz	0.07	0.001	0.0002	0.01
V., M., & P. Naphtha	5.58	5.58	0.67	91.30
Xylene	13.31	13.31	1.60	29.00

Table 22: Worst Case Quick Dry TAPs Emissions

Component	Uncontrolled Potential Emissions	Controlled Potential Emissions	Controlled Potential Emissions	Screening Emission Levels (EL)
	lb/hr	lb/hr	tons/yr	lb/hr
1,2,4- Trimethyl-benzene	1.07	1.07	0.06	8.20
1-Methoxy-2-Propanol Acetate	0.71	0.71	0.04	24.00
Calcium Carbonate	1.07	0.02	0.001	0.67
Carbon Black	0.71	0.01	0.001	0.2300
Naphthalene	0.04	0.04	0.002	3.33
Quartz	0.0711	0.0014	0.0001	0.0067
Toluene	9.01	9.01	0.54	25.00
V., M., & P. Naphtha	13.28	13.28	0.80	91.30
Xylene	11.73	11.73	0.70	29.00

Table 23: Worst Case POLANE TAPs Emissions

Component	Uncontrolled Potential Emissions	Controlled Potential Emissions	Controlled Potential Emissions	Screening Emission Levels (EL)
	lb/hr	lb/hr	tons/yr	lb/hr
1,2,4-Trimethylbenzene	0.15	0.15	0.003	8.20
1-Methoxy-2-Propanol Acetate	0.20	0.20	0.004	24.00
Carbon Black	0.60	0.01	0.0002	0.23
Hexamethylene Diisocyanate	0.015	0.015	0.0003	0.002
Isopropyl Acetate	2.56	2.56	0.05	69.30
Methyl n-Amyl Ketone	5.19	5.19	0.10	15.70
n-Butyl Acetate	6.14	6.14	0.12	47.30

Table 24: Total Worst Case TAPs Emissions

Component	Uncontrolled Potential Emissions[a]	Controlled Potential Emissions[a]	Controlled Potential Emissions[b]	Screening Emission Levels (EL)	Uncontrolled Potential Emissions > EL?	Controlled Potential Emissions > EL?
	lb/hr	lb/hr	tons/yr	lb/hr		
1,2,4- Trimethyl-benzene	1.1	1.1	0.1	24.6	NO	NO
1-Methoxy-2-Propanol Acetate	1	1	0.04	48	NO	NO
Calcium Carbonate	**1.067**	**0.021**	**0.001**	**0.667**	**YES**	**NO**
Carbon Black	**0.93**	**0.02**	**0.00**	**0.69**	**YES**	**NO**
Cobalt 2-Ethyl-hexanoate	0.07	0.07	0.01	N/A	NO	NO
Ethylbenzene	2	2	0.27	29	NO	NO
Hexamethylene Diisocyanate	**0.0150**	**0.0150**	**0.0003**	**0.0020**	**YES**	**YES**
Isopropyl Acetate	2.6	2.6	0.1	69.3	NO	NO
Methyl Isobutyl Ketone	1.6	1.6	0.2	13.7	NO	NO
Methyl n-Amyl Ketone	5.2	5.2	0.1	15.7	NO	NO
Naphthalene	0.04	0.04	0.00	3.33	NO	NO
n-Butyl Acetate	6.1	6.1	0.1	47.3	NO	NO
Quartz	**0.0712**	**0.0014**	**0.0003**	**0.0134**	**YES**	**NO**
Toluene	9	9	1	25	NO	NO
V., M., & P. Naphtha	13.3	13.3	1.5	182.6	NO	NO
Xylene	13	13	2	58	NO	NO

a) Maximum emission rate for the three (3) paint formulations, since only one (1) paint will be applied at any given time.

b) Sum of the emission rates for the three (3) paint formulations.

Table 25: Welding Wire Characteristics

Product(s)	AWS Code(s)	SCC Code	Maximum Welding Wire Usage	Welding Rod MFHAP Content (max) Weight %				
			lb/yr	Cr	Cr(VI)	Co	Mn	Ni
Aluminum Alloy Solid Wire Welding Electrode (GMAW)	ER5154	3-09-052-26	500	0 - 0.5			0 - 2	0 - 0.05
Solid Wire Welding Electrode (GMAW)	E70S	3-09-052-54	23667	0 - 3			0 - 5	0 - 0.15
Flux-Cored Wire Welding Electrode (FCAW)	E71T	3-09-053-55	47333	0 - 3		0 - 1	0 - 5	0 - 4
Total:			71500					

Table 26: Welding Particulate Emissions Summary

Product(s)	AWS Code(s)	SCC Code	Maximum Welding Wire Usage	AP-42 PM10 Fume Emission Factor	Total PM10 Fume Emissions
			lb/yr	lb/(10^3 lb of Electrode Consumed)	tons/yr
Aluminum Alloy Solid Wire Welding Electrode (GMAW)	ER5154	3-09-052-26	500	24.1	0.006025
Solid Wire Welding Electrode (GMAW)	E70S	3-09-052-54	23667	5.2	0.061533
Flux-Cored Wire Welding Electrode (FCAW)	E71T	3-09-053-55	47333	12.2	0.288733
Total:			71500	Total	0.356292

Table 27: Welding MFHAP Emissions Summary

Product(s)	AWS Code(s)	SCC Code	AP-42 HAP Emission Factor 10^{-1} lb/(10^3 lb of Electrode Consumed)					
			Cr	Cr(VI)	Co	Mn	Ni	Pb
Aluminum Alloy Solid Wire Welding Electrode (GMAW)	ER5154	3-09-052-26	0.1	ND	ND	0.34	ND	ND
Solid Wire Welding Electrode (GMAW)	E70S	3-09-052-54	0.01	ND	< 0.01	3.18	0.01	ND
Flux-Cored Wire Welding Electrode (FCAW)	E71T	3-09-053-55	0.02	ND	< 0.01	6.62	0.04	ND
Total Emissions:								
Screening Emissions Level (EL):								
Percent of EL:								

Table 28: Welding MFHAP Emissions Summary

Product(s)	AWS Code(s)	SCC Code	Maximum Electrode Use	Maximum Electrode Use	Maximum HAP Emissions lb/hr				
			lb/yr	lb/day	Cr[a]	Cr(VI)	Co[a]	Mn[a]	Ni[b]
Aluminum Alloy Solid Wire Welding Electrode (GMAW)	ER5154	3-09-052-26	500	0.7	2.91E-07			9.91E-07	
Solid Wire Welding Electrode (GMAW)	E70S	3-09-052-54	23667	33.1	1.38E-06		1.38E-06	4.39E-04	2.70E-06
Flux-Cored Wire Welding Electrode (FCAW)	E71T	3-09-053-55	47333	66.2	5.52E-06		2.76E-06	1.83E-03	2.16E-05
Total Emissions:			71500	100	7.19E-06		4.14E-06	2.27E-03	2.43E-05
Screening Emissions Level (EL):					0.033	0.00000056	0.0033	0.067	2.70E-05
Percent of EL:					0%	0%	0%	3%	90%

a. The lb/hr is based on a 24-hr average per IDAPA 58.01.01.585

b. The lb/hr is based on an annual average per IDAPA 58.01.01.586

Chromium, cobalt and manganese need to be compated to the EL on a 24-hr average basis.
The maximum daily usage was supplied to DEQ by Centra Consulting. These numbers were
used to demonstrate that the 24-hr average does not exceed the EL.

The maximum daily electrode use was increased from the 2008 average of 42 lb/day to the projected maximum of 100 lb/day

Model Input		
Parameter	**SCREEN 3 Input**	**Notes**
Source Type	P	Point
Emissions Rate (g/s)	0.126	1 lb/hr
Stack Height (m)	9.6	
Stack Inside Diameter (m)	0.9	
Stack Gas Flow Rate (acfm)	40000	
Stack Gas Temperature (K)	344	
Ambient Temperature (K)	293	
Receptor Height (m)	0	
Urban (U) or Rural (R)	R	
Building Height (m)	7.3	
Building Min. Horizontal Dimension (m)	49	
Building Max. Horizontal Dimension (m)	61	
Complex Terrain Height,Distance (m)	61,545	
	47,801	
	204,1380	
	324,2784	
	531,4654	
	639,7110	
	104,5172	

Model Results @ 1 lb/hr Emission Rate			
	1-hr Conc. (ug/m^3)	**24-hr Conc. (ug/m^3)**	**Dist. To Max (m)**
Simple Terrain	13.67	n/a	105
Complex Terrain	17.35	2.603	545

Assumptions:
- Fenceline is less than 105 meters from the emission point
- All PM emissions are $PM_{2.5}$
- All pollutants are emitted through the paint booth stack
- Emission units operate 24 hr/day

Criteria Pollutants										
Component	**CO**		**NO_X**	**$PM_{2.5}$**		**PM_{10}**		**SO_2**		
Emission Rate (lb/hr)	0.3		0.5	0.3		0.3		0.059		
Averaging Period	1-hr	8-hr	Annual	24-hr	Annual	24-hr	Annual	3-hr	24-hr	Annual
Persistance Factor (Simple Terrain)[a]	1	0.7	0.08	0.4	0.08	0.4	0.08	0.9	0.4	0.08
Persistance Factor (Complex Terrain)[a]	1	n/a	0.03	0.15	0.03	0.15	0.03	0.7	0.15	0.03
Simple Terrain Max Conc (ug/m^3)	**4.08**	**2.86**	**0.57**	**1.42**	**0.28**	**1.42**	**0.28**	**0.72**	**0.32**	**6.44E-02**
Complex Terrain Max Conc. (ug/m^3)[b]	**5.18**	**n/a**	**0.27**	**2.60**	**0.14**	**0.68**	**0.14**	**0.71**	**0.15**	**3.06E-02**
Significant Contribution (ug/m^3)	2000	500	1	5	1	5	1	25	5	1
NAAQS (ug/m^3)	40000	10000	100	35	15	150	50	1300	365	80

Toxic Air Pollutants				
Component	**Quartz**	**Carbon Black**	**Calcium Carbonate**	**Hexamethylene Diisocyanate**
Emission Rate (lb/hr)	0.07	0.93	1.07	**0.015**
Averaging Period	24-hr	24-hr	24-hr	24-hr
Persistance Factor (Simple Terrain)[a]	0.4	0.4	0.4	0.4
Persistance Factor (Complex Terrain)[a]	1	1	1	1
Simple Terrain Max Conc (ug/m^3)	**0.39**	**5.09**	**5.83**	**0.08**
Complex Terrain Max Conc. (ug/m^3)[b]	**0.19**	**2.42**	**2.78**	**0.04**
AAC (ug/m^3)	5	175	500	1.5

a) Idaho Department of Environmental Quality (DEQ), December 31, 2002. "State of Idaho Air Quality Modeling Guideline," Appendix 1.

b) The default output for complex terrain is a 24-hr average. To adjust to other averaging periods the result was first divided by the 24-hr persistance factor (0.15) and then multiplied by the appropriate factor from Appendix 1.

Merged Parameters for Multiple Stacks

Parameter	Stack 1	Stack 2	Stack 3	Stack 4
h_s (m)	9.6	9.6	10.1	10.1
V (m3/s)	4.72	4.72	4.72	4.72
T_s (K)	344	344	344	344
Q (g/s)*	0.126	0.126	0.126	0.126
M	**124117**	**124117**	**130402**	**130402**

Assumptions:

Each Paint Booth Stack Extends 6 Feet Above Roof
Maximum AMU Capacity of 40,000 ACFM Divided Evenly Among Stacks
Paint Booth Temperature Set Point = 344K (160°F)
Basis Emissions = 1 lb/hr

Result:

The slightly shorter stack (9.6 m) will serve as the representative stack, with the following parameters:
Height = 9.6 m
Volumetric Flow = 40,000 acfm
Temperature = 344 K
Emissions Rate = 0.126 g/s

APPENDIX B– AIR QUAILTY AMBIENT ANALYSIS

A Significant Impact Analysis was conducted by R.E.M. for emissions of PM_{10}, $S0_2$, NO_x and using the controlled emissions estimates presented in the emission inventory section of this Statement of Basis. The SCREEN3 software was utilized to determine the increase in ambient concentration for each criteria pollutant, which was then compared to the significant contribution levels listed in IDAPA 58.01.01.006.105.

A Significant Impact Analysis was conducted for emissions of Calcium Carbonate, Carbon Black, Hexamethylene Diisocyanate, and Quartz, which were found to exceed the emission levels. It should be note that it was determined following the application submittal that only Hexamethylene Diisocyanate exceeded the emission levels The SCREEN3 software was utilized to determine the increase in ambient concentration for each criteria pollutant, which was then compared to the acceptable ambient concentrations listed in IDAPA 58.01.01.585.

The paint booth is designed with four (4) identical stacks. Using the methods described in "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised"[1], the emissions from the four stacks were merged into a single discharge having the height, diameter, and temperature of one representative stack. Based on the relative simplicity and small size of the facility, emissions from all sources were assumed to emerge from the paint booth stack for the Significant Impact Analysis.

Emissions rates were calculated for a basis emission rate of one pound per hour (1 lb/hr) using site-specific data for the Priest River Facility. The resulting concentrations were then multiplied by the actual emissions rates in pounds per hour in order to determine the ambient concentration for each pollutant. Persistence factors from the "State of Idaho Air Quality Modeling Guideline," Appendix A[2] were applied to adjust the result to averaging period(s) specified in IDAPA 58.01.01.006.105 for that pollutant.

The following table outlines the input parameters used by R.E.M. during the SCREEN3 analysis.

Table B.1– SCREEN3 INPUT PARAMETERS

Parameter	SCREEN3 Input
Source Type:	Point
Emission Rate:	0.126 g/s (1 lb/hr)
Stack Height:	9.6 m
Stack Inside Diameter:	0.9 m
Stack Flow Rate:	40,000 acfm
Stack Gas Temperature:	344 K
Ambient Temperature:	293 K
Receptor Height:	0 m
Land Use:	Rural
Building Height:	7.8 m
Building Min. Horizontal Dimension:	49 m
Building Min. Horizontal Dimension:	61 m

R.E.M. analyzed both simple and complex terrain effects. The complex terrain height and distances are shown below.

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[1] Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised. Research Triangle Park, NC: Office of Air Quality Planning and Standards, EPA/454/R-92/019. October 1992.

[2] Hardy, Rick and Schilling, Kevin, *State of Idaho Air Quality Modeling Guideline, Appendix A*, December 2002.

Table B.2– SCREEN3 COMPLEX TERRAIN

Height (m)	Distances (m)
61	545
47	801
204	1,380
324	2,784
531	4,654
639	7,110
104	5,172

The model results when applying the aforementioned input parameters, a fence line distance of 105 meters from the nearest emission point and that the unit was operating 24 hr/day resulted in results of a 1-hr concentration of 13.67 µg/m^3 for simple terrain and a 24-hr concentration of 2.603 µg/m^3 for complex terrain. The hourly complex terrain concentration was then calculated based on persistence factors approved by the DEQ. A factor or multiplier of 0.15 is used to convert from 1-hr to 24-hr. To convert from 24-hr to 1-hr, the simulated concentration was divided by the persistence factor resulting in a concentration of 17.35 µg/m^3.

A comparison between the modeled results and the significance thresholds was conducted. The modeled 1-hr concentrations for simple and complex terrain were then multiplied by the actual controlled emission estimates and appropriate persistence factor for each pollutant. For example, the 8-hr CO µg/m^3 for simple terrain was determined by multiplying the 13.67 µg/m^3 by a factor of 0.7 and the actual controlled emission rate of 0.3 lb/hr to obtain 2.86 µg/m^3. The result was then compared to the significant contribution of 500 µg/m^3 demonstrating that further modeling is not necessary. Similar calculations were performed for all NAAQS standards. See the table below for details. All criteria pollutants were well below the significant contribution threshold. As a result no further modeling demonstration is required.

Table B.3 – SCREEN3 CONTRIBUTION COMPARISON

Criteria Pollutant	CO		NO_x	PM_{10}		SO_2		
Emission Rate (lb/hr)	0.3		0.5	0.3		0.059		
Averaging Period	1-hr	8-hr	Annual	24-hr	Annual	3-hr	24-hr	Annual
Persistence Factor (Simple Terrain)[a]	1	0.7	0.08	0.4	0.08	0.9	0.4	0.08
Persistence Factor (Complex Terrain)[a]	1	n/a	0.03	0.15	0.03	0.7	0.15	0.03
Simple Terrain Max conc. (µg/m^3)	4.08	2.86	0.57	1.42	0.28	0.72	0.32	6.44E-02
Complex Terrain Max conc. (µg/m^3)[b]	5.18	n/a	0.27	0.68	0.14	0.71	0.15	3.06E-02
Significant Contribution (µg/m^3)	2,000	500	1	5	1	25	5	1

a. Idaho Department of Environmental Quality (DEQ), December 31, 2002. "State of Idaho Air Quality Modeling Guideline," Appendix 1.

b. The default output for complex terrain is a 24-hr average. To adjust to other averaging periods the result was first divided by the 24-hr persistence factor (0.15) and then multiplied by the appropriate factor from Appendix 1.

Most state regulated toxic air pollutants were below their emission levels stated in IDAPA 58.01.01.585-586, but four were not when analyzed uncontrolled. Only one pollutant, Hexamethylene Diisocyanate, exceeded the emission level when controls were implemented. However, R.E.M. conducted a screening analysis on all four pollutants using the uncontrolled emission rates. It is presumed this was done as a conservative measure. A similar approach used for comparing the criteria pollutants was used for the TAPs as well. The simulated concentrations of simple and complex terrain were calculated for an input emission rate of 1 lb/hr. The actual estimates were then multiplied by the concentrations and the appropriate persistence factor to obtain a concentration of each pollutant to compare against the acceptable ambient concentrations outlined in Table 585 of the state rules. Note that all four pollutants are non-carcinogenic thus Table 585 is the only applicable source for comparison. The following table illustrates the results of the comparison. All pollutants that required modeling were screened and none of the AAC values were exceeded. All toxics meet modeling requirements.

Table B.4– SCREEN3 TOXIC AIR POLLUTANT COMPARISON

Toxic Air Pollutant	Quartz	Carbon Black	Calcium Carbonate	Hexamethylene Diisocyanate
Emission Rate (lb/hr)	0.07	0.93	1.07	0.015
Averaging Period	24-hr	24-hr	24-hr	24-hr
Persistence Factor (Simple Terrain)[a]	0.4	0.4	0.4	0.4
Persistence Factor (Complex Terrain)[a]	1	1	1	1
Simple Terrain Max conc. ($\mu g/m^3$)	0.39	5.09	5.83	0.08
Complex Terrain Max conc. ($\mu g/m^3$)[b]	0.19	2.42	2.78	0.04
Significant Contribution ($\mu g/m^3$)	5	175	500	1.5

a. Idaho Department of Environmental Quality (DEQ), December 31, 2002. "State of Idaho Air Quality Modeling Guideline," Appendix 1.

b. The default output for complex terrain is a 24-hr average. To adjust to other averaging periods the result was first divided by the 24-hr persistence factor (0.15) and then multiplied by the appropriate factor from Appendix 1.

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

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on June 30, 2010:

Facility Comment #1: We did note one typographical error **-** the postal zip code on the cover letter and the front page of the draft permit should be changed to 83856. And we now have an Idaho Telephone number (208) 448-4736.

DEQ Response: The zip code and telephone numbers were updated as requested.

Facility Comment #2: On Page three under the Propane Heating System back in April we originally requested Centra to use Schwank or equivalent manufacturer giving us the flexibility to substitute heaters when we put them up this fall. Is there a way to reflect this?

DEQ Response: An "or equivalent" was added to the regulated sources table. A definition of "or equivalent" was also included as a footnote. For the purposes of the Propane Heating System, "or equivalent" is defined as having a maximum heating rating less than or equal to 2.64 MMBtu/hr and burning exclusively propane.

APPENDIX D – EPA CORRESPONDENCE 6X APPLICABILITY

The title "Industrial Machinery and Equipment Finishing Operations" is an EPA description of the codes so only the codes qualify for applicability. There are obviously many other types of Industrial machinery operations that are not listed and that are not affected by the rule..

Regards,
Donna Lee Jones, Ph.D.
Senior Technical Advisor, Metals Sector
U. S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Sector Policies and Programs Division / Metals & Minerals Group (D243-02)
Research Triangle Park, NC 27711 Tele: (919) 541-5251 Fax (919) 541-3207
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"Reasonableness never fails to be appreciated." - anon.

From:	<Eric.Clark@deq.idaho.gov>
To:	Donnalee Jones/RTP/USEPA/US@EPA
Date:	05/26/2010 11:15 AM
Subject:	6X Applicability

Ms. Jones –

It is my understanding that a facility is only subject to the MACT subpart, XXXXXX if their operation falls under the appropriate SIC or NAICS code(s). The facility that I am attempting to determine applicability is a recycling equipment manufacturer. They definitely fall under the primary engaged category # 6, Industrial Machinery and Equipment Finishing Operations. However, in the applicability spreadsheet there are only three facility types that are identified under that #6. My facility states that the SIC and NAICS code that applies to their operation is something other than what is in the spreadsheet. 3535 is the SIC code for manufacturing of conveyance systems. I am inclined to agree that they have selected the appropriate code for their type of business. Therefore my question is: is applicability black and white regarding those in the spreadsheet? Is it an automatic "not applicable" if the code is not in the spreadsheet? Please confirm my understanding the subpart applicability. Thank you very much.

Eric Clark, EIT
Air Quality Permit Engineer
Department of Environmental Quality
1410 N. Hilton Street
Boise, Idaho 83706
(208) 373-0228
Eric.Clark@deq.idaho.gov
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Eric:

Thank you for you patience.

Given the information from various sources it is our belief that we are not subject to XXXXXX MACT. Our belief is based upon the best information available to us at this time, and is derived from our consultants and our conversations with Idaho DEQ, USEPA, and others in our industry. Our SIC code is 3535 and we see no reference to this in the federal regulations..

Please exclude the XXXXXX MACT sections from our permit request.

Should you have any questions or require additional information please contact me @ (509) 995-0963 my cell phone.

Mark Blankenship
General Manager
(509) 487-6966
(509) 483-5259 Fax

APPENDIX E – 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:	**Recycling Equipment Manufacturing Inc.**
Address:	**PO Box 310**
City:	**Priest River**
State:	**Idaho**
Zip Code:	**38356**
Facility Contact:	**Mark Blankenship**
Title:	**President & General Manager**
AIRS No.:	**017-00055**

N	Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
Y	Did this permit require engineering analysis? Y/N
N	Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	2.3	0	2.3
SO_2	0.3	0	0.3
CO	1.3	0	1.3
PM10	0.5	0	0.5
VOC	4.4	0	4.4
TAPS/HAPS	5.2	0	5.2
Total:	0.0	0	**14.0**
Fee Due	**$ 5,000.00**		

Comments: The processing fee of $5,000 is in accordance with IDAPA 58.01.01.225 as there are a total of permitted emissions of 14.0 T/yr, which is between 10 and 100 T/yr