Statement of Basis

Permit to Construct No. P-2014.0018
Project ID 61355

Guerdon Enterprises, LLC
Boise, Idaho

Facility ID 001-00299

Final

September 2, 2014
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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
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
HAP	hazardous air pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
U.S.C.	United States Code
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Guerdon Enterprises is a modular building manufacturing facility that produces single family, multi-family/multi-story structures, work force housing, and some commercial buildings. All construction activities occur within an enclosed building. The construction activities are the same as those for building structures on location except they occur within an enclosed building. Construction activities include sawing wood and sheet rock using 10 stationary saws and various hand saws, painting, gluing, and application of spray on foam insulation.

Production capacity is requested to be limited to 5,870 square feet per day and 910,000 square feet per any consecutive 12 month period. As described in Guerdon's July 10, 2014 letter this represents a 30% increase in the production during calendar year 2012. The emission inventory provided by the applicant reflects annual emissions associated with producing 910,000 square feet per year.

Permitting History

This is the initial PTC for a new facility thus there is no permitting history.

Application Scope

This permit is the initial PTC for this facility.

The applicant has proposed to:

- Use multiple saws to cut wood and sheet rock.
- Paint modular buildings within an enclosed structure
- Weld within a maintenance shop for metal work that is incidental to manufacturing modular buildings.
- Operate 30 natural gas fired ceiling furnaces for building heating each less than or equal to a rating of 250,000 Btu/hr.

Application Chronology

April 21, 2014	DEQ received an application
April 22, 2014	DEQ received an application fee.
April 28 – May 13, 2014	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 21, 2014	DEQ determined that the application was complete.
July 10, 2014	DEQ made available the draft permit and statement of basis for peer and regional office review.
July 16, 2014	DEQ made available the draft permit and statement of basis for applicant review.
July 22, 2014	DEQ received comments on the draft permit via conference call.
August 21, 2014	DEQ received the permit processing fee.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment
Saws	Stationary and hand held saws. There are 10 stationary saws and the number of hand held saws is not limited.	Enclosed building, filter, or cyclone
Spray Painting	The number and make of spray guns is not limited by the permit. The facility design is to paint modular buildings; this inherently limits the amount of painting that is done.	Enclosed building

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 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.

Potential to Emit Under Permit Limits

The following table presents the post project Potential to Emit for criteria and GHG pollutants from all emissions units at the facility as determined by the applicant. See Appendix A for a detailed presentation of the calculations for each emissions unit. Emissions are limited by square feet of production. The requested production limits are 5,870 square feet per day and 910,000 square feet per any consecutive 12-month period.

Guerdon estimated emissions that occurred during 2012 when 698,546 square feet[1] were produced and increased these emissions by 30%. It is presumed that annual particulate matter emissions are proportional to production in square feet. Therefore, the annual criteria pollutant emissions in the application represent a 30% increase of emissions are from production of 698,546 square feet. In short the annual emissions provided in the application are from production of 908,110 square feet. This production rate is rounded to 910,000 square feet and is the requested production limitation. Volatile organic compounds emissions are estimated to be 10.3 tons per year at this production rate.

1 see Guerdon's July 10, 2014 letter to DEQ.

Table 2 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$ T/yr[(b)]	SO_2 T/yr[(b)]	NO_x T/yr[(b)]	CO T/yr[(b)]	VOC T/yr[(b)]	CO_2e T/yr[(b)]
Cyclone	0.24	0.00	0.00	0.00	0.00	0.00
Bag Filter	0.31	0.00	0.00	0.00	0.00	0.00
Painting	0.13	0.00	0.00	0.00	9.88	0.00
Adhesives/Chaulks	0.09	0.00	0.00	0.00	.445	0.00
Welding Shop	0.002	0.00	0.00	0.00	0.00	0.00
NG Heaters	0.027	0.0023	0.366	0.156	0.016	Not Calculated[c]
Post Project Totals	**0.80**	**0.0023**	**0.366**	**0.12**	**10.341**	**<<100,000**
BRC[d]	**1.5/1**	**4**	**4**	**10**	**4**	

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) There are 30, 250,000 Btu/hr furnaces at the site; or a total of 7.5 MMBtu/hr – therefore greenhouse gas emissions will be much less than 100,000 T/yr
d) BRC – Below Regulatory Concern, or 10% of significant emission rates.

TAP Emissions

The permit limits daily TAP emissions to less than or equal to the screening emissions level (EL) times 24, or below the acceptable ambient concentrations listed in Section 585 & 586 of the Rules. Daily emissions of equal to or less than the EL times 24 assures that maximum 24-hour average emissions rates are below the EL. If emissions exceed the EL times 24 then the facility shall model emission rates to determine ambient impacts. This is consistent with the toxic air pollutant exemption criteria at Section 223.02.b of the Rules which allows the facility to conduct the analysis and maintain documentation on-site without a need to obtain prior DEQ approval of the analysis; an annual report is required by the exemption criteria at Section 223.05 and the permit also requires an annual report when modeling is conducted.

Project HAP Emissions

The applicant has estimated that less than 1 ton per year of HAPs will be emitted at the requested annual production rate. Therefore, HAPs will not be emitted at major source thresholds (10 or more tons/yr of any HAP or 25 tons/yr in aggregate). Additionally, facility-wide total VOC and PM_{10} emissions are inherently limited to 11.1 tons per year by the 910,000 square feet production limit in the permit; this limit also serves to reasonably limit HAP emissions to less than 10 tons/yr of any HAP or 25 tons/yr in aggregate.

Ambient Air Quality Impact Analyses

Air pollution dispersion modeling was not required. If emissions of criteria pollutants are less than 10% of significant emission rates, also referred to as below regulatory concern (BRC)[2], DEQ's policy is that air pollution dispersion modeling is not required. Emissions of all criteria pollutants except VOC are less than 10% of significant and modeling of VOC emission at the permitted rate of 11 tons per year is not required. As specified by the permit, modeling of toxic air pollutants is required to be conducted only if the facility emissions exceed 24 times the screening emissions level for TAPs listed in either Section 585 or 586 of the Rules.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Ada 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.

2 BRC – Below Regulatory Concern, or 10% of what is defined a significant emission rate.

Facility Classification

"Synthetic Minor" 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 3 UNCONTROLLED PTE AND PTE FOR REGULATED AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold and PTE Exceeds the Major Source Threshold?
$PM_{10}/PM_{2.5}$	<100	0.80	100	No
SO_2	<100	0.0018	100	No
NO_x	<100	0.366	100	No
CO	<100	0.12	100	No
VOC	<100	10.34	100	No
CO_2e	<<100,000	<<100,000	100,000	No

Facility-wide total VOC and PM_{10} emissions are inherently limited to 11.1 tons per year by the annual production limit in the permit; this limit also serves to reasonably limit HAP emissions to less than 10 or more tons/yr of any HAP or 25 tons/yr in aggregate. The facility is a minor facility for HAPs as it is for all pollutants.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 ..... Permit to Construct Required

In order to resolve outstanding compliance issues Guerdon consented on December 5, 2013 to obtain a facility-wide permit to construct. A history of the actions that led to the consent order may be found in the Consent Order itself[3]. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

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.

General Rule (IDAPA 58.01.01.776)

IDAPA 58.01.01.776.01.....General Restrictions

No person shall allow, suffer, cause or permit any plant engaged in the processing of animal, mineral, or vegetable matter or chemical processes utilizing animal, mineral or vegetable matter to be operated without employing reasonable measures for the control of odorous emissions including wet scrubbers, incinerators, chemicals or such other measures as may be approved by the Department.

3 IDEQ TRIM Record #2013AAJ381 (Guerdon Enterprises, LLC Revised CO Form (2))

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/PM_{10}/$PM_{2.5}$, SO2, NOx, CO, and VOC, or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Greenhouse gas emissions are also less than the major source threshold of 100,000 tons per year. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 ..... Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change 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 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 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

The facility is not subject to the Paint Stripping and Miscellaneous Surface Coating Operations – Area Source MACT. Since it is a potentially applicable regulation a regulatory break down is provided below showing why it is not applicable.

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

§63.11170 Am I subject to this subpart?

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

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

The facility did not describe that paint stripping using methylene chloride (MeCl) occurs at the facility. Additionally, the permit specifies that MeCl shall not be used for the removal of dried paint. Therefore the facility is not affected due to this section.

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

The facility does not perform spray application of coatings to motor vehicles and mobile equipment. Therefore the facility is not affected due to this section.

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

The application did not include a description of spray application of coatings that contain target HAPs to plastic and/or metal substrates. The permit also restricts this from occurring. Therefore the facility is not affected due to this section.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

Permit Condition 2.1 and 2.2

Includes the process description and control device descriptions for the wood and sheet rock cutting and working operations. The facility's design is to produce modular buildings using conventional tools used in building homes. Tools include 10 stationary saws, various hand saws, sanders, and spray paint tools. The permit does not limit the number or type of hand tools that may be used. If the facility changes its operational design to something other than manufacturing modular buildings then it must be subjected to the modification test.

Permit Condition 2.3

Includes the Rules opacity standard.

Permit Condition 2.4

Limits the sources production to 5,870 square feet per day and 910,000 square feet per any consecutive 12 month period as requested by the applicant. This is consistent with the production used to estimate annual emissions. Any increase of production due solely to a relaxation of a permit condition would require a new permit analysis, including a determination of whether criteria air pollution dispersion modeling would be required. Modeling would be required if facility-wide particulate matter emissions equal or exceed 10% of what is defined as significant.

Permit Condition 2.5

Emissions from cutting, sanding or otherwise shaping wood or sheet rock shall be controlled either by limiting operations to an enclosed building, venting emissions through a fabric filter, or venting emissions through a cyclone. This is consistent with the emissions inventory provided in the application.

Permit Condition 2.6

Fugitive emissions that may occur from the cyclone discharge to the storage bin shall be reasonably controlled as required by the Rules.

Permit Condition 2.7

The permittee is required to monitor the square footage of modular building produced each calendar day and each consecutive 12 month period to assure compliance with production limits.

Permit Condition 2.8

This permit condition includes DEQ standard permit language for monitoring to assure fugitive emissions are reasonably controlled.

Permit Conditions 3.1 and 3.2

Includes a general process description and control device descriptions TAP emitting activities.

Permit Condition 3.3

This permit condition limits TAP emissions rates to below the screening emission level multiplied by 24, for TAPs listed in Section 585 and for the TAPs listed in Section586 of the rules, or below the emission rate that would cause an ambient impact to exceed the acceptable ambient concentration for that TAP. Daily emissions of equal to or less than the EL times 24 assures that maximum 24-hour average emissions rates are below the EL for TAPs listed in Section 585 and 586 of the Rules. If emissions exceed the EL times 24 then the facility shall model emission rates to determine ambient impacts. Requiring modeling to assure compliance with acceptable ambient concentrations is consistent with the toxic air pollutant exemption criteria listed in Section 223.02.b[4] of the Rules and consistent with the precedent set by the Charmac Permit to Construct (P-2009.0095) that was issued on January 6, 2010.

Permit Condition 3.4

This permit condition includes the odor Rule.

Permit Condition 3.5

Consistent with application submitted for this permit to construct spray painting operations shall occur within an enclosed building.

Permit Condition 3.6

This permit condition specifies that the permittee shall not use methylene chloride (MeCl) to remove dried paint. If the source did this the provisions of 40 CFR 63 Subpart HHHHHH would become applicable. This permit condition serves to assure that it does not become applicable.

Permit Condition 3.7

This permit condition specifies that the permittee shall not spray apply coatings that contain chromium, lead, manganese, nickel, or cadmium, to a plastic and/or metal substrate on a part or product as those terms are defined at 40 CFR 63 Subpart HHHHHH. If the source did this the provisions of 40 CFR 63 Subpart HHHHHH would become applicable. The applicant did not specify that the facility was subject to this Subpart and this permit condition serves to assure that it does not become applicable.

Permit Condition 3.8

Requires monitoring the use of all TAP containing materials used in the modular building manufacturing process that emit air pollution. This is necessary so that emissions rates can be determined.

Permit Condition 3.9

Using the material usage records the Permittee is required to calculate individual TAP emission rates. If emissions exceed the screening emissions level (EL) times 24 then a modeling analysis shall be conducted to demonstrate compliance with the applicable acceptable ambient concentration. Documentation of all calculations and modeling analysis shall be maintained on-site in accordance with General Provision 4.10.

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4 The toxic air pollutant exemption criteria are not applicable to this permit condition but it is relevant in the sense that this permit condition requires similar reporting requirements when air pollution dispersion modeling is conducted.

The application includes sufficient documentation that ethylene glycol emissions from painting sheet rock and wood is 50% of that available to be emitted. Studies have shown that the percentage of ethylene glycol in paint applied to sheet rock that is emitted during the first 336 hours (14 days) is only 9%[5] of that in paint. Assuming a constant emission rate of 0.1 mg/m2/hr after one year about 40%[6] of the ethylene glycol will be emitted, and it will take as long as 3.5 years for all of the ethylene glycol to be released from sheet rock. It is presumed that all painted building components will be removed from the plant site within one year (i.e. the facility does not have the capacity to store a years' worth of production) and that the total amount of ethylene glycol emitted from wood and sheet rock will not exceed 50% of that in the paint used in one day, let alone one year.

Permit Condition 3.10

This permit condition includes DEQ's standard language regarding responding to any odor complaints that may be received.

Permit Condition 3.11

This condition includes the excess emissions reporting requirements specified in IDAPA 58.01.01.131.

Permit Condition 3.12

This permit condition requires the permittee to submit reports on any modeling analysis that is conducted to show compliance with toxic air pollutant acceptable ambient concentrations. The report is required by May 1 of each year and is consistent with the reporting requirements for exemptions at Section 223.05 of the Rules. A comparison of the reporting requirements this permit condition to the reporting requirements of the exemption criteria is provided solely to show the similarity of the reporting requirements of this permit condition and that of the exemption criteria.

Permit Condition 4.1

The duty to comply general compliance provision requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101.

Initial Permit Condition 4.2

The maintenance and operation general compliance provision requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211.

Initial Permit Condition 4.3

The obligation to comply general compliance provision specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01.

Initial Permit Condition 4.4

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

Initial Permit Condition 4.5

The permit expiration construction and operation provision specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

Initial Permit Condition 4.6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.03.

Initial Permit Condition 4.7

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5 Substrate Effects on VOC Emissions from a Latex Paint, 1997, page 244 Table 4.
6 Substrate Effects on VOC Emissions from a Latex Paint, 1997, page 246

The performance testing notification of intent provision requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03.

Initial Permit Condition 4.8

The performance test protocol provision requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing.

Initial Permit Condition 4.9

The performance test report provision requires that the permittee report any performance test results to DEQ within 30 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Initial Permit Condition 4.10

The monitoring and recordkeeping provision requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211.

Initial Permit Condition 4.11

The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

Initial Permit Condition 4.12

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

Initial Permit Condition 4.13

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

Initial Permit Condition 4.14

The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Initial Permit Condition 4.15

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

Initial Permit Condition 4.16

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

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. 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

Facility Name	Guerdon Enterprise
Existing State Air Permit Number	2012 final estimate
Potential Operating Time	8 Hours/Day, 260 Days/Year

Collection Unit	Sawdust / Wood Chips Collected (TPY)	Control Device	PM Capture Efficiency (%)	PM_{10} Capture Efficiency (%)	$PM_{2.5}$ Capture Efficiency (%)	Is the Collection Device Inherent to the Process?
EU01 Main Plant Cyclone	1.95	Medium Efficiency Cyclone (pre-1995)	80.0%	80.0%	50.0%	no
EU02 Mill Bag Filters	16.9	Single/Multi Bag Portable Dust Collector	90.0%	90.0%	76.0%	no

Output Emission estimates:

	PM	PM_{10}	$PM_{2.5}$
Potential Emissions (TPY)	2.365E+00	1.183E+00	1.348E+00

	PM	PM_{10}	$PM_{2.5}$
Controlled Emissions (TPY)	2.853E-01	1.425E-01	4.173E-01

Collection Unit	Uncontrolled						Controlled					
	PM Emissions (TPY)	PM Emissions (lb/hr)	PM_{10} Emissions (TPY)	PM_{10} Emissions (lb/hr)	$PM_{2.5}$ Emissions (TPY)	$PM_{2.5}$ Emissions (lb/hr)	PM Emissions (TPY)	PM Emissions (lb/hr)	PM_{10} Emissions (TPY)	PM_{10} Emissions (lb/hr)	$PM_{2.5}$ Emissions (TPY)	$PM_{2.5}$ Emissions (lb/hr)
EU01 Main Plant Cyclone	9.750E-01	4.688E-01	2.438E-01	2.344E-01	3.608E-01	3.469E-01	9.750E-02	9.375E-02	4.875E-02	4.688E-02	1.804E-01	1.734E-01
EU02 Mill Bag Filters	1.878E+00	1.806E+00	9.389E-02	9.028E-02	9.873E-01	9.493E-01	1.878E-01	1.806E-01	9.389E-02	9.028E-02	2.370E-01	2.278E-01

EU01 and EU02 2012 Plus 30% Particulate Emission Estimate

Input Parameters

Existing State Air Permit Number	2012 Plus 30% estimate
Potential Operating Time	8 Hours/Day, 260 Days/Year

Collection Unit	Sawdust / Wood Chips Collected (TPY)	Control Device	PM Capture Efficiency (%)	PM_{10} Capture Efficiency (%)	$PM_{2.5}$ Capture Efficiency (%)	Is the Collection Device Inherent to the Process?
EU01 Main Plant Cyclone	2.54	Medium Efficiency Cyclone (pre-1995)	80.0%	80.0%	50.0%	no
EU02 Mill Bag Filters	22	Single/Multi Bag Portable Dust Collector	90.0%	90.0%	76.0%	no

Output Particulate Emission Estimate

	PM	PM_{10}	$PM_{2.5}$
Potential Emissions (TPY)	3.079E+00	1.548E+00	1.765E+00

	PM	PM_{10}	$PM_{2.5}$
Controlled Emissions (TPY)	3.714E-01	1.857E-01	5.434E-01

	Uncontrolled						Controlled					
Collection Unit	PM Emissions (TPY)	PM Emissions (lb/hr)	PM_{10} Emissions (TPY)	PM_{10} Emissions (lb/hr)	$PM_{2.5}$ Emissions (TPY)	$PM_{2.5}$ Emissions (lb/hr)	PM Emissions (TPY)	PM Emissions (lb/hr)	PM_{10} Emissions (TPY)	PM_{10} Emissions (lb/hr)	$PM_{2.5}$ Emissions (TPY)	$PM_{2.5}$ Emissions (lb/hr)
EU01 Main Cyclone	6.100E-01	6.108E-01	3.175E-01	3.063E-01	1.699E-01	4.516E-01	1.270E-01	1.221E-01	6.350E-02	6.106E-02	2.350E-01	2.259E-01
EU02 Mill Bag Filters	2.444E+00	2.350E+00	1.222E+00	1.175E+00	1.265E+00	1.236E+00	2.444E-01	2.350E-01	1.222E-01	1.175E-01	2.085E-01	2.998E-01

NSR Facility Wide Emission Inventory

A review of NSR regulated pollutants from the two point sources was conducted. There are no NSR listed sources at the Guerdon facility, so fugitives are not estimated. All the particulate emission types are lower than Idaho BRC T/Y quantities. The facility does not meet the definition of a Major facility.

Guerdon Enterprises
Potential To Emit For NSR Regulated Pollutants

Emissions Unit	VOCs T/Yr	PM T/Yr	PM10 T/Yr	PM 2.5 T/Yr	NOx T/Yr	CO T/Yr	Pb T/Yr	CO2 T/Yr	SO2 T/Yr	TOC T/Yr	Methane T/Yr
Point Sources											
EU01- Cyclone[1]		0.0975	0.0488	0.1804							
EU02 - Mill bag filter[1]		0.1878	0.0939	0.2370							
Fugitive Sources											
No fugitives from listed sources											
Totals T/Yr	0.0000	0.2853	0.1426	0.4174	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DEQ Below Regulatory Concern T/Yr	4.0000	2.5000	1.5000	1.0000	4.0000	10.0000	0.0600	NA	4.0000	NA	NA
Totals lbs / hour	0.0000	0.2748	0.1372	0.4013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

1. Data from Wood Working Emissions for Millwork Dry Wood Outputs Table - Section 5 (South Carolina DHEC waste sawdust model)

2012 emission estimate are increased by 30% in the following table and all emission estimates are still below the Idaho BRC quantities. With a 30% increase in operations, the facility is not a major source.

Guerdon Enterprises
Potential To Emit For NSR Regulated Pollutants 2012 Plus 30%

	2012 Emissions				2012 Plus 30%					
Emissions Unit		PM T/Yr	PM10 T/Yr	PM 2.5 T/Yr		PM T/Yr	PM10 T/Yr	PM 2.5 T/Yr		
Point Sources										
EU01- Cyclone[1]		0.0975	0.0488	0.1804		0.1268	0.0634	0.2345		
EU02 - Mill bag filter[1]		0.1878	0.0939	0.2370		0.2441	0.1221	0.3081		
Fugitive Sources										
No fugitives from listed sources										
Totals T/Yr	0.0000	0.2853	0.1426	0.4174		0.3709	0.1854	0.5426		
DEQ Below Regulatory Concern T/Yr	4.0000	2.5000	1.5000	1.0000		2.5000	1.5000	1.0000	4.0000	NA	NA
Totals lbs / hour	0.0000	0.2748	0.1372	0.4013		0.3566	0.1783	0.5218	0.0000	0.0000	0.0000

1. Data from Wood Working Emissions for Millwork Dry Wood Outputs Table - Section 5 (South Carolina DHEC waste sawdust model)

Criteria Pollutant Ambient Impact Assessment

2012 emissions for criteria pollutants were estimated for the point sources and the fugitive sources. All criteria pollutants are below the Idaho level of regulatory concern for each criteria pollutant (T/Y), *except* VOCs (7.9 T/Y verses BRC of 4.0 T/Y). All T/Y estimates for criteria pollutants are below modeling Level I Thresholds except PM2.5, but it is well below the BRC level. The estimate for waste sawdust from the EU02-Mill Saw / Filter bags was recently increased to a higher estimate due to lack of firm facility records for tracking pounds of waste generated from the bag filters. This significantly increased the estimate for PM 2.5 from the Mill. Summit expects to be able to re-estimate these PM2.5 emissions or find an actual emission factor for the Delta filter bags in the near future. Facility is working to improve documentation of the quantities of sawdust generated (the Panel saw was down for several months in 2013). Data sources and assumption are listed in the table; details are provided in the tables in Section 3 and Section 5.

Guerdon Enterprises
Potential To Emit For Criteria Pollutants and PM 2.5 2012

Emissions Unit	VOCs T/Yr	PM10 T/Yr	PM 2.5 T/Yr	NOx T/Yr	CO T/Yr	Pb T/Yr	SO2 T/Yr
Point Sources							
EU01- Cyclone[1]		0.0488	0.1804				
EU02 - Mill bag filter[1,6]		0.0939	0.2370				
Fugitive Sources							
F01 - Main Building - Paints[2]	7.6000	0.0999	0.0111				
F02 - Main Building - Adhesives Caulks[3]	0.3420	0.0921					
F03 - Welding Shop[4]			0.0022				
F04 - Natural Gas Heaters[5]	0.0165	0.0205	0.0023	0.2820	0.1200	0.000002	0.0018
F05 - Foam Insulation							
Totals T/Yr	**7.9585**	**0.3552**	**0.4330**	**0.2820**	**0.1200**	**0.000002**	**0.0018**
Idaho BRC level T/Y	4.0000	1.5000	1.0000	4.0000	10.0000	0.060000	4.0000
Totals lbs / hour (based on 8760 hours/year for ambient impact assessment)	**1.8170**	**0.0811**	**0.0989**	**0.0644**	**0.0274**	**0.0000**	**0.0004**

1. Data from Wood Working Emissions for Millwork Dry Wood Outputs Table - Section 5
2. Data from Guerdon Paint Operations 2012 Emissions Estimates and Assumptions Table 3 - Section 3 (PM assumed to be 90% PM10; rest PM2.5)
3. Data from Guerdon Adhesive and Caulk Operations 2012 Emission Estimates and Assumptions Table 4 - Section 3
4. Data from 2012 Guerdon Welding Emission Estimate Table 7 - Section 3 (All welding PM assumed PM2.5)
5. Data from 2012 Guerdon Natural Gas Emission Estimate Tables - Section 3
6. Researching a better emission factor for PM2.5 from filter bags, bags are 2.5 micron-no emission factor found to date

APPENDIX B – PROCESSING FEE

PTC Fee Calculation

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

Company: Guerdon Enterprises LLC
Address: 5556 Federal Way
City: Boise
State: Idaho
Zip Code: 83716
Facility Contact: Rick Murdock
Title: Responsible Official
AIRS No.: 001-00299

N Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_x	0.4	0	0.4
SO_2	0.0	0	0.0
CO	0.1	0	0.1
PM10	0.8	0	0.8
VOC	10.3	0	10.3
TAPS/HAPS	1.0	0	1.0
Total:	0.0	0	**12.6**
Fee Due	**$ 5,000.00**		

Comments: